OVERSIZE PAGES

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DOCUMENT

BWX Technologies, Inc.
a McDermott company

SEP 3 2002

3005-0302190008 BWXT of Ohio, Inc.

1 Mound Road
P.O. Box 3030
Miamisburg, Ohio 45343-3030
(937) 865-4020

SM-094/02
September 3, 2002

Mr. Richard B. Provencher, Director
Miamisburg Environmental Management Project
U. S. Department of Energy
P. O. Box 66
Miamisburg, OH 45343-0066

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-97OH20044
BUILDING 95, BUILDING DATA PACKAGE, PUBLIC REVIEW DRAFT

REFERENCE: Statement of Work Requirement C.7.1e - Regulator Reports

Dear Mr. Provencher:

Rob Rothman from your office has approved the release of the following document to the regulators and the public for their review:

- Building 95 Building Data Package, Public Review Draft

The public review period will be from 4 September until 4 October 2002 and BWXTO will respond to any comments received and incorporate the responses into the final document.

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

Sincerely,

C. D. Thompson
SMPP/TFV Project Manager

CDT/VKD

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (4) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Frank Schmaltz, DOE/MEMP, (1) w/attachments
Randy Tormey, DOE/HQ, (1) w/attachments
Dann Bird, MMCIC, (3) w/attachments
J. D. Bonfiglio, MESH, (1) w/attachments
Craig Hansen, BWXT of Ohio, (1) w/attachments
Bob Ransbottom, BWXT of Ohio, (1) w/attachments
Val Darnell, BWXT of Ohio, (1) w/attachments
Budd Thompson, BWXT of Ohio, (1) w/attachments
Public Reading Room, (4) w/attachments
DCC

3005-0302190008

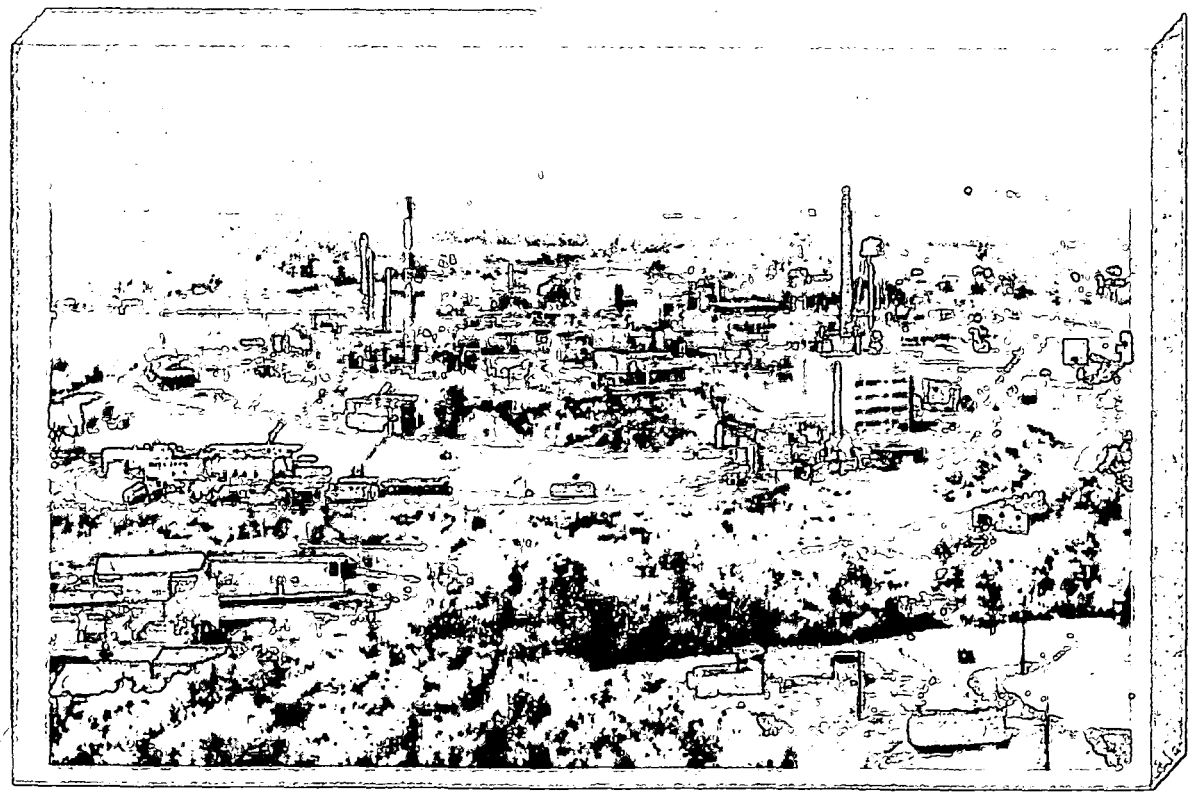
MOUND

Environmental Restoration Program

OhioEPA

MOUND PLANT
Building Data Package
Building 95

Public Review Draft
August 2002



MOUND

Environmental Restoration Program

MOUND PLANT BUILDING DATA PACKAGE

Notice of Public Review Period

The following Building Data Package (BDP) is available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment on this document will be accepted September 4, 2002 through October 4, 2002.

BDP Building 95: SM/PP Area Chiller Plant

Questions can be referred to Paul Lucas at (937) 865-4578.

BDP Building 95

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		**May 2002**
DRAFT (to Core Team)	In Appendix L, the "Comparisons for Soil Analytical Results" table was updated with current screening values; the table title was added. Initially, Building 95 was planned for transfer to MMCIC with the Phase I parcel; however, the building and its associated structures are now planned for demolition. This document has been revised to reflect the new disposition. Figure 5 (locations of associated glycol lines) and Appendix O (Work Package) have been added to the document.	**May 2002**
DRAFT PROPOSED FINAL (incorporates Core Team comments)	BDPs for construction demolitions undergo simultaneous review by the Core Team and public.	**N/A**
PUBLIC REVIEW DRAFT	The public review period is September 4, 2002 through October 4, 2002.	**August 2002**
FINAL		

RECOMMENDATION

Building 95

Background:

Building 95 was constructed in 1984 as a Chiller Plant for the SM/PP Hill area. In 1985, a second chiller was added and the service area was expanded to include the Test Fire Valley. Building 95 is currently operational and continues to serve as the Chiller Plant for the SM/PP Hill and Test Fire Valley.

All radiological surface data, soil sampling (radiological and chemical) data, and radon data are below applicable screening levels. No lead-based paint or asbestos hazards currently exist in the building.

Recommendation:

After thorough review of the environmental data and the Building Data Package, the Core Team agrees that all existing environmental issues associated with Building 95 have been resolved. Based on existing information, the Core Team concludes that the building is protective of human health and the environment.

DOE/MEMP: _____ 7/11/02
Robert S. Rothman, Remedial Project Manager

USEPA: _____ 7/11/02
Timothy J. Fischer, Remedial Project Manager

OEPA: _____ 7/11/02
Brian K. Nickel, Project Manager

BUILDING DATA PACKAGE (BDP)

Building 95

(Demolition)

DOE MOUND PLANT

MIAMISBURG, OHIO 45343

TABLE OF CONTENTS

Section Page

1.0 General Overview 1
- 1.1 Introduction 1
- 1.2 Scope 1

2.0 Building Specific Overview 2
- 2.1 Current Uses of Building 95 3
- 2.2 Past Uses of Building 95 3
- 2.3 Summary of Environmental Concerns and Findings - Building 95 3
- 2.4 Radiological Characterization Summary for Building 95 4

3.0 Site Description 6
- 3.1 Site/Vicinity Location and Characteristics 6
- 3.2 Description of Structures, Roads, Other Improvements in Proximity to Building 95 6
- 3.3 Current and Past Uses of Buildings in Proximity to Building 95 6

4.0 Records Review 7
- 4.1 General/Historical CERCLA Information 7
- 4.2 Specific Record Sources for Building 95 7
  - 4.2.1 Occurrence Reports 7
  - 4.2.2 Spills and Releases 8
  - 4.2.3 Associated PRS Overview 8
  - 4.2.4 Sampling Data 8
- 4.3 Review of Building Prints 9
- 4.4 Aerial Photographs 10
- 4.5 Interviews 10

Tables

Table 1: Summary of Environmental Concerns and Findings 3

Table 2: Radiological Summary 5

Table 3: PRSs in Proximity to Building 95 8

Appendices

Appendix A General Listing of Acronyms
Appendix B Map of Montgomery County
Appendix C Figures
Appendix D Floor Plans
Appendix E Aerial Photographs
Appendix F Environmental Appraisal Report of the Mound Plant (Excerpt)
Appendix G Radiological Information
Appendix H Radon Information
Appendix I Asbestos Information
Appendix J Lead Information
Appendix K Chemical Information
Appendix L Soil Sampling, Vicinity
Appendix M Occurrence Reports
Appendix N PRS Information
Appendix O Work Plan

1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the demolition of Buildings 95, 95A, and 95B (hereafter referred to as Building 95) (the Chiller Plant for the Special Metallurgical/Plutonium Processing [SM/PP] Area) and to identify, if possible, any recognized environmental conditions (defined below) that may affect the subject property and building.

Recognized Environmental Condition: The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a likely release, a past release, or a material threat of a release of any hazardous substances or petroleum into structures, or into the air, ground, groundwater, or surface water near the building.

1.2 Scope

This document has been prepared in accordance with the agreements and requirements as specified in the *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach*. This document is a BDP for Building 95 located at the Department of Energy (DOE) Mound Plant in Miamisburg, Ohio. The investigation performed to support this BDP models procedures found in *ASTM Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process* (Designation E 1527-97).

The scope of the investigation included Building 95, the soil beneath, and a 15-foot wide perimeter border around the building. The investigation of Building 95 included the following:

A) A building and perimeter inspection.
B) An examination of historical aerial photographs and maps.
C) A review of federal and state regulatory agency records.
D) Personnel interviews.
E) A review of Mound Plant records for:

   1) History of spills, releases, and chemical inventories
   2) Past sampling data

      - Radiological survey
      - Soil sampling
      - Lead-based paint
      - Asbestos
      - Radon

In addition to the building investigation conducted by BWXT of Ohio, Inc. (BWXTO) personnel, documents were reviewed. Information used to compile BDPs includes the following:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- OU-9 Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Tank Plan, November 1994
- OU-9 Hydrological Investigation, Bedrock Report, January 1994
- OU-9 Hydrological Investigation, Buried Valley Aquifer Report, March 1994
- Environmental Appraisal Report of the Mound Plant, March 1996
- Title Search
- Lease Information
- EDR Report - Radius Map
- Building Prints
- Potential Release Site (PRS) information
- MD-222153, Mound Site Radionuclides By Location, July 1995 Contaminant Surveys
- MLM-3791, Mound Facility Physical Characterization, December 1993

2.0 BUILDING SPECIFIC OVERVIEW

Building 95 includes one main and two smaller ancillary buildings (Buildings 95A and 95B). The main building is approximately 2,000 square feet, and each of the two smaller buildings is approximately 450 square feet. All three buildings are single-room, single-story, prefabricated metal structures with metal roofs and built slab-on-grade. The floor plan of the main building is included as Appendix D.

Building 95 was constructed in 1984 as a Chiller Plant for the SM/PP area (Figures 1 and 3). Later, the Chiller Plant's service area was expanded to also include the Test Fire Valley area. The Plant continues to serve the same purpose.

The main building contains two large (500-ton and 800-ton) glycol chiller systems; Building 95B contains cooling towers, chilled water pumps, and condenser water pumps; and Building 95A contains chemical treatment equipment.

Potable and service water are supplied to the building. Back-flow prevention devices are installed at all visible points of potential cross connection. The building does not have sanitary services; the floor drain discharges directly to the storm sewer. Service water is supplied to the building to support the fire sprinkler system, and to be used in the plant processes. Electric service is 480 volts.

Buildings 95, 95A,and 95B and their associated equipment will be removed from the site either by sale at auction or demolition per the Work Package provided in Appendix O. The slab, foundation, and footers will be demolished per the Work Package. Prior to demolition, all glycol lines and steam lines and their branches connected to Building 95 will be drained, gapped, and capped outside of the receiving buildings. Figure 5 shows the underground glycol lines connecting Building 95 to Buildings 38, 105, 2, 49, 63, 3, 87, 35, and 27, as well as above ground stanchions connecting Building 95 to Building 102. All above ground lines and stanchions will be demolished as part of the Building 95 demolition. All underground lines will be drained, gapped, capped, and abandoned in place. The preparation and abandonment of the underground lines to Building 38 will be handled as part of the Building 38 demolition.

2.1 Current Uses of Building 95

Building 95 is currently operational and continues to serve as the Chiller Plant for the SM/PP Hill and Test Fire Valley. In preparation for building demolition, all above ground and underground glycol and steam lines connected to Building 95 will be drained, gapped, and capped.

2.2 Past Uses of Building 95

Building 95 was constructed in 1984 as a Chiller Plant for the SM/PP Hill area. In 1985, a second chiller was added and the service area was expanded to include the Test Fire Valley.

2.3 Summary of Environmental Concerns and Findings - Building 95

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	Sampled paint was found to not contain any amount of lead within the instrument's detection limit. See Appendix J.	If lead-based paint were present, it would not impact the demolition or disposal of the facility. Close worker disturbance of paint coatings (sanding, grinding, scraping, torching) will be avoided during demolition. If close disturbance is necessary, point of contact will be tested for lead and appropriate controls and personal protective equipment (PPE) used for disturbance as required.
Chemicals	OEPA-approved chemicals, used for treating water, are currently stored in Building 95.	All remaining chemicals will be removed from the building prior to demolition. All transfer lines will be drained, gapped, and capped prior to building demolition.

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Fluorescent Lamps and PCBs	N/A	N/A
Air Emissions	N/A	N/A
Asbestos	No asbestos-containing materials were located in or on Building 95. See Appendix I.	No further action necessary.
Drainage Sumps	There is a sump near the building that is used for cooling tower condensation water.	N/A
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	N/A	N/A
Septic System	N/A	N/A
Wastewater	Handled by Mound wastewater facility.	N/A
Stains & Corrosion/HVAC	N/A	N/A
Storage Tanks	N/A	N/A
Solid Waste Disposal	Solid wastes generated are primarily paper and cardboard boxes.	Solid waste generation will cease prior to demolition activities. Any existing wastes will be removed from the building prior to demolition.
Migratory Hazards	N/A	N/A
Radon	Within acceptable limits.	N/A
Energetic Material/HVAC	N/A	N/A

N/A: Not applicable

2.4 Radiological Characterization Summary for Building 95

An assessment of Building 95 and its two associated structures (Buildings 95A and 95B) was performed to review operational history and radiological survey information. Operational history indicates the building was constructed and operated to supply chilled glycol for the SM/PP Hill and for the Test Fire Valley for comfort cooling. The building and structures remain in use for this purpose. There were no radiological process systems in the building or structures and no radioactive materials are known to have been used or stored in the building or structures. *Mound Facility Physical Characterization* report and other site assessments have asserted that Building 95 was not contaminated with any radiological or energetic materials.

Annual surveys have been performed in the building and no radiological contamination has been found. Additional confirmatory surveys, using large area gas proportional detectors

and following guidance in "Generic Process for the Disposition of Buildings That Have Potential or Actual Radiological Contamination", were also performed, with all readings being below applicable screening limits.

Building 38, a former plutonium processing facility, is serviced by this chiller system. A review of system prints indicates it is highly unlikely that chilled water system fluids could come into contact with radioactive materials due to system design. However, because the fluids pass through Building 38, confirmatory samples of system fluids were obtained and analyzed for gross alpha and tritium activity. The fluid in both the condensate water and the glycol portions of the system(s) were within applicable screening limits. Building 95 is considered non-impacted based on the guidance in the Multi-Agency Radiological Survey and Site Investigation Manual (MARSSIM). The review team concluded that no further radiological surveys are warranted in Building 95. Supporting documentation for the information summarized in the following table is contained in Appendix G.

Table 2: Radiological Summary

TYPE	RSDS (Radiological Survey Data Sheet)	LOCATION	MAXIMUM SURVEY RESULTS (Note 1)	SURFACE CONTAMINATION GUIDELINES (Note 2)
Highest Alpha Smearable Activity	01-OSA-077	Building Surfaces & Equipment	2.50 dpm/100 cm^2	20 dpm/100 cm^2
Highest Alpha Fixed Activity	Note 3	Building Surfaces & Equipment	< 100 dpm/100 cm^2	100 dpm/100 cm^2
Highest Beta Smearable Activity	01-OSA-077	Horizontal Surfaces & Equipment	7.09 dpm/100 cm^2	1,000 dpm/100 cm^2
Highest Beta Fixed Activity	Note 3	Misc.	< 5,000 dpm/100 cm^2	5,000 dpm/100 cm^2
Highest Tritium Smearable Activity	01-OSA-069	Horizontal Surfaces & Equipment	56.2 dpm/100 cm^2	10,000 dpm/100 cm^2
Tritium (water analysis)	01-OSA-069	Condensate Water System	0.73 nCi/L	20 nCi/L Note 4
Alpha Activity (water analysis)	01-OSA-069	Condensate Water System	< 0.60 dpm/mL Note 5	0.60 dpm/mL

Note 1: Radiological activity may be present and not be a concern (within applicable limits). This may result from or be a function of counting statistics, instrument variances, the randomness of decay, radon presence, and/or natural fluctuations in background levels.

Note 2: Guideline values per DOE Order 5400.5, Radiation Protection of the Public and the Environment.

Note 3: All radiological surveys indicated < 100 dpm/100cm^2 alpha and < 5,000 dpm/100cm^2 beta. Surveys included large area gross masslinn wipes on floors, walls, and equipment.

Note 4: Maximum allowable concentration permitted (EPA SDWA guideline) for tritium in drinking water - 20 nCi/L.

Note 5: Result below lower limit of detection (LLD) gross alpha. Derived Concentration Guide (DCG) for release (incorporating site ALARA) set at 2 dpm/mL.

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

Building 95 is located at the DOE Miamisburg Environmental Management Project (MEMP), formerly known as Mound Plant. Mound Plant is situated in the City of Miamisburg, Miami Township, Montgomery County, State of Ohio as shown in Appendix B.

The Mound Plant at one time was situated on approximately 300 acres of land and contained approximately 130 buildings with a total of approximately 1.4 million square feet of floor space (the number of buildings is constantly diminishing as buildings are decommissioned and either sold or demolished). The original 182-acre site, purchased by the Manhattan Engineering District in 1946, consisted of two hills and an intervening valley that runs approximately east and west. The 124-acre tract acquired in 1981 was an undeveloped mixture of fields and woods that undulates and slopes downward to the west, away from the main site. This area was acquired to serve as a buffer and has been used as a staging area and parking area for contractors working onsite.

To the west lies a railroad line and the north south trending Miami-Erie Canal. The northern boundaries of the site abut the residential area of Miamisburg, Ohio. Mound Road marks the northern half of the eastern perimeter of the facility then veers east, away from the southern half of the eastern boundary. A public golf course (belonging to the City of Miamisburg), the Miamisburg Mound Memorial Park, old agricultural fields, residential lots, and vacant wooded lots border against the facility along Mound Road. Benner Road formed the southern property line of the Mound Plant (at the 300-acre stage), with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, Other Improvements in Proximity to Building 95

As shown on Figures 2 and 4, Building 95 is bordered on the north and east by grassy areas and chain-link fencing. Buildings 95A and 95B are located to the south of the main building, outside of the current fenceline of the Mound Site. To the south of the ancillary buildings is a paved road, and to the west of all the buildings is a dirt and gravel access road. In the vicinity of Building 95 are overhead pipes, a utility pole, a water tower, and a security fence.

3.3 Current and Past Uses of Buildings in Proximity to Building 95

The closest buildings to Building 95 are Buildings 38 and 102. Building 38 (north of Building 95) is a 44,327 square-foot building formerly used for plutonium processing, and is scheduled for demolition. Building 102 (east of Building 95) is a 10,982 square-foot office building, and has been binned No Further Assessment (NFA) by the Core Team in preparation for its transfer to MMCIC. There is also a water tower to the northwest. These facilities are believed to have had minimal or no environmental impact on Building 95.

Buildings 101 (Modular Offices) and 39 (Maintenance Offices) had been located northeast of Building 95, but were demolished in 1998. The area where those buildings had been located is currently occupied by temporary trailers used for office space.

4.0 RECORDS REVIEW

4.1 General/Historical CERCLA Information

In compliance with permit requirements under Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. Mound Plant is currently operating a hazardous waste storage facility under a RCRA Part B Permit dated October 18, 1996. Mound Plant also maintains a National Pollutant Discharge Elimination System (NPDES) surface water discharge permit with Facility I.D. number OH 0009857. Operations that produce particulate or vaporous emissions are either permitted or registered with the Regional Air Pollution Control Agency (RAPCA) and the Ohio Environmental Protection Agency (OEPA). Mound Plant also submits annual Emergency and Hazardous Chemical Inventory forms to OEPA, pursuant to the Superfund Amendment and Reauthorization Act (SARA), Title III, the Emergency Planning and Community Right-to-Know Act. The 2001 version of this report indicated that no chemicals meeting reporting requirements are stored in Building 95.

The Mound Plant was identified as a contaminated site on the National Priorities List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed because of volatile organic compound (VOC) contamination in the western end of the lower valley area. The cleanup of the Mound site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize cleanup areas. As the cleanup effort went forward, it became apparent that the Mound site did not fit the profile for a cleanup strategy based on the operable units. The DOE, the United States Environmental Protection Agency (USEPA), and OEPA designed a new decision making process for the cleanup of the Mound site. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 Process." The Mound 2000 Process system divided the Mound site into geographical parcels containing over 400 PRSs with approximately equal numbers of PRSs concerned with potentially contaminated soil and with potential contamination in or associated primarily with building operations. A PRS is an area where knowledge of historic or current use indicates that the site may have had releases of radioactive and/or hazardous materials. For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach.*

4.2 Specific Record Sources for Building 95

4.2.1 Occurrence Reports

- None

4.2.2 Spills and Releases

- None

4.2.3 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and BWXTO have tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, four are at or near Building 95. PRSs in the vicinity of Building 95 are identified in Table 3. Additional information is included in Appendix N.

Table 3: PRSs in Proximity to Building 95

PRS	CERCLA or Bldg. Related	Binning Status	Comments
277	CERCLA	Removal Action (RA)	Area J, Hillside Disposal Area (AKA Dredged Material Disposal Area 11a).
310	CERCLA	No Further Assessment (NFA)	Site Survey Project Potential Hot Spot Location S0647.
382	CERCLA	NFA	Elevated Soil Gas Location.
384	CERCLA	NFA	Elevated Soil Gas Location.

4.2.4 Sampling Data

4.2.4.1 Radiological Surveys

All radiological survey results for Building 95 were within applicable limits. Supporting documentation is summarized in Section 2.4 of this document and copies of survey data sheets are included in Appendix G.

4.2.4.2 Soil Sampling Data

Appendix L contains a graphic and table presenting results of all soil sampling data within a 15-foot perimeter of Building 95. All data are below applicable screening levels.

4.2.4.3 Chemical History

Building 95 is a chiller plant; chemicals for treating water are currently stored in the building, but will be removed prior to demolition activities. The most recent (March 2002) annual chemical inventory report found no "emergency and hazardous" chemicals located in the building.

4.2.4.4 Lead-Based Paint

No previous lead surveys or sampling data could be found for these structures. All of the observed paint coatings were intact and undisturbed with the exception of a small amount of peeling observed with the yellow paint in the interior of the largest building. This paint appeared to be peeling in a few small, selected areas due to water damage. On April 5, 2002 the damaged paint was analyzed in the field using a Niton Model XL-309 XRF lead detector. The sampled paint was not found to contain any amount of lead within the instrument's limit of detection. No lead paint hazards currently exist within any of the three structures, and no further action would be necessary unless any of the untested coatings were to be disturbed by close worker contact (sanded, grinded, scraped, torch cut, etc.). The normal course of demolition with heavy-duty equipment would not necessitate the determination of lead content in paint as there would be no hazard. These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

4.2.4.5 Asbestos

On June 13, 2002, Mr. Christopher A. Ahlquist, an Industrial Hygienist with BWXT of Ohio, Inc. (BWXTO), conducted a survey of Building 95 (three separate structures) at the Mound site in Miamisburg, Ohio for purpose of identifying asbestos-containing materials contained therein. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by Ohio Department of Health regulations. During the course of the survey, Mr. Ahlquist conducted a records review for previous survey reports and sampling data and collected bulk samples of materials found within Building 95 as necessary in order to determine the asbestos content of said materials. A room-by-room inspection of all accessible spaces was then conducted in order to prepare an inventory of the location and approximate quantities of identified asbestos-containing materials. Only one material was suspect for containing asbestos (drywall system), and sampling and analysis indicated that it did not contain asbestos in accordance with EPA and OSHA regulations. This material was located on some of the walls of the largest structure. Copies of the field log ("Asbestos Bulk Sample Data Sheet") and the associated analytical laboratory report are provided in Appendix I.

4.2.4.6 Radon

The results of a 1989-90 Mound Indoor Radon study indicated an average radon concentration of 0.4 picoCuries/liter (pCi/L) in Building 95 (Appendix H). The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

4.3 Review of Building Prints

Building prints were reviewed and no significant items were identified. Floor plans are included in Appendix D.

4.4 Aerial Photographs

Aerial photographs from 1983 (prior to construction), 1994 (following construction), and 1996 (most recent aerial photo) were reviewed and no significant items were identified. Aerial photographs are presented in Appendix E.

4.5 Interviews

Past Building Manager, A. W. Upshaw, was interviewed via a building manager questionnaire (included in Appendix F). The current Building Manager is Gary Weidenbach. No significant items in the building were identified based on the questionnaire or interviews.

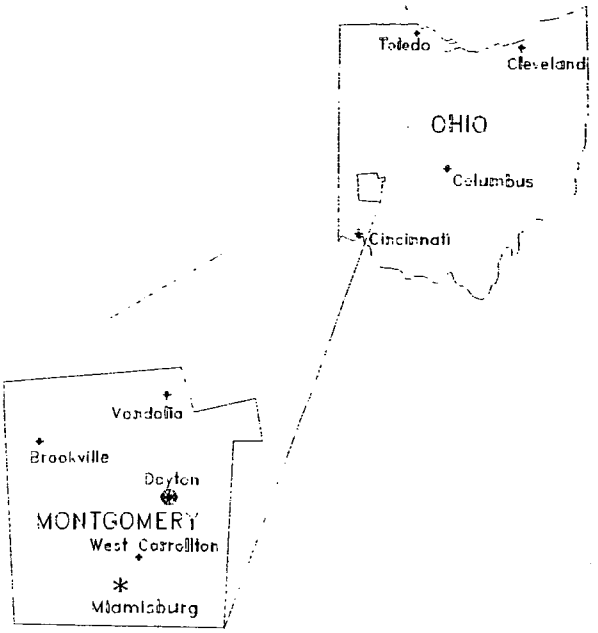
Appendix A

General Listing of Acronyms

ASTM	American Society for Testing and Materials
BDP	Building Data Package
BWXTO	BWXT of Ohio, Inc.
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
cm^2	centimeters squared
CWA	Clean Water Act
DOE	United States Department of Energy
DPM	disintegrations per minute
EPA	United States Environmental Protection Agency
ER	Environmental Restoration (Program)
FFA	Federal Facility Agreement
HAZMAT	hazardous materials
MARSSIM	Multi-Agency Radiological Survey and Site Investigation Manual
MEMP	Miamisburg Environmental Management Project
N/A	not applicable
NPDES	National Pollutant Discharge Elimination System
OEPA	Ohio Environmental Protection Agency
OU	Operable Unit
PCB	polychlorinated biphenyl
pCi/L	picoCuries per liter
PRS	Potential Release Site
RI/FS	Remedial Investigation/Feasibility Study
RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
RSDS	Radiological Survey Data Sheet
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

Appendix B

Map of Montgomery County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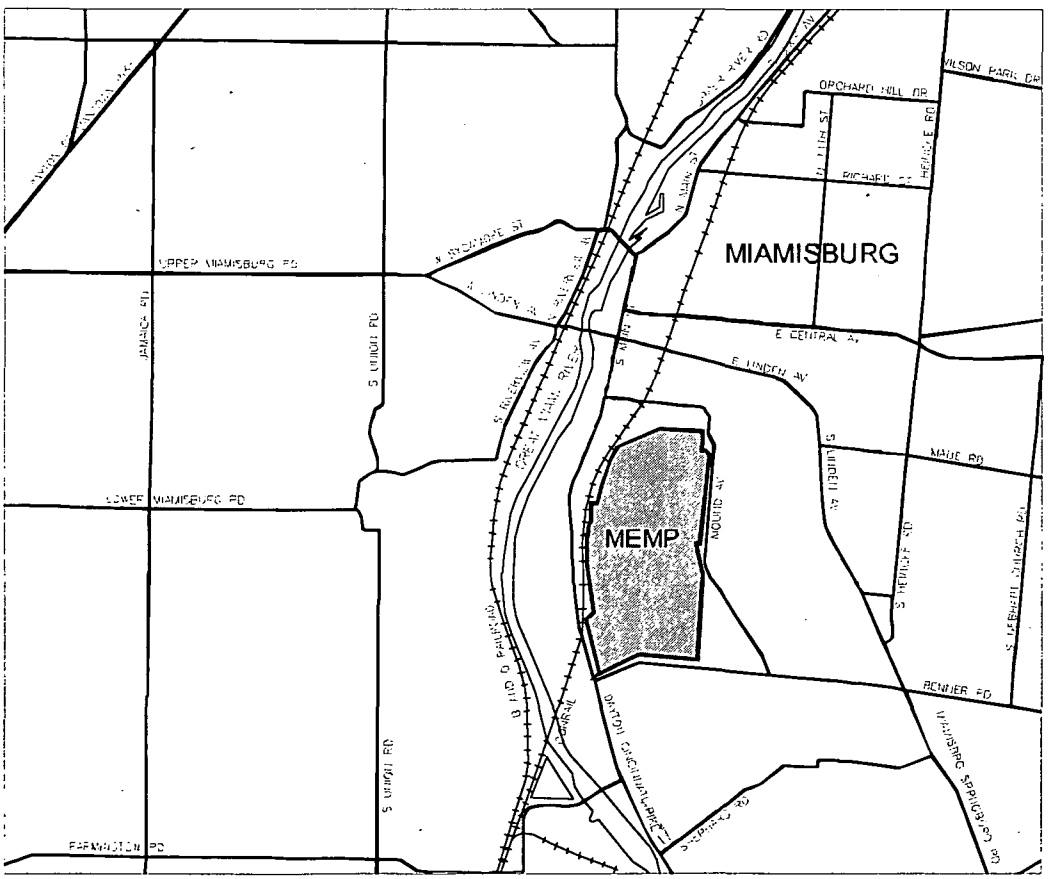
Cleveland
OHIO
Columbus
Cincinnati
Vandalia
Brookville
Dayton
MONTGOMERY
West Carrollton
Miamisburg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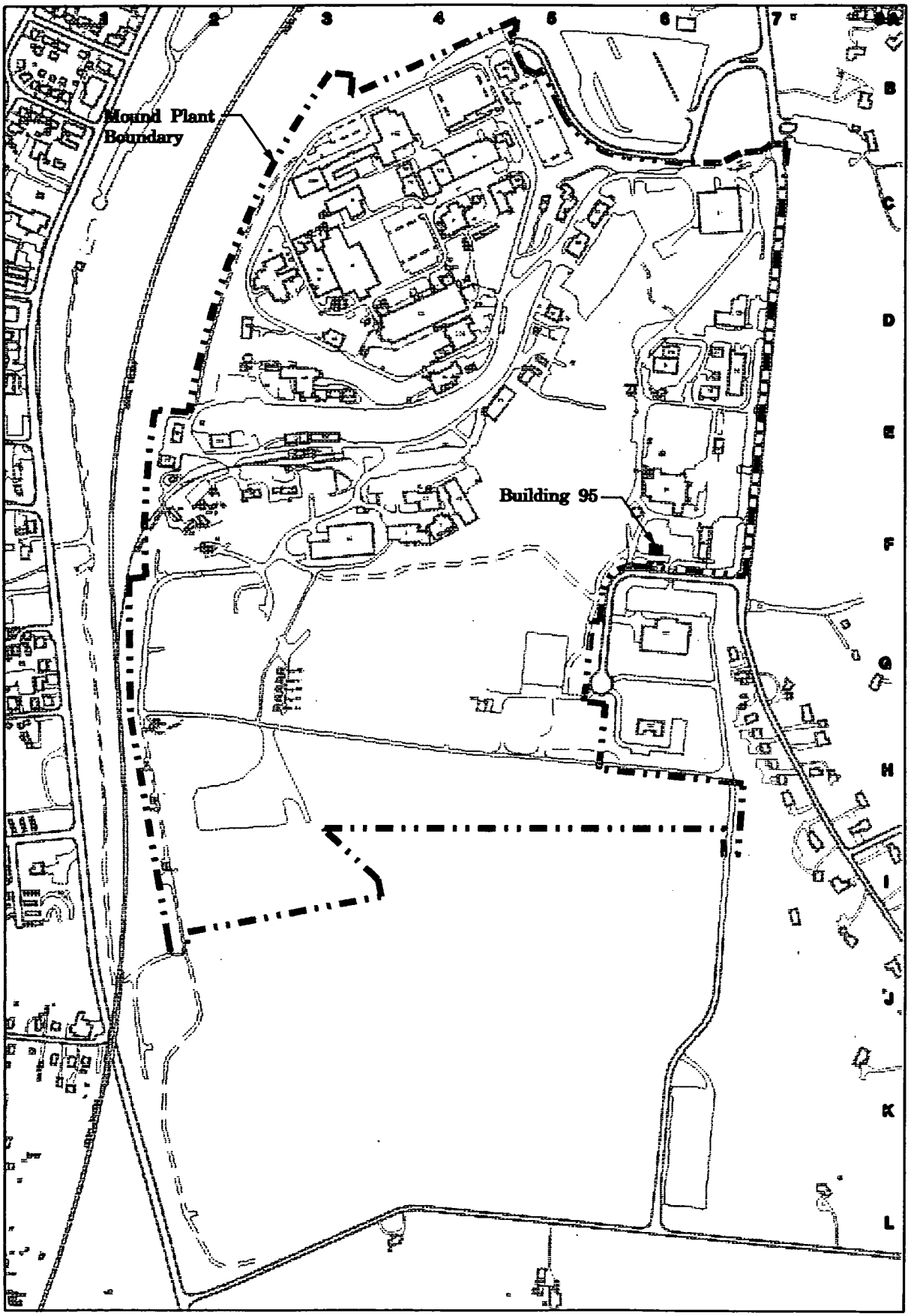
MEMP
UPPER MIAMISBURG RD
LOWER MIAMISBURG RD
JAMAICA RD
S UNION RD
E CENTRAL AV
E LINDEN AV
MAUE RD
BENNER RD
FARMINGTON RD
ORCHARD HILL DR
WILSON PARK DR
MOUND AV
DAYTON CINCINNATI PIKE

B 1 of 1

Appendix C

Figures



Legend

Structures
Paved roadway
Unpaved roadway
Railroad
Water course
Fence
Mound Plant boundary
Contour line

0 100 200 400 600 800 1000
Scale In Feet

03/25/02	ISSUE FOR GENERAL USE	SSP			
DATE	REVISION	BY	CHKD	DIS	#

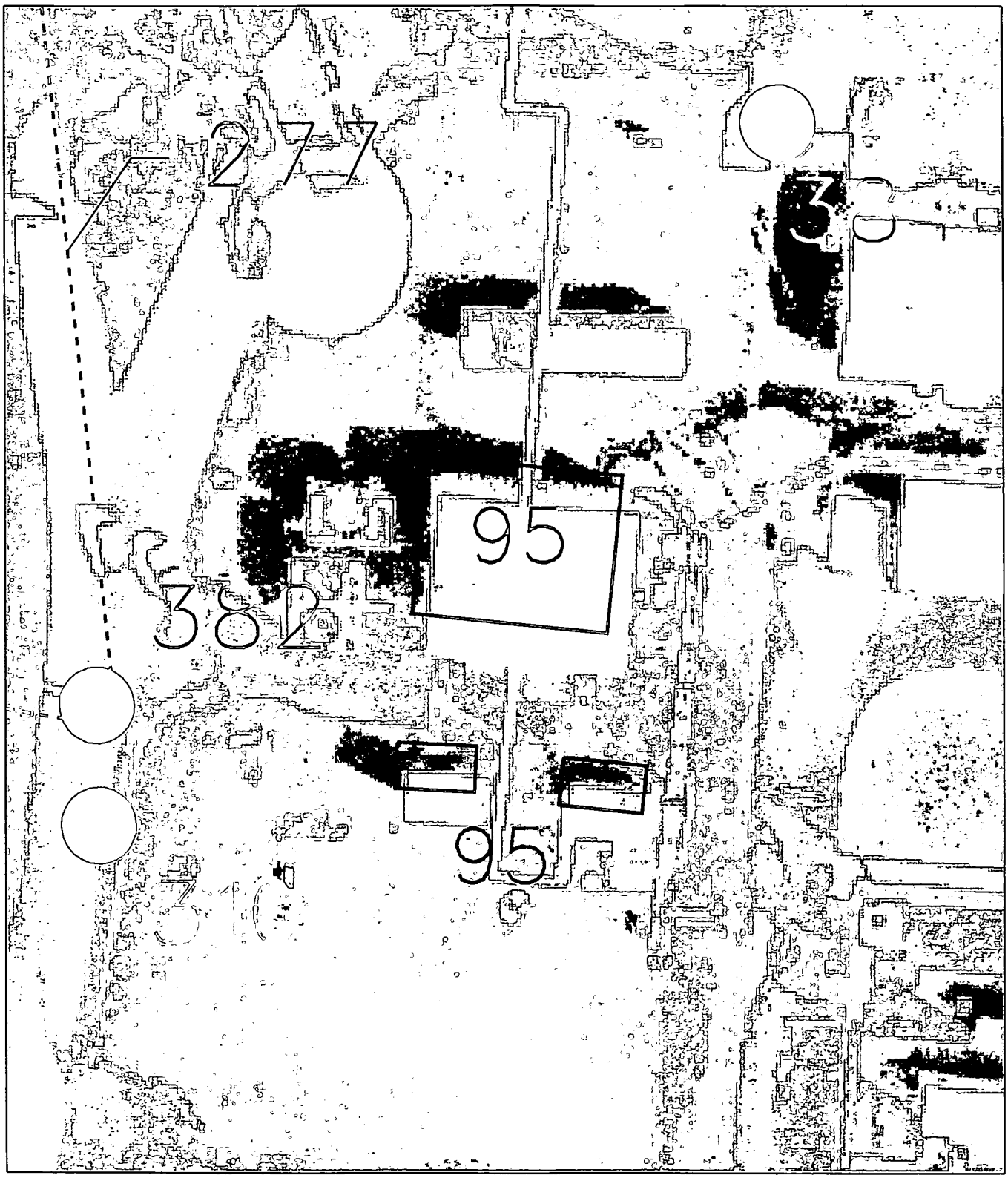
MOUND
Environmental Restoration Geographic Information System

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

TITLE CLASSIFICATION
Figure 1
Location of Building 95

DRAWING CLASSIFICATION: UNCLASSIFIED
SIZE: D
DRAWING NUMBER: gen_site_plan.dgn
JOB NUMBER
DWG TYPE: SITE
DRAWN
CHECK
SCALE: Graphic
SHEET 1 OF
STATUS: MD-REL-09/14/99
ORIGIN: MSTATION / 4

gen_site_plan.dgn



PRS Point

PRS Area

MOUND

Environmental Restoration Geographic Information System

03/26/02		SSF						
ISS	DATE	REVISION	BY	CHKD	ENG	LANDC	APVD	B

Figure 2
Building 95
and Vicinity

UNCLASSIFIED

vicinity.dgn

STATUS MD-REL

MSTATION / J

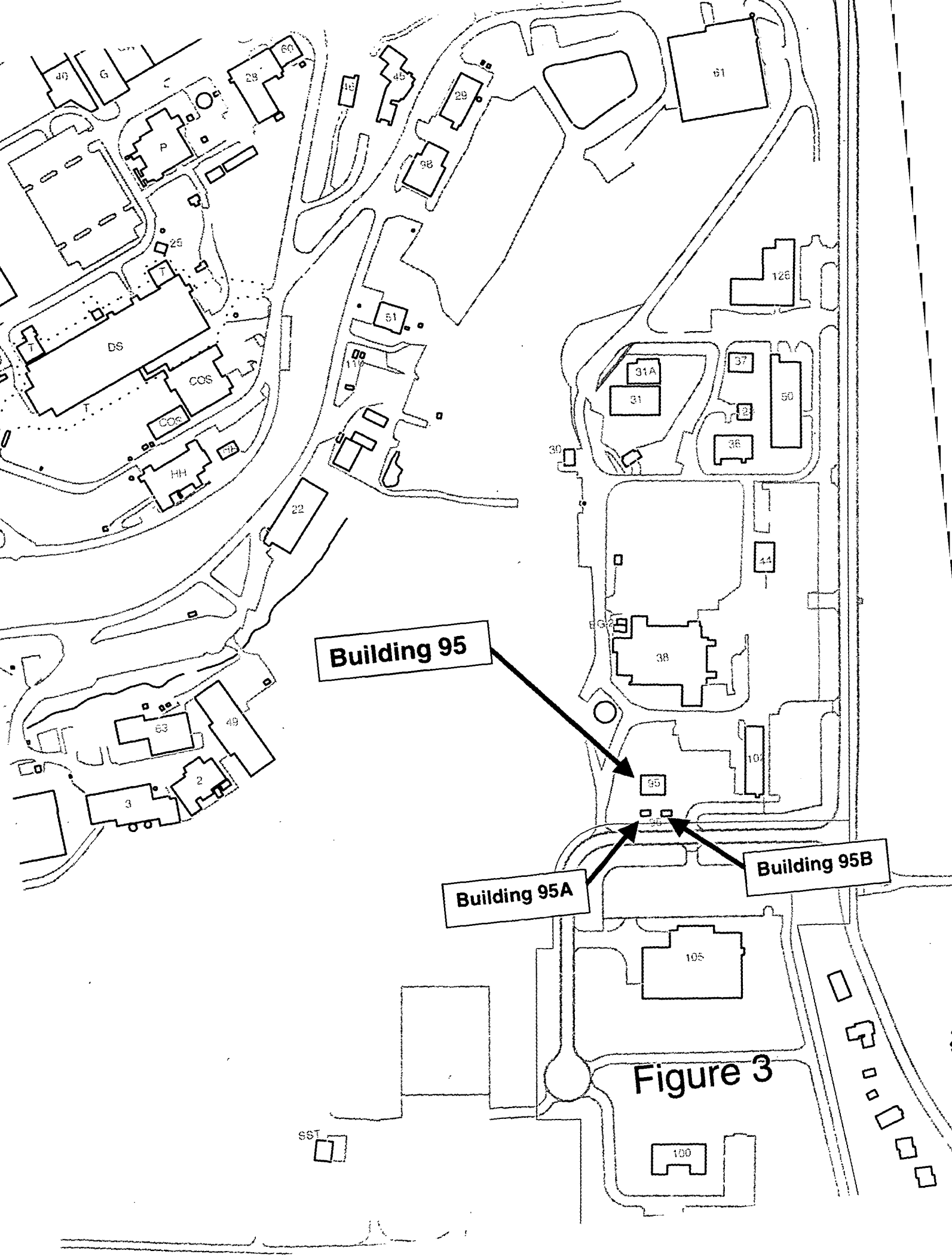

Building 95
Building 95A
Building 95B
DS
COS
HH
P
G
61
126
31A
31
37
50
36
30
44
38
104
105
100
49
22
51
98
29
28
60
46
45
25
63
3
2
SST

Figure 3

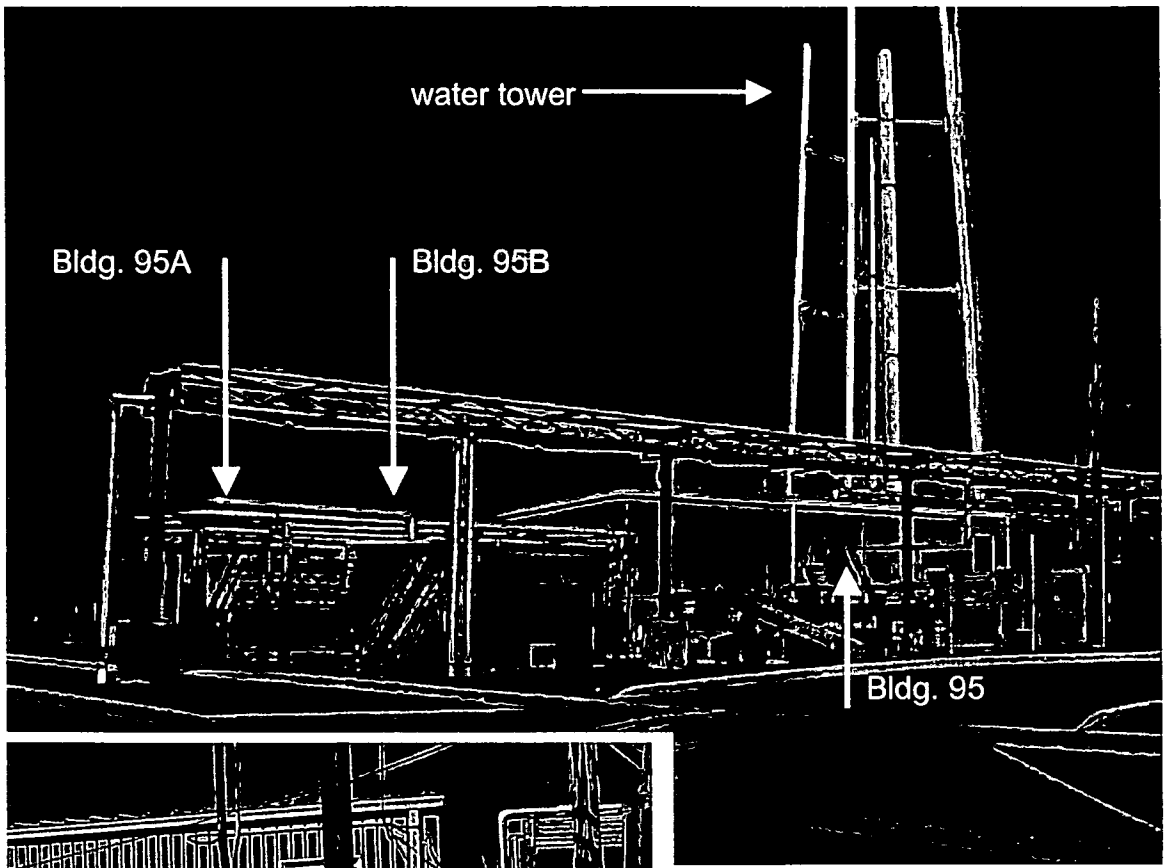
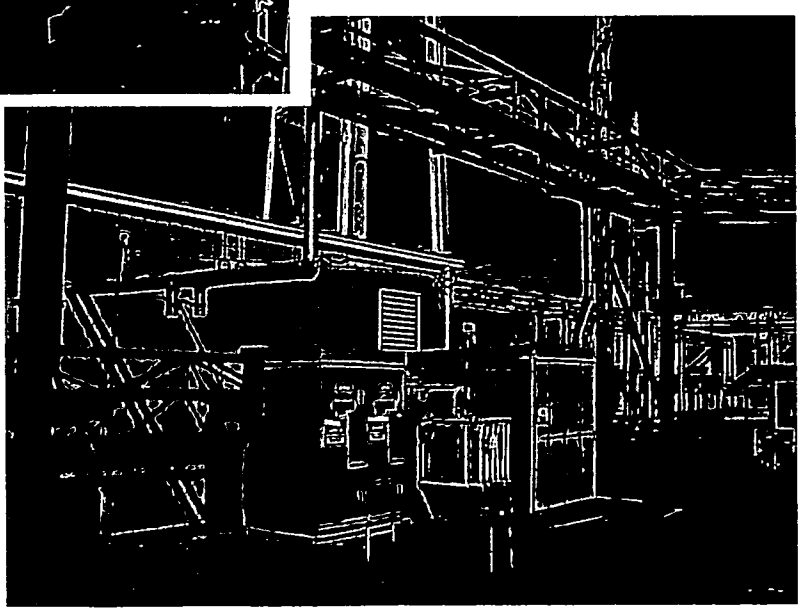


Figure 4: Building 95
Recent Exterior Photos

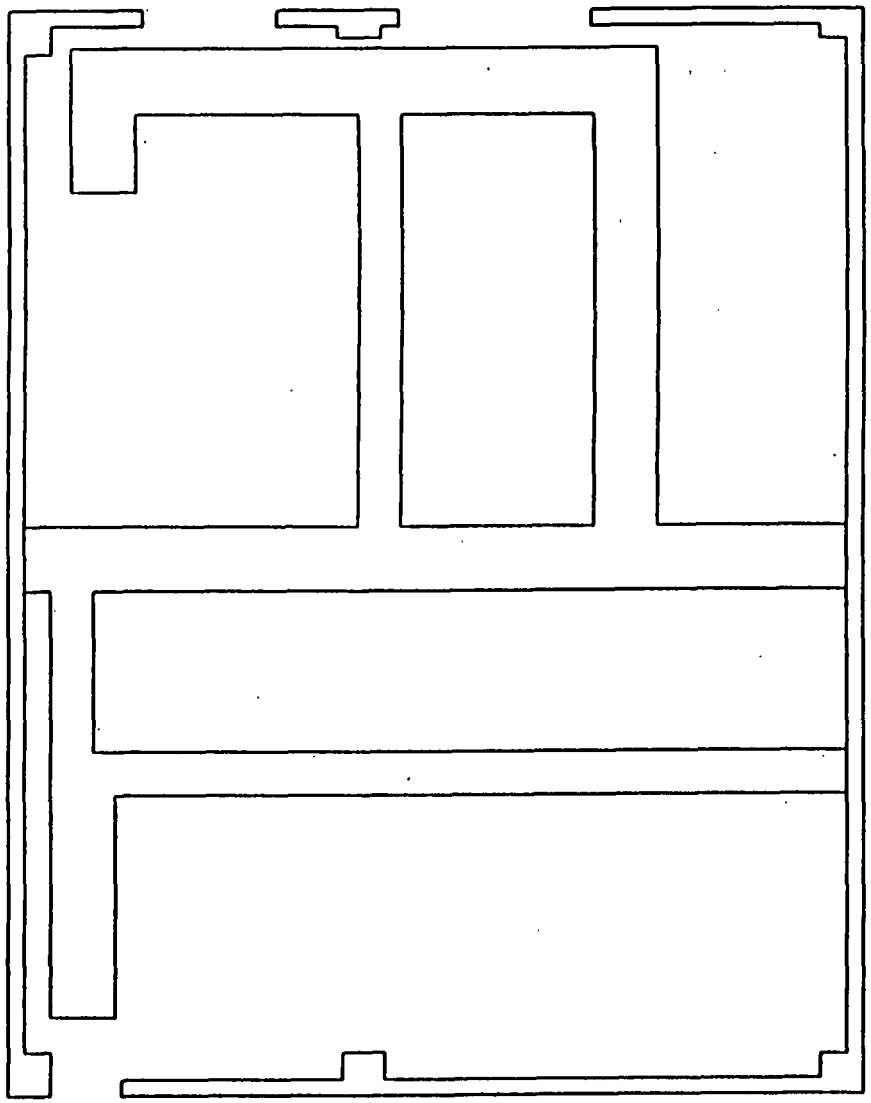
taken 22 March 2002

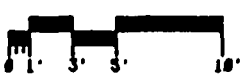


Appendix D

Floor Plans

REV	DATE	REVISION	BY	CHKR	CHD	APVD	APVD	R
0	12/12/91	ASBUILT ISSUE	DCH				DVD	





BLDG #95
FIRST FLOOR
BLDG CODE:3095

SHEET	1 2 3 4 5 6
TITLE	0
TITLE	(U) TITLE CLASSIFICATION BLDG #95 FLOOR PLANS
DRAWING CLASSIFICATION	UNCLASSIFIED
SIZE	C
DRAWING NUMBER	FSC911287
JOB NUMBER	12335
DWG TYPE	SFP
FROM	BLDG #95
CODE	14063
SCALE	AS NOTED
SHEET	1 OF 1
STATUS	MD-REL-12/12/91
ORIGIN	MD-BRJ-V3.0

APPROVALS: DATE:
SAFETY COMMITTEE REQUIRED:
___NONE ___TRUEDOC ___TEADC ___CHDOC
TECH. REVP. _____
GR. MGR. _____
TRUEDOC _____
TEDOC _____
CHDOC _____

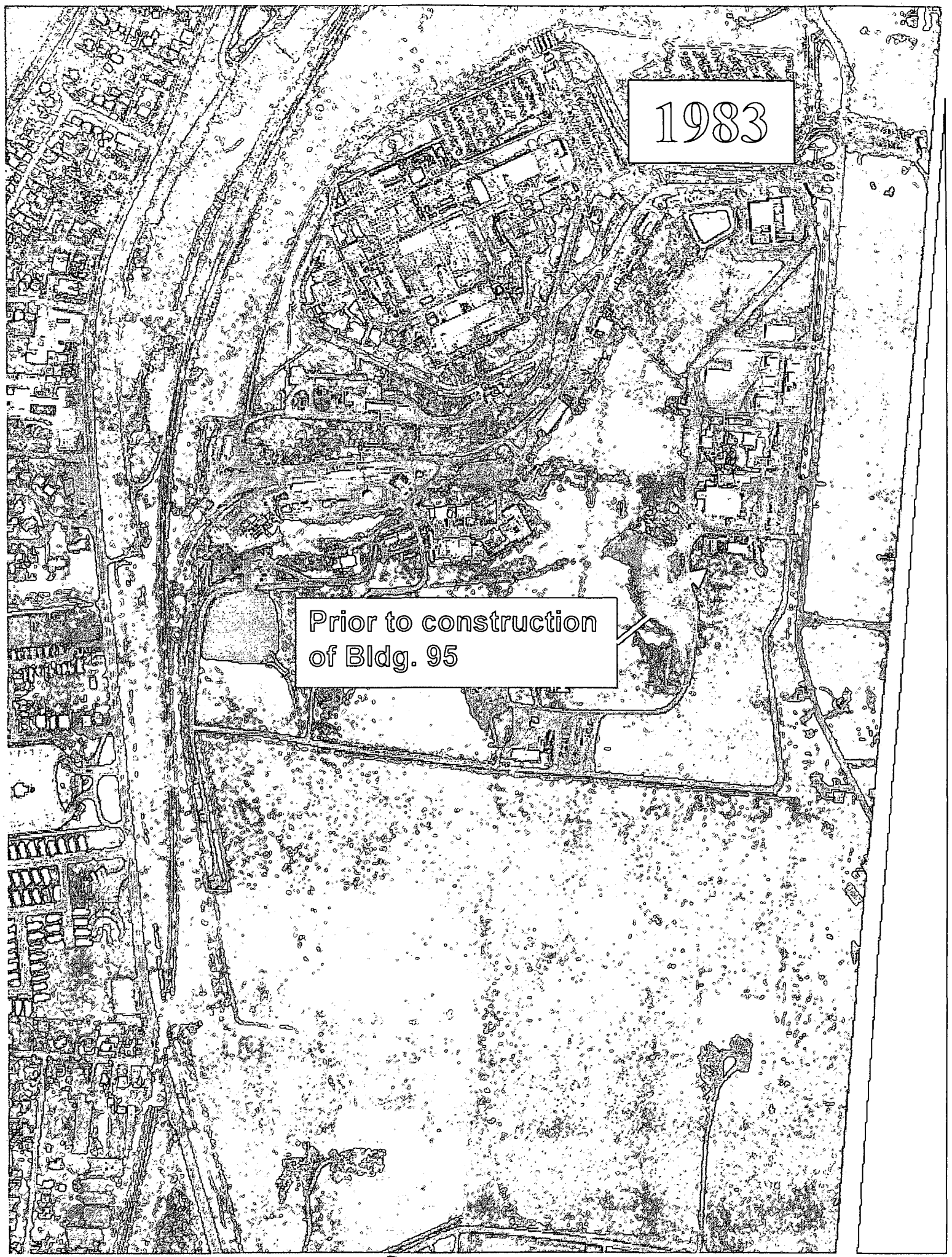
REVISION DWG | PROJ NO
DRGNR | DWG SUPV
LP & DC | PCCN REV
DWG MGR
APVD | DATE

Digital

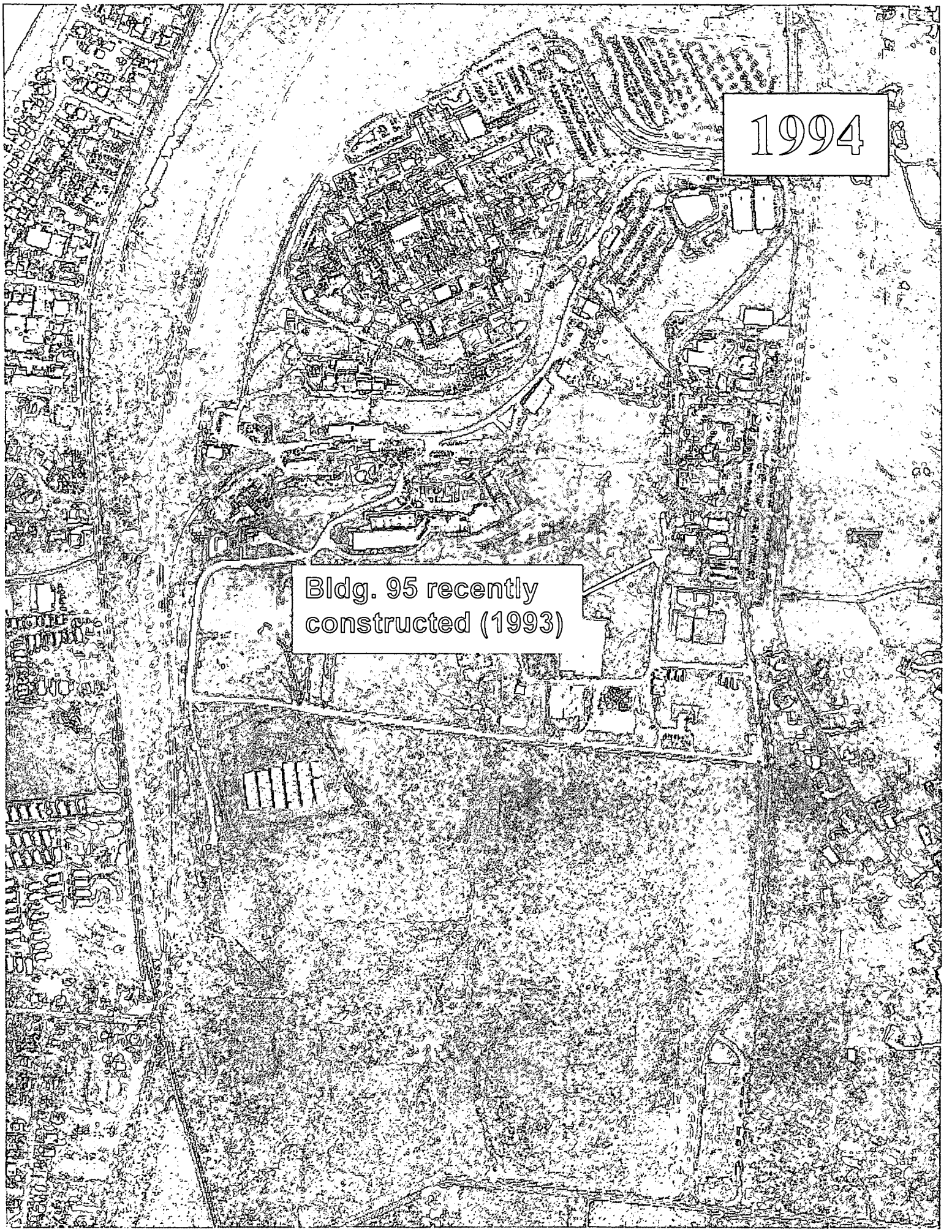
9.102-59

Appendix E

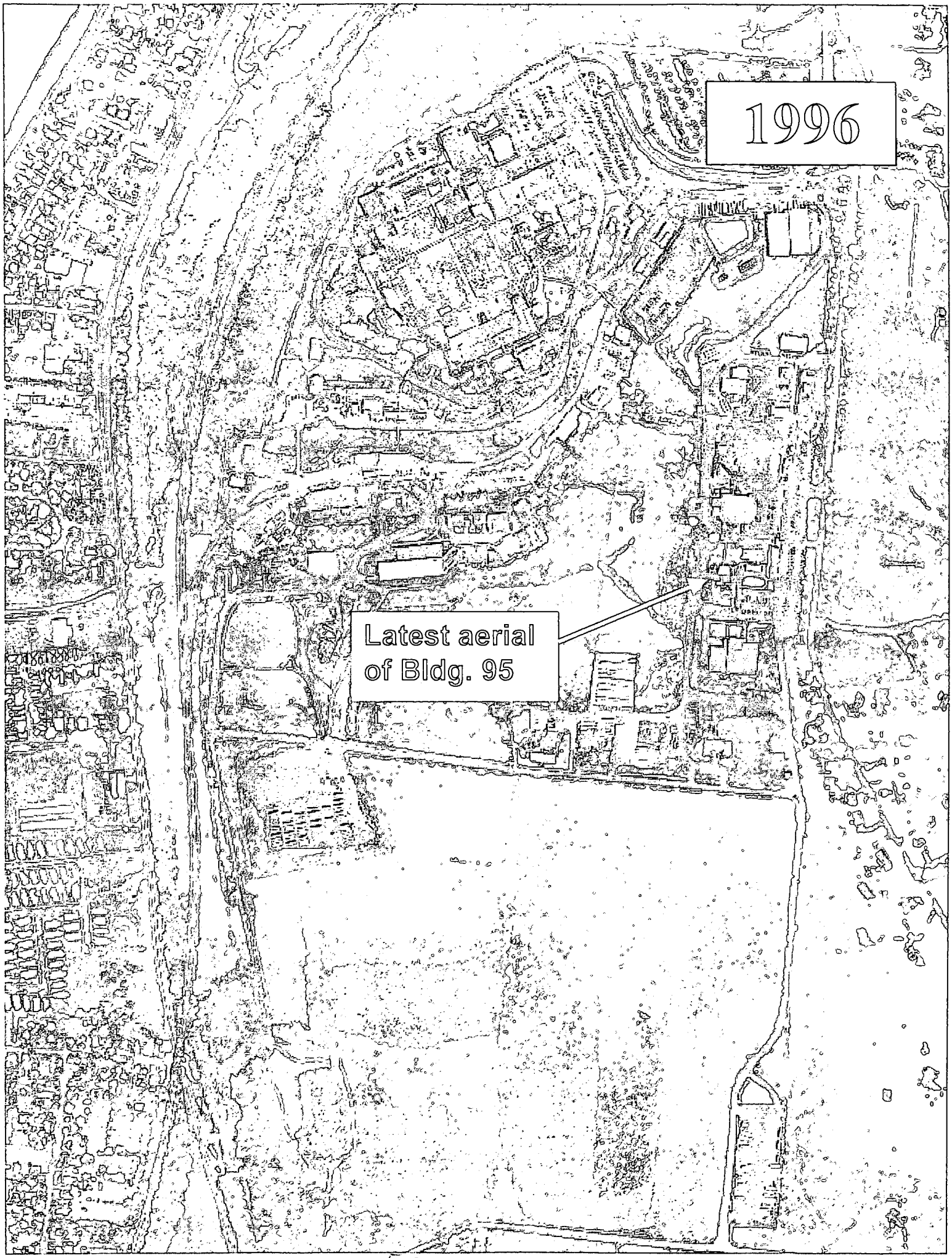
Aerial Photographs



E1 of 2



E2 of 3



E 3 of 3

Appendix F

Environmental Appraisal Report of the Mound Plant (excerpt)

9.102 BUILDING 95

9.102.1 Scope of Building 95 Report

In late 1995 and the early months of 1996, EG&G MAT performed a review of environmental conditions at the Mound Plant. The purpose was to develop a performance baseline, and to identify areas for improvement on a building and a sitewide basis. EG&G MAT did not perform a "due diligence" or Phase I Environmental Site Assessment as specified by ASTM 1527 or ASTM 1528. The scope of the appraisal effort and a discussion of the appraisal methodology are detailed in Sections 2.0 and 5.0, found in Volume 1 of this report.

The appraisal team performed a walk-through of Building 95 on the morning of February 22, 1996. The Environmental Appraisal Checklist (EAC) was used to record findings. The EAC is found in Attachment 1 (Section 9.102.6.1). The appraisers were accompanied by the process manager. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.102.6.2).

9.102.2 Description of Building 95

The Building 95 unit, containing Utilities Operations, consists of the main structure and its two annex buildings, 95-A and 95-B. All are one-story, 2,000-square-foot, 430-square-foot, and 430-square-foot, respectively. All three are Butler metal prefabricated structures with metal roofs and built slab-on-grade. The location is shown in Attachment 3 (Section 9.102.6.3). The main building is bounded by gravel parking and grass. The associated Buildings 95-A and 95-B are to the west and the unit's evaporator tower is to the northwest. Buildings 39 and 101 are to the southeast. Floor plans are presented as Attachment 4 (Section 9.102.6.4). The building is serviced by heating and air conditioning systems and electric service of 480V (*Mound Facility Physical Characterization*, 12-1-93).

Building 95 was constructed in 1984 (MD-10391, *Asbestos Program Manual*, 9-14-95) and included a 500-ton Trane chiller. In 1985 an additional 800-ton chiller was installed, and in 1986, pump capacity and underground chilled water lines were extended to the test fire area. Secondary equipment was installed with each chiller, including cooling towers, chilled water pumps and condenser water pumps in Building 95-B), and chemical treatment in Building 95-A and glycol. The buildings have been used for the same purpose since construction.

9.102.3 Summary of Findings

Building 95 is the remote chilled water plant on SM/PP Hill. On the day of the walk-through, the maintenance service contractor was working on the system. The building is well-maintained. Three issues of environmental concern were identified during the walk-through and none in review of the reference materials. A vendor housekeeping issue was promptly corrected by the building manager and process manager.

9.102.4 Observations

9.102.4.1 Air Emissions

There are no fumehoods. There are no fuel-burning units in the building. There is no evidence of fugitive dust, as none of the processes would be expected to generate it. No air emissions permit applications have been submitted to the Ohio Environmental Protection Agency (OEPA) for activities in the building.

9.102.4.2 Wastewater Emissions

The Mound Facility has three wastewater collection systems: a sanitary wastewater system; a storm water system; and a radioactively contaminated process wastewater system. Sanitary wastewater is treated at an onsite tertiary treatment plant and subsequently discharged by hard pipe to the Great Miami River. Storm water and any non-process wastewater, single pass cooling water, and softener backwash may be discharged directly to the Great Miami River, via the Miami-Erie Canal, or may be diverted to a 3.1-million-gallon holding pond for settling prior to discharge. Radioactively contaminated wastewater is treated in Building WD by physical-chemical treatment. If appropriate, wastewater may be discharged by hard pipe to the Great Miami River. If concentrations of radioactive contaminants cannot be reduced to acceptable levels, wastewater is solidified and shipped to the Nevada Test Site or Envirocare for disposal. All outfalls are permitted under an active NPDES permit. Routine monitoring activities are in place. Based on NPDES monitoring report data reviewed, it appears that the facility is in compliance with qualitative and quantitative conditions of the permit.

9.102.4.2.1 Sanitary

The building does not have sanitary services, according to a diagram of underground utility lines, presented as Attachment 5 (Section 9.102.6.5).

9.102.4.2.2 Storm Wastewater

The interior floor collection drains and the exterior of the building are serviced by storm drains. Grates and drains were not tested to confirm that they connect to the storm drainage system. Inspection showed no sign of odors, colored discharges, or scarring which would indicate that any materials other than storm water has entered the storm drainage system.

9.102.4.2.3 Chemicals

OEPA-approved chemicals are used to treat water circulated in and otherwise associated with the system. The list is included in the BMQ which is included as Attachment 2 (Section 9.102.6.2). Chemical drums were stored on the building's floor over the drainage collection system and do not have secondary containment in accordance with 29 CFR 1910. Dowtherm chemical stains were evident adjacent to its storage container and in the drainage system. The drain did not appear to contain a large amount of the chemicals; however, the stain would indicate that some

F 2 of 48

amounts had entered the storm water drainage system. Chemicals are not those listed as priority pollutants under the Clean Water Act (CWA).

Chemical handling procedures are in place for the proper use and disposal of chemicals. The quantity and type of chemicals, as well as their respective ages, was found to be compatible with daily and annual plant requirements.

9.102.4.3 Potable and Service Water

Potable water and service water are supplied to the building. Backflow prevention devices are installed at all visible points of potential cross connection. There are no drinking fountains. Service water is supplied to the building to be distributed in the fire sprinkler system and used in the plant processes.

9.102.4.4 Chemical Storage and Hazardous Materials

Chemicals for treating water are stored in the building and should have secondary containment in accordance with 29 CFR 1910. Material Safety Data Sheets (MSDS's) are available in the building. Mound personnel do not store or use flammable chemicals in the building. However, two small spray cans of lubricant were found in the vendor's storage cabinet. The cabinet did not meet standard National Fire Protection Association (NFPA) requirements. The maintenance vendor had brought with him seven inert gas cylinders which were not properly positioned or secured in accordance with GCA P-1, 3.5.8. The building manager and process managers promptly corrected the situation.

The building is equipped with appropriate charged fire extinguishers. Each extinguisher was bar-coded. The inspection date database is maintained in the Fire Station, Building 98. There is an emergency evacuation plan, and signs were posted.

A review of the Mound Active Underground Storage Tank Plan and visual inspection indicated that there are no underground storage tanks in or around the building. There are no separators, or catch basins, in or around the building. There are no aboveground storage tanks near the building. There is a large below-grade concrete sump which holds water received from the cooling tower. The water contains Environmental Protection Agency (EPA)-approved chemicals to retard the formation of algae.

The building was tested and does not contain asbestos-containing building material (MD-10391, *Asbestos Program Manual*, 9-14-95).

There are no capacitors or transformers containing polychlorinated biphenyls (PCB's) located in the building. There is no record of past presence (1995 PCB Annual Document Log).

No research, development, or production activities using radioactive or energetic materials have occurred in the buildings (*Mound Facility Physical Characterization*, 12-1-93).

9.102.4.5 Solid, Hazardous, and Radioactive Wastes

Solid wastes generated are primarily paper and cardboard boxes. There is paper and aluminum can recycling to minimize solid waste. Solid wastes are removed by janitorial personnel to a site collection point, then shipped offsite to a local landfill by a service contractor. The disposal permit is maintained by the Waste Management Group. There is no evidence that hazardous materials or wastes are mixed with solid waste streams.

A small amount of oil is used by the vendor to lubricate the machinery within the building. According to the process manager, the vendor brings any new oil required and takes any used oil and rags back to his work center. The oil is added to similar oils gathered under other maintenance contracts and then properly disposed of through a licensed operator. There is no record which indicates that Mound has verified the removal and disposal process.

The cooling tower condenser and the sump pump have been inspected twice in the past five years. No sludge has been recovered. On one of the two inspections, sand was recovered from the cooling tower screens. According to the process manager, the sand was tested and determined to be free of chemicals and hazardous materials. It was assumed that dirt and dust from adjacent road construction was carried into the tower by the wind.

The occasional discharge of condensate and cooling water does not generate an imbalance to the plant operations nor does it result in a violation of federal or state regulations. Treated water is included as a contribution to the stormwater system in the NPDES permit.

9.102.4.6 Waste Minimization and Pollution Prevention

At Mound there is an active program to minimize waste streams in accordance with state and federal requirements and Executive Order 12856.

Programs for waste minimization are in place including aluminum can recycling. When it is necessary to remove chilled water containing ethylene glycol during line or equipment maintenance or repair, the glycol is collected in a mobile tank trailer. It is then recharged into the system when repairs are complete. There does not appear to be additional opportunities for waste minimization activities within Building 95.

9.102.5 Findings and Recommendations

Photographs were taken to document environmental appraisal activities. They are included as Attachment 6 (Section 9.102.6.6).

The environmental appraisal of Building 95 indicates that the following action items, in recommended priority, should be planned and scheduled for accomplishment thus assuring that best management and operating practices are in place.

95-1 Concentration of chemicals contained in treated water which may be discharged from Building 95 into the storm drainage system do not exceed RCRA limits. Should one of the drums of chemicals, including ethylene glycol, leak or be spilled, the liquid would enter the building drainage collection system which discharges into the storm drainage collection system. Limits could then be exceeded. It is recommended that secondary containment be installed within the building to preclude such an event from occurring. Up to now, no such event has been reported.

Drums of chemicals need to treat water are poured onto the floor over the drainage system, without containment. Chemical stains were evident in the drainage system. Proper storage of chemicals with secondary containment is required, in accordance with 29 CFR 1910.

95-2 Since Building 95 is not normally occupied by Mound employees but is occupied on a regular basis by the preventive maintenance vendor, it is recommended that periodic review of housekeeping practices, including the handling and storage of gas cylinders, be conducted.

Routine monitoring of practices of the subcontractor by EGG MAT is required to assure proper storage, handling, and disposal practices.

95-3 The removal of used oil and oil contaminated rags by the vendor should be manifested by the vendor, using the Mound generator I.D. number. The timing of the appraisal did not permit the verification of this procedure.

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ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name 95 Utilities Operations

Appraisers:

Name	Discipline
MARK GILLIAT	ENGINEER
MARCIA VANNET	CHEMIST
MYRON SMITH, JR	ENGINEER
—	

Team #4

Building Manager: Allen Upshaw (x-4894)

Process Manager: Frank Raker (x-3438)

Date: 22 January 1996

F 7 of 48

ENVIRONMENTAL APPRAISAL CHECKLIST

Table of Contents

Checklist	Page
Clean Water Act	1
Clean Air Act	2
Hazardous Materials	4
Safe Drinking Water Act	7
RCRA Hazardous Waste	8
TSCA and NESHAP Requirements for Asbestos	13
TSCA—PCB	14
Low-level and Transuranic Waste	17
Waste Minimization/Pollution Prevention Activities	22

Environme[illegible] [illegible]praisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Clean Water Act (CWA) Screening Checklist

Question	Response	Comments
Does the outside drain spouting of the building discharge directly to a storm sewer/sanitary system?	(Y)/ N	If the answer to any of these questions is yes, proceed with the following checklist.
Are there sinks, toilets and floor drains in the building?	(Y)/ N	
Are chemicals being used in the building?	(Y)/ N	
Is there a process which discharges to the storm or sanitary system?	(Y)/ N	

CWA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 122 Appendix D Table V	If chemicals are used/stored in the building, are they on the attached list? Are they properly contained?	(Y)/ N Y /(N)	
	Is the building in operation? What are the processes and where do they discharge to?	(Y)/ N _____ _____	CHILLER - CLOSED LOOP. GLYCOL RECOVERED DURING MAINTENANCE* COOLING TOWER BACKWASH TO STORM
	Do the floor drains, sinks & toilets appear to be draining properly?	(Y)/ N	FLOOR DRAINS ONLY. NO SINKS OR TOILETS
OAC 3745-33	Do the floor drains and sinks drain to a sanitary or storm sewer?	Sanitary (Storm)	
	Is there a sump/pit in the building? If so, what does it contain? How often is it pumped out? Does water collect in sump? Does sump have secondary containment?	Y /(N) _____ _____ Y / N Y / N	
	Are there any manholes, catch basins, drains, or fill pipes in or around the building? If so, are there any unusual appearances, colors, and/or odors? Describe in comment section. Can chemicals flow into the drain?	(Y)/ N (Y)/ N (Y)/ N	DOWTHERM STAINS IN BLDG DRAIN COLLECTION SYSTEM ADJACENT TO STORAGE TANK

* CHEMICALS IN DRUMS REQUIRE CONTAINMENT

F 9 of 48

9.102-11

9.102-12

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Clean Air Act (CAA) Screening Checklist

Regulatory Guideline	Question	Response	Comments
	Are there any rooms that have air emissions sources that vent to the outside of the building, e.g., fumehoods, equipment? If so, note the rooms.	Y / N	
OAC 3745-35	Using the air emissions inventory reference for this building, are there any sources in the building that are not documented?	Y / N	
	Is there evidence of fugitive dust emissions inside or outside of the building	Y / N	

CAA Checklist

F10 of 48

Regulatory Guideline	Question	Response	Comments
	Are there existing air permits or applications applicable to the building?	Y / N	
OAC 3745-31,35	If yes, are the terms and conditions of the permit or the information included on the application (see air emissions database) being followed? Note any differences and update the air emissions database.	Y / N	
OAC 3745-31	Are there any sources that are not included in the air emissions database? If so, note the room, hood number, active or not, POC, and applicable air emission database information on Table B.	Y / N	
OAC 3745-31-03	Are there sources which are lab equipment of lab fumeheads used exclusively for chemical or physical analyses and bench scale lab equipment? These sources do not require a permit. However, the air emissions database should be updated.	Y / N	
	Has there been any release of air contaminants from this building?	Y / N	

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

CAA Checklist

Comments: Note the number of sources/hoods per room, the number that are active, and the POC on the reference document.

TABLE A

Process Source	Room Number	Hood Number	In Database	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Hours/Yr. Operation	Air Emissions
			Y / N	Y / N					
			Y / N	Y / N					
			Y / N	Y / N					
			Y / N	Y / N					
			Y / N	Y / N					

Blank

Source:

F11 of 48

9.102-13

9.102-14

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Hazardous Materials (HM) Screening Checklist

Question	Response	Comments
Are any chemicals used or stored in this building, now or in the past?	(Y) / N	If the answer is yes, proceed with the following checklist.

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.1200(b,f)	All containers of hazardous chemicals shall be labeled as to the identity of the chemical and the appropriate hazard warnings.	(Y) / N	
29 CFR 1910.1200(g)	MSDS shall be available to the employees in close proximity to the work area.	Y / (N)	IN UTILITY FOREMAN'S OFFICE AREA BLDG P BUT NOT IN 95.
29 CFR 1910.22, 1910.106, 1910.176	All places of employment, passageways, storerooms and service areas shall be kept clean and orderly and in a sanitary manner. Aisles shall be unobstructed. Drums and containers are not leaking and are tightly sealed.	(Y) / N	
29 CFR 1910.106	Storage cabinets for flammable materials are constantly kept closed, are fire resistant and are labeled "FLAMMABLE - Keep Fire Away". Containers inside should be labeled and closed. No spills inside cabinet.	Y / (N)	POTENTIAL FLAMMABLE MATERIALS STORED IN IMPROPER CABINET BY VENDOR WHO MAINTAINS CHILLERS
29 CFR 1910.106(d)(7)	Incompatible chemicals are not stored together.	Y / (N)	
29 CFR 1910.106(d)(4)	Inside Flammable/combustible storage rooms must meet the following: 4 in. raised sill or trench that drains to a safe area, liquid tight wall/floor joints, self-closing doors, gravity or mechanical exhaust providing 6 room changes/hr., exhaust switch located outside room, at least one 3 ft. aisle; no cracks in secondary containment.	Y / N	N/A

F12 of 48

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.106(d)(7)	All flammable/combustible storage locations have at least one 12-B portable fire extinguisher located outside and within 10 ft. of a door opening into any room for storage. No smoking signs are posted.	Y / N	FIRE EXTINGUISHERS PRESENT & CHARGED. NO FLAMMABLE/COMBUSTIBLE STORAGE LOCATION
29 CFR 1910.151	Eyewashes/showers shall be provided within the work area. Ensure unit is operational.	(Y) / N	
CGA P-1 3.3 & 3.3.10	All gas cylinders (full or empty) shall carry a legible label or marking identifying the contents.	(Y) / N	ONLY INERT GAS CYLINDERS VENDER OWNED
CGA P-1 3.5.3	Full and empty containers should be stored separately with the storage layout planned so that containers comprising of old stock can be removed first with a minimum handling of other containers.	Y / N	BROUGHT & REMOVED AFTER USE BY VENDOR. NO LONG TERM STORAGE IN OR OUTSIDE BUILDING
CGA P-1 3.5.8	All compressed gas containers in service or in storage shall be stored standing upright and the container shall be secured.	Y / N	CONTRACTOR VENDOR REMINDED ABOUT REQUIREMENT (BY PROCESS MANAGER) *
CGA P-1 4.2.2	Oxygen cylinders shall be separated from flammable gas containers or combustible materials a minimum of 20 ft. or a noncombustible barrier 5 ft. high.	Y / N	N/A
29 CFR 1910.104(2)(10)	Oxygen stored as a liquid shall be on a noncombustible surface. Asphalt is considered combustible. Wood and long dry grass shall be cut back 15 ft. from the container.	Y / N	N/A
29 CFR 1910.104	Bulk oxygen storage shall be permanently placarded "OXYGEN - NO SMOKING - NO OPEN FLAMES".	Y / N	N/A
	Is there a sign posted in each work area regarding emergency egress and emergency response action?	(Y) / N	
	Is there an emergency response plan available?	(Y) / N	

* RECOMMENDATION

F13 of 48

102.15

9.102-16

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

HM Checklist

Regulatory Guideline	Question	Response	Comments
	Is there a process area?	Y / N	ENTIRE THREE BUILDING COMPLEX
	Does it have proper containment?	Y / N	CHEMICAL WILL FLOW INTO DRAINS IF SPILLED
	Is there a liquid bulk transfer area?	Y / N	DOWTHERM FROM TANK TO EQUIPMENT
	Is there proper containment?	Y / N	
	Is there an above ground storage tank? If so, complete Table B.	Y / N	

Above Ground Storage Tanks Inventory

TABLE B—Above Ground Storage Tanks Inventory

Building	Capacity (Gal.)	Contents	Estimated Volume	In Service	Containment	Visual Stains/ Contamination	If Empty, Flushed
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N

To Bank

Source: _____

F 14 of 48

Building Name: 95 Appraisers: Team # 4 Date: 1-22-96

Safe Drinking Water Act (SDWA) Screening Checklist

Does this facility have potable water?	(Y) / N	If yes, conduct the following survey.

SDWA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 95-02 (A)	Do actual or potential cross-connections exist between potable (light green) and service water (dark green)?	Y / (N)	
OAC 3745 95-04 (B)(C)	Are backflow prevention devices installed where cross connections (hoses connected to faucets, hot water tank vented directly to a drain) exist?	(Y) / N	
	Are sources of service water (janitorial and laboratory faucets, or outdoor spigots) posted as non-potable water sources?	(Y) / N	
	Does the facility contain any water coolers or fountains that are not lead free? Complete Table C.	Y / (N)	

F 15 of 48

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
			Blank

Source: _____

9.102-17

9.102-18

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

RCRA Screening Checklist

Does this facility generate waste or use chemicals?	(Y) / N	If yes, conduct the following survey.

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 52-11	Has any material generated been characterized RCRA hazardous? Was charactarization by analysis or by process knowledge? Are lab results or documentation of process knowledge readily available? Note any uncharacterized material in comment section. Is it waste? If yes, proceed with next section.	Y / (N) analysis / (process) Y / N Y / (N)	WASTE IS NOT GENERATED GLYCOL IS RECOVERED AND RECYCLED
OAC 3745 52-11	Are any of the materials noted RCRA hazardous waste? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed with the appropriate section below.	Y / (N)	

F16 of 48

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
I. HAZARDOUS WASTE STORED IN CONTAINERS			
	Is there an area in the building that could qualify as a Satellite Accumulation Area?	Y / N	
	Is it treated as such?	Y / N	
OAC 3475-52-34 (C)	Has any of the RCRA hazardous waste in this building been managed in Satellite Accumulation Areas? If no, proceed to the next section. If yes, answer the following.	Y / N clear	
	Are the containers marked with the words hazardous waste, or other words denoting the hazard?	Y / N	
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the plant site boundary?	Y / N	
	Are containers kept closed and locked except during filling?	Y / N	
	Are containers moved within 3 days of being filled?	Y / N	

F17 of 48

9.102-19

9.102-20

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-52-11 (A)	If a Satellite accumulation area has been abandoned and/or if waste left in place, and the containers may be subject to the 90-day-storage exclusion. If this exclusion does not apply, go to the next section. If the containers have been in storage under this exclusion, answer the following:		Blank
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are the containers kept closed except during filling?	Y / N	
	Are the containers managed in such a way, that they are not ruptured, or leaks caused?	Y / N	
	Is the area inspected at least once weekly?	Y / N	
	Is the inspection recorded? Where is the log? Is it properly completed, dated, and signed?	Y / N _____ Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the facility boundary?	Y / N	
	Are incompatible wastes managed in such a way that they will not react with another incompatible waste?	Y / N	
OAC 3745-52-34(B)	Has any of the waste (except in Building 23, Building 72 and the Burn Area) been managed in excess of 90-days?	Y / N	
	If no go to next section.		
	If yes, note.		
	For Building 23, Building 72 & Burn Area use special checklist.		

F18 of 48

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
II. HAZARDOUS WASTE STORED IN TANKS			
OAC 3745-52-32 (B)	Has any chemical waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:	Y / N	
	Has the tank or piece of equipment had an integrity assessment?	Y / N	Blank
	Is there a sump?	Y / N	
	Is it dry?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Has any hazardous waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:		
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Is there a closure plan?	Y / N	
	If yes, then note.		
OAC 3745-67	Has any of the waste been managed in a surface impoundment? If yes, then note. Go to the next section.	Y / N	

Fig 8 48

9.102-21

9.102-22

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team # 4 Date: 1-22-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-68	Has any of the waste been managed in a Landfill? If yes, then note. Go to the next section.	Y / N	
OAC 3745-68	Has any of the waste been managed in an Incinerator (other than Burn area units)? If yes, then note. Go to the next section.	Y / N	Blank
OAC 3745-68	Has any of the waste been managed in a Thermal treatment Unit (other than Burn area units)? If yes, then note. Go to the next section	Y / N	
OAC 3745-69	Has any of the waste been managed in a Miscellaneous Treatment Unit (other than Burn area units)? If yes, then not. Go to the next section.	Y / N	
OAC 3745-56	Has any of the waste been managed in a Waste Pile? If yes, then note. Go to the next section.	Y / N	

F 20 of 48

General Comments:

Environmen. . Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Asbestos Screening Checklist

Does this facility contain ACBM?	Y / N *	If yes, conduct the following survey.

Asbestos Checklist

Note: Routinely, the asbestos standard for ACBM in schools has been applied to facilities for purpose of cleanup. In addition to AEHERA, there are additional standards in the NESHAPS that may be of importance.

Regulatory Guideline	Question	Response	Comments
ADAPTED FROM TSCA ACBM IN SCHOOLS:			
	Has this building been characterized either through process knowledge, by analyses, or by inspection to determine if it contains asbestos?	Y / N	
	If no for this building or area note this conclusion in the comment section.		
	Is there any evidence of friable asbestos?	Y / (N)	
	Is the asbestos removal properly managed? (See questions listed below)	Y / N	If there is no asbestos removal, do not complete the following section.
NESHAPS FOR ASBESTOS FOR ANY ONGOING ASBESTOS REMOVAL:			
40 CFR 61.156	There are no discharges of visible emissions to the outside air from collection, processing, packaging, transporting, or deposition of ACBM during the removal.	Y / N	
40 CFR 61.152(b) (1)	ACBM is treated with water in accordance with 40 CFR 152(b)?	Y / N	
40 CFR 61.154	Is friable asbestos adequately wetted during stripping? Or, has an adequate ventilation and collection system been installed?	Y / N	
40 CFR 61.152	Is wetting continued until the waste friable asbestos is collected for disposal?	Y / N	

* ACBM INSPECTION DID NOT IDENTIFY ASBESTOS BUT INDICATED SUSPECTED LINES NOT LABELED. LAGGING SHOULD BE CHECKED. BECAUSE OF

F 21 of 48.

9.102-23

9.102-24

F22 of 48

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-95

Toxic Substances and Control Act (TSCA) PCB's Screening Checklist

Does this facility potentially contain any PCB's or PCB contaminated equipment?	Y / N	If yes, are transformers labeled (Blue or Yellow stickers)? If yes, conduct the following survey.

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761	Has any waste generated in, or from, this building been characterized either through process knowledge or by analyses to determine if it contains PCB's ? If the answer is no, note . If the answer is yes, proceed with next section.	Y / N	Blank
	Based on an inspection, are any of the materials or equipment potentially PCB contaminated? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed.	Y / N	
40 CFR 761.65 (c) (5)	Are PCB articles or containers stored in this building checked for leaks at least once every 30 days?	Y / N	
	If yes, are auditable records maintained.	Y / N	
40 CFR.30 (a) (1) (ix)	Are any PCB transformers in use, or stored for possible reuse, that contain PCB's at concentrations of 500 ppm or greater?	Y / N	
	Are they visually inspected quarterly? If yes, are auditable records maintained?	Y / N	

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.30 (a) 1,viii	Are all combustible materials (i.e., paints, solvents, plastics, paper, sawn wood, etc.) cleared from areas containing PCB transformers to a distance of five meters?	Y / N	
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	Blank
	Are labeled PCB articles and containers stored so that the labels can be referenced?	Y / N	
40 CFR 761.65 (a)	Are all PCB's and PCB contaminated items at concentrations above 50 PPM, that are stored for disposal, stored no longer than one year from the date they were placed in storage?	Y / N	
40 CFR 761.62 (b) (1) (i)	Do all PCB storage areas have an adequate roof and walls to prevent rainwater from reaching the stored items?	Y / N	
40 CFR 761.62 (b) (1) (iv)	Are storage are floors curbed and constructed of continuous smooth and impervious materials?	Y / N	
40 CFR 761.62 (b) (1) (i)	Are the curbs at least 6 inches high?	Y / N	
40 CFR 761.62 (b) (1) (iii)	No drains are allowed in storage areas. Are there drains in the storage areas?	Y / N	

F 23 of 48

9.102-25

9.102-26

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.65 (c) (2)	Only non-leaking and undamaged large high voltage PCB's capacitators and PCB-containing electrical equipment are allowed to be stored outside of PCB storage areas, on pallets if stored outside, with containment for 10 percent of the volume of the equipment. Do all PCB's stored in this configuration conform with this requirement?	Y / N	Blank
40 CFR 761.45 and .65	Are all PCB storage areas marked with a large PCB mark as described in 40 CFR 761.45 (a)?	Y / N	
40 CFR 761.65 (c) (5)	Have all leaking PCB articles and containers been transferred to non-leaking containers?	Y / N	
40 CFR 761.65 (c) (6)	Do all PCB storage containers for the storage of liquid and non-liquid PCB's comply with DOT shipping container specifications?	Y / N	

F2478 48

GENERAL COMMENTS:

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Low-Level Waste and Transuranic Waste Screening Checklist

Does this facility contain radioactive waste ?	Y / (N)	If yes, conduct the following survey.

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
Low-Level Waste			
DOE Order 5820.2A Chapter III	Can any waste generated in, or from, this building be characterized either through process knowledge or by analyses to determine if it is LLW ? If the answer is no, note. If the answer is yes, proceed with next section.	Y / N	Blank
DOE Order 5820.2A Chapter III.	Are any of the materials noted by inspection LLW? If no, The audit would stop here, because there are no LLW. If yes, note the location of the management unit, and the method of management, and proceed with the section below.	Y / N	
DOE Order 5820.2A Chapter III, 3.a.	Have the storage configurations in use in this area been taken into account for keeping external exposures to the general public below 25 mrem/yr?	Y / N	
	Is the waste stored in a configuration that protects ground-water resources?	Y / N	
DOE Order 5820.2A Chapter III, 3.b.	Has monitoring been conducted in this area in accordance with DOE Order 5820.2A in order to evaluate the area against the performance standard?	Y / N	
	Based on field data, does the monitoring conducted in this area conform to the performance standard?	Y / N	

F25 of 48

9.102-27

9.102-28

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A Chapter III, 3.d.	Based on field data, is the characterization of the materials in this area sufficient to assure proper segregation to assure proper segregation, treatment, storage, and disposal?	Y / N	
	Based on field data does the characterization as documented at the time of generation of the waste ensure that the actual physical and chemical characteristics, and major radionuclide content of this material are recorded and known at all stages of the waste management process?	Y / N	Blank
	Do characterization data include the following:		
	Physical and chemical characteristics of the waste?	Y / N	
	Volume of the waste (including solidification and absorbent material)?	Y / N	
	Weight of the waste (including solidification and absorbent material)?	Y / N	
	Major radionuclides and their concentrations?	Y / N	
	Packaging date, package weight, external volume?	Y / N	
	How were the concentration of radionuclides determined? Direct methods?	_____	
	How were the concentrations of radionuclides determined? Indirect methods?	_____	
DOE Order 5820.2A Chapter III, 3.h	Is the storage configuration in long term storage sufficient to meet the performance standard?	Y / N	
	Are records maintained at the facility enabling this waste to be traced from its origin?	Y / N	

F26 of 43

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
TRU WASTE			
	Can any waste generated in, or from this building be characterized either through process knowledge or by analyses to determine if it is TRU waste? If no, note and stop. If yes, proceed with the next section.	Y / N	Blank
	Are any of the materials noted as being TRU waste during an inspection? If no, note and stop. If the answer is yes, note the location of the management unit, and the method of management and proceed with the appropriate section below.	Y / N	
DOE Order 5820.2A, Chapter II, 3.a	Was this material evaluated as soon as possible in the generating process, to determine if it is TRU (>100nCi/g), if it is recoverable, or if it is waste? (Note if the activity level is less than 100nCi/g, the waste is not TRU, and can be managed as LLW.)	Y / N	
	Did the determination of TRU radionuclide concentration include the mass of the container, including shielding? These should be included in calculating the specific activity of the waste.	Y / N	

F27 of 48

9.102-29

9.102-30

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-95

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II, 3.b	Has the TRU waste been assayed or otherwise evaluated to determine its radioactive content prior to storage?	Y / N	Blank
	Has the TRU waste been characterized or otherwise evaluated to determine if hazardous waste is present?	Y / N	
	Has classified TRU waste been treated to destroy the classified characteristics?	Y / N	
DOE Order 5820.2A, Chapter II 3.d	Has all newly generated TRU waste been packaged in non-combustible packaging that meets DOT requirements?	Y / N	
	Have all Type A TRU waste packages been equipped with a method to prevent pressure buildup?	Y / N	
	Have all TRU packages been marked, labeled and sealed in accordance with 40 CFR 261 Subpart C and 49 CFR 172 Subparts D, E and 49 CFR 173 Subpart I?	Y / N	

F 28 pg 48

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II 3.e	Has the TRU waste been segregated in manner that will not permit commingling of TRU waste with LLW or high-level waste?	Y / N	Blank
	Has the TRU waste been protected from unauthorized access?	Y / N	
	Has the TRU waste been monitored periodically to ensure that it is not releasing its radioactive and/or hazardous constituents?	Y / N	
	Has this TRU waste storage area been designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	
	Does the facility have a contingency plan designed to minimize the adverse impacts of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	

GENERAL COMMENTS:

F 27 of 48

9.102-31

9.102-32

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Waste Minimization/Pollution Prevention Activities Screening Checklist

Does this facility generate waste or use chemicals?	(Y) N	If yes, conduct the following survey.

Waste Minimiaztion/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Based on available information and a walk through, are there any apparent opportunities to curtail the consumption of raw materials (including but not limited to paper, chemicals, electricity, and etc.). If yes, list candidate areas in the comment section.	Y / (N)	GLYCOL (DOWTHERM) RECOVERED DURING SYSTEM MAINTENCE TEMPORARILY STORED IN APPROVED PORTABLE TANK TRUCK AND THEN REINJECTED. ALL OTHER CHEMICALS USED DEPENDS DIRECTLY ON SYSTEM USE
	Are there solvent wastes?	Y / (N)	
	Is vehicle maintenance performed?	Y / (N)	
	Are oils used ?	(Y) / N	IN PUMPS NUMBER 95A
	Are these corrosive wastes?	Y / (N)	
	Are there sludges?	Y / (N)	
	Are there halogenated organic (nonsolvent) wastes?	Y / (N)	
	Are metals recovered from wastewater?	Y / (N)	
	Is waste sludge generated?	Y / (N)	
	Are any waste minimization practices used that reduce the generation of sludge?	Y / N	N/A
	Ion exchange process?	Y / N	
	Lead in gasoline lowered to reduce tank sludge toxicity?	Y / N	Blank
	Storage tank agitators installed?	Y / N	
	Corrosive resistant materials used?	Y / N	
	Prevention of crude oil oxidation ?	Y / N	
	Drying?	Y / N	

F30 of 48

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
HALOGENATED ORGANIC (NONSOLVENT) WASTES			
	Are halogenated organic wastes used as fuel in cement kilns?	Y / N	
	Are baghouse filters used to collect pesticides and pesticide intermediates?	Y / N	Blank
	Are solid wastes generated from the collection of baghouse dust?	Y / N	
	Wet instead of dry grinding used?	Y / N	
	The output spray dried?	Y / N	
	Has baghouse emptying and recycling of baghouse fines been scheduled?	Y / N	
	Have operations been evaluated to improve procedures such as handling, storage and spill prevention for increased efficiency?	Y / N	
METAL WASTES			
	Are any technologies for the recovering of metals from waste rinsewater used?	Y / N	Blank
	Evaporation of waste rinsewater?	Y / N	
	Reverse osmosis?	Y / N	
	Ion exchange?	Y / N	
	Electrolysis?	Y / N	
	Agglomeration?	Y / N	
CORROSIVE WASTES			
	Are acidic or basic cleaning solutions used as treatment for pH adjustment chemicals?	Y / N	N/A

F31 of 48

9.102-33

9.102-34

F 32 of 48

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are ion exchange resins used to remove heavy metals and cyanides from acid and base solutions?	Y / N	Blank
	Is crystallization used to remove corrosives from solution by cooling?	Y / N	
	Is the process of evaporation of liquid wastes by heating used to leave behind a more concentrated solution?	Y / N	
CYANIDE AND REACTIVE WASTES			
	Has non-cyanide or low concentration of cyanide process replaced zinc cyanide bath ?	Y / N	Blank
	Are any of these processes used to recycle cyanide wastes?	Y / N	
	Refrigeration/crystallization?	Y / N	
	Evaporation?	Y / N	
	Ion exchange?	Y / N	
	Membrane separation which includes reverse osmosis or electrodialysis?	Y / N	
VEHICLE MAINTENANCE			
	How are auto parts cleaned?	Y / N	None performed
	Solvent sink?	Y / N	
	Solvent dunk bucket?	Y / N	
	Solvent dip tank?	Y / N	
	Are parts cleaning solvents used for anything else besides cleaning parts?	Y / N	
	Are spills reduced by locating sinks or dunk buckets near auto service bays?	Y / N	

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	Blank
	Are drip tanks used to capture losses?	~~Y / N~~	
	Is a solvent sink used for mineral solvents rather than a dunk bucket or dip tank?	Y / N	
	Does a waste hauler collect solvent waste for recycling or treatment?	Y / N	
OILS			
	What kind of oils are used?		Pumps have lubricating oils
	Hydraulic oil?	Y / N	
	Transformer oil?	Y / N	
	Metal working fluids?	Y / N	
	Spent lubricating oils?	Y / N	REMOVED BY OTHERS GOES TO WM
	Can the process be modified or changed to use water-based fluids?	Y / (N)	
	Are these good housekeeping and operation practices used to minimize oil waste production?		
	Use oils not contaminated with other liquids?	Y / (N)	
	Oil spills prevented?	(Y) / N	
	Drip pans installed?	Y / (N)	
	Oil soaked rags laundered?	(Y) / N	BY OTHERS
	Rags and absorbants used to their limit?	Y / N	NONE IN BUILDING REMOVED when work complete

F 33 of 48

9.102-35

9.102-36

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are these treatment techniques used to promote separation of oil/water wastes?		Blank
	Reclaiming process to remove water and solvents by heat?	Y / N	
	Gravity setting?	Y / N	
	Screening?	Y / N	
	Centrifugation?	Y / N	
	Filtration?	Y / N	
SOLVENT WASTES			
	Has there been an attempt to reduce volume or toxicity by:		
	Eliminating solvents?	Y / N	
	Reducing the use of solvents?	Y / N	Blank
	Reducing the loss of solvents?	Y / N	
	Increasing recyclability?	Y / N	
	Are solvents segregated?	Y / N	
	Are waste solvents free from water and garbage?	Y / N	
	Are recycled solvent containers labeled as such?	Y / N	
	Are containers kept closed?	Y / N	
	Free and sheltered from the elements?	Y / N	
	Are solvent tanks kept as free from contaminations as possible so that the waste can be recycled?	Y / N	
	Is a method used to minimize the use of new materials such as a countercurrent process?	Y / N	

F34 of 48

Environmental Appraisal Checklist

Building Name: 95 Appraisers: Team #4 Date: 1-22-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	If there is a recycling program, what technique is used?	Y / N	
	Distillation?	Y / N	
	Solids removal?	Y / N	
	Dispersion breaking?	Y / N	Blank
	Dissolved and emulsified organics recovery?	Y / N	
	Are any of these housekeeping procedures used to minimize the production of solvent wastes?		
	Separators cleaned and checked?	Y / N	
	Parts not allowed to enter the degreaser while wet?	Y / N	
	Sludge from the bottom of the tank not allowed to accumulate?	Y / N	
	Lids kept on tanks?	Y / N	
	Freeboard space on tanks increased?	Y / N	
	Are better operating practices used to reduce waste?	Y / N	
	How long is solvent waste stored and where?	_____ _____	

F 35 of 48

9.102-37

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Building Name: 95 Building Manager: A.W. Upshaw Phone: 865-4894 Date: 12-07-95
Alternate: F. BAKER Phone: 865-3439

1. What are the access requirements (training, clearance, etc.)?

NONE

2. What protective equipment is required to enter the building?

SAFETY GLASSES & SHOES

3. Are there any restricted areas? Yes (No)
Where are they?

4. Provide a physical description of the building.

Building 95 is a 2,000-ft^2, metal prefabricated structure with a metal roof. The building contains two large glycol chiller systems. Building is not contaminated with any radioactive or energetic materials.

Source: Mound Facility Physical Characterization, 12-1-93

5. Provide a drawing of the building.

Attached.

6. What is the current building use?

Building is used as a chilled water plant for the SM-PP hill and Test Fire areas of the facility.

Source: Mound Buildings, 5-9-95

7. What is the history of building use other than that described in #6?

NONE

Source: Mound Buildings, 5-9-95

Building Manager's Questionnaire

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

8. What are ongoing operations or processes? What are the raw materials and waste streams from each process? Who is the best contact for each process?

Process(es) Housed: Water chilling for SM-PP and Test Fire areas

How Wastes Are Generated:

A small amount of oil used to lubricate the machinery may be discarded. The chillers were purchased from ~~Carrier~~ TRANE, and we have a maintenance contract with ~~Carrier~~ TRANE for them. When ~~Carrier~~ TRANE representatives service the chillers, they bring new oil with them and take the used oil back. Any waste oil generated during operations conducted by Mound employees is put in waste oil drums. ~~in Building 95.~~

Contact: A. UPSHAW / F. BAKER
Phone #: 4894 / 3438

Source: Characterization of Mound's Hazardous, Radioactive, and Mixed Waste, (8-15-90).

F 38 of 48

Building Manager's Questionnaire

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

9. In the last six months, have any modifications been made to the building or to processes in the building? Yes No

10. Does the building have air emission sources? No

Process Source	Room Number	Hood Number	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Lbs./Yr. Operation	Air Emissions
			Y / N					
			Y / N					
			Y / N					
			Y / N					
			Y / N					

Source: Mound Air Emissions Database 11/30/95

F39 of 48

9.102-43

Building Manager's Questionnaire

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

11. Describe air pollution control equipment used to reduce emissions for each source. None Listed

Process Source	Emissions	Control Equipment	Functioning
			Y / N
			Y / N
			Y / N
			Y / N
			Y / N

Source: Air Permits 2/4/95

12. For existing permits are emissions monitored? At what frequency? Where are the records maintained? None Listed

Process Source	Permit	Log	Permit Conditions & Frequency of Monitoring
		Y / N	
		Y / N	
		Y / N	
		Y / N	
		Y / N	

Source: Air Permits 2/4/95

13. Does the building have domestic water service? Yes No
Is there bottled water? Yes No

14. Does the building discharge to the storm sewer? Yes No
Where?

15. Does the building discharge to the sanitary sewer? Yes No
Where?

16. Has an asbestos survey been conducted? Yes
What are the results? SUSPECTED

Source: Technical Manual MD-10391, Issue 3 Asbestos Program Manual 9/6/95

F40 of 48

9.102-44

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

17. Does the building contain transformers or capacitors? No

Source: PCB ANNUAL DOCUMENT LOG

18. Has the building been identified as containing PCBs? No

Source: PCB ANNUAL DOCUMENT LOG

19. What chemicals are used or stored inside or outside of the building? Include compressed gasses not in large tanks.

Chemical Name	State	Amount (MAX)
~~NONE~~ ETHYLENE GLYCOL	LIQUID	
ANCIDE 4020 (Glutaraldehyde)	LIQUID	
ANCIDE 4070 (5Chloro.2methyl 4 isothiazolin 3one 2methyl 4isothiazolin 3one	LIQUID	
HNICOL 3310 (Organophosphonate, Triazole, Synthetic polymers, Sodium Molybdate	LIQUID	

Source: Chemical Inventory 1994

F41 of 48

9.102-45

Building Manager's Questionnaire

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

20. Has there been a reported spill, leak, or other release of any chemical? Yes No
What, how much, and what clean-up measures were followed?

Chemical	Amount	Clean-up Measures

Source: _____

21. Where do waste chemicals go?

N/A

22. What janitorial supplies are stored inside or outside of the building?

N/A

23. Where do excess janitorial supplies go?

N/A

Source: _____

24. Are pesticides or herbicides stored or used in or around the building? Yes No

Chemical	Amount	Chemical	Amount

Source: _____

F42 of 48

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

25. Does the building contain active or inactive above ground storage tanks? Yes No
For each tank, list the content, quantity, last inspection, registration number.

NONE

26. Is ~~there~~ a sump or pit or underground tank in or around the building?
Yes No Unknown USED FOR COOLING TOWER CONDENSOR WATER
Is it double-walled? What does it contain? How many days per year is it filled?
Is there an emergency overflow tank? Have there been previous overflows?

Double-Walled	Contents	Days/Year in Use	Overflow Tank	Previous Overflow
Y / N			Y / N	Y / N

Source: _____

27. Does the building generate, store, or dispose of hazardous waste? Yes No

Materials	Amount

Source: _____

F 43 of 48

9.102-47

Building Manager's Questionnaire

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

28. Does the building have abandoned process equipment such as tanks, piping, containers, etc.? Yes No

29. Is waste material stored in or around the building for more than 90 days?
Yes No

30. Has the building been identified as a 90-day waste accumulation area?
Yes No

31. Has any area in the building been identified as a satellite accumulation area?
Yes No

32. Is mixed waste generated, stored, or disposed of from the building? Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

F 44 of 48

9.102-48

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

33. Is TRU radioactive waste generated, stored, or disposed of from the building?
Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

F45 of 48

Building Manager's Questionnaire

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

34. Is low-level radioactive waste generated, stored, or disposed of from the building? Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

35. Identify all administrative orders, temporary or permanent injunctions, civil administrative penalties, or criminal activities issued against the building.

F46 of 48

9.102-50

Building Name: 95 Building Manager: A.W. Upshaw Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

36. Is there a waste minimization program in the building? (Yes) No
Discuss your ideas about how to minimize waste.
GLYCOL IS CAPTURED DURING SYSTEM REPAIR & RETURNED TO THE SYSTEM.

37. Has a pollution prevention program been developed for the building? (Yes) No

CFC RECOVERY

F47 of 48

9.102-51

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Appendix G

Radiological Information

Building 95 – RSDS Results

RSDS #	Building Section	Sample Location	All Samples Meet Surface Release Criteria
01-38-541	Building 95, main building	Floor	Yes
01-OSA-069	Building 95, main building	Floors, walls, trench, sink, fan, and equipment. Water/glycol samples taken in glycol tank and condensate sump.	Yes
01-OSA-073	Buildings 95A & 95B	Floors, walls, and equipment.	Yes
01-OSA-077	Buildings 95A & 95B	Floors	Yes

Results from all radiological surveys of Building 95 are below surface release criteria; there were no elevated readings. Survey areas included all areas of the main building and auxiliary buildings, as shown on the attached sketches for 01-OSA-069 and 01-OSA-073. Water sample results showed no detectable alpha and a very low-level of tritium, well below applicable drinking water standards.

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 1 Rec 11-26-01 Rec 12-4-01

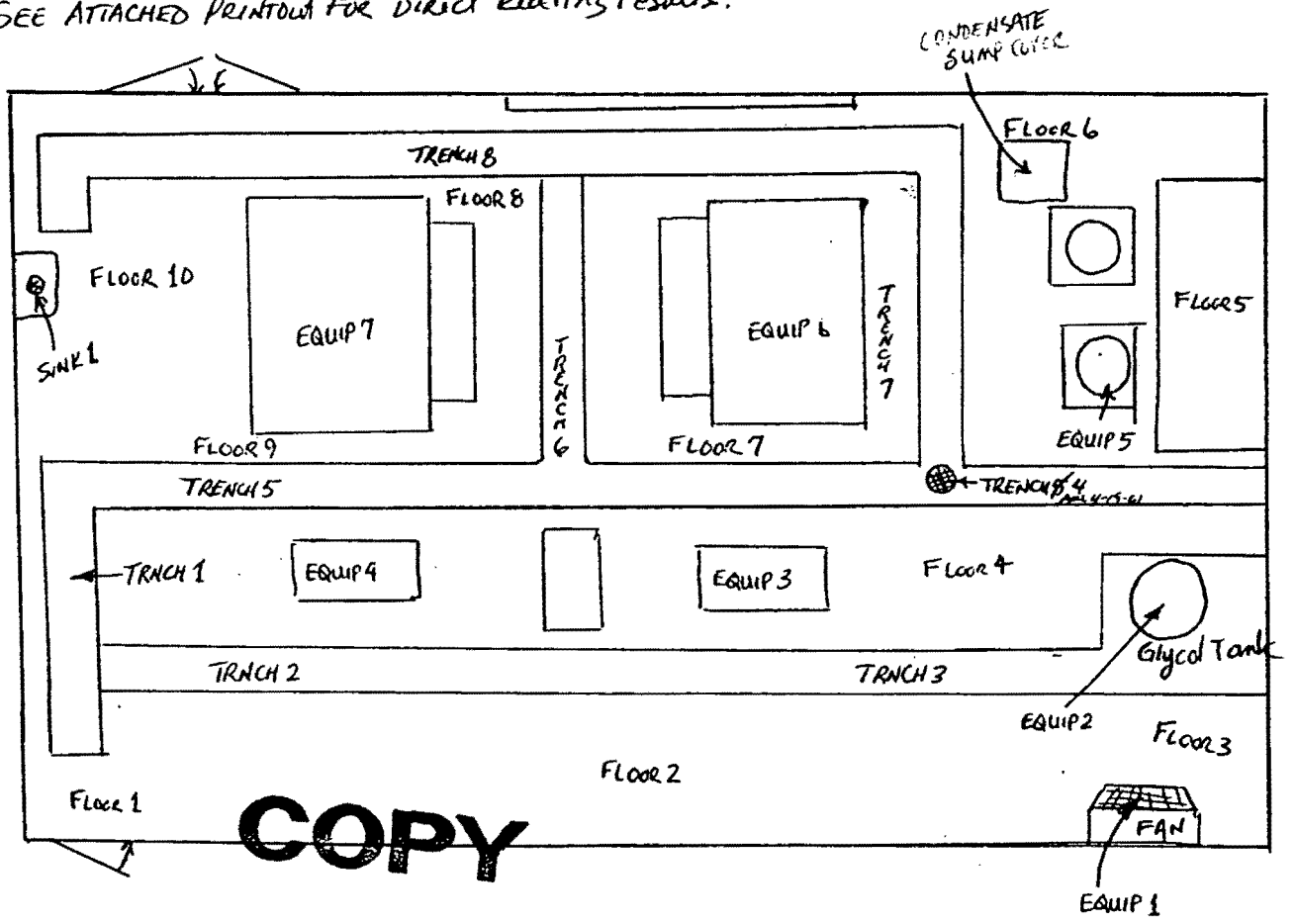
LOCATION: (BLDG./AREA/ROOM) BUILDING 95	SURVEY NO. 01-OSA-069
PURPOSE: TRANSITION SURVEY	RWP NO. N/A
	DATE: 11-19-01
	TIME: 1400

MAP/DRAWING

WATER/Glycol Samples taken in Glycol Tank & Condensate Sump (Results attached)

NORTH ↑

Large Area masslixns Taken on Floors, walls & equipment: all <100 dpm/wipe α; <5000 dpm/wipe β
SEE ATTACHED PRINTOUT FOR DIRECT READING RESULTS.



COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5603/5604	1-31-02
M-2350/43-20	5671/5148	9-21-02
M-2350/43-37	5671/5675	9-21-02

[redacted]	HP # 7707 6178	Date: 11-19-01
Counted by: (Signature) N/A	HP # N/A	Date: N/A
Counted by: (Print Name) [redacted]		
[redacted]	HP # 8405	Date: 11/27/01

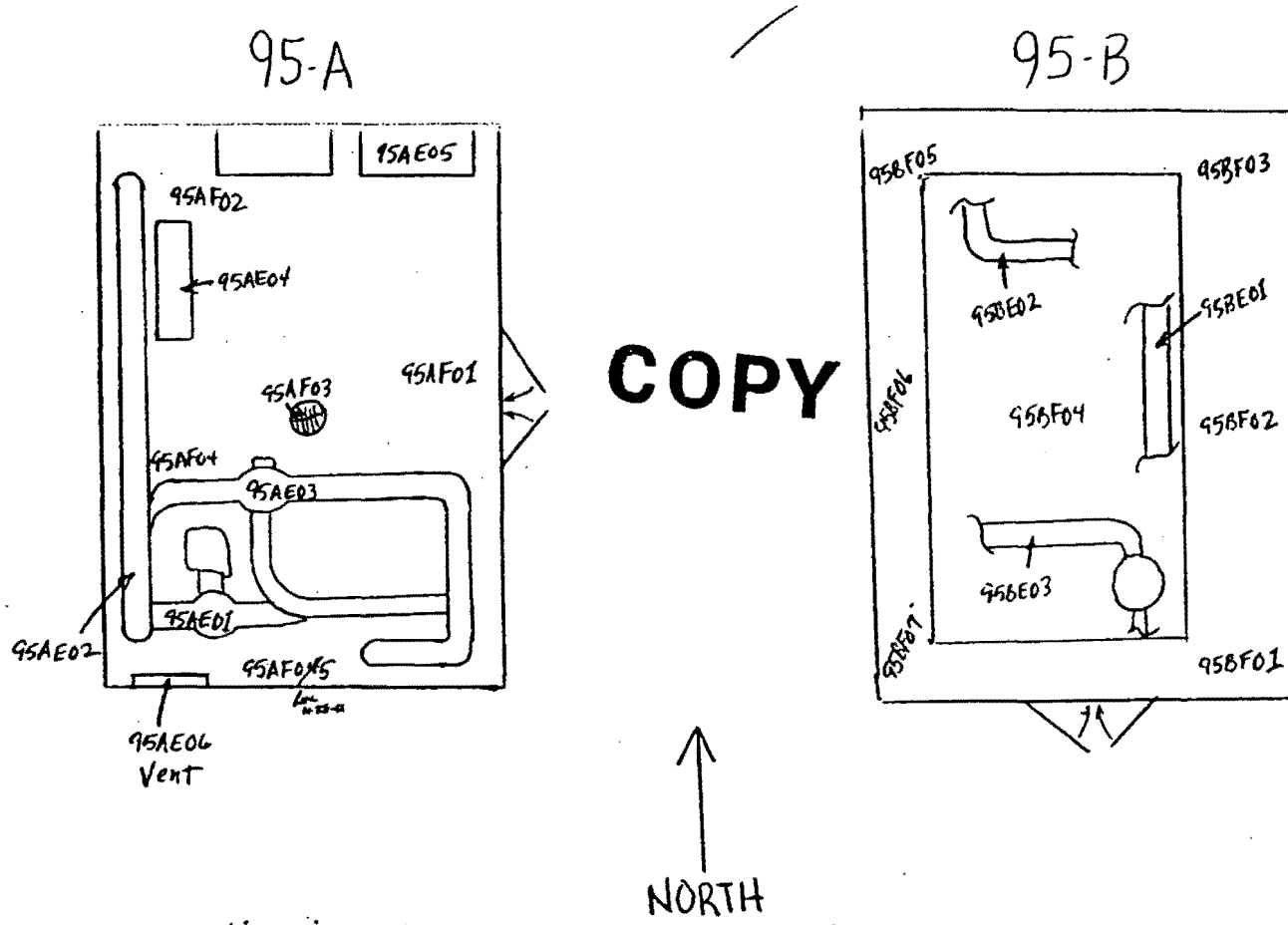
ML-9620 (2-98)

G-2 6622

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Buildings 95A & 95B	SURVEY NO. 01-OSA-073
PURPOSE: Surveys for Building Transition	RWP NO. N/A
	DATE: 11-27-01
	TIME: 1650

MAP/DRAWING



Large area masslinn wipes taken on floors, walls, and equipment
All Large area masslinns: <100 dpm/wipe α; <5000 dpm/wipe β-

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5603/5604	1-31-02
2350 / 43-20	5671 / 5148	9-21-02
2350 / 43-37	5671 / 5675	9-21-02

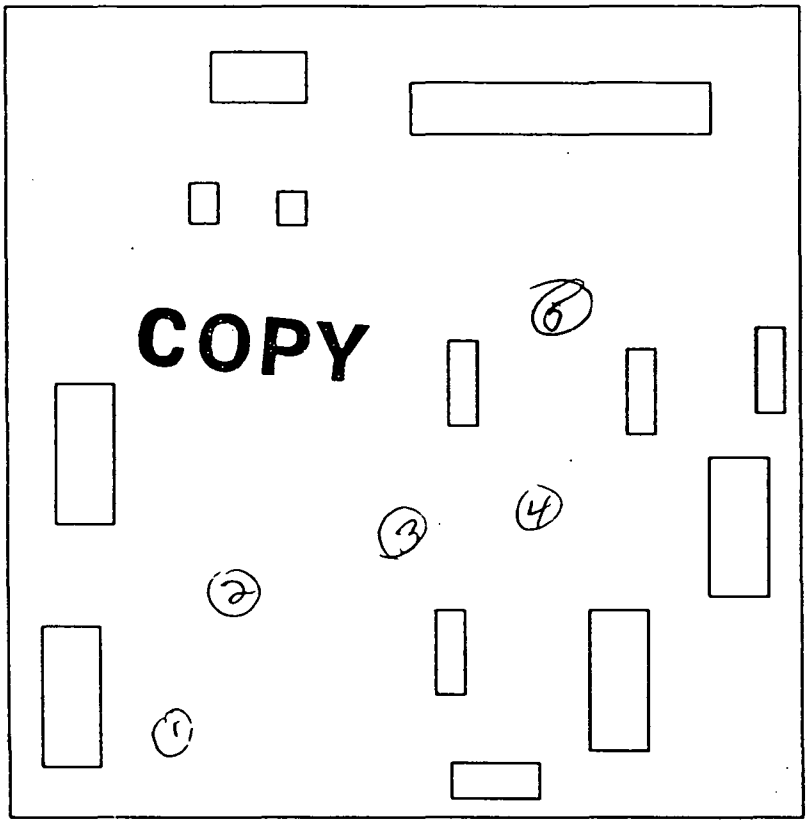
Completed by: (Signature) [redacted]	HP # 7707 6178	Date: 11-28-01
Counted by: (Signature) N/A	HP # N/A	Date: N/A
Counted by: (Print Name) N/A [redacted]	HP # 8405	Date: 12/5/01

ML-0820 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	Bldg, 95 all rooms	SURVEY NO.	01-38-541
PURPOSE: Annual Survey		RWP NO.	N/A
		DATE:	9-6-01
		TIME:	1030

MAP/DRAWING



North

<100DPM/100CM²-ALPHA <5000DPM/100CM²-BETA

LEGEND:
= mrem/hr (γ) whole body
E = mrem/hr (β+n+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100cm2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE	5306/5318	10-3-01
	N/A	

Completed by: (Sign[redacted]	HPS 5436	Date: 9-6-01
Completed by: (Prin[redacted]		
[redacted]	HPS 5268	Date: 9/6/01
Counted[redacted]		
[redacted]	HPS 8405	Date: 9/17/01

ML-9620 (4-98)

C-5 PL G-4 of 22

01-38-541

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
1	SEE			FLOOR
2				
3		ATTACHED		
4				
5				FLOOR
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18		N/A		
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

Removable Contamination				
Swipes (dpm/100cm2)				
Sample#	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51		N/A		
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO count Room analysis for β/γ ,alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached , write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR075
Batch Ended: 9/6/01 14:50
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 01-38-541 FRANCIS(5) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.31	1.86		0.00	1.19	
A2	2	0.00	1.77		0.00	1.13	
A3	3	0.00	2.04		0.00	1.25	
A4	4	1.37	1.92		2.51	2.34	
B1	5	1.55	2.01		0.14	1.76	

G 6 of 22

KRF
9-11-01

Protocol #: 5 Pw H3 405828 User : 526

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	6.11
Region B:	2.0	- 18.6	0	0.0	5.82
Region C:	40.0	- 2000	0	0.0	10.70

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
01-38-541 FRANCIS(5) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT5.DAT
Count Data Filename: c:\data\SDATA5.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.11	5.82	0	B	620.48		0.00	10.70
0	2.00	613.75	584.79	0		514.52	1297.80	123.62	3.40
1	2.00	0.00	0.00	0		613.94	0.00	0.00	0.00
2	2.00	2.89	2.42	0		597.27	5.67	8.89	0.00
3	2.00	0.39	0.68	0		607.12	0.75	7.65	2.80
4	2.00	1.39	1.39	0		609.89	2.69	8.11	0.00
5	2.00	0.00	0.00	0		570.81	0.00	0.00	0.00

page 4 of 4
KRF
9-11-01

G7 of 22

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 37 Rec A-26-01 Rec 12-4-01

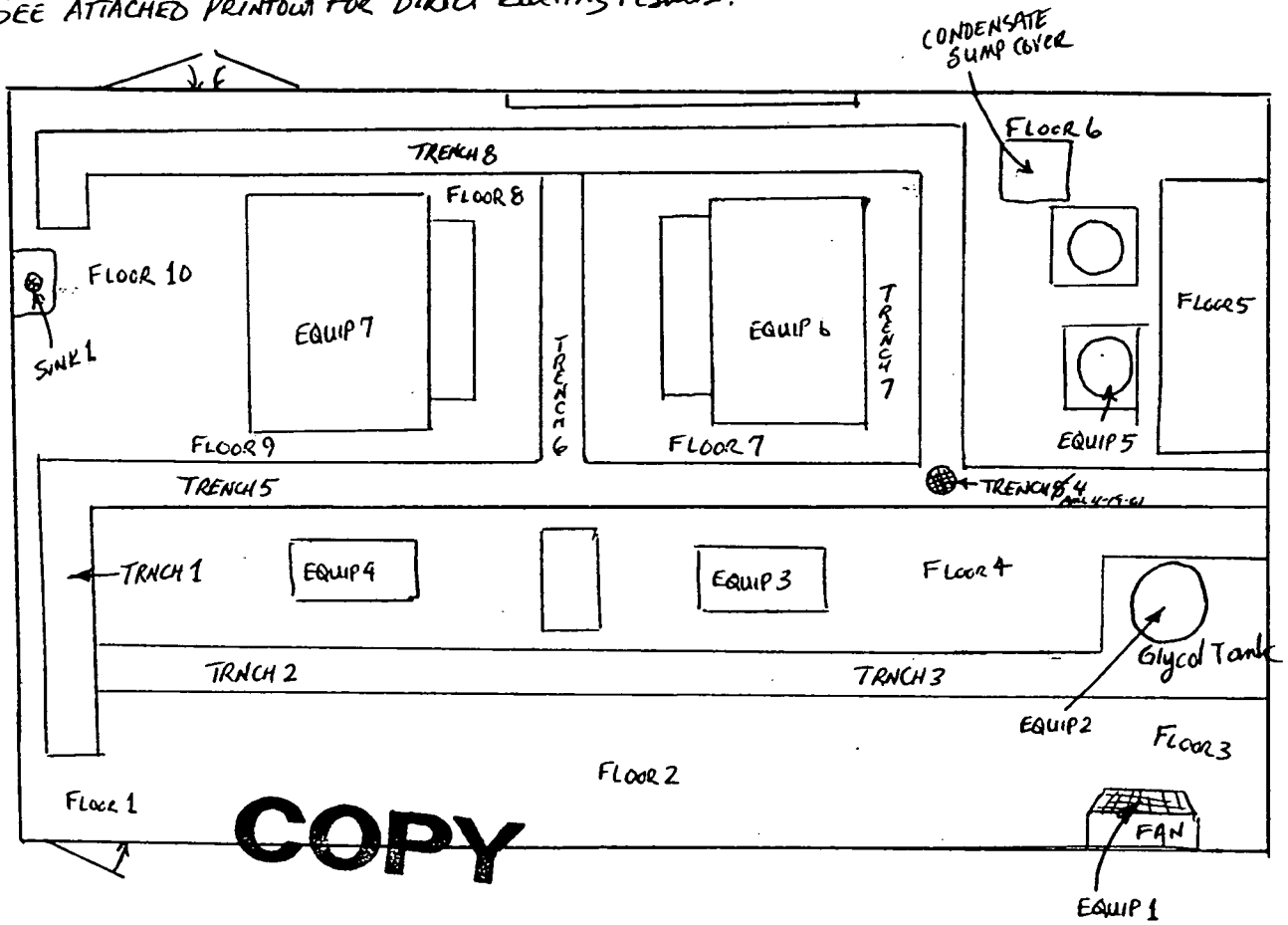
LOCATION: (BLDG./AREA/ROOM) BUILDING 95	SURVEY NO. 01-OSA-069
PURPOSE: TRANSITION SURVEY	RWP NO. N/A
	DATE: 11-19-01
	TIME: 1400

MAP/DRAWING

NORTH ↑

WATER/Glycol Samples taken in Glycol Tank & Condensate Sump (Results attached)

Large Area masslikns taken on Floors, walls & equipment: all <100 dpm/wipe α; <5000 dpm/wipe β
SEE ATTACHED PRINTOUT FOR DIRECT READING RESULTS.



COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5603/5604	1-31-02
M-2350/43-20	5671/5148	9-21-02
M-2350/43-37	5671/5675	9-21-02
	A	
	N	

[redacted]	P # 7707 6178	Date: 11-19-01
Counted by: (Signature) N/A	HP # N/A	Date: N/A
Counted by: (Print Name) [redacted] N/A		
[redacted]	HP # 8405	Date: 11/27/01

ML-9620 (2-98)

G 806 22

Page 2 of 57 Rev 12-7-01

Survey No. 01-OSA-069

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N/A

COMMENTS:

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

RSDS 01-OSA-069

CONTAMINATION PROBE INTEGRATED COUNT MDA

:SELECT> Probe Type		584	Model 43-37 cm2	Active Probe Area
:ENTER> Isotopic Efficiency Listed on Probe	Ei	[redacted]	c/d	Instrument Efficiency (c/d-on Probe)
:SELECT> Contamination Type (Alpha Or Beta)	Es		0.5	Surface Efficiency (1 for beta/0.5 for alpha)
	E	0.0915		Total Efficiency (CALCULATED =Ei * Es)
:ENTER> Background Count Rate	Rb	[redacted]	CPM	Background Count Rate
:ENTER> Background Count Time (minutes)	Tb	[redacted]	min.	

Enter the above information in the 'gray areas'. Then adjust sample intergrated count time to obtain desired MDA.

Sample Integrated Count Time (sec.)		[redacted]	sec.
Sample Count Time (minutes) (Tsb)		0:35	min.
*	MDA	50	dpm/100 cm2

Minimum Activity Detected Per Probe Area (dpm/Probe): 290

Performed by: [redacted] HP#: 7707 Date: 11/19/01

* MDA Equation Source: NUREG 1507, Eq. 3-11 (Strom & Stansbury 1992), where K = E*A/100

Alarm set point - 22 cts.

G10 of 22

RSDS 01-OSA-069

CONTAMINATION PROBE INTEGRATED COUNT MDA

:SELECT> Probe Type		181	Model 43-20 cm2	Active Probe Area
:ENTER> Isotopic Efficiency Listed on Probe	Ei	[redacted]	c/d	Instrument Efficiency (c/d-on Probe)
:SELECT> Contamination Type (Alpha Or Beta)	Es		0.5	Surface Efficiency (1 for beta/0.5 for alpha)
	E	0.0965		Total Efficiency (CALCULATED =Ei * Es)
:ENTER> Background Count Rate	Rb	[redacted]	CPM	Background Count Rate
:ENTER> Background Count Time (minutes)	Tb	[redacted]	min.	

Enter the above information in the 'gray areas'. Then adjust sample intergrated count time to obtain desired MDA.

Sample Integrated Count Time (sec.)		[redacted]	sec.
Sample Count Time (minutes) (Tsb)		2.33	min.
*	MDA	50	dpm/100 cm2

Minimum Activity Detected Per Probe Area (dpm/Probe): 91

Performed by: [redacted]

HP#: 7707

Date: 11/19/01

* MDA Equation Source: NUREG 1507, Eq. 3-11 (Strom & Stansbury 1992), where K = E*A/100

Alarm Set point 60 cts.

C-11 of 22

BLDG 95 M-2350 SURVEY

RSDS# 01-OSA-069 RCT: Rac RCT: DJH

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:	0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:	0.5	

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5671	6178	5675	4	0	11/19/01	8:26	49	300	18
SRCCHECK	5671	6178	5675	4	1	11/19/01	8:38	2292	60	4289
SRCCHECK	5671	6178	5675	4	2	11/19/01	8:40	2309	60	4321
SRCCHECK	5671	6178	5675	4	3	11/19/01	8:42	2269	60	4246
SRCCHECK	5671	6178	5675	4	4	11/19/01	8:44	2279	60	4265
SRCCHECK	5671	6178	5675	4	5	11/19/01	8:45	2252	60	4214
SRCCHECK	5671	6178	5675	4	6	11/19/01	8:48	2190	60	4098
SRCBKG	5671	6178	5148	3	7	11/19/01	8:56	41	300	47
SRCCHECK	5671	6178	5148	3	8	11/19/01	8:58	2182	60	12492
SRCCHECK	5671	6178	5148	3	9	11/19/01	8:59	2157	60	12349
SRCCHECK	5671	6178	5148	3	10	11/19/01	9:01	2028	60	11611
SRCCHECK	5671	6178	5148	3	11	11/19/01	9:03	2122	60	12149
TRNCH01	5671	6178	5148	3	12	11/19/01	10:50	8	140	20
TRNCH02	5671	6178	5148	3	13	11/19/01	10:53	9	140	22
TRNCH03	5671	6178	5148	3	14	11/19/01	10:56	11	140	27
TRNCH04	5671	6178	5148	3	15	11/19/01	11:00	7	140	17
TRNCH05	5671	6178	5148	3	16	11/19/01	11:04	10	140	25
TRNCH06	5671	6178	5148	3	17	11/19/01	11:07	7	140	17
TRNCH07	5671	6178	5148	3	18	11/19/01	11:12	16	140	39
TRNCH08	5671	6178	5148	3	19	11/19/01	11:16	18	140	44
SINK01	5671	6178	5148	3	20	11/19/01	11:21	7	140	17
EQUIP01	5671	6178	5148	3	21	11/19/01	14:14	6	140	15
EQUIP02	5671	6178	5148	3	22	11/19/01	14:18	13	140	32
EQUIP03	5671	6178	5148	3	23	11/19/01	14:21	4	140	10
EQUIP04	5671	6178	5148	3	24	11/19/01	14:24	8	140	20
EQUIP05	5671	6178	5148	3	25	11/19/01	14:28	0	140	0
EQUIP06	5671	6178	5148	3	26	11/19/01	14:31	3	140	7
EQUIP07	5671	6178	5148	3	27	11/19/01	14:36	3	140	7
FLOOR01	5671	6178	5675	4	28	11/19/01	14:38	3	21	16
FLOOR02	5671	6178	5675	4	29	11/19/01	14:39	0	21	0
FLOOR03	5671	6178	5675	4	30	11/19/01	14:40	5	21	27
FLOOR04	5671	6178	5675	4	31	11/19/01	14:41	5	21	27
FLOOR05	5671	6178	5675	4	32	11/19/01	14:42	3	21	16
FLOOR06	5671	6178	5675	4	33	11/19/01	14:44	0	21	0
FLOOR07	5671	6178	5675	4	34	11/19/01	14:45	3	21	16
FLOOR08	5671	6178	5675	4	35	11/19/01	14:46	1	21	5
FLOOR09	5671	6178	5675	4	36	11/19/01	14:48	4	21	21
FLOOR10	5671	6178	5148	3	37	11/19/01	14:51	23	140	56

KSDS# 01-OSA-069 RMC

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE: CONDENSATE WATER system	COLLECTED BY:	NUMBER OF SAMPLES
11-20-01		BOB COBLENTZ	1
PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:		MAIL STOP:

CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
G00552	11-19-01	01-OSA-069	

ANALYSES REQUESTED (check):

- [x] ^3H
- [x] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other _____

ADDITIONAL INFORMATION:

For Release

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0112164	BLDG 95	95 CONDENSATE SYSTEM	0.73 pCi/L ^3H
			<0.60 dpm/mL ✓

COMMENTS:

ANALYZED BY:	DATE:
Bradley D Justice	11-20-01

MD-5222 (1-01)

RSDS # 01-OSA-069 Rmc

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
11-20-01	H_2O / Glycol	Bob Coblentz	1
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
SMFF/TFV	Bob Coblentz / 4324		OSW-4

CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
G00552	11-19-01	01-OSA-069	N/A

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0112165	BLDG 95	GLYCOL system	< 0.60 nCi/L 3H
			< 0.60 dpm/mL α

COMMENTS:

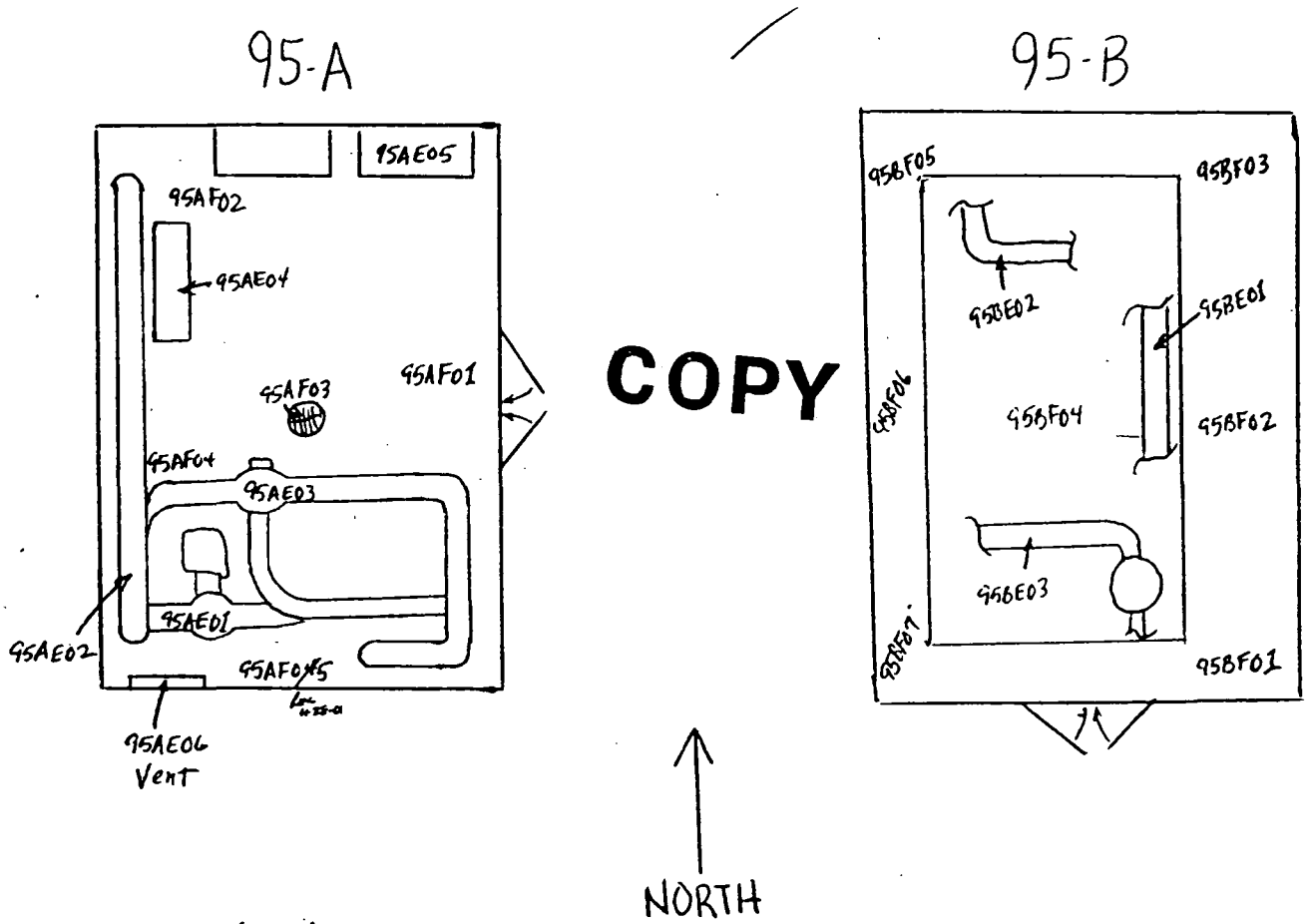
ANALYZED BY:	DATE:
Bradley D Justice	11-20-01

ML-5222 (1-01)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Buildings 95A & 95B	SURVEY NO. 01-05A-073
PURPOSE: Surveys for Building Transition	RWP NO. N/A
	DATE: 11-27-01
	TIME: 1650

MAP/DRAWING



Large area masslinn wipes taken on floors, walls, and equipment
All Large area masslinns: <100 dpm/wipe α; <5000 dpm/wipe β-

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5603/5604	1-31-02
2350 / 43-20	5671 / 5148	9-21-02
2350 / 43-37	5671 / 5675	9-21-02

[redacted]	HP # 7707 6178	Date: 11-28-01
Counted by: (Signature) N/A	HP # N/A	Date: N/A
Counted by: (Print Name) N/A		
[redacted]	HP # 8405	Date: 12/5/01
[redacted]		

ML-0620 (2-98)

Survey No. 01-OSA-073

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: Survey started 11/19/01. Completed 11/27/01. Lock to 95A door malfunctioned and was inaccessable until repaired.

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

BLDG 95A and 95B M-2350 SURVEY

RSDS# 01-05A-073 RCT: Rmc RCT: DJH

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:	0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:	0.5	

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5671	6178	5675	4	0	11/19/01	8:26	49	300	18
SRCCHECK	5671	6178	5675	4	1	11/19/01	8:38	2292	60	4289
SRCCHECK	5671	6178	5675	4	2	11/19/01	8:40	2309	60	4321
SRCCHECK	5671	6178	5675	4	3	11/19/01	8:42	2269	60	4246
SRCCHECK	5671	6178	5675	4	4	11/19/01	8:44	2279	60	4265
SRCCHECK	5671	6178	5675	4	5	11/19/01	8:45	2252	60	4214
SRCCHECK	5671	6178	5675	4	6	11/19/01	8:48	2190	60	4098
SRCBKG	5671	6178	5148	3	7	11/19/01	8:56	41	300	47
SRCCHECK	5671	6178	5148	3	8	11/19/01	8:58	2182	60	12492
SRCCHECK	5671	6178	5148	3	9	11/19/01	8:59	2157	60	12349
SRCCHECK	5671	6178	5148	3	10	11/19/01	9:01	2028	60	11611
SRCCHECK	5671	6178	5148	3	11	11/19/01	9:03	2122	60	12149
95BF01	5671	6178	5675	4	38	11/19/01	15:16	5	21	27
95BF02	5671	6178	5675	4	39	11/19/01	15:17	4	21	21
95BF03	5671	6178	5675	4	40	11/19/01	15:18	2	21	11
95BF04	5671	6178	5148	3	41	11/19/01	15:21	15	140	37
95BF05	5671	6178	5148	3	42	11/19/01	15:25	5	140	12
95BF06	5671	6178	5148	3	43	11/19/01	15:27	6	140	15
95BF07	5671	6178	5148	3	44	11/19/01	15:30	7	140	17
95BE01	5671	6178	5148	3	45	11/19/01	15:34	7	140	17
95BE02	5671	6178	5148	3	46	11/19/01	15:37	2	140	5
95BE03	5671	6178	5148	3	47	11/19/01	15:40	3	140	7
SRCBKG	5671	6178	5148	3	0	11/27/01	9:00	37	300	42
SRCCHECK	5671	6178	5148	3	1	11/27/01	9:02	2026	60	11599
SRCCHECK	5671	6178	5148	3	2	11/27/01	9:04	1995	60	11422
SRCCHECK	5671	6178	5148	3	3	11/27/01	9:05	2087	60	11949
SRCCHECK	5671	6178	5148	3	4	11/27/01	9:06	1965	60	11250
SRCBKG	5671	6178	5675	4	5	11/27/01	9:13	26	300	10
SRCCHECK	5671	6178	5675	4	6	11/27/01	9:15	2301	60	4306
SRCCHECK	5671	6178	5675	4	7	11/27/01	9:17	2280	60	4267
SRCCHECK	5671	6178	5675	4	8	11/27/01	9:18	2228	60	4169
SRCCHECK	5671	6178	5675	4	9	11/27/01	9:20	2215	60	4145
SRCCHECK	5671	6178	5675	4	10	11/27/01	9:21	2183	60	4085
SRCCHECK	5671	6178	5675	4	11	11/27/01	9:27	2242	60	4196

BLDG 95A and 95B M-2350 SURVEY

RSDS# 01-05A-073 RCT: Qmc RCT: DGH

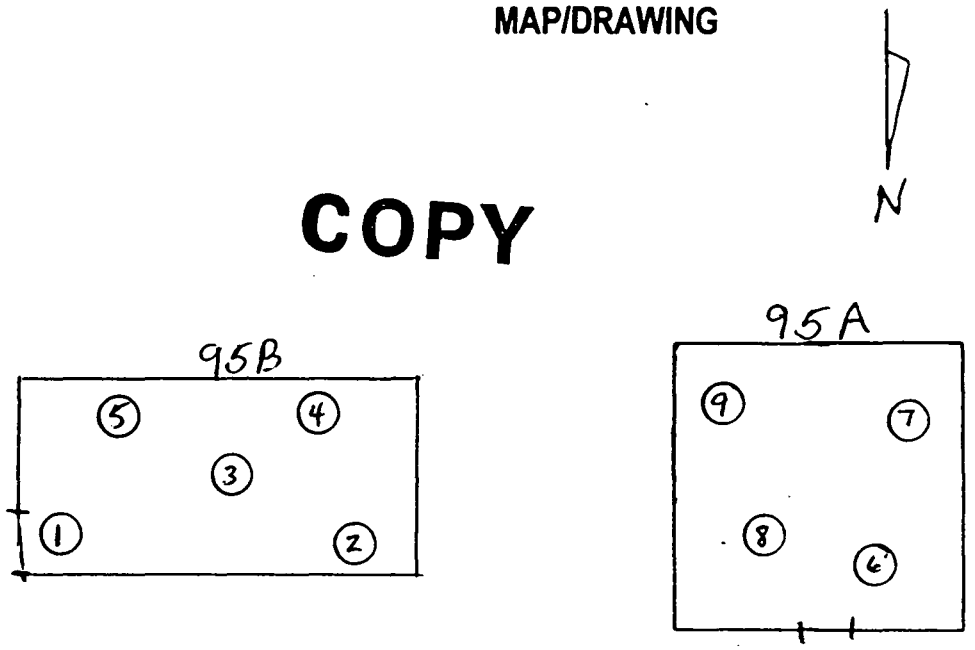
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
B-95AF01	5671	6178	5675	4	12	11/27/01	16:23	3	16	21
B-95AF02	5671	6178	5675	4	13	11/27/01	16:25	2	16	14
B-95AF03	5671	6178	5675	4	14	11/27/01	16:26	4	16	28
B-95AF04	5671	6178	5675	4	15	11/27/01	16:27	2	16	14
B-95AF05	5671	6178	5148	3	16	11/27/01	16:32	2	130	5
B-95AE01	5671	6178	5148	3	17	11/27/01	16:35	3	130	8
B-95AE02	5671	6178	5148	3	18	11/27/01	16:38	4	130	11
B-95AE03	5671	6178	5148	3	19	11/27/01	16:41	2	130	5
B-95AE04	5671	6178	5148	3	20	11/27/01	16:44	1	130	3
B-95AE05	5671	6178	5148	3	21	11/27/01	16:46	6	130	16
B-95AE06	5671	6178	5148	3	22	11/27/01	16:50	7	130	18

G-180622

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BUILDING 95A+B	SURVEY NO. 01-05A-077
PURPOSE: ANNUAL SURVEY 95A+B	RWP NO. N/A
	DATE: 12-12-01
	TIME: 1400

MAP/DRAWING



COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5603/5604	1-31-02
	N/A	

[redacted]

[redacted]	HP # 6178 6196	Date: 12-17-01
Counted by: (Signature) SEE ATTACHED	HP #	Date:
Counted by: (Print Name)		
Reviewed/Ap[redacted]	HP # 7707	Date: 12-17-01
Reviewed/Approved by: (Print Name) [redacted]		

ML-9620 (2-98)

2 of 4

Survey No. 01-OSA-077

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-5	SEE			95B
6-9	ATTACHED			95A
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-8620A (4-98)

G20 of 22

Alpha/Beta Analysis

Batch ID: 01-OSA-077 RUBADUE (9) CYR

Batch File: Smear Unit 1 - 200112131116
Group: E
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 15764-3

Acquisition Date: 12/13/01
Count Time (min): 1.5
Recalibration Date: 3/1/2002

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	97	0.00	0.00	7.09	6.34
2	36	2.50	5.00	1.41	2.84
3	37	0.00	0.00	0.00	0.00
4	36	2.50	5.00	0.00	0.08
5	35	0.00	0.00	4.25	4.91
6	34	0.00	0.00	2.84	4.01
7	4	0.00	0.00	1.42	2.84
8	40	0.00	0.00	2.84	4.01
9	67	0.00	0.00	0.00	0.00

DJH DJH

G21 of 22

Brenda Stringer 12-14-01

3 of 4

Protocol #: 1 Name:Pw H3 #401393 13-Dec-2001 14:30
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
01-OSA-077 RUBADUE (D1-D9) CYR
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	A:2S%
-1	10.00	2	B	6.45	6.10	5.20	659.		24.91
0	2.00	0		230.71	223.35	0.98	526.	556.42	9.51
1	2.00	0		0.55	0.80	0.80	501.	1.38	735.6
2	2.00	0		0.00	0.00	0.00	477.	0.00	0.00
3	2.00	0		0.55	0.60	1.30	500.	1.38	735.6
4	2.00	0		0.00	0.00	0.00	472.	0.00	0.00
5	2.00	0		0.00	0.00	0.00	588.	0.00	0.00
6	2.00	0		0.00	0.00	0.30	557.	0.00	0.00
7	2.00	18		0.00	0.00	0.80	601.	0.00	0.00
8	2.00	0		0.00	0.00	0.30	617.	0.00	0.00
9	2.00	0		0.00	0.00	0.00	574.	0.00	0.00

4 of 4

Brenda Stringer 12-14-01

Appendix H

Radon Information

UNC Geotech

UNC Geotech
2597 B 3/4 Road
P.O. Box 14000
Grand Junction, Colorado 81502-5504
303/242-8621

April 12, 1990

Dennis Murphy
EG&G Mound Applied Technonogies
P.O. Box 3000
Mound Road
Miamisburg, OH 45343-3000

Dear Mr. Murphy:

I have enclosed the results ~~of the radon~~ measurements made at your site as part of the DOE Indoor Radon Study. A copy of these results can be provided in electronic ~~format if desired~~. The results will be forwarded to the study sponsor, the DOE Office of Projects and Facilities Management, by the end of April.

Please contact me at FTS 326-6293 or commercial (303) 248-6293 if you have any questions.

Sincerely yours,

Mark D. Pearson

Mark D. Pearson
Project Manager
UNC Geotech

cc: DOE Points of Contact

A subsidiary of UNC Incorporated

										Comments
21		ABOVE AIR SAMPLER	161.1	125.0	1678055	1666782	12/14/89	2/16/90	MET - OLD THORIUM STORAGE	
21		ABOVE AIR SAMPLERS	116.7		1668588		12/14/89	2/16/90	MET - OLD THORIUM STORAGE	
	SW	19 MID EAST WALL	4.0		1661547		12/12/89	2/16/90	HISTORY OF ELEVATED READINGS	
		114 B CLOSET ON SPRINKLER PIPE	3.2		1671292		12/12/89	2/16/90		
40		ROOM 1	2.8		1678051		12/13/89	2/16/90		
19	OLD SO BLDG	BASEMENT RIGHT CABINET	2.4		1681595		12/14/89	2/16/90		
		1 BELOW THERMOSTAT ON E WALL	2.1		1661515		12/18/89	2/16/90		
55		ROOM 1	1.9		1681565		12/12/89	2/16/90		
57		143	1.5		1681563		12/13/89	2/16/90		
87	FIRE STATION	ROOM 002 EQUIPMENT ROOM WITH SUMP	1.4		1654460		12/12/89	2/16/90		
956		ROOM 1 PLANT NORTH WALL	1.3		1672087		12/12/89	2/16/90		
24	PAINT SHOP	PS 4	1.2		1661516		12/12/89	2/16/90		
		ROOM 3 EAST	1.1		1671262		12/12/89	2/16/90		
38		103 MIDDLE OF NORTH WALL	1.0		1678060		12/12/89	2/16/90		
100		6 NORTH WALL	1.0		1678046		12/12/89	2/16/90		
37		34 A WEST WALL	.9	.6	1672062	1672042	12/12/89	2/16/90	MET	
34		123	.9		1681577		12/14/89	2/16/90		
102		RM 221 MIDDLE OF NORTH WALL	.9		1681585		12/13/89	2/16/90		
61		101 M	.9		1678029		12/12/89	2/16/90		
67		G-514 WEST WALL	.9		1661544		12/12/89	2/16/90		
G-13	LOG	CORRIDOR 28	.9		1678039		1/15/90	2/16/90		
	T	153	.9		1678067		1/15/90	2/16/90		
	T	16	.9		1678077		1/15/90	2/16/90		
	T	30	.9		1681586		1/15/90	2/16/90		
	T	STAIRWELL NEXT TO ROOM 127	.8		1681564		12/12/89	2/16/90		
105	PARTS MACHINING BUILDING	3 ON BOOK CASE MIDDLE	.8		1671314		12/15/89	2/16/90		
25	ARAC	1 ON DOOR TO ROOM 3	.8		1678049		12/12/89	2/16/90		
60		153C CENTER CUBICLE WEST WALL	.8		1672056		12/14/89	2/16/90		
	A	NORTHEAST SECTION INTERNAL WALL RM2	.8		1672052		12/12/89	2/16/90		
	C BUILDING OLD CAFETERIA	60 NORTH WALL	.8		1678068		12/13/89	2/16/90		
	R BUILDING	8 WEST WALL AT OLD RECOVERY	.8		1672057		12/11/89	2/16/90		
	SW	NO 8	.8		1678045		12/18/89	2/16/90		
	NO BLDG	124	.8		1678032		12/12/89	2/16/90		
87		ROOM 116 ON NORTH WALL RIGHT OF CEN	.7	.5	1661524	1661635	12/12/89	2/16/90		
68		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.5	1666703	1668532	12/15/89	2/16/90		
69		RM 1 EAST CORRIDOR ON STORAGE RACK	.7		1678070		12/13/89	2/16/90		
22		ROOM 1 THERE IS ONLY 1 ROOM	.7		1678066		12/12/89	2/16/90		
56	FIRE PUMP HOUSE	E 225 EAST WALL	.7		1681552		12/18/89	2/16/90		
	E ANNEX	REPAIR SHOP NORTH EAST CORNER	.7		1678040		12/12/89	2/16/90		
	POWER HOUSE PH-1	M-135	.7		1681553		12/12/89	2/16/90		
	M BLDG	ROOM 84 SOUTH WEST WALL	.6	.3	1672040	1667159	12/13/89	2/16/90		
26		RM 7 ON NORTH WALL	.6	.4	1672044	1672077	12/12/89	2/16/90		
69		ROOM 84 SOUTH WEST WALL	.6		1671279		12/13/89	2/16/90		
26		RM 7	.6		1654459		12/14/89	2/16/90		
35		PP CORR 136	.6		1678016		12/14/89	2/16/90		
38	PP BLDG	ON OVERHEAD DOOR BEAM	.6		1672069		1/03/90	2/16/90		
72		HALLWAY 107 (MIDWAY)	.6		1681628		12/13/89	2/20/90		
93		ROOM 114 DORM	.6		1661507		12/12/89	2/16/90		
98	FIRE STATION	RM STAIRWELL AT BASEMENT LEVEL	.6		1672086		12/14/89	2/16/90		
	COS	120 C	.6		1681573		12/12/89	2/16/90		
	OSW	150 WEST END GAS BOX	.6		1678043		12/11/89	2/16/90		
	SW	34 EAST WALL	.5	.7	1672075	1672051	12/14/89	2/16/90		
	A	102 MIDDLE OF EAST WALL	.5	.5	1658110	1666819	12/12/89	2/16/90		
47										

H 2064

Area	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monitor Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	45		WORK STATION AREA	.4		1681568		12/14/89	2/19/90	
	46		81 EAST WALL	.4		1672070		12/12/89	2/19/90	
	49		WALL OUTSIDE RM 125	.4		1678020		12/14/89	2/19/90	
	51		107 TOP OF FUME HOOD	.4		1681575		12/12/89	2/19/90	
	63		ROOM 134	.4		1672059		12/13/89	2/20/90	
	63W		RM 4	.4		1676078		12/14/89	2/19/90	
	65		ROOM 10 CONFERANCE ROOM	.4		1671284		12/14/89	2/19/90	
	66		OFFICE AREA	.4		1681554		12/12/89	2/19/90	
	68		EAST WALL CENTER BEAM	.4		1681555		12/14/89	2/19/90	
	69		RM 10A	.4		1681576		12/12/89	2/19/90	
	70		170 MEETING ROOM CENTER WALL	.4		1678041		12/12/89	2/19/90	
	88		ROOM 116	.4		1671295		12/12/89	2/19/90	
	95	SN/PP	95- BLD-ROOM41	.4		1661531		12/12/89	2/20/90	
		BS BUILDING	CORRIDOR 2 - 6 FT. ABOVE FLOOR	.4		1678071		12/13/89	2/19/90	
		I	I HALLWAY	.4		1667194		12/12/89	2/19/90	
		N BUILDING	N 21 WEST WALL	.4		1678057		12/15/89	2/20/90	
		POWER HOUSE PH-1	OFFICE SUPERVISOR	.4		1678036		12/12/89	2/19/90	
		R BUILDING	12 SOUTH WALL	.4		1681566		12/13/89	2/19/90	
	34		BURN ROOM			1654481		12/12/89		BURNT (NOT AVAILABLE)
	61		RM 151			1681567		12/13/89		MISSING

H 3 of 4

Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	R BUILDING	143 NEXT TO NORTH WALL	.5	.5	1660533	1660816	12/12/89	2/16/90	
101		ROOM 5 ON SOUTH WEST WALL IN OFFSET	.5		1671280		12/12/89	2/16/90	
	"B" 175	175 WEST WALL	.5		1678040		12/12/89	2/16/90	
.6		ELECTRICAL PANEL RM IN ELEC/RONICS	.5		1678062		12/12/89	2/16/90	
40		100	.5		1654480		12/12/89	2/16/90	
43		1 EAST WALL OVER WATER DISPENSER	.5		1678076		12/12/89	2/20/90	
44		ON BULLETTIN BOARD	.5		1678047		12/12/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5		1678059		12/12/89	2/16/90	
50		CELL 113	.5		1661582		12/12/89	2/16/90	
79		CENTRAL HALLWAY WEST OF DOOR TO RM7	.5		1661605		12/18/89	2/16/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.5		1678079		12/15/89	2/16/90	
91		1ST FLOOR	.5		1661525		12/15/89	2/16/90	
91		2ND FLOOR OUTSIDE RM215	.5		1661593		12/15/89	2/16/90	
92		HALLWAY RIGHT OFF ROOM 8	.5		1661589		12/12/89	2/16/90	
94		BAY 2 NORTH WALL	.5		1654477		12/12/89	2/16/90	
	A	215 WEST WALL	.5		1661572		12/14/89	2/16/90	
	A	1080 WEST WALL	.5		1661580		12/14/89	2/16/90	
	COS	119 N WALL NEAR PUNCH PRESS	.5		1654456		12/12/89	2/16/90	
	COS	319 WALL CABINET TO RIGHT OF SINK	.5		1661598		12/12/89	2/16/90	
	E BUILDING	159 WEST WALL	.5		1678033		12/14/89	2/16/90	
	E BUILDING	103 WEST WALL	.5		1678072		12/14/89	2/16/90	
	E ANNEX	E 212 NORTH WALL	.5		1661587		12/18/89	2/16/90	
	GH BUILDING	ROOM 2	.5		1678065		12/12/89	2/16/90	
	GP 81	1A MIDDLE OF WEST WALL	.5		1678054		12/12/89	2/16/90	
	H BLDG	ROOM 127	.5		1661571		12/12/89	2/16/90	
	MH	MH-8	.5		1671268		12/18/89	2/16/90	
	I BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/16/90	
	N BUILDING	N 108	.5		1678056		12/15/89	2/16/90	
	OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/90	
	OSE	CORRIDOR 301 ACROSS FROM WATER FOUN	.5		1672084		12/15/89	2/16/90	
	OSW	4HT FLOOR	.5		1678028		12/12/89	2/16/90	
	OSE	CORR 212 SOUTH WALL NEAR 218 DOOR	.5		1678036		12/15/89	2/16/90	
	OSW	319	.5		1678069		12/13/89	2/16/90	
	OSW	2ND FLOOR	.5		1661611		12/12/89	2/16/90	
	POWER HOUSE PH-1	STATIONARY BOARD CORNER	.5		1678073		12/12/89	2/16/90	
	R BUILDING	145 WEST WALL ABOVE BALANCE	.5		1654538		12/14/89	2/16/90	
	SW/R TRITIUM COMPLEX	128 OVER LARGE METAL FLOOR DISC	.5		1678019		12/12/89	2/16/90	
	W BLDG	W135 WEST CENTRAL WALL	.5		1671293		12/12/89	2/16/90	
	WO BLDG	WOA 110	.5		1671301		12/18/89	2/16/90	
	"B" 124	EAST WALL	.5		1667189		12/12/89	2/16/90	
	OSE	113 BULLETIN BOARD OPPOSITE ELEVATO	.5		1678027		12/15/89	2/16/90	
TF-2		114 EAST WALL CENTER OF ROOM	.4		1678064		12/12/89	2/19/90	
	MH	MH-24	.4		1667187		12/14/89	2/19/90	
	OS BUILDING	CORRIDOR 7 NEXT TO ROOM 216	.4		1661614		12/13/89	2/19/90	
	GP 81	1A MIDDLE OF WEST WALL	.4	.5	1672135	1661542	12/12/89	2/19/90	
105	PARTS MACHINING BUILDING	136 QC OFFICE	.4		1678017		12/12/89	2/16/90	
27		CELL 8 - WALL	.4		1661583		12/12/89	2/19/90	
28	CERAMIC PRODUCTION	101	.4		1672061		12/12/89	2/19/90	
29		HALLWAY	.4		1672105		12/14/89	2/19/90	
	TEST FIRE BUILDING 3	3-315	.4		1672036		12/12/89	2/19/90	
38	PP BLDG	PP CORR 16/BAY 2 WALL	.4		1661570		12/14/89	2/19/90	
39		BREAK RM	.4		1678050		12/14/89	2/19/90	
42		101 B EAST WALL	.4		1678031		12/13/89	2/19/90	

Appendix I

Asbestos Information

BWXT of Ohio, Inc.

Interoffice Correspondence

Date: June 24, 2002

From: Christopher Ahlquist
Industrial Hygienist, SMPP/TFV

To: Val Darnell

Re: Building 95: Asbestos-Containing Materials

On June 13, 2002, Mr. Christopher A. Ahlquist, an Industrial Hygienist with BWXT of Ohio, Inc. (BWXTO), conducted a survey of Building 95 (three separate structures) at the Mound site in Miamisburg, Ohio for purpose of identifying asbestos-containing materials contained therein. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by Ohio Department of Health regulations. During the course of the survey, Mr. Ahlquist conducted a records review for previous survey reports and sampling data and collected bulk samples of materials found within Building 95 as necessary in order to determine the asbestos content of said materials. A room-by-room inspection of all accessible spaces was then conducted in order to prepare an inventory of the location and approximate quantities of identified asbestos-containing materials. Only one material was suspect for containing asbestos (drywall system), and sampling and analysis indicated that it did not contain asbestos in accordance with EPA and OSHA regulations. This material was located on some of the walls of the largest structure. Copies of the field log ("Asbestos Bulk Sample Data Sheet") and the associated analytical laboratory report are attached.

Sample Method

During BWXTO's survey, bulk samples were collected utilizing sampling methods and protocol specified in the EPA's Asbestos Hazard Emergency Response Act (AHERA). Each sample was collected and placed in a clean, sealable hard-shell container and labeled with a unique sample identification number. Pertinent information was recorded on a Bulk Sample Data Sheet including sample identification number, date of inspection, name of inspector, building name, a brief description and location of the sample, and the type of material sampled (e.g., preformed-block pipe insulation, aircell-paper pipe insulation, etc.).

Analysis of Samples

The samples were submitted to DataChem Laboratories of Cincinnati, Ohio and analyzed for asbestos content by PLM and dispersion staining (Method Reference: 40 CFR Part 763, Volume 47, No. 103, May 27, 1982 pg. 23376). This analytical method, which the EPA currently recommends for the determination of asbestos in bulk samples of suspect

P.O. Box 3030 • Miamisburg, OH 45343-3030 • (937) 865-4020

materials, can be used for qualitative identification of six morphologically different types of asbestos fibers: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite asbestos. The method specifies that the asbestos content in a bulk sample shall be estimated and reported as a finite percentage (rounded to the nearest percentage) within the range of 0 to 100. The result of the bulk sample analysis is reported in a standard written laboratory report. This report includes the client name, the project number, the laboratory identification number, the sample number assigned to the bulk sample upon receipt at the laboratory, and the field number assigned to the bulk sample upon collection at the site. If the bulk sample contains more than one distinct layer of material, each layer is analyzed separately. The composition of the bulk sample is reported in percentages of asbestos (i.e., cellulose, fiberglass, or other) components. The results of the sample analyses can be found on the laboratory reports.

DataChem Laboratories is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP Lab Code #101917-0). NVLAP is the agency sponsored by the National Institute of Standards and Technology providing EPA accreditation of laboratories analyzing bulk samples for asbestos content.

Conclusions

No asbestos-containing materials were located in or on Building 95, and no asbestos abatement effort is required. Since the building is scheduled for demolition, the EPA will have to be notified in writing on the proper forms before demolition can occur.

Respectfully,

Christopher Ahlquist
Industrial Hygienist

ASBESTOS BULK SAMPLE DATA SHEET

PROJECT TITLE: Building 95 Pre-Demo	Page No. 1 of 1
BUILDING/LOCATION: Bldg 95	SURVEY DATE: 6-13-02
SAMPLED BY: [redacted]	HP NUMBER: 6110

HOMO AREA #	SAMPLE NUMBER	AMT.	SAMPLE LOCATION	MATERIAL DESCRIPTION	FRIABLE/ NONFRI.	COND.	SAMPLE RESULTS	COMMENTS
1	02061301		wall at east near door	Drywall with assoc. joint compound & tape	NF		ND	
1	02061302		wall at south near sink	"	NF		ND	

ADDITIONAL COMMENTS:

ML-9706

I 3 of 6

DATA CHEM LABORATORIES
A SORENSON COMPANY

RECEIVED
Caa 6-24-02

SUBMITTED TO:

Chris Ahlquist
BWXT of Ohio, Inc.
P.O. Box 3030, Building OSW-4
Miamisburg, OH 45343-3030

REFERENCE DATA:

Client Sample No.:	02061301 through 02061302
P.O. No.:	1999-00738
Sample Location:	Not Available
Sample Type:	Bulk
Method Reference:	EPA-600/R-93/116
DCL Set ID No.:	02-A-2808
DCL Sample ID No.:	02-17242 through 02-17243
Sample Receipt Date:	6/14/02
Analysis Date:	6/14/02

We certify that the following samples were prepared and analyzed by Polarized Light Microscopy for asbestos and other fibrous constituents using EPA-600/R-93/116. The samples were acceptable upon receipt except where noted. The samples were examined under a stereomicroscope in a laboratory fume hood for general composition and phase separation. If needed, portions of the sample were removed and ground with a mortar and pestle before being mounted on a glass microscope slide. Mountings of representative portions of the material are prepared in one or more appropriate refractive index liquids (1.550, 1.605, 1.680) and examined by Polarized Light Microscopy*. Estimates of concentration are made on an area basis. The results of the analysis apply only to the materials analyzed and are summarized on the attached bulk asbestos analysis data sheets. DataChem Laboratories will dispose of all bulk samples after 60 days unless other arrangements are made.

Shawn Smythe
Analyst

Anna Marie Ristich
Reviewer

*Floor tiles, decorative paints, joint compounds, and cement materials require additional treatment in order to evaluate the concentration of small asbestos fibers bound in the material. Some samples may contain fibers that are not visible by PLM and can only be detected by electron microscopy techniques. Floor tiles are analyzed as homogeneous materials if insufficient mastic is present or if phases have been cross contaminated.

DataChem Laboratories NVLAP Lab ID: 101917. Laboratory accreditation by the National Institute of Standards and Technology does not in any way constitute approval or endorsement by NIST.

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3706
513 733-5336, FAX 513 733-5347

WEST COAST OFFICE
11 SANTA YORMA COURT
NOVATO, CALIFORNIA 94945
800 280-8071, FAX 415 893-9469

LEADING ANALYTICAL CHEMISTRY INTO THE 21ST CENTURY™

DataChem Laboratories
Polarized Light Microscopy
Asbestos Analytical Report

Client: BWXT of Ohio, Inc.
Location: Not Available
Set ID: 02-A-2808

Client Sample ID:	02061301	02061302
DCL Sample ID:	02-17242	02-17243
Macroscopic Examination		
Accepted/Rejected:	Accepted	Accepted
Homogeneity:	Layered Inseparable	Layered Inseparable
Color:	Grey/Tan	Grey/Tan
Texture:	Crmby/Fbrs	Crmby/Fbrs
Description:	Material	Material
Analysis:	PLM	PLM
Asbestiform Minerals		
% Chrysotile:		
% Amosite:		
% Crocidolite:		
% Tremolite - Actinolite:		
% Anthophyllite:		
% Total Asbestos:	**ND**	**ND**
Other Materials		
% Cellulose:	>10≤20	>10≤20
% Fiberglass:	>3≤5	>3≤5
% Other Fibers:		
% Resin/Binder:		
% Non Fibrous:	>70≤80	>70≤80

ND = None Detected Trace = <1%

Special Prep Procedures: None.

*Notes: P. O. #: 1999-00738.

Shawn Smythe
Microscopist

All values are in area percent by visual estimate. The Federal Register Vol. 55 No. 224 Tuesday Nov. 20 1990 Rules and Regulations states "... If the asbestos content is estimated to be less than 10% by a method other than point counting,... (the analysis) be repeated using the point counting technique by PLM." Any of the above samples can be reanalyzed by point counting at the client's request.
Wherever possible, separate phases are analyzed and reported individually.

I 5 of 6

BWXT of Ohio, Inc.

02-A-2808

REQUEST FOR LABORATORY ANALYTICAL SERVICES AND CHAIN-OF-CUSTODY

REPORT RESULTS TO

Name: CHRIS AHLQUIST Title: IH

BWXT of Ohio, Inc.

P.O. Box 3030 Bldg. OSW-4

Miamisburg, Ohio 45343-3030

Telephone No. (937) 865-3737 FAX No. (937) 865-4158

Date Results Required: RUSH 6-17-02 noon Phone Results: ☒

Special Instructions: (method, limit of detection, etc.)

EPA 600/R-93/116

NVLAP Required

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request. Enter a 'P' if preservative added.)

SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Asbestos - PLM	FOR LAB USE ONLY (task #, QC #, etc.)
02061301	6-13-02	Bulk	N/A	X	02-17242
02061302	"	"	N/A	X	17243

CHAIN OF CUSTODY

Relinquished by: Chris Ahlquist	Date/Time 6-13-02 / 19:30	Preservation Method: N/A	
Received by:	Date/Time		
Relinquished by:	Date/Time	Analyzed by:	Date:
Received by:	Date/Time	Received at Lab by:	Date/Time: 6/14/02 0902
Method of Shipment: Personal Delivery		Name of Lab: DataChem	

ML-9222 (10-01)

Appendix J

Lead Information

From: Christopher Ahlquist
To: Darnell, Val
Date: 6/24/02 6:22PM
Subject: Building 95

Val -

Lead

No previous lead surveys or sampling data could be found for these structures. All of the observed paint coatings were intact and undisturbed with the exception of a small amount of peeling observed with the yellow paint in the interior of the largest building. This paint appeared to be peeling in a few small, selected areas due to water damage. On April 5, 2002 the damaged paint was analyzed in the field using a Niton Model XL-309 XRF lead detector. The sampled paint was not found to contain any amount of lead within the instrument's limit of detection. A copy of the Niton's lead sample readout will be forwarded for your use when it is prepared. No lead paint hazards currently exist within any of the three structures, and no further action would be necessary unless any of the untested coatings were to be disturbed by close worker contact (sanded, grinded, scraped, torch cut, etc.). The normal course of demolition with heavy-duty equipment would not necessitate the determination of lead content in paint as there would be no hazard. These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

CC: Ransbottom, Robert

Serial #XL309-U1059NR1794 Site: Building 95 Date: 4/5/2002

No	XLNo	Site	Insp	Flr	Side	Room	Strc	Sub	Feat	Cnd	Clr	Note	Ssec	Date/Time	Cycle	DI	Res	Pbl ± Prec	Pbk ± Prec	Pbc ± Prec
1	1					Shutter Cal 1							42.7	4/5/2002 09:36:33	1 of 1	0.0	...	NA	NA	NA
2	**2**	**95**	**CAA**	**Surface**	**Lead**	**Calibration**							**45.7**	**4/5/2002 09:36:59**	**1 of 1**	**1.0**	**POS**	**1.12 ± 0.08**	**-0.03 ± 0.39**	**1.12 ± 0.08**
3	**3**	**95**	**CAA**	**Buried**	**Lead**	**Calibration**							**113.4**	**4/5/2002 09:38:59**	**1 of 1**	**2.4**	**POS**	**1.56 ± 0.11**	**0.52 ± 0.25**	**1.56 ± 0.11**
4	4	95	CAA	Ground			Wall - S	Drywall		Peeling	Yellow		33.1	4/5/2002 14:25:11	1 of 1	1.0	NEG	0.00 ± 0.00	-0.35 ± 0.39	0.00 ± 0.00
5	5	95	CAA	Ground			Wall - E	Drywall		Peeling	Yellow		30.8	4/5/2002 14:26:54	1 of 1	1.0	NEG	0.00 ± 0.00	-0.43 ± 0.40	0.00 ± 0.00
6	6	95	CAA	Ground			Wall - S	Drywall		Minor peel	Yellow		30.7	4/5/2002 14:28:18	1 of 1	1.0	NEG	0.00 ± 0.00	0.11 ± 0.40	0.00 ± 0.00

J 2.92

Appendix K

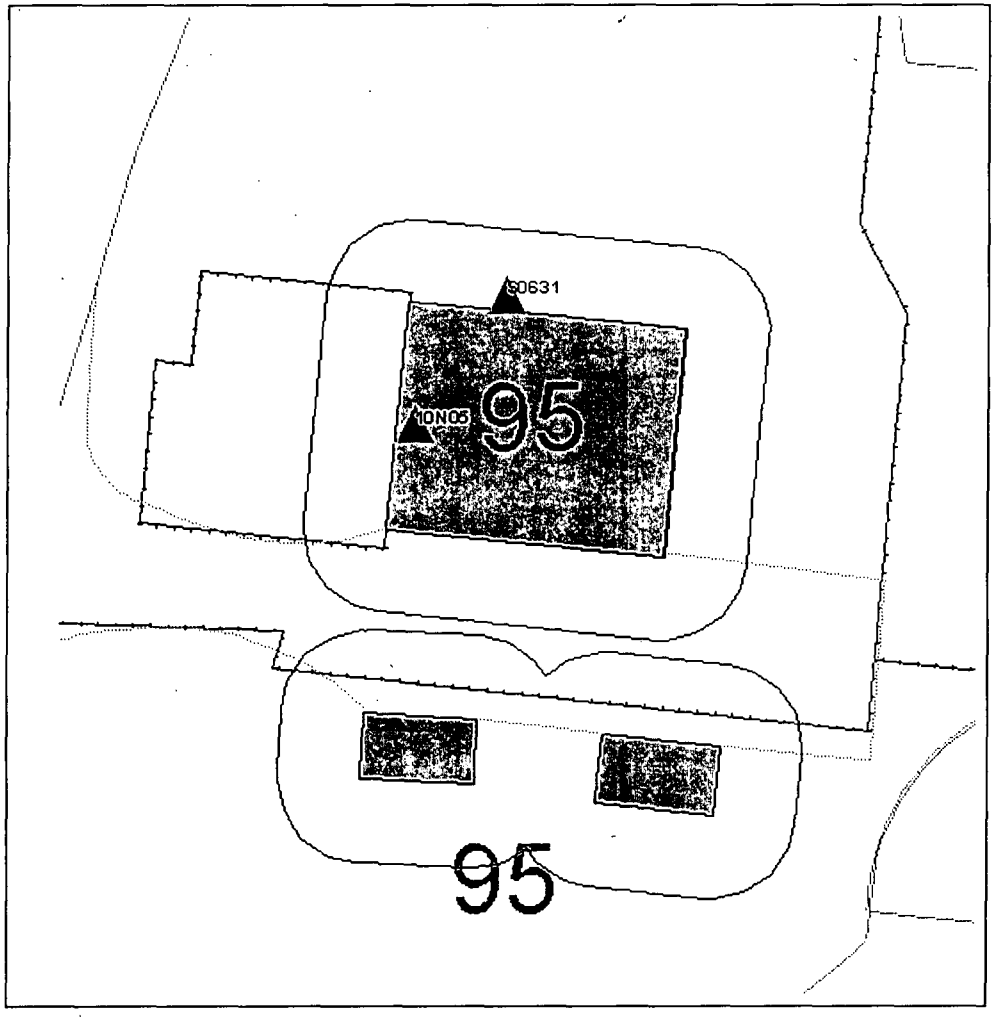
Chemical Information

All chemicals will be removed from the building prior to demolition.

Appendix L

Soil Sampling, Vicinity

Building 95 Sample Locations within 15 feet



25 0 25 50 75 100 Feet

Sample Detect
Sample Detect Outline
Building Label
Text Bldg ID
Building Outline
Building Outline
Building
Color Fill
Roads
Paved Drives/Parking
Unpaved Drives/Parking
Fence
Fence Line

N
W E
S

03/26/02

L 1 of 12

Building 95 Detects

Locati	Sampl	Collection_	Value_name	Measured_val	Value_	Detecti	Chem_cla	Start	End	La	Dat	Proje	Medi	Comments*
S0631	4123	19831001	Plutonium-238	3.1500	PCI/G	0.0100	RAD	0.0	0.0			RSS	Soil	2
10N05	10N05	19941004	Total Aromatic Hydrocarbons	14151.0000	IC		GENERA	0.0	1.5			2680	Soil	
10N05	10N05	19941004	Total C5 TO C11 Petroleum Hydroca	30395.0000	IC		GENERA	0.0	1.5			2680	Soil	

*Comments

1 Exceeds the 10-6 Risk-Based Guide Value

2 Exceeds the OU9 Soil Background Value

3 Exceeds screening level

4 Exceeds MCL

5 Exceeds the Guide Value based on the hazard index

Lab and data qualifiers are defined on the pages immediately following the non-detects table in this appendix.

Comparison values for results with comments are provided on the "Comparisons for Soil Analytical Results" table at the end of this appendix.

L2-812

Building 95 Non-Detects

Locatio	Sampl	Collection_	Value_name	Measured_v	Value_u	Detection_li	Chem_	Start_dept	End_depth	La	Dat	Projec	Media
10N05	10N05	19941004	Plutonium-238	11.000000	PCI/G	11.000000	RAD	0.000000	1.500000		U	2680	Soil
10N05	10N05	19941004	Thorium-232	0.900000	PCI/G	0.900000	RAD	0.000000	1.500000		U	2680	Soil
S0631	4123	19831001	Thorium-232	2.000000	PCI/G	2.000000	RAD	0.000000	0.000000	U		RSS	Soil

L 3 of 12

LABORATORY DATA QUALIFIERS (LABQUAL)

The following qualifiers will be applied to the organic analysis results by the laboratory in accordance with CLP SOW direction:

ORGANICS

U	Indicates compound was analyzed for but not detected. The associated sample quantitation limit will be the CRQL, corrected for dilution and for percent moisture.
J	Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) assuming a 1:1 response, 2) when the qualitative data indicated the presence of a compound that meets the volatile, semivolatile, and pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where identification is based on a mass spectral library search.
P	Used for pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns.
C	Applies to pesticide results where the identification has been confirmed by GC/MS.
B	Used when the analyte is found in the associated blank as well as in the sample. This flag must be used for a TIC as well as for a positively identified target compound.
E	Identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
D	Identifies all compounds identified in an analysis at a secondary dilution factor.
A	Indicates that a TIC is a suspected aldol-condensation product.

INORGANICS

B	Indicates that the reported value was obtained from a reading that was less than the CRDL but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates that the analyte was analyzed for but not detected.
E	Indicates the reported value is estimated because of the presence of interferences.
M	Duplicate injection precision was not met.
N	Spiked sample recovery not within control limits.
S	Reported value was determined by the Method of Standard Additions (MSA).
W	Post-digestion spike for Furnace AA analysis is out of control limits, while sample absorbency is less than 50% of spike absorbency.
*	Duplicate analysis not within control limits.
+	Correlation coefficient for the MSA is less than 0.995.

L4 of 12

DATA QUALIFIER CODES (DATAQUAL)

ORGANICS AND INORGANICS

U	The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
J	The associated numerical value is an estimated quantity.
R	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	Presumptive evidence of the presence of the material.
NJ	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

SUB-QUALIFIER CODES

ORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
K	Qualified due to surrogate recovery
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to internal standard
N	Tentative identification (only for TICs)
P	Pesticide/PCB results have >25 percent difference on two different columns
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)

INORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to interference
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)
Examples of final qualification might be J-C, UJ-S(+), UJ-BC(-), etc.	

The subqualifiers have been included to clarify any reports you may use. The subqualifiers have been captured when it was included in the electronic data submitted by the contractor. Most of the data in MEIMS does not include them.

The above data was extracted from the OU9 Site Wide Quality Assurance Project Plan, pages 9-16 and Appendix H page 3-1. It was updated from the Methods Compendium.

L5 of 12

1	107-06-2	1,2-Dichloroethane	3.20E+00	MG/KG
1	118-96-7	2,4,6-Trinitrotoluene	1.91E+02	MG/KG
1	72-55-9	4,4'-DDE	9.00E+00	MG/KG
1	50-29-3	4,4'-DDT	9.00E+00	MG/KG
1	309-00-2	Aldrin	1.80E-01	MG/KG
1	5103-71-9	Alpha Chlordane	8.50E+00	MG/KG
1	12672-29-6	Aroclor-1248	3.85E-01	MG/KG
1	11096-82-5	Aroclor-1260	3.85E-01	MG/KG
1	7440-38-2	Arsenic	1.20E+03	MG/KG
1	71-43-2	Benzene	8.90E+00	MG/KG
1	56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
1	50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
1	205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
1	207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
1	7440-41-7	Beryllium	7.00E-01	MG/KG
1	319-85-7	Beta-BHC	1.65E+00	MG/KG
1	117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
1	75-27-4	Bromodichloromethane	4.80E+01	MG/KG
1	75-25-2	Bromoform	3.75E+02	MG/KG
1	7440-43-9	Cadmium	1.00E+04	MG/KG
1	56-23-5	Carbon Tetrachloride	4.60E+00	MG/KG
1	67-66-3	Chloroform	3.10E+00	MG/KG
1	7440-47-3	Chromium	1.50E+03	MG/KG
1	218-01-9	Chrysene	4.10E+02	MG/KG
1	53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
1	124-48-1	Dibromochloromethane	3.55E+01	MG/KG
1	75-09-2	Dichloromethane	3.95E+02	MG/KG
1	60-57-1	Dieldrin	1.85E-01	MG/KG
1	5103-74-2	Gamma Chlordane	8.50E+00	MG/KG
1	58-89-9	Gamma-BHC (Lindane)	2.30E+00	MG/KG
1	76-44-8	Heptachlor	0.66	MG/KG
1	1024-57-3	Heptachlor Epoxide	0.33	MG/KG
1	193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
1	78-59-1	Isophorone	3.15E+03	MG/KG
1	86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
1	87-86-5	Pentachlorophenol	2.50E+01	MG/KG
1	121-82-4	RDX	2.70E+01	MG/KG
1	79-01-6	Trichloroethene	4.10E+01	MG/KG
1	7440-41-7	1,1,1,2-Tetrachloroethane	1.10E-02	MG/L
1	7440-38-2	1,1,2,2-Tetrachloroethane	1.40E-03	MG/L
1	7440-34-8	Actinium-227	4.50E-01	PCI/G
1	14596-10-2	Americium-241	6.30E+00	PCI/G
1	13982-38-2	Bismuth-207	1.60E-01	PCI/G
1	10045-97-3	Cesium-137	3.40E-01	PCI/G
1	10198-40-0	Cobalt-60	7.00E-02	PCI/G
1	14255-04-0	Lead-210	6.20E-01	PCI/G
1	13981-16-3	Plutonium-238	6.10E+00	PCI/G
1	15117-48-3	Plutonium-239	5.50E+00	PCI/G

L 6 of 12

1	PU239/240	Plutonium-240	5.50E+00	PCI/G
1	13966-00-2	Potassium-40	1.42E+00	PCI/G
1	14331-85-2	Protactinium-231	3.90E-01	PCI/G
1	13982-63-3	Radium-226	9.00E-02	PCI/G
1	10098-97-2	Strontium-90	3.00E+00	PCI/G
1	14274-82-9	Thorium-228	1.40E-01	PCI/G
1	14269-63-7	Thorium-230	9.00E-02	PCI/G
1	7440-29-1	Thorium-232	7.00E-02	PCI/G
1	10028-17-8	Tritium	2.35E+04	PCI/G
1	13968-55-3	Uranium-233	9.68E-01	PCI/G
1	13966-29-5	Uranium-234	1.05E+01	PCI/G
1	15117-96-1	Uranium-235	1.60E+00	PCI/G
1	24678-82-8	Uranium-238	1.00E-01	PCI/G
1	14596-10-2	Americium-241	4.90E-01	PCI/L
1	14331-79-4	Bismuth-210	2.20E+01	PCI/L
1	15262-20-1	Radium-228	3.30E-01	PCI/L
1	13967-73-2	Strontium-85	1.10E+02	PCI/L
1	10098-97-2	Strontium-90	3.90E+00	PCI/L
1	15623-47-9	Thorium-227	4.00E+00	PCI/L
1	14274-82-9	Thorium-228	6.90E-01	PCI/L
1	14269-63-7	Thorium-230	1.20E-01	PCI/L
1	7440-29-1	Thorium-232	3.10E-01	PCI/L
1	24678-82-8	Uranium-238	1.10E-01	PCI/L
2	72-54-8	4,4'-DDD	4.2	MG/KG
2	72-55-9	4,4'-DDE	4.3	MG/KG
2	50-29-3	4,4'-DDT	13	MG/KG
2	309-00-2	Aldrin	ND	MG/KG
2	5103-71-9	Alpha Chlordane	ND	MG/KG
2	319-84-6	Alpha-BHC	ND	MG/KG
2	7429-90-5	Aluminum	19000	MG/KG
2	14596-10-2	Americium-241	ND	MG/KG
2	12672-29-6	Aroclor-1248	ND	MG/KG
2	11097-69-1	Aroclor-1254	58	MG/KG
2	11096-82-5	Aroclor-1260	ND	MG/KG
2	7440-38-2	Arsenic	8.6	MG/KG
2	7440-39-3	Barium	180	MG/KG
2	7440-41-7	Beryllium	1.3	MG/KG
2	319-85-7	Beta-BHC	ND	MG/KG
2	7440-69-9	Bismuth	ND	MG/KG
2	13982-38-2	Bismuth-207	ND	MG/KG
2	13982-38-2	Bismuth-207	ND	MG/KG
2	14331-79-4	Bismuth-210m	ND	MG/KG
2	7440-43-9	Cadmium	2.1	MG/KG
2	7440-70-2	Calcium	310000	MG/KG
2	7440-47-3	Chromium	20	MG/KG
2	7440-48-4	Cobalt	19	MG/KG
2	7440-50-8	Copper	26	MG/KG
2	57-12-5	Cyanide	ND	MG/KG

L 7 of 12

2	60-57-1	Dieldrin	ND	MG/KG
2	959-98-8	Endosulfan I	ND	MG/KG
2	1031-07-8	Endosulfan Sulfate	ND	MG/KG
2	72-20-8	Endrin	ND	MG/KG
2	7421-93-4	Endrin Aldehyde	ND	MG/KG
2	53494-70-5	Endrin Ketone	ND	MG/KG
2	5103-74-2	Gamma Chlordane	ND	MG/KG
2	58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
2	76-44-8	Heptachlor	ND	MG/KG
2	1024-57-3	Heptachlor Epoxide	ND	MG/KG
2	77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
2	7439-89-6	Iron	35000	MG/KG
2	7439-92-1	Lead	48	MG/KG
2	7439-93-2	Lithium	26	MG/KG
2	7439-95-4	Magnesium	40000	MG/KG
2	7439-96-5	Manganese	1400	MG/KG
2	7439-97-6	Mercury	ND	MG/KG
2	72-43-5	Methoxychlor	30	MG/KG
2	7439-98-7	Molybdenum	27	MG/KG
2	7440-02-0	Nickel	32	MG/KG
2	7440-09-7	Potassium	1900	MG/KG
2	7782-49-2	Selenium	ND	MG/KG
2	7440-22-4	Silver	1.7	MG/KG
2	7440-23-5	Sodium	240	MG/KG
2	7440-28-0	Thallium	0.46	MG/KG
2	7440-31-5	Tin	20	MG/KG
2	7440-62-2	Vanadium	25	MG/KG
2	7440-66-6	Zinc	140	MG/KG
2	7440-34-8	Actinium-227	1.10E-01	PCI/G
2	10045-97-3	Cesium-137	0.42	PCI/G
2	14255-04-0	Lead-210	1.20E+00	PCI/G
2	13981-16-3	Plutonium-238	0.13	PCI/G
2	15117-48-3	Plutonium-239	1.80E-01	PCI/G
2	PU239/240	Plutonium-240	1.80E-01	PCI/G
2	13966-00-2	Potassium-40	37	PCI/G
2	14331-85-2	Protactinium-231	1.10E-01	PCI/G
2	13982-63-3	Radium-226	2	PCI/G
2	10098-97-2	Strontium-90	0.72	PCI/G
2	14274-82-9	Thorium-228	1.5	PCI/G
2	14269-63-7	Thorium-230	1.9	PCI/G
2	7440-29-1	Thorium-232	1.4	PCI/G
2	10028-17-8	Tritium	1.6	PCI/G
2	13966-29-5	Uranium-234	1.1	PCI/G
2	15117-96-1	Uranium-235	0.11	PCI/G
2	24678-82-8	Uranium-238	1.2	PCI/G
3	7439-92-1	Lead	400	MG/KG
3	7440-34-8	Actinium-227	5.60E-01	PCI/G
3	14596-10-2	Americium-241	6.3	PCI/G

L 8 of 12

3	10045-97-3	Cesium-137	0.76	PCI/G
3	10198-40-0	Cobalt-60	7.00E-02	PCI/G
3	14255-04-0	Lead-210	1.80E+00	PCI/G
3	13981-16-3	Plutonium-238	55	PCI/G
3	14331-85-2	Protactinium-231	4.00E+00	PCI/G
3	13982-63-3	Radium-226	2.1	PCI/G
3	14274-82-9	Thorium-228	3	PCI/G
3	14269-63-7	Thorium-230	3	PCI/G
3	7440-29-1	Thorium-232	1.47	PCI/G
3	15117-96-1	Uranium-235	1.7	PCI/G
3	24678-82-8	Uranium-238	1.3	PCI/G
5	71-55-6	1,1,1-Trichloroethane	0.2	MG/L
5	79-00-5	1,1,2-Trichloroethane	0.005	MG/L
5	75-35-4	1,1-Dichloroethene	0.007	MG/L
5	120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
5	156-59-2	1,2-cis-Dichloroethene	0.07	MG/L
5	106-93-4	1,2-Dibromoethane	0.00005	MG/L
5	95-50-1	1,2-Dichlorobenzene	0.6	MG/L
5	107-06-2	1,2-Dichloroethane	0.005	MG/L
5	78-87-5	1,2-Dichloropropane	0.005	MG/L
5	156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
5	106-46-7	1,4-Dichlorobenzene	0.075	MG/L
5	95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
5	94-75-7	2,4-D	0.07	MG/L
5	7440-36-0	Antimony	0.0006	MG/L
5	7440-38-2	Arsenic	0.05	MG/L
5	7440-39-3	Barium	2	MG/L
5	71-43-2	Benzene	0.005	MG/L
5	50-32-8	Benzo(a)pyrene	0.002	MG/L
5	7440-41-7	Beryllium	0.004	MG/L
5	117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
5	75-27-4	Bromodichloromethane	0.008	MG/L
5	75-25-2	Bromoform	0.008	MG/L
5	7440-43-9	Cadmium	0.005	MG/L
5	56-23-5	Carbon Tetrachloride	0.005	MG/L
5	57-74-9	Chlordane	0.002	MG/L
5	108-90-7	Chlorobenzene	0.1	MG/L
5	67-66-3	Chloroform	0.008	MG/L
5	7440-47-3	Chromium	0.1	MG/L
5	7440-50-8	Copper	1.3	MG/L
5	57-12-5	Cyanide	0.2	MG/L
5	96-12-8	Dibromochloropropane	0.0002	MG/L
5	75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
5	88-85-7	Dinoseb	0.007	MG/L
5	1746-01-6	Dioxin	0.00000003	MG/L
5	72-20-8	Endrin	0.002	MG/L
5	100-41-4	Ethylbenzene	0.07	MG/L
5	16984-48-8	Flouride	4	MG/L

L 9 of 12

5	58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
5	76-44-8	Heptachlor	0.0004	MG/L
5	1024-57-3	Heptachlor Epoxide	0.0002	MG/L
5	118-74-1	Hexachlorobenzene	0.001	MG/L
5	77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
5	7439-92-1	Lead	0.015	MG/L
5	7439-97-6	Mercury	0.002	MG/L
5	72-43-5	Methoxychlor	0.04	MG/L
5	7440-02-0	Nickel	0.1	MG/L
5	NO3	Nitrate	10	MG/L
5	14797-65-0	Nitrite	1	MG/L
5	87-86-5	Pentachlorophenol	0.001	MG/L
5	7782-49-2	Selenium	0.05	MG/L
5	100-42-5	Styrene	0.1	MG/L
5	127-18-4	Tetrachloroethene	0.005	MG/L
5	7440-28-0	Thallium	0.002	MG/L
5	108-88-3	Toluene	1	MG/L
5	8001-35-2	Toxaphene	0.003	MG/L
5	79-01-6	Trichloroethene	0.005	MG/L
5	75-01-4	Vinyl Chloride	0.002	MG/L
5	1330-20-7	Xylenes, Total	10	MG/L
5	7440-34-8	Actinium-227	0.4	PCI/L
5	14596-10-2	Americium-241	1.2	PCI/L
5	13982-38-2	Bismuth-207	1200	PCI/L
5	10045-97-3	Cesium-137	120	PCI/L
5	10198-40-0	Cobalt-60	400	PCI/L
5	13981-16-3	Plutonium-238	1.6	PCI/L
5	13982-63-3	Radium-226	4	PCI/L
5	10098-97-2	Strontium-90	40	PCI/L
5	14274-82-9	Thorium-228	16	PCI/L
5	14269-63-7	Thorium-230	12	PCI/L
5	7440-29-1	Thorium-232	2	PCI/L
5	10028-17-8	Tritium	20000	PCI/L
5	13968-55-3	Uranium-233	20	PCI/L
5	13966-29-5	Uranium-234	20	PCI/L
5	15117-96-1	Uranium-235	24	PCI/L
5	24678-82-8	Uranium-238	24	PCI/L
6	76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	7.00E+04	MG/KG
6	75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
6	120-82-1	1,2,4-Trichlorobenzene	2.04E+04	MG/KG
6	156-59-2	1,2-cis-Dichloroethene	2.13E+03	MG/KG
6	156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
6	99-65-0	1,3-Dinitrobenzene	2.00E+02	MG/KG
6	118-96-7	2,4,6-Trinitrotoluene	1.00E+03	MG/KG
6	78-93-3	2-Butanone	9.30E+03	MG/KG
6	95-57-8	2-Chlorophenol	1.06E+03	MG/KG
6	108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
6	50-29-3	4,4'-DDT	1.10E+02	MG/KG

L 10 of 12

6	106-44-5	4-Methylphenol	1.10E+03	MG/KG
6	67-64-1	Acetone	2.10E+04	MG/KG
6	309-00-2	Aldrin	6.4	MG/KG
6	5103-71-9	Alpha Chlordane	110	MG/KG
6	7429-90-5	Aluminum	210000	MG/KG
6	120-12-7	Anthracene	6.40E+04	MG/KG
6	7440-36-0	Antimony	8.50E+01	MG/KG
6	11097-69-1	Aroclor-1254	4.30E+00	MG/KG
6	7440-38-2	Arsenic	6.40E+01	MG/KG
6	7440-39-3	Barium	1.50E+04	MG/KG
6	65-85-0	Benzoic Acid	8.50E+05	MG/KG
6	7440-41-7	Beryllium	1.10E+03	MG/KG
6	117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
6	75-27-4	Bromodichloromethane	4.30E+03	MG/KG
6	75-25-2	Bromoform	4.30E+03	MG/KG
6	85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
6	7440-43-9	Cadmium	2.10E+02	MG/KG
6	75-15-0	Carbon Disulfide	2.80E+02	MG/KG
6	56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
6	75-00-3	Chloroethane	1.60E+02	MG/KG
6	67-66-3	Chloroform	2.10E+03	MG/KG
6	7440-47-3	Chromium	1.10E+03	MG/KG
6	18540-29-9	Chromium-VI	6.39E+02	MG/KG
6	7440-50-8	Copper	7.90E+03	MG/KG
6	57-12-5	Cyanide	4.30E+03	MG/KG
6	53-70-3	Dibenz(a,h)anthracene	4.08E-02	MG/KG
6	124-48-1	Dibromochloromethane	4.30E+03	MG/KG
6	75-09-2	Dichloromethane	1.00E+03	MG/KG
6	60-57-1	Dieldrin	1.10E+01	MG/KG
6	84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
6	117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
6	959-98-8	Endosulfan I	1300	MG/KG
6	33213-65-9	Endosulfan II	1300	MG/KG
6	100-41-4	Ethylbenzene	4.80E-01	MG/KG
6	86-73-7	Flourene	8.50E+03	MG/KG
6	206-44-0	Fluoranthene	8.50E+03	MG/KG
6	5103-74-2	Gamma Chlordane	110	MG/KG
6	58-89-9	Gamma-BHC (Lindane)	64	MG/KG
6	76-44-8	Heptachlor	110	MG/KG
6	1024-57-3	Heptachlor Epoxide	2.8	MG/KG
6	110-54-3	Hexane	9.10E+01	MG/KG
6	193-39-5	Indeno(1,2,3-cd)pyrene	4.08E-01	MG/KG
6	78-59-1	Isophorone	4.30E+04	MG/KG
6	7439-96-5	Manganese	2.70E+04	MG/KG
6	7439-97-6	Mercury	6.40E+01	MG/KG
6	72-43-5	Methoxychlor	1100	MG/KG
6	7440-02-0	Nickel	4.30E+03	MG/KG
6	87-86-5	Pentachlorophenol	6.40E+03	MG/KG

L11 of 12

6	108-95-2	Phenol	1.30E+05	MG/KG
6	129-00-0	Pyrene	6.40E+03	MG/KG
6	7782-49-2	Selenium	1100	MG/KG
6	7440-22-4	Silver	1.10E+03	MG/KG
6	127-18-4	Tetrachloroethene	2.10E+03	MG/KG
6	7440-28-0	Thallium	17	MG/KG
6	7440-31-5	Tin	130000	MG/KG
6	108-88-3	Toluene	2.50E+02	MG/KG
6	75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
6	7440-62-2	Vanadium	1.50E+03	MG/KG
6	1330-20-7	Xylenes, Total	4.30E+05	MG/KG
6	7440-66-6	Zinc	6.40E+04	MG/KG
6	7440-41-7	1,1,1,2-Tetrachloroethane	2.90E-01	MG/L
6	7440-38-2	1,1,2,2-Tetrachloroethane	2.50E-01	MG/L
6	71-55-6	1,1,1-Trichloroethane	1.80E+00	MG/L
6	76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	2.50E+03	MG/L
6	7429-90-5	Aluminum	100	MG/L
6	7440-42-8	Boron	9.00E+00	MG/L
6	18540-29-9	Chromium-VI	3.00E-01	MG/L
6	7440-48-4	Cobalt	6	MG/L
6	7440-50-8	Copper	4.00E+00	MG/L
6	7439-98-7	Molybdenum	0.5	MG/L
6	7782-49-2	Selenium	0.5	MG/L
6	7440-28-0	Thallium	0.008	MG/L
6	7440-31-5	Tin	60	MG/L
6	2691-41-0	HMX	1.10E+04	UG/KG
6	121-82-4	RDX	6.40E+04	UG/KG

1 Value is 10-6 Risk-Based Guide Value
2 Value is OU9 Soil Background Value
3 Value is screening level
5 Value is MCL
6 Value is the Guide Value based on the hazard index

Note:
Edited on 10/08/01
01/29/02 Removed all color

L12 of 12

Appendix N

PRS Information

MOUND PLANT
PRS 277/278
Hillside Disposal (277) & Catch Basin (278)

RECOMMENDATION:

Potential Release Site (PRS) 277/278 is a former disposal area (chemical and radiological) and catch basin located in the east central part of the Mound property and was binned Further Assessment (FA) by the Core Team in 1995. Further Assessment sampling was conducted in 2000 and 2001 per the Sampling and Analysis Plan (SAP) approved by the Core Team.

During the FA sampling, a Pu-238 hot spot was identified and removed. The excavated area was verified to be below screening levels.

Results of the FA sampling confirmed the absence of VOC contamination, tritium, Co-60, Cs-137, and Am-241 above acceptance levels. Of the eight target samples analyzed for VOCs, one contained results above RBGVs.

Of the 242 samples, eight borings contained rad (Pu-238, Th-232, Ac-227, and Th-230) results above 10^{-5} RBGV and background.

Therefore PRS 277/278 requires a <u>REMOVAL ACTION</u>.

CONCURRENCE:

DOE/MEMP: _____ 3/7/02
Robert S. Rothman, Remedial Project Manager (date)

USEPA: _____ 3/8/02
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: _____ 3/7/02
Brian K. Nickel, Project Manager (date)

N 1 of 3

MOUND PLANT
PRS 310/382
SOIL CONTAMINATION - BUILDING 95
Supersedes Recommendation Signed 5/8/96

RECEIVED
JAN 09 1997
REMEDIAL RESPONSE BR.
IL/IN SECTION 1

RECOMMENDATION:

Potential Release Site (PRS) 310 was created due to a cesium detection. The cesium at PRS 310 has subsequently been removed. Sampling conducted in 1995 indicated that no cesium was present. Historically, no other radionuclides have been a concern at this location. All plutonium levels were at or below the 10^{-5} Risk Based Guideline Values. All thorium levels were at or below the 10^{-5} Risk Based Guideline Values and below the regulatory standard of 5 pCi/g.

Potential Release site (PRS) 382 was identified from relatively elevated qualitative soil gas information (PETREX). Data from a subsequent quantitative Soil Gas Confirmation Investigation was taken within 50 feet of PRS 382. All radionuclides were below their respective 10^{-5} Risk Based Guideline Values. All volatiles, semi-volatiles, and metals concentrations are below their respective 10^{-6} Risk Based Guideline Values. No pesticides, explosives, or polychlorinated biphenyls (PCBs) were detected. Additionally, calculations show that all organic compounds detected in soil in Release Block D do not adversely affect the quality of groundwater at potential drinking water sources.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 310 and PRS 382.

CONCURRENCE:

DOE/MEMP: Arthur W. Kleinrath, Remedial Project Manager — 1/7/97 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 1/14/97 (date)

OEPA: Brian K. Nickel, Project Manager — 1/7/97 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 1/15/97 to 2/15/97

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

N 2 of 3

MOUND PLANT
PRS 384
SOIL CONTAMINATION

RECOMMENDATION:

Potential Release Site (PRS) 384 was identified due to elevated qualitative PETREX hydrocarbon levels. During the 1996 soil gas confirmation investigation all concentrations of volatile, semivolatile, PCBs, pesticides, metals, radionuclides, and explosives, in the soils, were below their respective ALARA, regulatory, 10^{-6} Risk Based Guideline Criteria, or background levels. Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager 11/20/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager 11/20/96 (date)

OEPA: Brian K. Nickel, Project Manager 11/20/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 12/19/96 to 1/23/97

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

Appendix O

Work Plan

WORK PACKAGE / PRELIMINARY HAZARD ANALYSIS

☐☐ Office Master Copy (Original Approval Signatures) ☐ ☐ Field Working Copy (Original Field Sign -Offs) ☐ ☐ Review Copy [Note: Mark this section in color] ☐ ☐ Other Copy

The Project Engineer is responsible for completing Sections 1 through 10. On subcontractor projects, the subcontractor shall complete sections 6, 9, and 10.

1. WORK PACKAGE TITLE: **Building 95 Demolition**

2. WORK PACKAGE NUMBER. ***SMPP/TFV- 32003-00*** | REQUESTOR: L. Koehmstedt

1. WORK PACKAGE SCOPE:

1. The purpose of this effort is to demolish Buildings 95, 95A and 95B, see Figure 1.0. Using heavy-duty equipment to demolish the facility including ground slabs and foundations, remove and dispose of the debris, remove utility pipe rack and stanchions and grade area to match surrounding contours and provide drainage and erosion protection with seeding and mulch. Asbestos abatement and safe shutdown activities will have already been completed prior to demolition.

4. WORK PACKAGE PHASES:

2. **Establish Work Zone.**
3. **Remove utility pipe rack and stanchions.**
4. **Dismantle/Demolish above grade structure.**
5. **Demolish slab and foundation.**
6. **Grade area to match surrounding contours and provide drainage and erosion protection.**

Insert the proper sequence of Work Package phases for the job. A phase is a separately definable portion of the project.

5. WORK LOCATION:

Building #: **95**

Room #: **N/A**

Other: **Spoils Area**

6. SPECIAL MATERIALS AND EQUIPMENT:

1. **Tracked excavator with shear, grapple, hoe ram, concrete cracker/ pulverizer, or bucket attachment.**
2. **Rubber tired and tracked front-end loaders.**
3. **Transport equipment for debris as required.**
4. **Rock crusher**

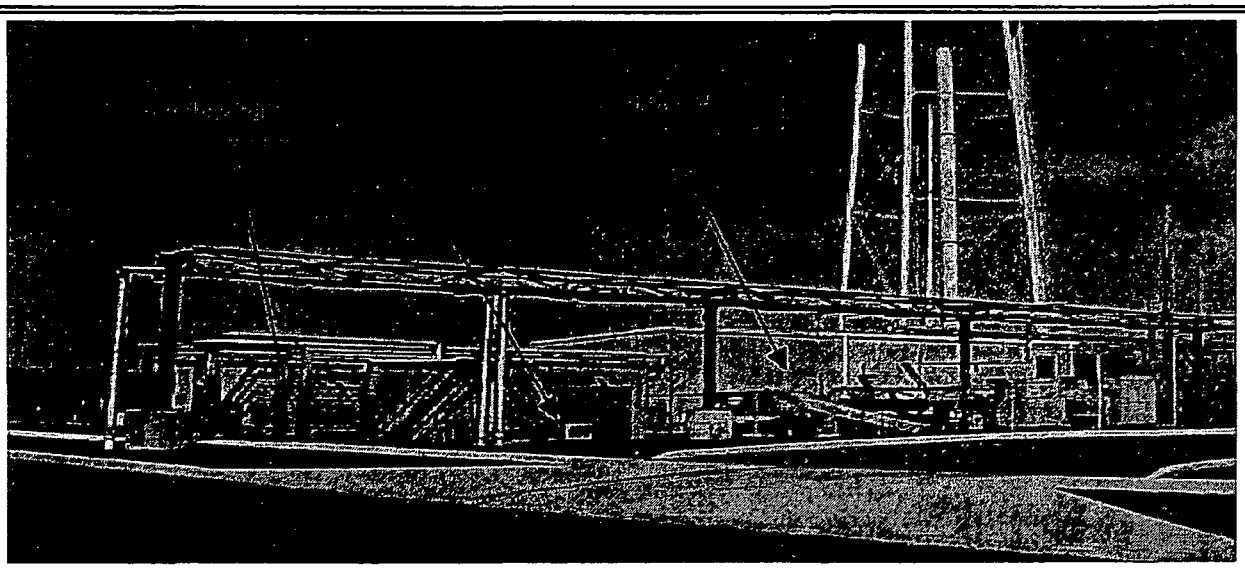


Figure 1.0 Building 95, 95A, 95B

7. DETAILED WORK STEPS: See the attached Job Specific Work Plan (JSWP)

Insert the activities to be performed during the job. Describe the specific methods of accomplishing these activities. Activities listed must be grouped under the Work Package phases listed in item 4.

8. *Note: Comments, to identify activities/hazards that are common to multiple phases of the project. Identification of these items will facilitate the option of addressing the items once in the pre-job briefing, as opposed to redundantly listing them in the JSHAs for different phases.*

COMMENTS:

Enter any review comment or issues in this section and/or information generated as a result of completing detailed work steps.

9. REVIEW SIGNATURES:

Written by: _____ Date: ___/___/___ Phone: _____

Job Foreman: _____ Date: ___/___/___ Phone: _____

Superintendent/Constr. Mgr: _____ Date: ___/___/___ Phone: _____

Project Eng. Mgr: _____ Date: ___/___/___ Phone: _____

Industrial Safety & Hygiene: _____ Date: ___/___/___ Phone:

Rad. Controls: _____ Date: ___/___/___ Phone:

ES&C: _____ Date: ___/___/___ Phone:

Waste Mgmt: _____ Date: ___/___/___ Phone:

Bldg. Mgr: _____ Date: ___/___/___ Phone:

Craft Review: _____ Trade _____ Date: ___/___/___ Phone:

Craft Review: _____ Trade _____ Date: ___/___/___ Phone:

Craft Review: _____ Trade _____ Date: ___/___/___ Phone:

Craft Review: _____ Trade _____ Date: ___/___/___ Phone:

10. USQ SCREEN / DETERMINATION REQUIRED? ☐ **YES** ☐ **NO**

Brief Explaination _____

USQ Trained Person: _____ Date: ___/___/___ Phone:

10. AUTHORIZATION SIGNATURE:

Project Manager: _____ Date: ___/___/___ Phone:

11. WORK PACKAGE CLOSURE:

Job Supervisor: _____ Date: ___/___/___ Phone:

Project Manager: _____ Date: ___/___/___ Phone:

RETURN PHA TO IS&H AT JOB COMPLETION.

PRELIMINARY HAZARD ANALYSIS (PHA)
FOR WORK PACKAGE ACTIVITIES

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE INDUSTRIAL SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Hazard Analyses. Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards, that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Blockage of exits or means of egress	NO	N/A	[EGRESS]
Blockages/obstructions (Identify)	NO	N/A	
Burning, welding, hot-work (Fire Watch)	YES	Demolition	[BURN] Possible use of cutting torch during demolition. Administrative Controls, Permit required. Keep fire extinguisher nearby during cutting.
Chemical compatibility of corrosives/flammables	NO	N/A	
Chemical process safety	NO	N/A	
Compressed gas cylinders	YES	Demolition	Project work controls (use of cutting torches).
Confined space entry	NO	N/A	[CONFINE]
Crane operations, overhead or mobile	NO	N/A	
Critical lifts (heavy or high value loads)	NO	N/A	[CLIFT]
Electrical hazards	NO	N/A	[LIVEL] Electrical Isolation of facility was accomplished during safe shutdown activities.
Elevated work/fall protection	YES	Isolation of pipe rack	[ELEV] Manlift, trained personnel and PPE.
Emergency eyewash/shower available	NO	N/A	[EWASH]
Emergency alarms or evacuation plans required	YES	All	[EMERG] Plant Public Address system will be used to announce any plant emergency over the plant radio channel; cell phones will be used also; no specific added hazards exist in the demolition of this building.
Explosive/flammable atmosphere	NO	N/A	
Explosives	NO	N/A	
Fire protection system/equipment outage	YES	Structural Demolition	[FIRE/EFIRE] Fire Alarm System isolation prior to start of structural demolition.
Fire Hazards Analysis Required of Demolition	YES	Structural Demolition	[FHA/ADJA]
Flammable liquids/gases	YES	Structural Demolition	[FLAM] Possible use of cutting torch during demolition. Administrative Controls, Permit required. Keep fire extinguisher nearby during cutting.
Forklifts, aerial lifts or material handling equipment	YES	Pipe rack Isolation	Note: Roof will not support body weight. Any elevated work on the roof will require manlift. Isolation of piping and electrical systems on the pipe rack will require manlift.
Grounding of electrical equipment	YES	Structural Demolition	Temp. power to portable equipment. All hand-held electrical tools must be equipped with GFCI.
Hazards due to condition of facility or terrain (Identify)	NO	N/A	
Hoisting and rigging	NO	N/A	[HOIST]
Lighting/illumination/adequacy	NO	N/A	[MLITE]
Excavation and Soil disturbance	YES	Demolition of slabs and foundations	Slab or Foundation demolition for this package will require permit. U/G disconnects done by Safe-shutdown crews.

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis(JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Lockout/tagout of hazardous sources:	YES	Safe shutdown of pipe rack	[LOTO/ISO] Electrical/Mechanical Isolation of pipe rack will be accomplished during safe shutdown activities.
• Electrical	YES	Safe shutdown of pipe rack	See Above
• Mechanical (steam, hydraulic, pneumatic)	YES	Safe shutdown of pipe rack	See Above
• Interlocks	NO	N/A	[ILOCK]
• Chemical	NO	N/A	
• Radiological	NO	N/A	
Machine guards	NO	N/A	
Modification to Fire Wall/Door	NO	N/A	[FIREWAL]
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	NO	N/A	
Off-shift work	NO	N/A	
Outages of the plant public announcement (PA) system or the emergency notification system	YES	Demolition	[OUTAGE] The plant radio system transmits public announcements, which will be use to monitor for emergencies.
Overhead or underground utilities (Identify)	YES	Safe shutdown of pipe rack	[UITL] Electrical/Mechanical Isolation of pipe rack will be accomplished during safe shutdown activities.
Penetrations into walls, floors, etc.	NO	N/A	[PENETR]
Plastic sheeting or wood framing/enclosures	NO	N/A	
Powder-actuated tools	NO	N/A	
Plant utilities (Identify)	YES	Safe shutdown of pipe rack	[UITL] Electrical/Mechanical Isolation of pipe rack will be accomplished during safe shutdown activities.
Repetitive work	NO	N/A	[ERGO]
Structural Modification	YES	Demolition	[STRUCT] Building is being demolished.
Special Fire Protection Equipment Required	NO	N/A	[FIREQU]
Trenching/Shoring	NO	N/A	[DIG]
Temporary heating facilities	NO	N/A	
Temporary/portable buildings or structures	NO	N/A	[FACIL]
Temporary service hook-ups (Identify)	YES	Structural Demolition	Water service (for dust control). BFP required.
Traffic control/flagman	NO	N/A	[TRAFIC]
Work in attics, ceilings, chases, or crawlspaces	NO	N/A	
Work impacting adjacent normally occupied areas	NO	N/A	[ADJAC/BMAPP/SIGNS/NOTIF]
Work Requiring Scaffolding, construction and inspection	NO	N/A	[SCAFF]
Other (Specify)	N/A	N/A	

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Abrasive blast (☐ MSDS available)*	NO	N/A	
Asbestos	NO	N/A	[ASBEST] Asbestos Abatement completed.
Beryllium	NO	N/A	
Blood-borne pathogens*	NO	N/A	
Cadmium	NO	N/A	
Carcinogens (☐ MSDS available)*	NO	N/A	[CARC]
Chemicals/solvents (☐ MSDS available)*	NO	N/A	[CHEM/MSDS]
Chlorofluorcarbon (CFC)	NO	N/A	[CFC] Removed during safe shutdown activities.
Coal, tar or asphalt products	NO	N/A	
Coating/painting (☐ MSDS available)*	NO	N/A	
Corrosives/acids/caustics (☐ MSDS available)*	NO	N/A	
Dusty operations	YES	demolition	[POWDER] Potential dust generation controlled via water misting.
Hazardous Waste Operations (HAZWOPER)*	NO	N/A	
High Pressure systems	NO	N/A	[HIPRES]
Insulation/man-made mineral fibers (☐ MSDS available)*	NO	N/A	
Lasers	NO	N/A	
Lead	YES	demolition	Paint may contain lead, do not torch-cut painted surfaces.
Foam in Place Operations	NO	N/A	
Mercury	NO	N/A	
Noise in excess of 85 dBA	Yes	demolition	[NOISE] Hearing protection will be used, as appropriate.
Polychlorinated biphenyls (PCBs)	NO	N/A	
Removal of ceiling tiles*	NO	N/A	
Spraying/generation of mists*	YES	demolition	Demolition dust control via water mist.
Temperature extremes (heat or cold stress)	Yes	ALL	[CRYRO/COLD/HEAT] Provide heating or cooling for personnel.
Ventilation or Air Monitoring requirements	Yes	demolition	[VENTIL/IH] Air monitoring for potential silica during demolition activities will be performed.
Welding, brazing, or thermal cutting operations	Yes	demolition	[BURN] Cutting of rebar and etc. will require a permit.
Other (specify)	N/A	N/A	

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

SECTION C, RADIOLOGICAL PROTECTION - TO BE COMPLETED BY RADIOLOGICAL CONTROLS REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. RWP, ALARA Plan, etc.). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Location:	Controlled Area	NO	N/A	
	Contamination Area	NO	N/A	[STP]
	High Contamination Area	NO	N/A	[STP]
	Radioactive Materials Storage Area	NO	N/A	
	Airborne Radioactivity Area (STP or OBT)	NO	N/A	
	Radiation Area	NO	N/A	
	High Radiation Area	NO	N/A	
	Very High Radiation Area	NO	N/A	
	Other (Specify)	NO	N/A	
Activities:	Criticality Safety Concerns	NO	N/A	
	Digging/Soil Removal	YES	Slab and Foundation Removals	[DIG] Slab and foundation removal.
	Surface destruction of radioactively contaminated materials or equipment?	NO	N/A	[SURFAC]
	Welding, burning, or grinding?	NO	N/A	[SURFAC]
	Hammering, chipping or scraping?	NO	N/A	[SURFAC]
	Abrasive blasting?	NO	N/A	[SURFAC]
	Dust-collecting equipment or systems?	NO	N/A	
	Decontamination and clean-up?	NO	N/A	
	Rad Waste Storage and Disposal Required	NO	N/A	[RWSTOR/WASTE/CHAR]
	Other (Specify)	N/A	N/A	
Sources:	X-Ray machine/generator	NO	N/A	[XRAY]
	Sealed radioactive sources	NO	N/A	
	Unsealed radioactive sources	NO	N/A	
Controls:	Radiological Work Permit	NO	N/A	[RWP/RWP=JS/RWP=N/R/RPGEN]
	ALARA Plan	NO	N/A	[ALARA]
	Air Flow Studies	NO	N/A	[AIRFLOW/CAM]
	Urinalysis program	NO	N/A	
	Preliminary or in-process characterization	NO	N/A	[SURVPS/SURVIP]
	Anti-contamination clothing	NO	N/A	
	Respiratory protection	NO	N/A	[RESP]
	Needs Analysis Evaluation	NO	N/A	
	Hazards Analysis	NO	N/A	
	Engineering Controls	YES	ALL	Dust control via misting./ substation protection
	Administrative Controls	YES	N/A	Barricading of construction zone.
	Supplemental dosimetry	NO	N/A	
	Shielding	NO	N/A	
	Personnel monitoring (frisking)	NO	N/A	

SECTION D - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C
Identify Assembly Points: ***Be aware of threatening weather and take shelter when life-threatening storms are imminent.*** Assembly area west of Building 95, Take shelter area is in basement of Building 38 -See Appendix E

Work Package Revision Form

Work Package Revision Form			
Work Package No.SMPP/TFV-32003-00	Revision No.		
Revision Description: (attach page revisions to form)			
	Name	**Signature**	**Date**
PREPARED BY:			
Revision Preparer:			
REVIEWED BY:			
Project Foreman:			
Project Superintendent/ Constr. Mgr.:			
Industrial Safety & Hygiene P o C:			
Radiological Point of Contact:			
Environmental Safeguards & Compliance P o C:			
Waste Management PoC:			
Building Manager:			
Other:			
Other:			
USQ Trained Person			
USQ SCREEN / DETERMINATION REQUIRED? ❑YES ❑NO Brief Explaination_____			
APPROVED BY:			
Project Manager:			

Work Package Revision History Form

WORK PACKAGE REVISION HISTORY FORM			
REV. NO.	REASON	SIGNATURE	DATE

Job Specific Work Plan
Table of Contents

1. WORK SCOPE 1
   1.1. Introduction 1
   1.2. Work package scope 1
   1.3. Site Information 1
   1.4. Building Utilities 1

2. DRAWINGS AND REFERENCES 2

3. INITIAL CONDITIONS AND PREREQUISITES 2
   3.1 Lessons Learned 2
   3.2 Industrial Safety and Health Requirements 2

4. RADIATION PROTECTION REQUIREMENTS 2

5. ENVIRONMENTAL PROTECTION REQUIREMENTS 3
   5.1. CERCLA 3
   5.2 National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 4
   5.3 Notification 4
   5.4 Restriction of emission of fugitive dust (OAC 3745-17-08) 4
   5.5 Clean Water Act & Storm Water Pollution Prevention 4
   5.6 National Historic Preservation Act (NHPA) 5
   5.7 Safe Drinking Water Act 5
   5.8 Emergency Spill Response 5

6. CHEMICAL AND WASTE MANAGEMENT 5

7. EMERGENCY PREPAREDNESS 5
   7.1 Site Notification Procedures 5
   7.2 Evacuation Route/Assembly Areas 6
   7.3 Take Shelter Area 6

8. PRE-DEMOLITION SEQUENCE OF WORK 6
   8.1 Site Characterization 6
   8.2 Site Preparation 7
   8.3 Preliminary Activities 8

9. BUILDING DEMOLITION SEQUENCE OF WORK 8
   9.1. Establish Work Zone 8
   9.2. Demolition 9

Job Specific Work Plan

1. WORK SCOPE

1.1. Introduction

This Job Specific Work Package (JSWP) follows the outline of PP-1059A, Integrated Work Control Program at the Mound Site, Miamisburg, Ohio. Included are a Preliminary Hazard Analysis (PHA) and a Job Safety & Hazard Analysis (JSHA). A Pre-Job Briefing Form (ML-9657) and the Project Manager's Authorization to Commence Work signature will be completed to document that the workers were briefed on the activities covered in this JSWP before work begins.

1.2. Work package scope

The purpose of this effort is to demolish Buildings 95, 95A and 95B superstructures, pipe racks, slabs and foundations. Salvageable interior equipment is to be disposed of by surplus equipment sale. Demolition to include (the isolation during safe shutdown activities) of all utilities including the utilities located on the pipe rack stanchions leading to and from Buildings 38 and 102, slab and foundations (down to 3 foot below exist grade) and the demolition debris removal. This will be accomplished by confirming that all utilities have been isolated during safe shutdown activities, establishing a safe work zone, and the demolition of the buildings using heavy-duty equipment, and removing of debris as directed by Waste Management. Following the demolition, provide seeding and mulching of the area to prevent erosion.

1.3. Site Information

Building 95 was constructed in 1984 as a Chiller Plant for the SM/PP area. Later, the Chiller Plant's service area was expanded to also include the Test Fire Valley area. The Plant continues to serve the same purpose. Building 95 includes one main and two smaller ancillary buildings (Buildings 95A and 95B). The main building is approximately 2,000 square feet, and each of the two smaller buildings is approximately 450 square feet. All three buildings are single-room, single-story, prefabricated metal structures with metal roofs and built slab-on-grade. The main building contains two large (500-ton and 800-ton) glycol chiller systems; Building 95B contains cooling towers, chilled water pumps, and condenser water pumps; and Building 95A contains chemical treatment equipment.

1.4. Building Utilities

Potable and service water are supplied to Building 95. The building does not have sanitary services; the floor drain discharges directly to the storm sewer. The building has a dedicated fire water line for the fire sprinkler system. Service water is used to support the plant processes. Electric service is 480 volts provided by the substation located on the east side of building 95.

2. DRAWINGS AND REFERENCES

PP-1059A, Issue 8, "Integrated Work Control Program"
MD-50000, Issue 11, "Maintenance Work Order and Material Processing"

3. INITIAL CONDITIONS AND PREREQUISITES

3.1 Lessons Learned

A search of the Lessons Learned Database found the following relevant item:

- Glycol Spill Occurs During Draining of Closed Loop System
- Driver has near miss with electrocution when overhead wires catch on truck.

See Appendix F for the full report.

3.2 Industrial Safety and Health Requirements

3.2.1 A Job Specific Hazards Analysis (JSHA) is required. The general demolition area and site location, as shown in Appendix E, identifies the demolition area approximate boundaries, the take shelter area, and the assembly area. Debris will be cleared from the immediate construction zone as required to promote safe equipment activity.

3.2.2 Underground electrical utilities ductbank will be identified and field located by scanning the area prior to beginning any field activities to prevent damage. Lock-out/tag-out procedures will be followed and electrical energy detection will be performed prior to any electrical demolition activities that are associated with the building or pipe rack stanchion demolitions.

3.2.3 Monitoring for silica dust will be performed periodically as determined by previous monitoring results and site Safety and Health. Site Safety and Health will be notified before the demolition of concrete begins.

3.2.4 Whole body vibration will be administratively controlled and the topic will be reviewed at pre-job meeting.

3.2.5 A Hot Work Permit will be required if a torch is used for cutting. Coordinate with site Safety and Health.

3.2.6 Monitoring of noise levels will be performed as determined by previous monitoring results and site Safety and Health. Earplugs (or other hearing protection) will be worn, as appropriate.

4. RADIATION PROTECTION REQUIREMENTS

An assessment of Building 95 and its two associated structures (Buildings 95A and 95B) was performed to review operational history and radiological survey information.

 0 12 07 48

Operational history indicates the building was constructed and operated to supply chilled glycol for the SM/PP Hill and the Test Fire Valley for comfort cooling. The building and structures remain in use for this purpose. There were no radiological process systems in the building or structures and no radioactive materials are known to have been used or stored in the building or structures. *Mound Facility Physical Characterization* report and other site assessments have asserted that Building 95 was not contaminated with any radiological or energetic materials.

Annual surveys have been performed in the building and no radiological contamination has been found. Additional confirmatory surveys, using large area gas proportional detectors and following guidance in "Generic Process for the Disposition of Buildings That Have Potential or Actual Radiological Contamination", were also performed, with all readings being below applicable screening limits.

Building 38, a former plutonium processing facility, is serviced by this chiller system. A review of system prints indicates it is highly unlikely that chilled water system fluids could come into contact with radioactive materials due to system design. However, because the fluids pass through Building 38, confirmatory samples of system fluids were obtained and analyzed for gross alpha and tritium activity. The fluid in both the condensate water and the glycol portions of the system(s) were within applicable screening limits. Building 95 is considered non-impacted based on the guidance in the Multi-Agency Radiological Survey and Site Investigation Manual (MARSSIM). The review team concluded that no further radiological surveys are warranted in Building 95.

5. ENVIRONMENTAL PROTECTION REQUIREMENTS

5.1. CERCLA

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and BWXTO have tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, four are at or near Building 95. PRSs in the vicinity of Building 95 are identified in Table 3.

Table 3: PRSs in Proximity to Building 95

PRS	CERCLA or Bldg. Related	Binning Status	Comments
277	CERCLA	Removal Action (RA)	**Area J, Hillside Disposal Area (AKA Dredged Material Disposal Area 11a).**
310	CERCLA	No Further Assessment (NFA)	**Site Survey Project Potential Hot Spot Location S0647.**
382	CERCLA	NFA	**Elevated Soil Gas Location.**
384	CERCLA	NFA	**Elevated Soil Gas Location.**

5.2 National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

Per Environmental Practice 2.2, if buildings to be demolished have a surface area less than 72 million square feet, direct readings below MDA, and wipe results below applicable action levels, additional dose calculations are not necessary. Building 95 meets those criteria and therefore USEPA approval is not required.

5.3 Notification

A Notification of Demolition and Renovation form must be filed with the Regional Air Pollution Control Agency (RAPCA) at least 10 business days before planned building demolition.

5.4 Restriction of emission of fugitive dust (OAC 3745-17-08)

Reasonably available control measures must be employed to prevent fugitive dust from becoming airborne. Visual particulate emissions from any fugitive dust source shall not exceed 20% opacity as a three-minute average. Appropriate activities would include:

5.4.1 Water misting, or other suitable dust suppression, will be used to minimize fugitive dust resulting from demolition activities.

5.4.2 Periodic application of water, or other suitable dust suppression, to adjacent roadways and parking lots will be used to prevent dust from becoming airborne.

5.4.3 Trucks hauling debris to the onsite spoils area should be covered while in transit.

5.5 Clean Water Act & Storm Water Pollution Prevention

5.5.1 All inlets to the sanitary and storm systems will be plugged to prevent accidental discharges to the wastewater treatment plant or the environment, including areas where the utility piping rack is to be severed.

5.5.2 The site's National Pollutant Discharge Elimination System (NPDES) Permit No. 1IO00005*HD requires the use of control measures to ensure the quality of storm water leaving the site. These control measures and practices are outlined in the site's Storm Water Pollution Prevention Plan OPA980099. Appropriate activities would include; redirect flow patterns around the project site to prevent stormwater run-on. Provide inlet protection to the storm sewer system by covering catch basins immediately adjacent to the project site and plugging roof drains at ground level until which time the underground pipes can be appropriately abandoned. Exercise good housekeeping techniques by segregating materials in a timely manner, including the prompt disposal of wastes, and sweeping debris from the streets to prevent stormwater pollution. Water that has collected in an open excavation or in sumps, must be monitored prior to discharging to the sanitary or storm sewer systems. Contact Environmental Monitoring at extension 4188 for monitoring and review of these non-routine discharges.

5.6 National Historic Preservation Act (NHPA)

Building 95 is not listed as a historic structure with the Ohio Historic Preservation Office (OHPO). No mitigative documentation package is required. However, if any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified at extension 3691. Work will be temporarily suspended until which time the items or artifacts have been recovered.

5.7 Safe Drinking Water Act

The Building 95 potable water supply was turned off and capped to protect the integrity of the water supply to that portion of the plant site. The line was capped below grade and testing performed for total chloroform after the work is complete.

5.8 Emergency Spill Response

Building 95 will be disconnected from all utility services and the lines drained, including Glycol lines. There should be no regulated component that will be encountered. In the event of a major spill of any regulated substances, or the rupture of a non-isolated utility line (fire, domestic water, ethylene glycol) call 911 if using an onsite phone or 937-865-4040 if using a cell or other outside phone to report it; also see Emergency Preparedness section. All spills must be contained onsite and should be prevented from entering the storm drains if possible. If spills enter the storm drains, all effluent must be retained onsite at the overflow pond.

6. CHEMICAL AND WASTE MANAGEMENT

All wastes will be managed in accordance with the Waste Management Plan for the Mound Exit Project, MD-10499. The Waste Coordinator requirements will ensure that this is accomplished and summarized in a Job Specific Waste Management Plan, see Appendix G.

Non-PCB containing fluorescent tubes and ballasts will be left in place, and will be demolished with the building. PCB containing ballasts will they have been removed during Safe Shutdown activities. Note: The fluorescent tubes have been removed.

7. EMERGENCY PREPAREDNESS

7.1 Site Notification Procedures

7.1.1 Use **911** for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **865-4040**. This number will ring into the plant 911 system.

7.1.2 Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

7.1.3 Employees will be notified of emergency or abnormal conditions by the plant paging system or project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.

7.2 Evacuation Route/Assembly Areas

The assembly area is to the west of Building 95. See map per Appendix E.

7.3 Take Shelter Area

CAUTION

Be aware of threatening weather and take shelter when life-threatening storms are imminent.

Take shelter area is in Building 38 basement. -See Appendix E

8. PRE-DEMOLITION SEQUENCE OF WORK

8.1 Site Characterization

8.1.1 Physical Characterization

A structural engineering survey was performed and documented for Building 95 to meet the requirements of OSHA 29 CFR 1926.850(a). A walkdown of the structure was used to identify potential hazards as listed in 29 CFR 1926.850(e) through (i). It has been determined the building does not meet the criteria that cause the structure to be historically significant.

8.1.2 Radiological Characterization

All radiological survey results for Building 95 were within applicable limits.

8.1.3 Chemical and Metals Characterization

Building 95 is a chiller plant; chemicals for treating water are currently stored in the building, but will be removed prior to demolition activities. The most recent (March 2002) annual chemical inventory report found no "emergency and hazardous" chemicals located in the building.

8.1.4 Asbestos Characterization

On June 13, 2002, Mr. Christopher A. Ahlquist, an Industrial Hygienist with BWXT of Ohio, Inc. (BWXTO), conducted a survey of Building 95 (three separate structures) at the Mound site in Miamisburg, Ohio for purpose of identifying asbestos-containing materials contained therein. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by Ohio Department of Health regulations. During the course of the

survey, Mr. Ahlquist conducted a records review for previous survey reports and sampling data and collected bulk samples of materials found within Building 95 as necessary in order to determine the asbestos content of said materials. A room-by-room inspection of all accessible spaces was then conducted in order to prepare an inventory of the location and approximate quantities of identified asbestos-containing materials. Only one material was suspect for containing asbestos (drywall system), and sampling and analysis indicated that it did not contain asbestos in accordance with EPA and OSHA regulations. This material was located on some of the walls of the largest structure.

8.2 Site Preparation

8.2.1 Site Access Control

The demolition area will be identified utilizing the existing fence around the building, or at the discretion of the project construction manager/foreman, marked off with barricade tape/fencing.

8.2.2 Clearing and Grubbing

The area around the buildings will be mowed and insecticide will be sprayed *if appropriate.* Coordinate with site Safety and Health and Environmental Compliance.

HAZARD	MITIGATION
Insect bites	Mow area around building. Wear long pants and long sleeve shirt. Tape arm and leg openings, if desired .
Exposure to insecticide	Follow requirements of MD-10286 D2. Use licensed personnel. Follow label directions and MSDS.

8.2.3 Temporary Utilities

The only temporary utility that may be required is water. Coordinate with site Safety and Health. Water will be used to control dust emissions.

8.2.4 Temporary Facilities

This project will use the SMPP/TFV project trailer in the new trailer complex located in the existing Mound "C" parking lot. Also, a portable toilet has been located at the job site.

8.2.5 Temporary Communications

Temporary communications are required (cell phone, radios) due to the difficulty of hearing plant announcements and emergency notifications. At the job site, plant announcements and emergency notifications can be heard on the Plant radio channel.

8.2.6 Staging Areas

017 of 48

The project site is of sufficient size to also be used as a staging area.

8.3 Preliminary Activities

8.3.1 Domestic water, fire water, glycol, plant air, steam, electrical, fire alarm system and communications lines have been disconnected under separate safe shutdown, MSR 30048. Verify all mercury-containing switches have been removed. If found, dispose through Waste Management.

8.3.2 Protect the existing power transform from damage from demolition activities.

8.3.3 Confirm all Freon has been previously removed and recycled from HVAC units inside and outside of the building.

8.3.4 Fluorescent tubes, ballasts, and explosion-proof lights will remain in place. If PCB-containing ballasts are encountered, remove and dispose through Waste Management. Note: Contact site Safety and Health with any concerns about fluorescent tubes, ballast, or explosion proof fixture seals.

HAZARD	MITIGATION
Fall hazard	Follow requirements of MD-10286 M-14

9. BUILDING DEMOLITION SEQUENCE OF WORK

9.1. Establish Work Zone

Establish work zone boundary using the existing fence and/or with barricade tape and /or temporary fencing as directed by the Project Foreman. Proper signage will be placed at all access points to the site. This zone is not to be entered by anyone not directly involved with the demolition unless they have contacted the Project Superintendent/Foreman first. Do not begin any demolition activities until the following items are completed.

All new workers assigned to this project have received a pre-job briefing prior to performing work and a walk down of the project area. The following must be completed prior to starting work.

Review of the *Preliminary Hazard Analysis* for work package activities must be complete.

9.1.1. The *Pre-Job Briefing Record* must be completed and signed.

9.1.2. The *Job Specific Hazards Analysis (JSHA) must be reviewed.*

018 of 48

NOTE: All workers have Stop Work Authority. Situations where stop work authority is to be exercised are:

- **To stop unsafe work.**
- **To stop unauthorized work, for example, work outside the scope of this work package.**

9.1.3 Perform Safe Shutdown activities in order to isolate all the connections to the stanchion rack piping and the electrical components systems, including the following systems: electric/communication/fire alarm systems, steam, condensate and glycol, plant air, street lighting, and Molan systems.

9.1.4 Verify Safe Shutdown activities have isolated all the connections to Buildings 95, 95A, and 95B including the following systems: electric/communication/fire alarm systems, steam and glycol, sewage and potable water systems.

9.1.4. Verify that all pre-demolition notifications have been made and permits are in place.

9.1.5. Install sediment/storm water control fence around designated construction area as necessary.

9.1.6. Prepare water distribution system for the control of dust. Verify that traffic control is ready, as necessary.

9.2. Demolition

9.2.1 Safe shutdown pipe rack stanchions and underground utilities

The utilities operations group will isolate the mechanical and electrical utilities on the pipe rack system. The utilities operations group will drain the system and along with capture of excess glycol for reuse or disposal. Glycol lines should be checked for low "holding points" these points need to be drilled and drained prior to demolition. Remaining abandoned open ends of pipes will be capped.

WARNING

The electrical substation on the east side of building 95 in a energized high voltage source that needs to be protected from damage and the appropriate caution and LOTO procedures taken while working around.

9.2.2 Demolition pipe rack stanchions and utilities

The SM/PP-TFV crews will demolished the pipe rack/stanchions system including the top of the concrete pedestal foundations. The materials will be sized

and placed into appropriate hauling containers or trucks.

9.2.3 Structure Dismantlement or Demolition

The current strategy calls for the buildings super structures to be sold and/or dismantled in order to gain access to the equipment housed inside the structures. The equipment is also is to be sold as surplus equipment and removed by the purchaser. However if the equipment can not be sold, then the facility will be demolished using current demolition processes. Demolish the structural steel roof trusses and walls and metal roofing panels using heavy-duty equipment. Use the existing slab for load out surface for loading debris and placing into appropriate hauling containers or trucks.

HAZARD	MITIGATION
Contact overhead power lines with heavy-duty equipment.	If heavy-duty equipment will be operating within 10' of overhead powers, perform LOTO.
Struck by flying debris Struck by moving equipment	Establish construction boundary. Temporary closure of the roadway to be coordinated with site wide safety, emergency and other necessary entities. Wear hard hat, safety glasses, safety shoes, and reflective vest inside construction area. Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet
Noise Hazard	Wear hearing protection while running heavy-duty equipment. Follow the requirements of MD-10286 D9.
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2.
Heat/Cold Stress	Follow the requirements of MD-10286 D13/D16.

Exact sequence of demolition will be left up to the skill of the craft.

Note: The progressions of the building demolition will ultimately be determined in the field.

9.2.4 Slab and Foundation

Using heavy equipment, break apart the concrete slab, foundation, and footers to 3' below grade, torch cut the rebar as required (Hot Work Permit is required if used) to support demolition and downsizing. During the concrete demolition, use heavy equipment to assist radiological control personnel to perform radiological screening of all concrete surfaces. Based on radiological screening results, transport to Mound's spoils area, or offsite disposal, as directed by Waste Management. Note there is a condenser water sump approximately 10 foot deep in slab.

HAZARD	MITIGATION
Burns/fire	Burn permit, fire protection, and PPE.

Strike underground utilities	Obtain Excavation permit and follow its requirements per MD-10286 O5

9.2.5 Organize area for future soil remediation

The last step will be to restore the area by grading and seeding. Remove any unnecessary remaining sediment/storm water control fences. Scan equipment for radiological contamination and decontaminate prior to leaving area. Remove dust control water distribution system, temporary power fencing and any traffic control.

Appendix A
JSHA/HASP

0 22 06 48

Project/Activity: Buildings 95, 95A, 95B Demolition
Name: Lee Koehmstedt

JSHA CRITERIA CHECKLIST	YES	NO	N/A
1. Work performed with a 6 ft. or greater fall hazard, excluding portable ladders. See Item 14 for further requirements.		X	
2. Roof work requiring the use of fall protection (within 6 ft of an unprotected edge) or special fall protection procedures.		X	
3. Potential hazardous chemical exposure above action levels or permissible exposure limits (PELs), or ACGIH Threshold Limit Values (TLVs).		X	
4. Work activity in an immediately dangerous to life or health (IDLH) breathing hazard environment.		X	
5. Fire or explosion hazards. Are fire hazards beyond a Hot Work Permit? (Reference O2, MD-10286)		X	
6. Work within close proximity of live electrical than 50 volts, conductors, and/or work that requires multiple locks, multiple hazard sources, or complicated lockout/tagout circumstances. (Reference MD-10444, *Lockout/Tagout Procedure Manual*, for multiple energy lockout/tagout.)	X		
7. Any maintenance or repair of equipment under pressure where the pressure cannot be shut off and de-energized.		X	
8. Work with high or extreme exposure to ionizing or nonionizing radiation (reference MD-80036, Op 10002), noise, or heat or cold stress (reference D9, D13 & D16, MD-10286).	X		
9. Determined by an appropriate core team, building manager, member of general or executive management, or the IS&H manager to require a JSHA.	X		
10. Any onsite construction or service project directed to have JSHAs based on this procedure and/or instruction from project personnel or IS&H staff.	X		
11. Near-miss event with the potential for loss of life or limb or disabling injury/illness if repeated.		X	
12. Excessive trauma/motion/vibration work situations or manual lifting involving heavy, large, and/or awkward-to-handle objects (reference MD-10407, *Ergonomics Program.*		X	
13. Unguarded, unmarked close clearance, pinch point, exposed moving machinery parts.		X	
14. Known potential falling object hazards (e.g., employees working above other employees, potential for dropping tools, falling equipment or material) or working in areas with the potential for flying objects (flying chips, sandblasting, etc.), exposure to sharp or protruding objects (e.g., working inside plenums, air mover ducts, etc.).	X		

MANDATORY JSHA REQUIRED TO ADDRESS ANY/ALL (YES) RESPONSES

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
SMPP/TFV – 32003-0

DATE: 8/16/02	_X_ NEW ___ REV	**BUILDING: 95**	**JOB: Demolish Buildings 95, 95A, 95B**
DEPARTMENT/COMPANY: **SMPP/TFV**			**SECTION:** N/A
OCCUPATIONS: Heavy Duty, Demo Tech, Construction Craft, Pipefitter/Welder, Electrical Control, Fab Mechanic, RCT, IH			

SIGNATURES

ORIGINATOR: Lee Koehmstedt
REVIEW/REV: Jared Wills Chris Ahlquist
REVIEW/REV: Bill Wahler
REVIEW/REV: Gary Weidenbach / Alan Upshaw
APPROVED: C.D. Thompson

REQUIRED PERSONAL PROTECTIVE EQUIPMENT: Hard Hat, Safety Glasses with side shields, safety shoes, safety vest, hearing protection	**MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:** Insecticide

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
Break the job down into basic steps that tell what is done first, what is done next, and so on. Record the job steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually, three or four words are sufficient to describe each job step. For example, the job of "replacing a light bulb" may break down into basic steps as follows: 1. Bring and set up ladder 2. Ascend ladder 3. Remove light globe & bulb 4. Replace light bulb 5. Replace light globe 6. Descend ladder 7. Remove and store ladder	Ask yourself for each job what accidents/illnesses could occur to the employee doing the job. Record potential accidents/illnesses by combining one of the abbreviations below with the agent of contact. For example, "struck by a crane hook" is recorded "SB-crane hook." Number each potential accident. SB - Struck by CB - Contacted by SA - Struck against CW - Contact with CI - Caught in CO - Caught on IB - Caught between F - Fall SO - Strain-overexertion* E - Exposure (occ. illness) *Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)	For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness. Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements; e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment. Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)
General Safety Note	A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	1) Be cognizant of your own safe work practices as well as those of your co-workers. 2) Review any related safety procedures of which you are unsure. 3) Utilize STOP WORK Authority as necessary.
Pre-job meeting with involved personnel to discuss the work plan and safety requirements.	NA	This project engages in Enhanced Work Planning (EWP), an ISM process that evaluates and improves the approach by which work is identified, planned, approved, controlled, and executed.
Operation of heavy equipment near electric overhead lines	Electrocution	LOTO all electrical overhead lines.

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
Demolish building and pipe rack and stanchions by skilled craft using excavator mounted shear, hoe ram, grapple, loader, and bobcat	Struck by flying debris Struck by moving equipment	Establish construction boundary. Wear hard hat safety glasses, safety shoes, and reflective vest inside construction area. Make eye contact with operator when working around equipment. Use hand signals to communicate intent. Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Make sure equipment is in safe working order. Use spotter if vision is obstructed. Install traffic control.
	Noise Hazard	Wear hearing protection while running heavy-duty equipment. Follow the requirements of MD-10286 D9.
Demolition/dismantlement of Buildings	Elevated surfaces, ladders	Maintain fall protection
Torch cut rebar or to weaken structural members	Burns, fire Potential lead paint	Obtain and follow Hot Work permit per MD-10286 O2. Wear proper PPE; have fire extinguishers in the construction zone. Test for lead paint; do not torch cut lead paint.
Working in excessive heat/cold	Heat Stress/Cold Stress	Follow the requirements of MD-10286 D13/D16.
Slab removal	Strike underground utilities Silica exposure	Obtain Excavation permit and follow its requirements per MD-10286 O5. Monitor for silica; keep area wet for fugitive dust suppression.
Working outside.	Adverse weather conditions	Be aware of adverse weather conditions, and use assembly and take shelter areas as appropriate.
Working with Glycol	Potential chemical exposure	Glycol MSDS.

SIGN-OFF SHEET

I have read and understand the attached Job Specific Work Plan and JSHA:

SIGNATURE	Date	Department

Appendix B

This appendix intentionally left blank

Appendix C
PRE-JOB BRIEFING

JOB SPECIFIC WORK PLAN
PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A.	Time, Date and Location of PJB:
B.	Applicable Procedure Number:
C.	Job Description:
D.	Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

JOB SUPERVISOR – This is a reminder checklist for the update. The supervisor need only discuss and note changes from the previous day's briefing or update. (Use NC for No Change).

1.	Any changes/revisions to safety envelope for work: a. New/added assignments and responsibilities of any individual b. Changes in facility conditions, tagouts, valve lineups c. New or changed precautions/hazards d. Valid RWP or other required work permits still in effect
2.	Adequate supply of PPE
3.	New training, any training coming up on expiration
4.	New changes to relevant Category "A" or Category "B" procedures.
5.	Equipment and tools calibrations in effect
6.	Relevant lessons learned, critique reports
7.	RWP revisions: a. Changes to radiological conditions of the workplace, particularly with respect to postings. b. Change in scope, especially if it is a reduction in scope or Stop Work Levels.
8.	Changes to radiological and/or health monitoring.
9.	Open the floor to questions.

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to maximize continued safe conduct of the job, and all personnel have been through a previous Pre-Job Brief.

Job Supervisor/Foreman _____ Date _____

NOTE: Completed pre-job update sheet must be retained with the work package or maintained in your record file.

JOB SPECIFIC WORK PLAN

Daily Toolbox Safety Meeting

Project:	**Date:**
Safety Topic of Meeting:	
Work Description of Meeting:	

Review the following to determine if conditions have changed since the last Pre-Job Meeting
If this is the 1st meeting with a subcontractor, has Safe Work Authorization been done?
Check off each item that applies or mark N/A if it doesn't apply.

Hot Work Permit (torch cutting, spark producing grinding, open flame heaters, welding)		Signage and Barricades (construction area, hazard notification, rad postings, etc).	
Penetration Permit (penetrating walls, ceilings, or floors in a building)		Air Monitoring (as required by Environmental Compliance and/or Industrial Hygiene)	
Excavation Permit (digging in soil)		Dust Suppression (misting, etc.)	
Trench Plan (shoring, soil layback, etc. if over 4 feet below grade)		Water Runoff Prevention (silt fence, straw bales, collection pond, etc.)	
Confined Space Entry Permit (manhole, tank, or other confined space entry)		Radiation Work Permit (as required by Rad Controls)	
Fall Protection (person's feet over 6 feet above ground)		TLDs (as required by RWP and rad postings)	
Lockout/Tagout (all energy sources to equipment being worked on)		Waste Containers (rolloffs, sealands, dumpsters, LSA boxes, drums, etc.)	
PPE (respirators, Tyveks, safety shoes, safety glasses, hard hats, gloves, reflective vests, etc.)		Utility review especially for asbestos abatement contractor (label live utilities e.g. FAS, phone, electric)	
Personnel Training up-to-date for assigned work (Radworker II, Asbestos, Lead, etc.)		Hoisting and Rigging Review	

030 of 48

JOB SPECIFIC WORK PLAN
PRE-JOB UPDATE

Continuation Sheet for _____/_____/_____

HP#	SIGNATURE	HP#	SIGNATURE

031 56 48

JOB SPECIFIC WORK PLAN

PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A.	Time, Date and Location of PJB:
B.	Applicable Procedure Number:
C.	Job Description:
D.	Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

JOB SUPERVISOR – This is a reminder checklist for the update. The supervisor need only discuss and note changes from the previous day's briefing or update. (Use NC for No Change).

2. Any changes/revisions to safety envelop for work: e. New/added assignments and responsibilities of any individual f. Changes in facility conditions, tagouts, valve lineups g. New or changed precautions/hazards h. Valid RWP or other required work permits still in effect
2. Adequate supply of PPE
3. New training, any training coming up on expiration
4. New changes to relevant Category "A" or Category "B" procedures.
5. Equipment and tools calibrations in effect
6. Relevant lessons learned, critique reports
8. RWP revisions: c. Changes to radiological conditions of the workplace, particularly with respect to postings. d. Change in scope, especially if it is a reduction in scope or Stop Work Levels.
8. Changes to radiological and/or health monitoring.
9. Open the floor to questions.

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to maximize continued safe conduct of the job, and all personnel have been through a previous Pre-Job Brief.

_____

Job Supervisor/Foreman Date

032 of 48

Appendix D

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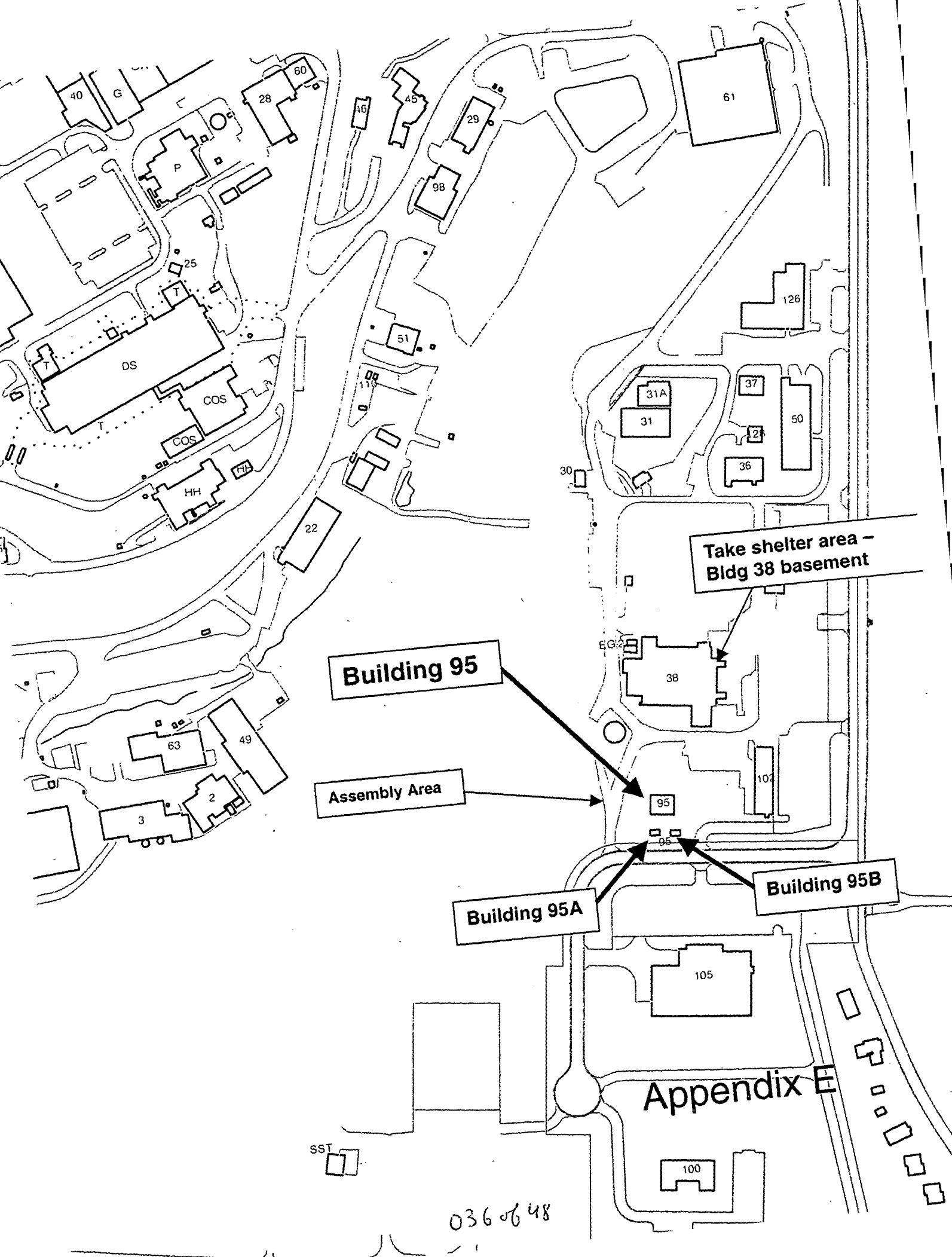
Appendix E
DRAWINGS/SKETCHES


Take shelter area – Bldg 38 basement
Building 95
Assembly Area
Building 95A
Building 95B
Appendix E
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25
T
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COS
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Appendix F
REFERENCES/ LESSONS LEARNED

037 of 48

SMPP/TFV PROJECT
Waste Disposition Plan
Building 95 Demolition

The purpose of this Project Operations plan is to identify waste streams that will be generated during the demolition of building 95. Characterization of waste streams will be summarized and disposal options specified.

The plan will outline types of waste/waste quantities expected. Information will be provided on the schedule for waste generation, RCRA characterization, radiological characterization, packaging requirements/mode of disposal, and any specific waste acceptance criteria that must be met for disposal.

Waste types and estimates are based on a physical examination of the room conducted on July 22, 2002 and review of the processes that were performed in the building. These areas are not considered to be contamination areas. The majority of the waste that will be generated in the demolition process of the building will be disposed of as demolition debris/solid waste. The waste will include all associated removable piping located inside/outside Bld. 95.
Sealed pressure vessels will need to be at < 1.5 atmospheres. Wastes are listed in expected order of generation.

Waste Type	Demolition debris/solid waste: Concrete, Steel and Copper Piping, Sheet Metal, Elect. Wiring, FG Installation,
Quantity expected	2,000 SQ. FT.
Asbestos	N/A Asbestos not found in the Bld.
Schedule for waste generation	Mid- August , 2002
RCRA characterization	Non-hazardous
Radiological characterization	Radiological surveys of the building /equipment indicate no elevated radioactivity levels. Building was non-impacted from site Radiological Operations.
Packaging requirements	30 Cu Yd. Roll-Off will be use for disposal
Mode of disposal	Offsite disposal via Waste Management Operations
*** NOTE: Sealed pressure vessels will need to be at < 1.5 atmosphere if present**	

Any unusual or unexpected items not addressed in this plan should be set aside for examination and evaluation by the project engineer and waste coordinator.

Prepared by Willis Daniel
Date: 07/23/02

03806 48

Glycol Spill Occurs During Draining of Closed Loop System

(L02-001)

Lessons Learned Statement: Draining of closed loop glycol piping system can result in spills if the system is not properly vented and spill control measures are put into place.

Discussion: On December 7, 2001 a glycol spill occurred in Technical (T) Building while draining the Main Hill Loop of the glycol circulating system to replace isolation valves in the system at T Building, and near Building 28 and 60. The system was drained at the Powerhouse, T building and near Building 28. The supply and return lines in T Building were vented as well as the supply line to Building 28. It was believed that these vents would prevent the forming of a vacuum within the system that might prevent the system from being completely drained. The system was being drained in T Building at the location of the two large 10 inch isolation valves and at the control valve to the S-11 air supply unit.

The T Building system was drained to the point where air was coming out of the pump used to extract the glycol from the system. Preparations were about to start for the removal of the isolation valves in T Building when suddenly there was an unexpected flow of glycol out of the two 1/2 inch valves that were being used to allow air into the T Building part of the system. The glycol was contained in the area of the spill due to the quick action of the personnel involved with the work and the staging of spill control materials prior to starting the job. Some glycol was captured in a sump that was later pumped back out.

The two valves that service Building 28 and 60 were both believed to be standard gate valves and were believed to in the open position. The personnel in T Building had let the Powerhouse personnel know that they were getting air out of the system and that it appeared to be drained. The personnel working at the south side of Power House 28 started removing the return line valve and when the line was opened up there was significant influx of air that almost pulled the gaskets into the line. The air rushed in due to a vacuum that had been created on the return side of the loop. Once this vacuum was broken, glycol still being held in the loop because of the vacuum was released to the lowest point in the system, T Building.

It was discovered that the valve in the return side of the glycol system to Building 28 and 60 was a flow control restriction valve and apparently in the close position by its design. This prevented the return loop from being vented. The glycol return line inside the shaft to T Building loops up where it enters T Building, creating a natural trap. It was the glycol trapped and held in the line by the vacuum that was released to T Building once the vacuum was broken.

Analysis: Personnel were not aware that the isolation return valve to Buildings 28 and 60 was flow restricting type designed to be in the closed position. If personnel had known, efforts would have been taken to vent that side of line during the draining process. When performing work of this type, any open drain points should always be connect to proper containers to catch any liquids that may come through even if the system is believed to be empty. When separate crews are working on the same system at different locations, good communication must be maintained to inform every one of what is being performed and when so everyone is aware of any potential hazards.

There was a misunderstanding between the Utilities Group performing the work at the Power House and the T Building Group. The T Building Group believed that the draining and venting of the system at Building 28 would vent the lines all the way to T Building. The Utilities Group thought they had told the T Building Group that they could not guarantee the lines would vent all the way to T Building.

When working on old systems like Mound's glycol closed loop system, valve positions and the condition of the valve can not be predicted. Therefore, when planning work on the system, it is best to plan as if the valves are not in the position that they are believed to be in and plan for the worst case.

Recommended Actions:

1. When draining liquids from piping systems, leave the drains connected to containers to catch any unexpected leaks or flows.

2. When performing work on a system at different locations that may effect work at the other location always maintain good communications to inform each other of what is being done at all times.

Back to Lessons Learned

DRIVER HAS NEAR MISS WITH ELECTROCUTION WHEN OVERHEAD WIRES CATCH ON TRUCK

Background:

On 9-23-99 an equipment hauling subcontractor arrived at the Rocky Flats Environmental Technology Site (RFETS) to relocate four pieces of subcontractor heavy equipment. The two pieces of equipment involved in this incident were tracked excavators, both equipped with building demolition equipment, one with a metal shear attachment and the other with a concrete crushing attachment. Both pieces of equipment had been previously delivered to RFETS by the same transporter without incident. On this day, the driver was escorted to the 960 Staging Area of the Site by another employee to retrieve the excavators. The driver deviated from his previously approved delivery and exit route and encountered interference from an overhead telecommunications line at the intersection of the south inner Patrol Road and Sixth Street west of Building 771. At this time, approximately 12:00 noon, the truck driver exited the cab of his truck, climbed the boom of the excavator and with his bare hands flipped the telecommunications line over the high point of the boom that was approximately 18' above the ground. The driver exposed himself to a fall hazard and a shock hazard from the energized electrical lines located approximately 2' above the telecommunications line. The escort told the driver that this was not acceptable practice, the escort failed however to notify supervision or to stop the activity. They then proceeded to Portal 2 and exited the Protected Area. At approximately 2:20 PM this process was repeated with the second excavator at the same location. RFETS personnel had observed this breach in safety practices and reported the incidents to their supervision.

Analysis:

Due to the construction and demolition activities currently underway in support of the Rocky Flats Environmental Technology Site (RFETS) closure mission, heavy equipment of this type is in constant movement around the Site. Unapproved field changes can create unanticipated/uncontrolled hazards. In this case, unauthorized deviation from previously approved routes of travel caused this incident during an otherwise routine activity. Work should be planned and the plan should be followed (Plan The Work/Work The Plan). Deviations from the plan (field changes) need to be reviewed and approved prior to implementation.

Lessons Learned:

The potential for this incident to occur exists on other sites, especially on construction or demolition projects where heavy equipment such as cranes, drill rigs, excavators or other tall pieces of equipment are being moved around the project. The installation of temporary overhead wiring or utilities can also increase the potential for such an incident to occur. Depending on voltage, OSHA regulation 29CFR 1926, Subpart V-Power Transmission and Distribution, specifies minimum safe distances from energized lines for equipment and personnel. In spite of good work planning, unexpected hazards can arise. In these cases, work should be stopped and re-evaluated so that appropriate hazard controls can be implemented.

Recommendations:

Briefings should be conducted to ensure that subcontractor personnel are aware of safety standards. Personnel should be informed that work should be stopped when unexpected hazards are encountered.

Contact:

Jim McLaughlin, Lessons Learned, 303-966-3471 or james.mclaughlin @rfets.gov

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Back to Lessons Learned

Appendix G
MISCELLANEOUS
(USQ, RWP, Permits, etc.)

INTER OFFICE MEMO BWXT OF OHIO

Date: July 23, 2002 cc. L. Koehmstedt

From: W. L. Johanan – OSW-430

Subject: Structural Survey of Building 95, RE: 29 CFR 1926.850 (a)

To: Bud Thompson-Project Manager

Please be advised that we have performed a structural review and walk down

And found them to be satisfactory based on the demolition process and work plan.

Please call me if you have any further questions.

W. L. Johanan P.E.
Site Structural Engineer

No USQs or RWPs are required at this time. A burn permit will be required for torch cutting rebar.

Appendix H
POST-JOB CONFERENCE

Title:	
Work Package No. (JSWP or MSR)	

POST JOB CONFERENCE

What went well?

What could be improved?

Other Comments:

Title:	
Work Package No. (JSWP or MSR)	

Items Requiring Further Action:

POST-JOB CONFERENCE ATTENDEES

NAME	HP	NAME	HP

Title:	
Work Package No. (JSWP or MSR)	

LESSONS LEARNED INPUT FORM

What Happened? (Describe in as little or as much detail as necessary the situation and what occurred. Do not mention any names, only job functions and activities)

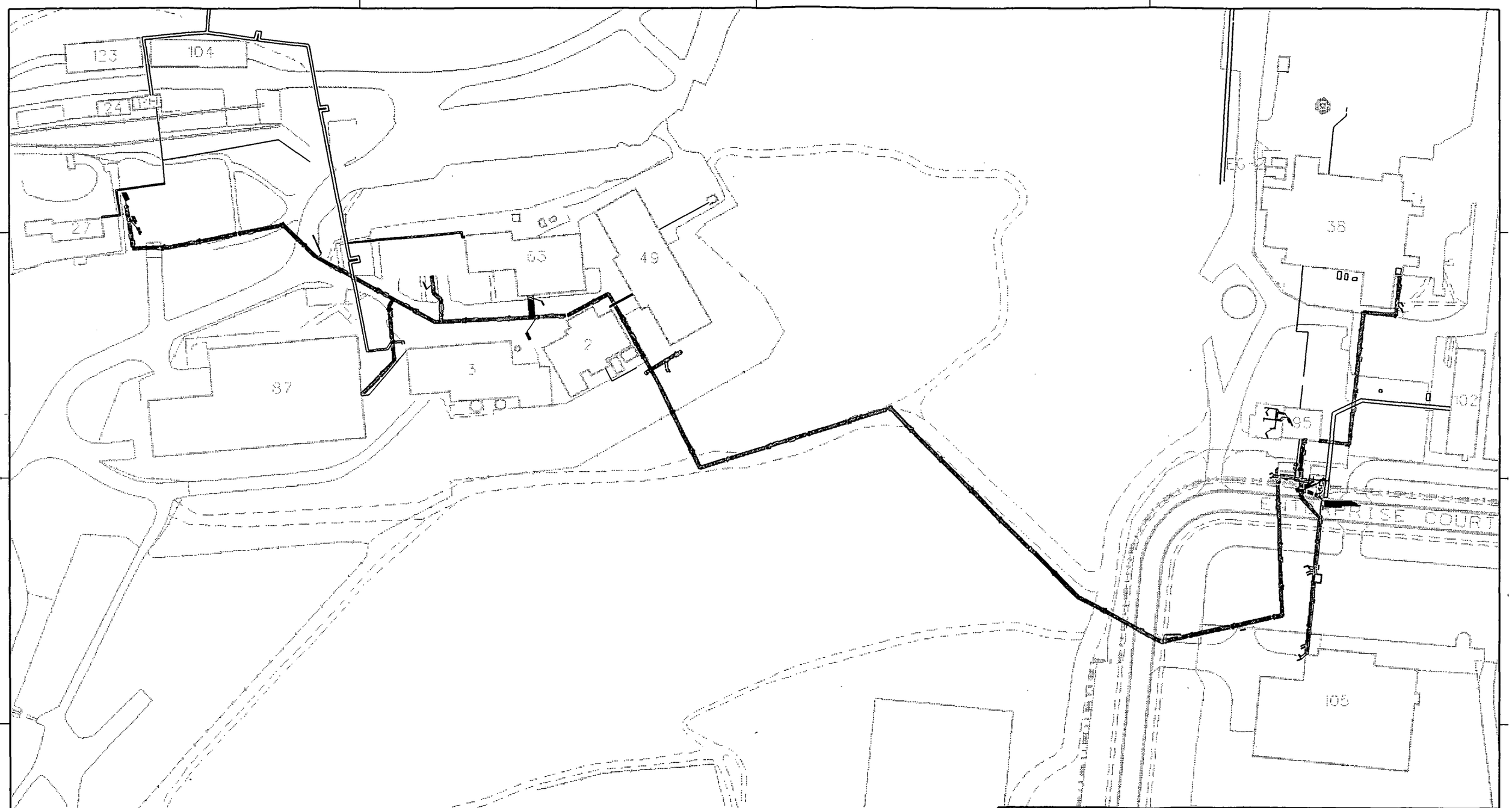
What did you learn? (Describe how the job could have been done better, how a hazard could have been eliminated, etc.)

Submitted by: _____ **Date:** _____

OPTIONAL

Mail to: Lessons Learned Program Manager, W-219 or appropriate Project or Functional Manager

048 of 48



LEGEND

ABOVE GROUND STANCHIONS FOR UTILITIES

UNDERGROUND BRINE SUPPLY AND RETURN LINES

SCALE: 1"=120'

ISS	DATE	REVISION	BY	CHKR	ENG	LP&EC	APVD	M
	07/24/02	ORIGINAL ISSUE	MR					

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 5
BUILDING 95 AND ASSOCIATED GLYCOL LINES

DRAWING CLASSIFICATION: UNCLASSIFIED

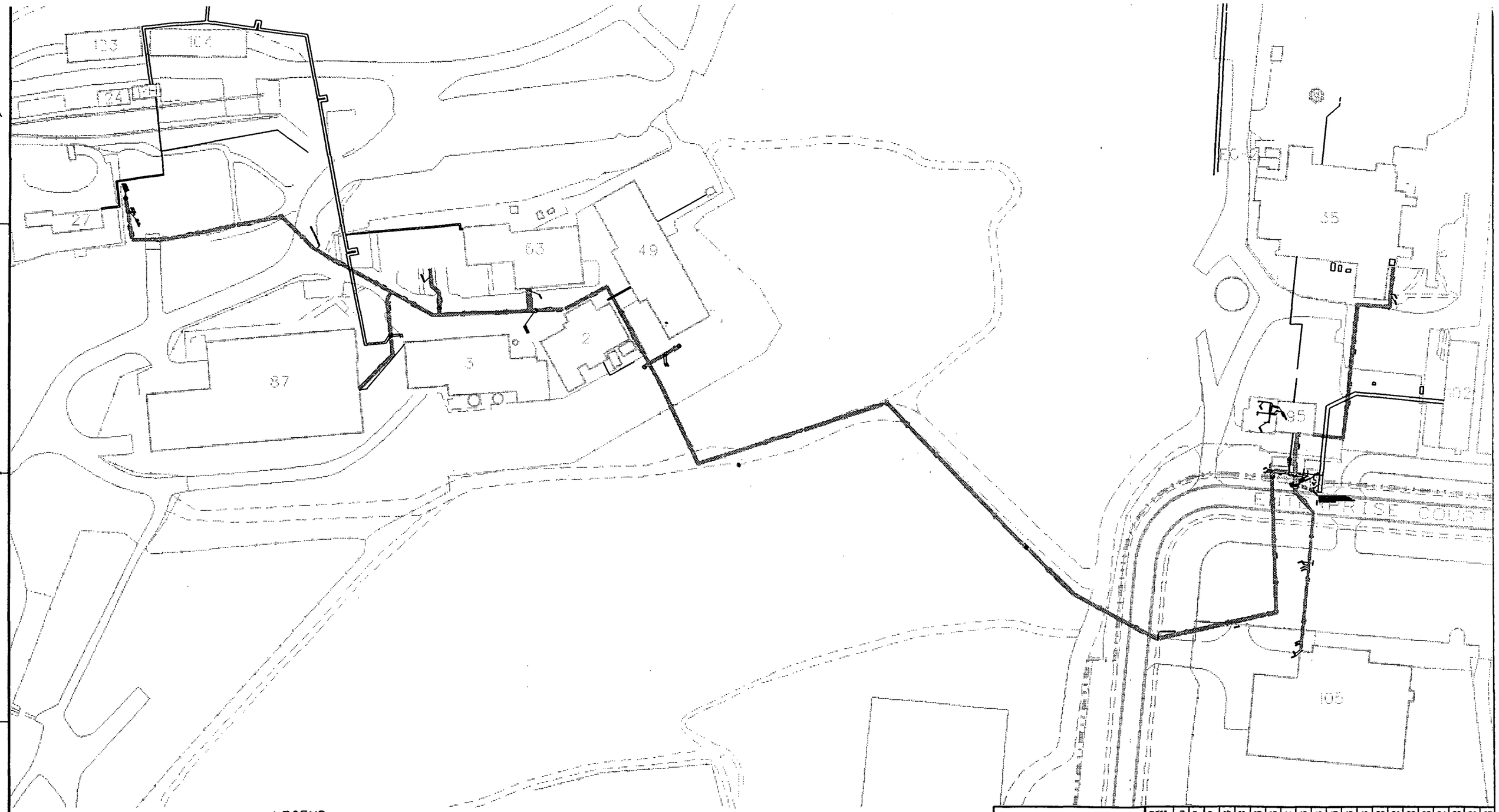
SIZE

DRAWING NUMBER: bd95_glycol.dgn

JOB NUMBER

DWG TYPE: STE | PRMG: ER-GIS | CAGEC | SCALE: NOTED | SHEET 1

STATUS: MD-REL-07/24/02 | ORIGIN: MSTATION / J



LEGEND

ABOVE GROUND STANCHIONS FOR UTILITIES

UNDERGROUND BRINE SUPPLY AND RETURN LINES

SCALE: 1"=120'

ISS	DATE	REVISION	BY	CHKR	ENG	LP&EC	APVD	M
	07/24/02	ORIGINAL ISSUE	MR					

035 of 48

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 5
BUILDING 95
AND
ASSOCIATED GLYCOL LINES

DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE

DRAWING NUMBER: bd95_glycol.dgn

JOB NUMBER

DWG TYPE: STE | PRMG: ER-GIS | CAGEC | SCALE: NOTED | SHEET 1

STATUS: MD-REL-07/24/02 | ORIGIN: MSTATION / J