3001 0405250008

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

CH2MHILL

SM-001/04
January 5, 2004

Ms. Margaret L Marks, Acting Director
Miamisburg Closure Project
U. S. Department of Energy
500 Capstone Circle
Miamisburg, OH 45342

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152
VARIOUS DOCUMENTS
OSE Bldg-GFS/I: Planning Documents Approved - Activity ID: EBDEE00TFL
OSW Bldg-GFS/I: Planning Documents Approved - Activity ID: EBDEE00TGL

REFERENCE: Statement of Work Requirement 055 - Regulator Reports

Dear Ms. Marks:

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

- OSE Building, Building Data Package, Final
- OSW Building, Building Data Package, Final

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

Sincerely,

K. L. Kehler
SMPP/TFV Project Manager

KLK/VKD

Enclosures

cc: David Seely, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Frank Schmaltz, DOE/MCP, (1) w/attachments
Lisa Rawls, DOE/MCP, w/o attachments
Randy Tormey, DOE/OH, (1) w/attachments
Terry Tracy, DOE/HQ, (1) w/attachments
Dann Bird, MMCIC, (3) w/attachments
Jim Bonfiglio, MESH, (1) w/attachments
Public Reading Room, (4) w/attachments
Kurt Kehler, CH2M Hill, (1) w/attachments
Val Darnell, CH2M Hill, (1) w/attachments
Admin. Record (2) w/attachments
DCC (1) w/attachments
John Fulton, CH2M Hill, w/o attachments
Bob Ransbottom, CH2M Hill, w/o attachments
Dave Rakel, CH2M Hill, w/o attachments

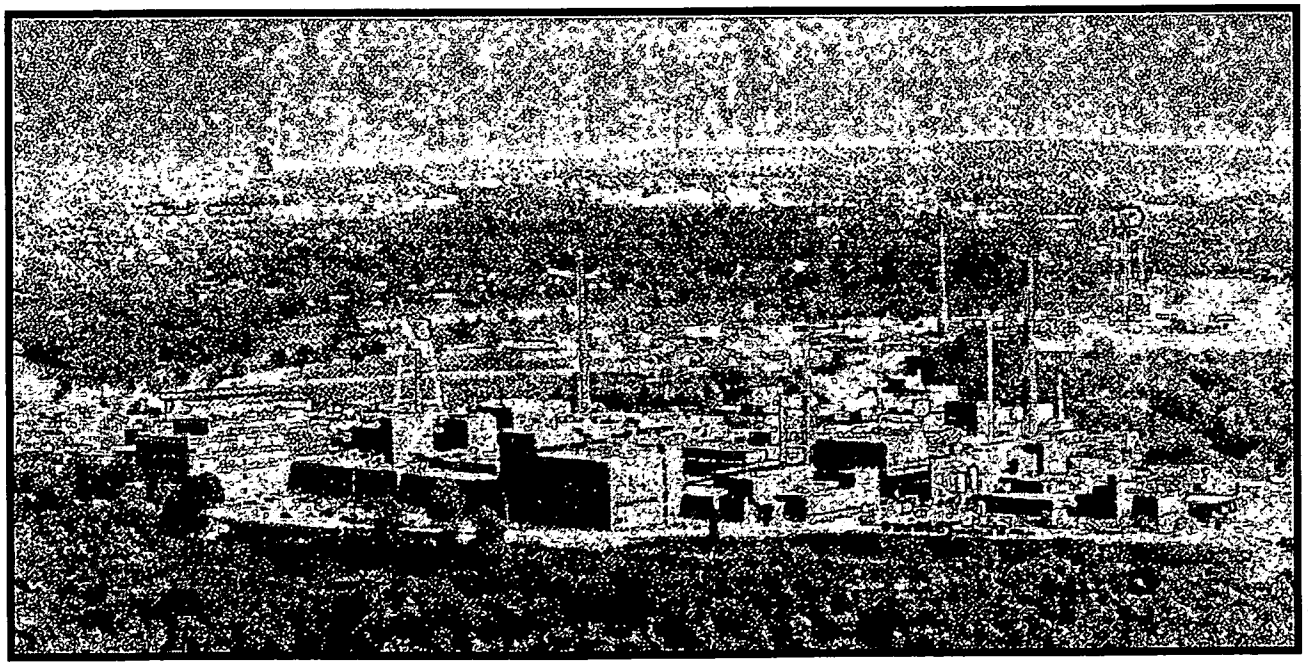
Environmental
Restoration
Program

Miamisburg Closure Project
Building Data Package

OSE Building

(Transition)

Final
January 2004



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cated Within
The Mound
Advanced
ology Center

November 24, 2003

Mr. Paul Lucas
U.S. Department of Energy
MCP
500 Capstone Circle
Miamisburg, OH 45342

Re: Comments Regarding OSE Building Data Package
Mound Plant, Ohio

Dear Mr. Lucas:

The Miamisburg Mound Community Improvement Corporation (MMCIC) appreciates the opportunity to review the OSE Building Data Package, Public Review Draft. Our comments are included on the attached sheet. For your convenience, and where applicable, we have arranged the comments in two categories labeled "Substantive" and "Errata". The "Substantive" comments are ones that we believe are critical to our interpretation of the document. "Errata" comments are comments of an editorial nature and do not have a significant impact on the document.

If you have any questions, please contact me.

Sincerely,

Daniel D. Bird

Daniel D. Bird, FAICP
Planning Manager

cc: Michael Grauwelman, MMCIC
Ellen Stanifer, EHS
David Rakel, CH2M Hill
Frank Schmaltz, DOE/MCP
Danny Punch, DOE/MCP

MMCIC Comments

Subject	OSE Building Data Package
Version	Public Review Draft October 2003

Substantive Comments

1. It is our understanding from the review of the OSE Building Data Package that this building has been inspected and is ready for permanent transfer to MMCIC. MMCIC concurs with this proposed activity.

2. If MMCIC's understandings are correct, no specific response to the above comment is necessary, and MMCIC further understands these comments will be included in the final Building Data Package.

Errata

1. No Comments.

Daniel D. Bird

Daniel D. Bird, FAICP
Planning Manager
MMCIC

November 24, 2003
Date

RECOMMENDATION

OSE Building

Background:

OSE Building was constructed in 1987 as an administrative office area with 90,072 square feet of floor space. The building contains office areas, conference rooms, an auditorium, a photographic processing area, and a computer facility. OSE Building was built to provide office space and consolidate functions that were dispersed onsite. OSE Building also includes a cafeteria (not in use) that replaced the food service facility in former C Building.

During the August 11, 2003 walkthrough of OSE Building, the building was mostly vacant with the following exceptions: first floor – the front entrance guard and MORE Records; second floor - purchasing, graphics, and site transition; and fourth floor - computer services. The third floor was completely vacant. Most of these groups are schedule to relocate onsite prior to the transition of OSE Building. At the time of building transition, it is anticipated that OSE Building will be occupied by the computer services group, and site transition services.

All radiological surface data and radon data are below applicable screening levels. No lead-based paint or asbestos hazards currently exist in the building. No spills or releases associated with OSE Building were reported. All known environmental issues (BDP Table 2) associated with OSE Building have been resolved.

Recommendation:

After thorough review of the environmental data and the Building Data Package, the Core Team agrees that all existing environmental issues associated with OSE Building have been resolved. Future use of OSE Building will be restricted to commercial/industrial use. The Core Team hereby recommends that the U.S. Department of Energy submit a letter to the Administrator of the U.S. EPA for final approval of the lease or sale of this property, as required by Section 120(h) of CERCLA.

DOE/MCP:	Paul Lucas	9/16/03
	Paul Lucas, Remedial Project Manager	Date
USEPA:	David P. Seely	9/16/03
	David P. Seely, Remedial Project Manager	Date
OEPA:	B. K. Nickel	9/16/03
	Brian K. Nickel, Project Manager	Date

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MIAMISBURG CLOSURE PROJECT

BUILDING DATA PACKAGES

The following documents are available (October 24, 2003) for public information in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio.

BDP Building OSW: Operational Support – West and
BDP Building OSE: Operational Support – East

Questions can be referred to Paul Lucas at (937) 847-8350 ext. 314

U.S. Department of Energy
U.S. Environmental Protection Agency
Ohio Environmental Protection Agency

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BDP OSE Building

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		**August 2003**
DRAFT (to Core Team)	The regulator review period was August 18, 2003 through September 17, 2003.	**August 2003**
DRAFT PROPOSED FINAL (incorporates Core Team comments)	Regulator comments were received and incorporated.	**October 2003**
PUBLIC REVIEW DRAFT	The public review period was October 24, 2003 through November 23, 2003.	**October 2003**
FINAL	Public comments have been included in the front of this document.	**January 2004**

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1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the transfer of OSE (Operational Support - East) Building to the Miamisburg Mound Community Improvement Corporation (MMCIC) 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 OSE Building located at the Department of Energy (DOE) Miamisburg Closure Project (MCP) 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 OSE Building, the soil beneath, and a 30-foot wide perimeter border around the building. The investigation of OSE Building 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 site 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 site contractor personnel, documents were reviewed. Information used to compile BDPs includes the following:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- Operable Unit 9 (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-22153, Mound Site Radionuclides By Location, June 1995 Contaminant Surveys
- MLM-3791, Mound Facility Physical Characterization, December 1993

2.0 OSE BUILDING OVERVIEW

OSE Building was constructed in 1987 as an administrative office area with 90,072 square feet of floor space. The building contains office areas, conference rooms, an auditorium, a photographic processing area, and a computer facility. OSE Building was built to provide office space and consolidate functions that were dispersed onsite. OSE Building also includes a cafeteria (not in use) that replaced the food service facility in former C Building.

OSE Building is a four-story structure with a penthouse. The building is steel frame and concrete block with a brick face and a built-up membrane roof. OSE Building floor plans are provided as Appendix D. The building is located near the northern boundary of the site (Figure 1). Other than the reconfiguration of some of the interior rooms, OSE Building has not had any major modifications.

The OSE Building first floor includes a lobby, guard station (currently in use), two lobby restrooms, a cafeteria (not in use), office space, the former print shop, and women's and men's restrooms and lockers. The second floor consists primarily of offices with some storage areas and three conference rooms. One of the conference rooms had video-teleconference capabilities, and is wired to receive dedicated signals from a roof-mounted satellite dish, which was previously removed. The second floor also includes a 150-seat auditorium. The third floor consists solely of offices and conference rooms. The fourth floor

has additional office space, as well as the computer facility (currently operating as the data network center for the entire site). The building is serviced by two elevators, and each floor of the building has both a men's and women's restroom located south of the elevators.

In the fourth floor computer facility, there are ten Leibert units, and in the Penthouse, there is one additional unit that supports the computer facility. Four of the units are standalone units that operate on freon (R-22), but all four of these are turned off. Five of the units are standalone glycol units, only one of which is turned on. The remaining two units operate from plant glycol (labeled "brine" in OSE), only one of these units is turned on. All units are expected to remain in place and be transitioned with the building.

A power conditioner system is located in the Penthouse that filters the electric current and supplies 'clean' power (eliminating noise spikes) to the computer system area. This system will remain in place during building transition. A specialized fire suppression system for the computer facility (using halon) is also located in the Penthouse, but this system is in the process of being shutdown and removed from the building.

The building currently uses central steam for heating and chilled glycol for cooling; however (in November 2003) a standalone boiler will be installed. Electric service is 480 volts. The building has potable and service water, a fire sprinkler system, and sanitary services.

2.1 Past Uses of OSE Building

OSE Building served as an office building since its original construction in 1987. The building has provided offices for DOE's Ohio Field Office and for DOE's site office as the Dayton Area Office, and a location for DOE's computer center. Other administrative operations that have been located in OSE Building were the contractor's human resources department, the environmental group, the public relations organization and audiovisual center, purchasing, the site transition group, the contractor computer services, a freedom of information reading room, worker transition center, graphic services, a print shop, and cafeteria. The Mound photographic operations were also located in OSE Building (second floor in the rooms behind or east of the auditorium and in the east areas of the graphic services room). In addition to these functions, OSE Building also housed record storage (including chemically unstable employee medical X-rays; see Table 1-Chemicals) operations for the contractor and the Ohio Field Office, and Mound Occupational Radiological Exposure (MORE) records.

2.2 Current Uses of OSE Building

During the August 11, 2003 walkthrough of OSE Building, the building was mostly vacant with the following exceptions: first floor – the front entrance guard and MORE Records; second floor - purchasing, graphics, and site transition; and fourth floor - computer services. The third floor was completely vacant.

Most of these groups are schedule to relocate onsite prior to the transition of OSE Building. At the time of building transition, it is anticipated that OSE Building will be occupied by the guard, computer services, and site transition services.

2.3 Summary of Environmental Concerns and Findings – OSE Building

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	No previous lead surveys or sampling data could be found for OSE Building. Observed paint coatings were largely intact. Although untested paint coatings must be assumed to contain lead, the observed condition of the paint indicates that there are currently no lead paint hazards within the building (Appendix J). In 1978, the Consumer Product Safety Commission banned lead-based paint (>0.06% lead by weight) from residential use. Even though the MCP site was not a residential site, it is unlikely that the paint used in Building OSE (built in 1987) contained lead because of the heightened awareness of lead as a hazard.	No further action is necessary to protect occupant or worker health unless any coatings are to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.). If these types of activities are planned, the affected paint coatings should be tested to verify the absence of lead. These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Chemicals	Appendix K provides a list of chemicals known to have been present in the building. Chemically unstable employee medical x-rays, which emitted acetic acid, were previously stored in Room 129. The x-rays were previously removed from the site. At the time of the August 11, 2003 building walkthrough, there was an odor of acetic acid remaining in that area.	All chemicals (except small amounts of janitorial chemicals) have been removed from OSE Building. In October of 2000, the Mound Industrial Hygiene group conducted air monitoring for acetic acid in Room 129. The testing was performed in "worst case" situations that were relevant to the workers affected at the time of sampling. The level of comparison was the ACGIHs TLV (Threshold Limit Value) for acetic acid, an occupational exposure limit value (15 ppm as a short term exposure level of 15 minutes, and 8 ppm as a 10 hour time weighted average). All results were below the stated occupational limits. Subsequent to that testing the source of the acetic acid (the x-ray films) was removed and the area ventilated. The remaining odor of acetic acid in Room 129 poses no threat to human health or the environment and is anticipated to dissipate over time.
Fluorescent Lamps and Polychlorinated Biphenyls (PCBs)	There are no capacitors or transformers containing PCBs located in the building. Fluorescent lamps are used in the building; ballasts may contain PCBs.	Based on the year of construction (1987), it is unlikely that the ballasts in OSE Building contain PCBs. However, integral ballasts that may contain PCBs will remain in place. During the building walkthrough on August 11, 2003, no leaking ballasts were observed.
Air Emissions	There were no air emission sources in the building.	N/A

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Asbestos	No previous asbestos surveys have been conducted. Given the relatively recent date of construction, it is unlikely that OSE Building would have been constructed with asbestos-containing materials. The current OSHA Construction Standard for Asbestos does not require a building owner to presume materials contain asbestos in such a recent construction unless the owner has reason to believe otherwise. (Appendix I)	No actions would be required unless the building is scheduled for renovation or demolition.
Drainage Sumps	N/A	N/A
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	Radiological surveys were performed and the building meets permissible surface contamination guidelines (see Section 2.4 and Appendix G).	No further action required.
Septic System	N/A	N/A
Wastewater	Handled by site wastewater facility.	N/A
Stains & Corrosion/HVAC	N/A	N/A

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Storage Tanks	Prior to the construction of OSE Building, two underground tanks were installed in 1968 adjacent to the east wall of the east wing of A Building to support a decontamination facility that was added to the medical operations area in A Building. The tanks (Tank 28 - PRS 211, and Tank 29 - PRS 212) are medical decontamination shower water collection tanks, and are located approximately 10 feet from both the south face of OSE Building and the east face of A Building near the south entrance to OSE Building.	The tanks will be removed as part of the A Building demolition activities; the associated PRSs 211 and 212 will be addressed in the A Building BDP.
	There are no other underground or aboveground storage tanks in or around OSE Building. The aboveground 500-gallon liquid nitrogen tank (Tank 13) mentioned in the Environmental Appraisal (Appendix F page 3) that was located south of OSE Building was removed in the early 2000s.	No further action required.
Solid Waste Disposal	N/A	N/A
Migratory Hazards	N/A	N/A
Radon	Within acceptable limits (Appendix H).	N/A
Energetic Material	N/A	N/A

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Soil Sampling	Appendix L provides a graphic showing all soil sample locations within a 30-foot perimeter of OSE Building and provides tables for all detected compounds (results above laboratory detection limits) and non-detected compounds (results below laboratory detection limits). All analytical results are below applicable screening levels (the Core Team approved, or the most restrictive of either the 10^{-6} Risk-Based Guideline Values [RBGVs] plus background or Hazard Index = 1). A 30-foot perimeter was used in place of the standard 15-foot perimeter because of the limited data available.	Based on the building history and the available analytical data, additional soil sampling is not planned.

N/A: not applicable

The above information will be disclosed to the new owner via the Environmental Summary.

2.4 Radiological Characterization Summary for OSE Building

A radiological assessment of OSE Building was performed by reviewing historic and operational records and performing radiological surveys. Since its construction in 1987, OSE Building was used as an office and administrative area for DOE and its site contractor. Functions or activities that operated in OSE Building included the Print Shop, Public Relations, audiovisual center, photographic operations, Graphic Services, records storage (including chemically unstable employee medical x-rays), and Mound Occupational Radiological Exposure (MORE) records. No research, development, or production activities using radioactive materials have occurred in the building and no radioactive material were ever stored there.

Radiological surveys were performed throughout the building in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The surveys found no residual activity above the permissible surface contamination guideline. The review team concluded that the building meets radiological surface release criteria established by DOE Order 5400.5 (see Table 2), and no further radiological surveys are required. 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	SURVEY RESULTS (dpm/100 cm^2) (Note 1)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 2)
Highest Alpha Smearable Activity	03-TF-0164	Floor	6.56	20
Highest Alpha Fixed Activity	03-TF-0164	Roof	76	100
Highest Beta Smearable Activity	03-TF-0164	Floor	17.66	1,000
Highest Beta Fixed Activity	03-TF-0164	Roof	3,287	5,000
Highest Tritium Smearable Activity	03-TF-0164	Floor	20.97	10,000

Note 1: Residual 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.

The above table presents the highest values of the building surface radiological results. The complete Final Status Report (FSR) is provided in Appendix G, and includes details of the evaluation and testing processes, and the corresponding results. The worksheet of the building surface results (that support the above table) can be found on pages G 11-13. Additional worksheets are also included in the FSR documenting the data used to characterize a building area or room (such as the drain and vent data found on pages G 15-16). This data also meets the surface contamination guidelines presented in the above table, but are not included in the above table because they are not surveys of building surfaces.

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

OSE Building is located at the DOE MCP site, formerly known as Mound Plant. The MCP site 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 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 OSE Building

As shown in the Appendix C figures, OSE Building is bordered on the north by a concrete sidewalk, an asphalt roadway, and the current site fenceline; on the east by concrete sidewalks, a grassy area, and an asphalt parking lot; and on the south by an asphalt parking lot, an asphalt roadway, and G Building and Building 99. OSE Building is bordered on the west by an asphalt parking lot and roadway, and the current site fenceline, and the southwest corner of OSE Building is attached to the northeast corner of A Building. Aerial photos (1994 and 1996 Appendix E) show Building 91 east of OSE Building; however, Building 91 was dismantled and moved offsite in 1998.

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

The closest buildings to OSE Building are Buildings 99, A, and G. All three nearby buildings are currently undergoing preparations for demolition.

Building 99, south/southeast of OSE Building, is a four-story structure with 11,412 square feet of floor space. It was used as a security operations facility, and also included administrative areas, a locksmith shop, the site's Emergency Operations Center (EOC) and Security Communications Center.

A Building, attached to the southwest corner of OSE Building, is a two-story, 55,582 square-foot structure used to provide office space for the site operating contractor and the Atomic Energy Commission (AEC), the predecessor organization to the DOE, the medical facility, records management, and the photography department. Specialized support functions occupying A Building included an area for processing pocket meters and film badges for radiation exposures, a whole body monitoring facility, and a personnel decontamination facility.

G Building, south of OSE Building, is a single-story structure that encompasses 7,513 square-feet of floor space and contains facilities for servicing and repairing motor vehicles.

Building 91 was located east of OSE Building (in an area that is now a parking lot) and provided general office space and space for dosimeter evaluation. The building was dismantled and moved offsite in 1998.

These facilities are believed to have had minimal or no environmental impact on OSE Building.

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), the site has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. The site is currently operating a hazardous waste storage facility under a RCRA Part B Permit dated October 18, 1996. The site 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 RAPCA and the Ohio Environmental Protection Agency (OEPA). The site 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 March 2002 version of this report indicated that no reportable chemicals are stored in OSE Building.

The Mound Plant was identified as a contaminated site on the National Priorities List (NPL) under CERCLA (Superfund) in 1989. The Mound Plant was originally listed due to volatile organic compound (VOC) contamination in the western end of the lower valley area. The cleanup of the 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 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 site.

The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 Process." For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach.* The Mound 2000 Process system divided the site into geographical parcels containing more than 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 a release of radioactive and/or hazardous materials. The PRSs were initially identified and documented as part of the Mound site scoping process under the Federal Facility Agreement (FFA). The original list of PRSs can be found in the OU9- Site Scoping Report Volume 12, Site Summary Report, 1994. One of the objectives of the Site Scoping report was to provide a comprehensive summary of PRSs identified through the scoping process. Subsequent to the 1994 Site Scoping Report, additional PRSs have been identified as information became available, bringing the site total to 440 PRSs. The assignment of a

PRS does not necessarily mean that there is a threat to human health or the environment. The tabulation of all PRSs simply provides an explicit means of tracking and evaluating all potential releases onsite, the need for further action, and the identification of the authority responsible for action.

Through the process described above, the specific PRSs in the vicinity of OSE Building (Section 4.2.3) are listed in Table 3 along with their binning status, and their locations are shown on Figure 2. Of the three unbinned PRSs listed in Table 3, two PRSs are associated with A Building and one is associated with G Building. Those PRSs will be addressed in their respective BDPs. The four other PRSs have been determined by the Core Team to require No Further Assessment (NFA). For a PRS to be binned NFA, the Core Team has reviewed the PRS data and agrees that all existing environmental issues associated with that PRS have been resolved and the PRS is protective of human health and the environment. No other PRSs associated with OSE Building have been identified.

4.2 Specific Record Sources for OSE Building

4.2.1 Occurrence Reports

- None

4.2.2 Spills and Releases

- None

4.2.3 Overview of PRSs in Proximity to OSE Building

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 the site contractor tabulated all of the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, seven are near OSE Building (see Table 3); however, none are associated with OSE Building. Additional information is included in Appendix N.

Table 3 - PRSs in Proximity to OSE Building

PRS	CERCLA or Bldg. Related	Binning Status	Comments
106*	CERCLA	unbinned	G Building Soils (AKA Garage Area)
107	CERCLA	No Further Assessment (NFA)	G Building Gasoline Tank (Tank 202)
108	CERCLA	NFA	G Building Gasoline Tank (Tank 203)
109	CERCLA	NFA	G Building Gasoline Tank (Tank 204)
211*	Building	unbinned	A Building Decontamination Shower Water Tank (Tank 28)
212*	Building	unbinned	A Building Decontamination Shower Water Tank (Tank 29)
241	CERCLA	NFA	Northwest Parking Lot

** PRS 106 is addressed in the G Building BDP. PRSs 211 and 212 will be addressed in the A Building BDP.*

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

Three aerial photographs are presented in Appendix E; 1983 (prior to construction), 1994 (recently constructed), and 1996 (most recent aerial photo). These photographs were reviewed and no significant items were identified.

4.5 Interviews

Past Building Manager, W. H. Whitelow, was interviewed via a building manager questionnaire (included in Appendix F). The current Building Manager, G. L. Weidenbach, was interviewed regarding past facility operations and current conditions. No significant items related to the building were identified based on the questionnaire or interviews.

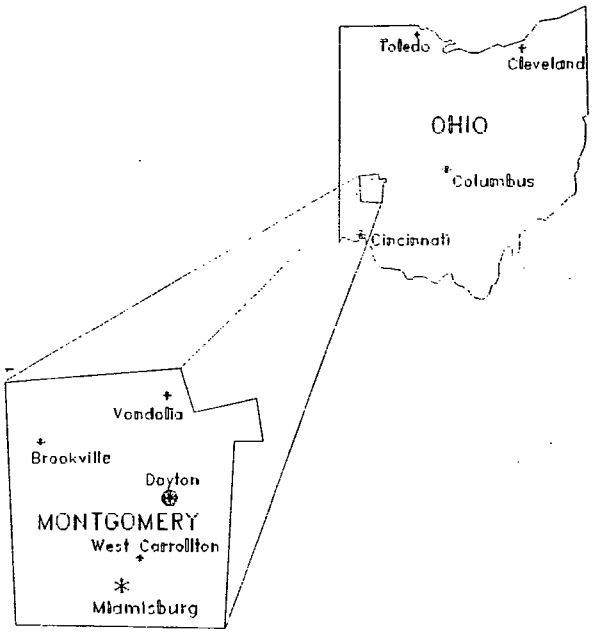
Appendix A

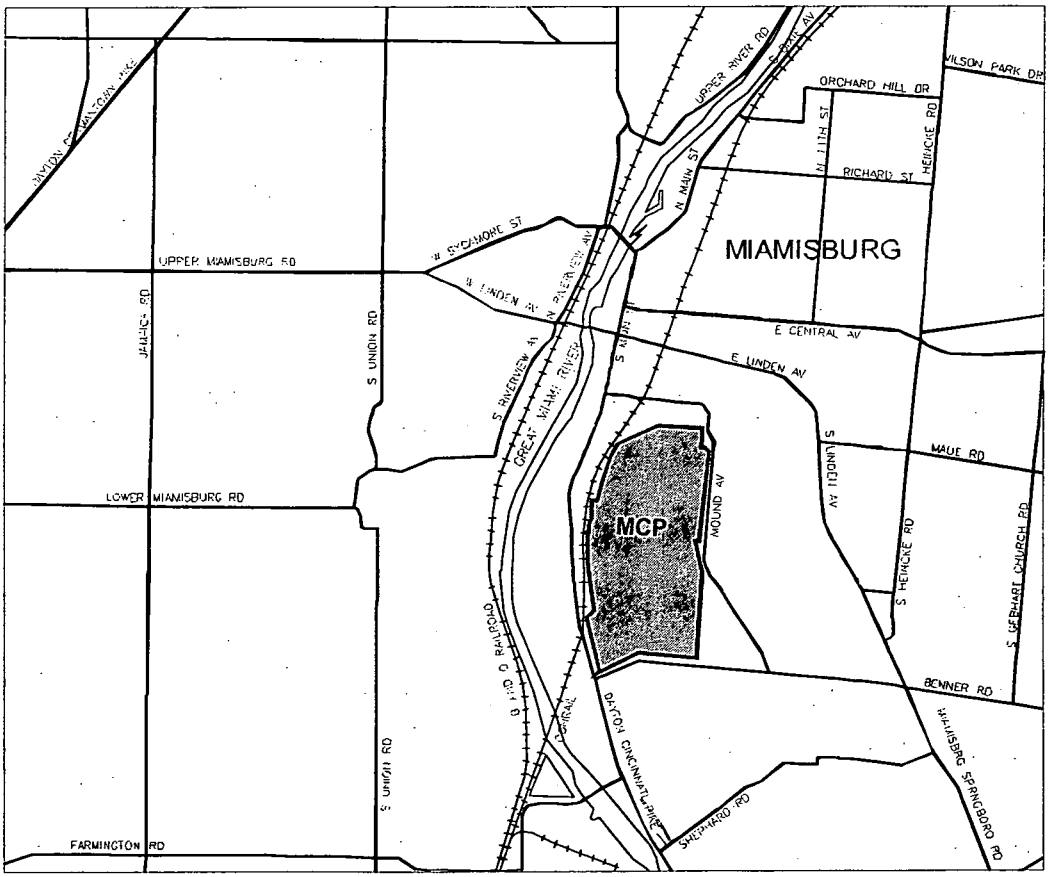
General Listing of Acronyms

ASTM	American Society for Testing and Materials
BDP	Building Data Package
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 Radiation Survey and Site Investigation Manual
MCP	Miamisburg Closure 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


Toledo
Cleveland
OHIO
Columbus
Cincinnati
Vandalia
Brookville
Dayton
MONTGOMERY
West Carrollton
Miamisburg


MIAMISBURG
MCP
UPPER MIAMISBURG RD
LOWER MIAMISBURG RD
FARMINGTON RD
JAMES RD
S UNION RD
S RIVERVIEW AV
GREAT MIAMI RIVER
N STACHOME ST
N LINDEN AV
N RIVER VIEW AV
S MAIN ST
UPPER RIVER RD
N MAIN ST
ORCHARD HILL DR
WILSON PARK DR
N 11TH ST
HEINCKE RD
RICHARD ST
E CENTRAL AV
E LINDEN AV
S LINDEN AV
MAUE RD
MOUND AV
S HEINCKE RD
S GERHART CHURCH RD
BENNER RD
MIAMISBURG SPRINGBORO RD
DAYTON CINCINNATI PIKE
SHEPHARD RD
CONRAIL

B 1 of 1

Appendix C

Figures

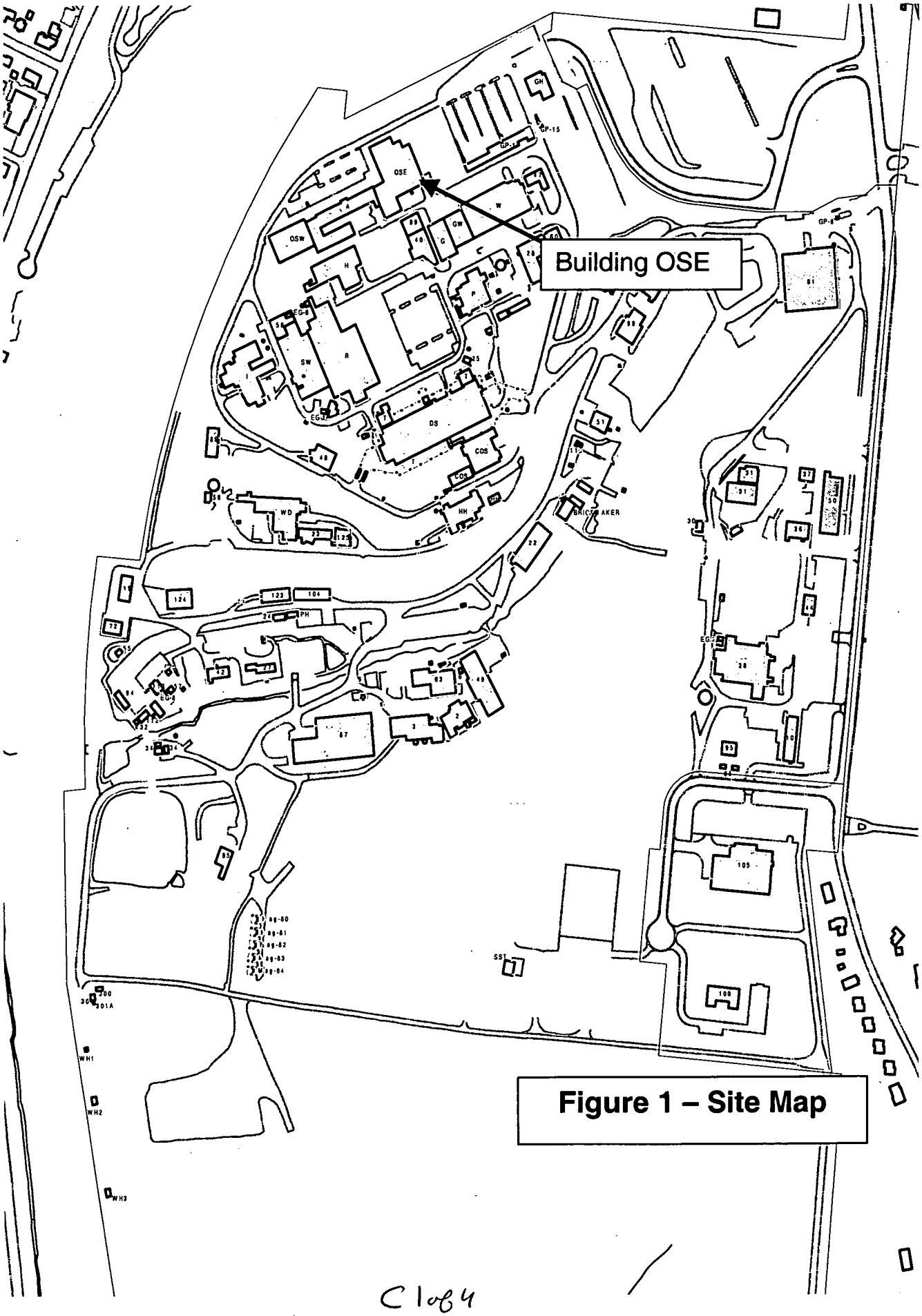
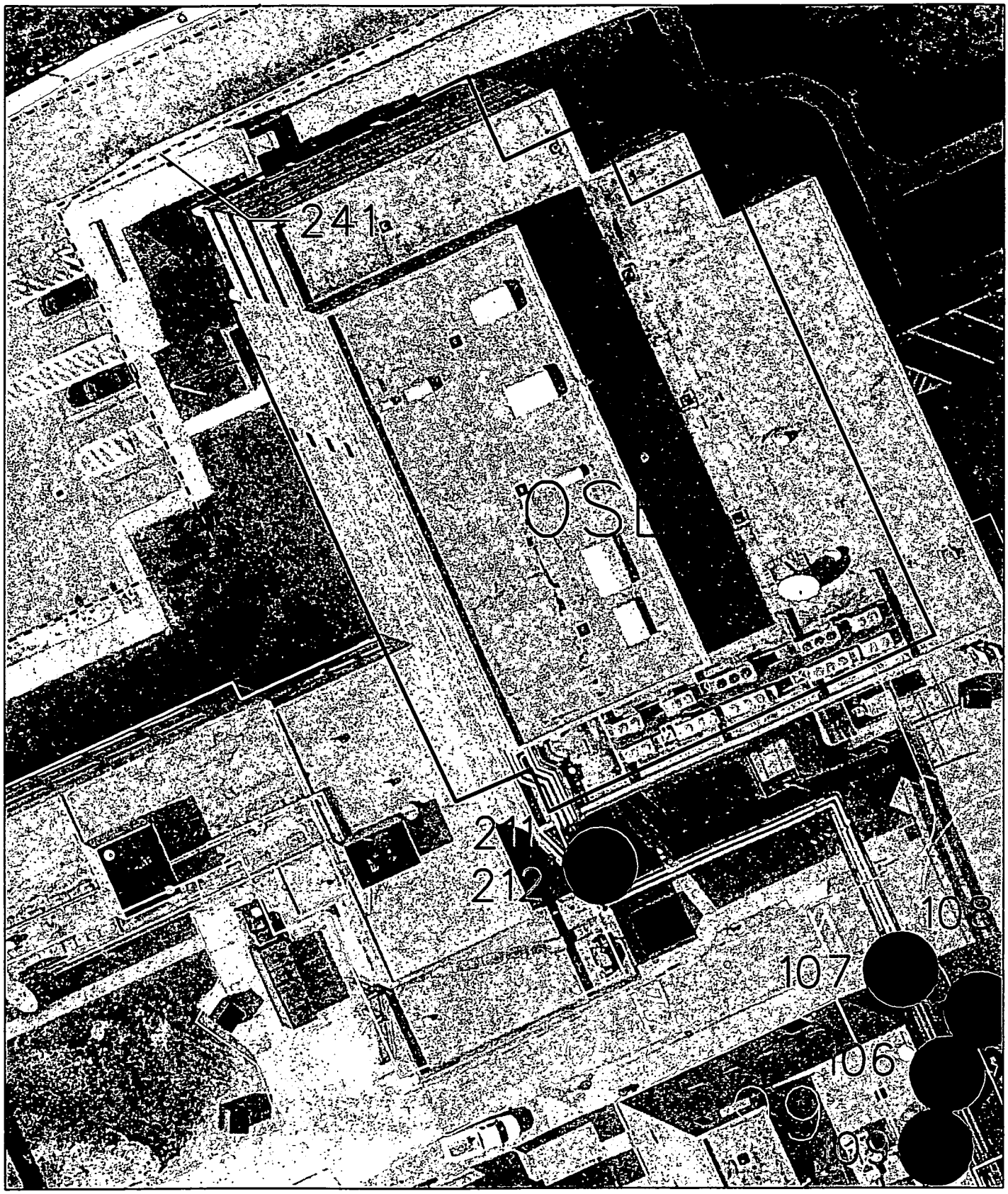


Figure 1 – Site Map

C1064



PRS Point

PRS Area

PRS Line

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					

SHEET	1	2	3	4	5	6
ISSUE						

PART CLASSIFICATION

Figure 2
OSE Building and Vicinity

DRAWING CLASSIFICATION: UNCLASSIFIED

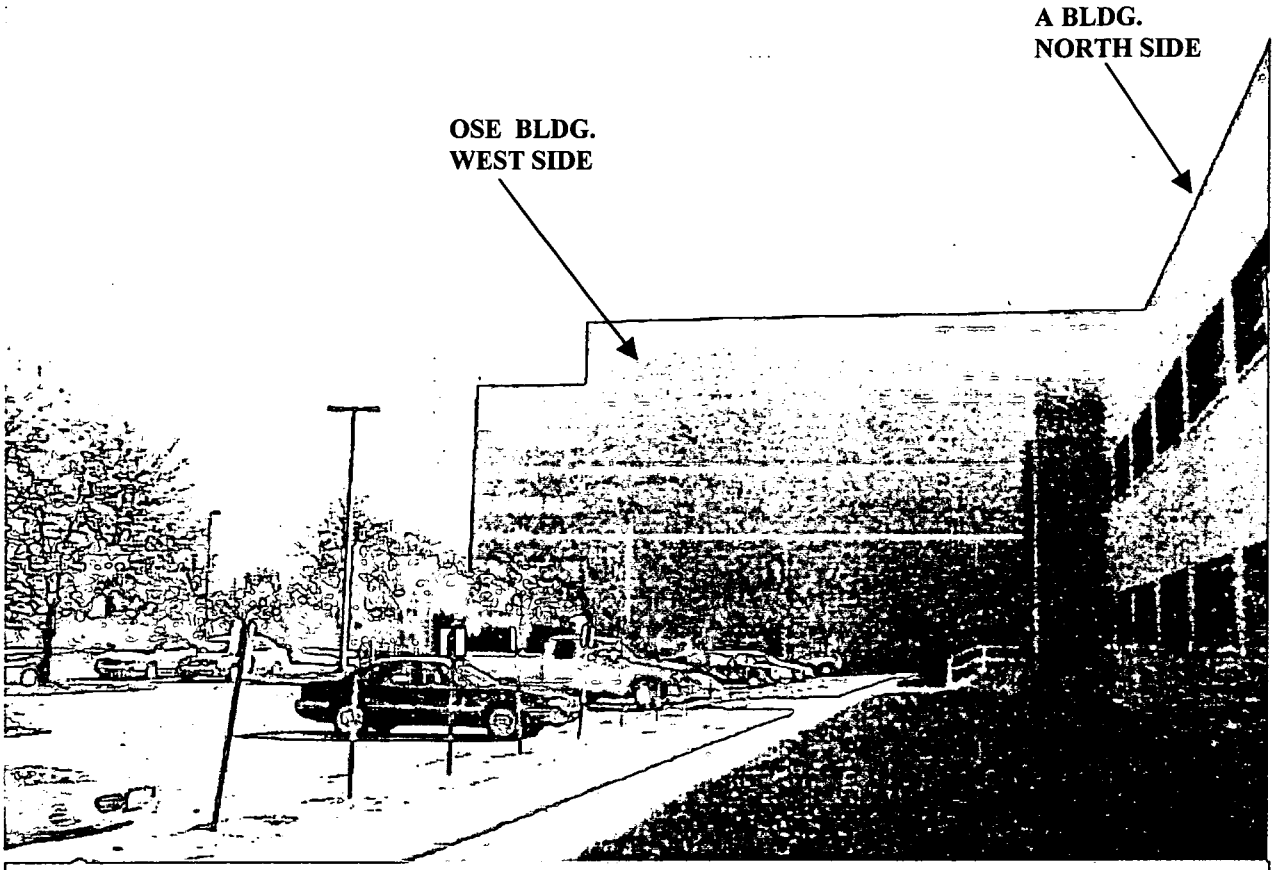
SIZE | DRAWING NUMBER: vicinity.dgn | JOB NUMBER

DGN TYPE: STE | PROJ: ER-GIS | CADD: | SCALE | SHEET 1 OF

STATUS: MD-REL-##/##/## | ORIGIN: MSTATION / J

ISS	DATE	REVISION	BY	CHKR	ENG	LPREC	APVD	B
	08/06/03		SSF					

C2084



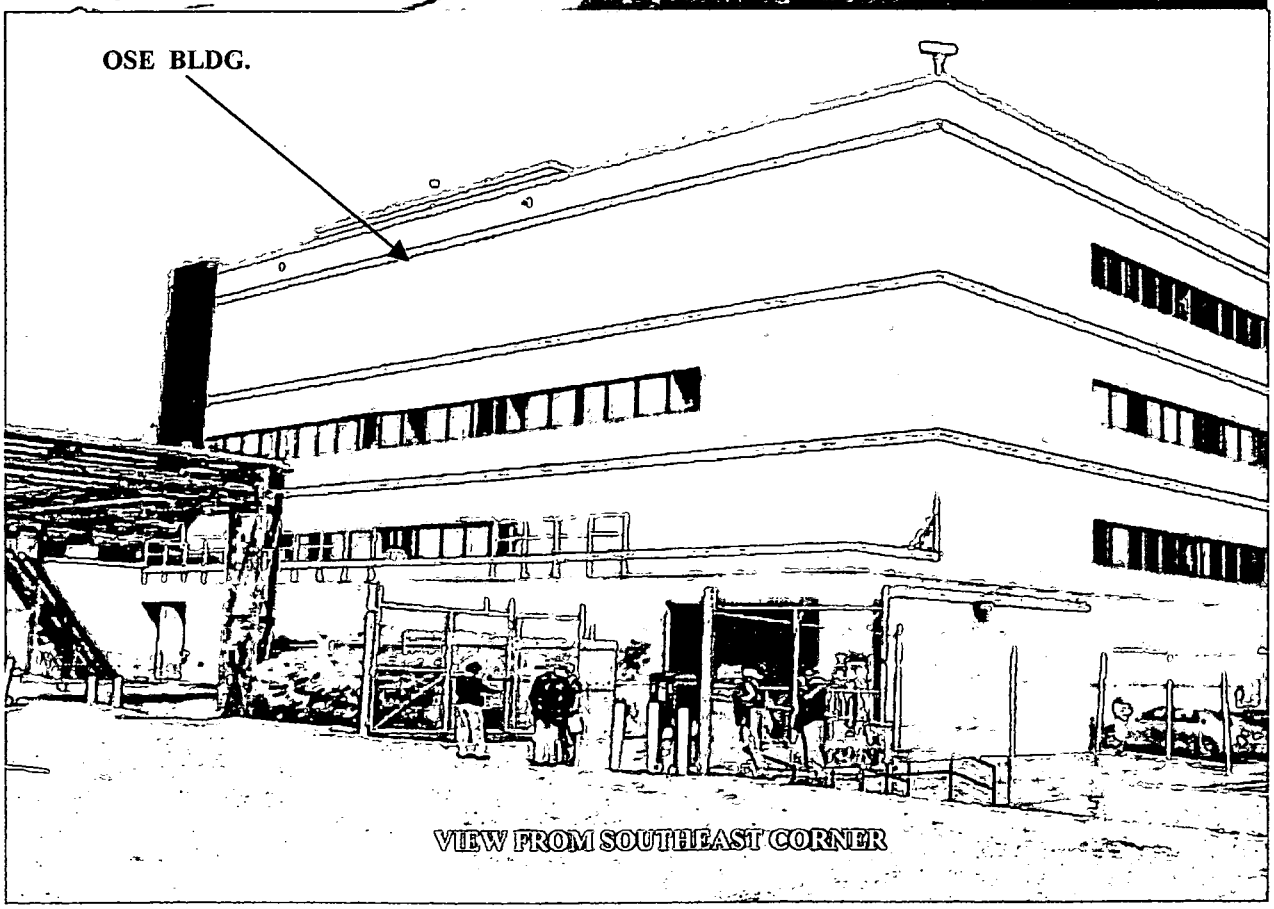


FIGURE 3A – OSE BLDG.

C 3064

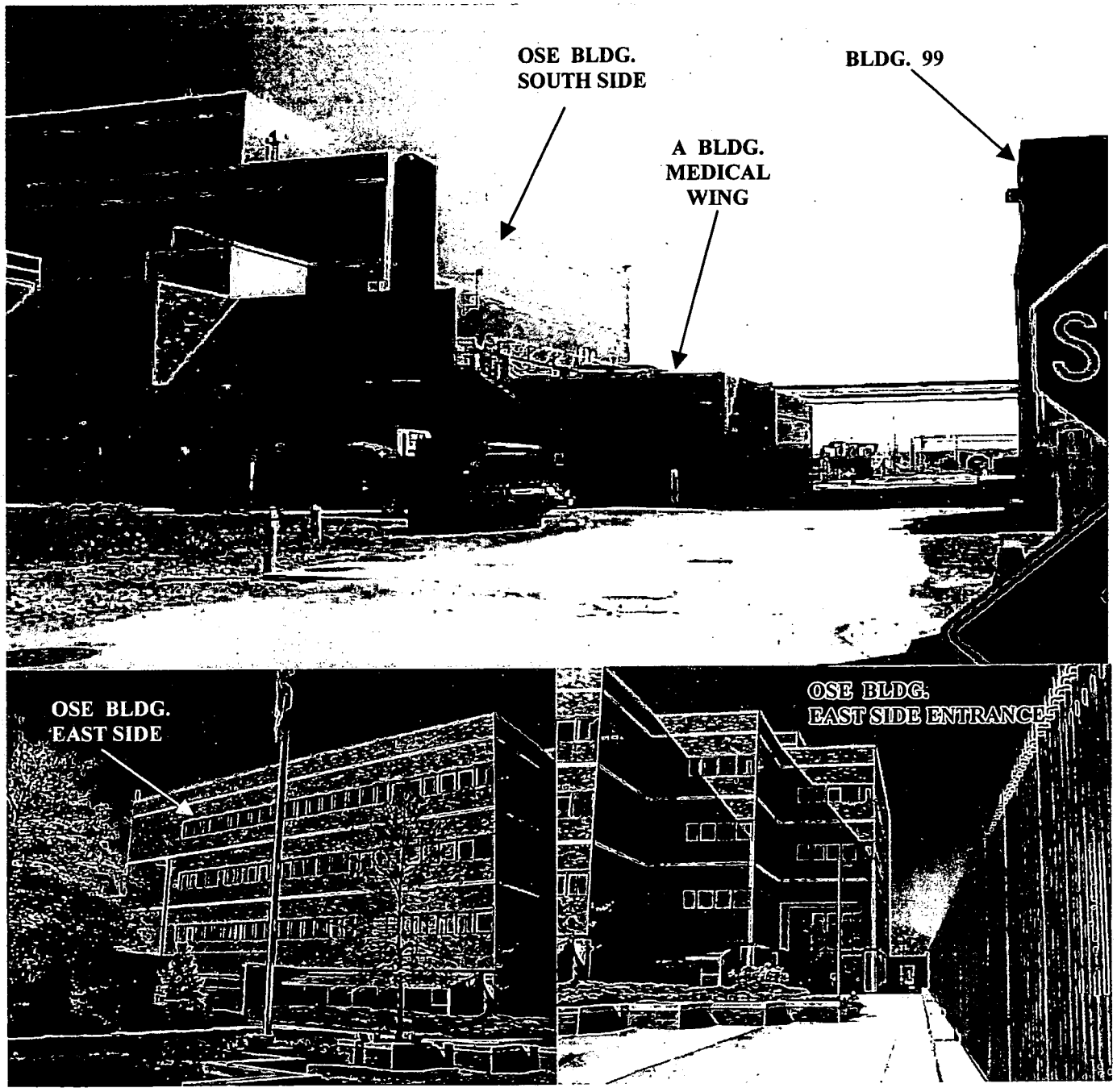


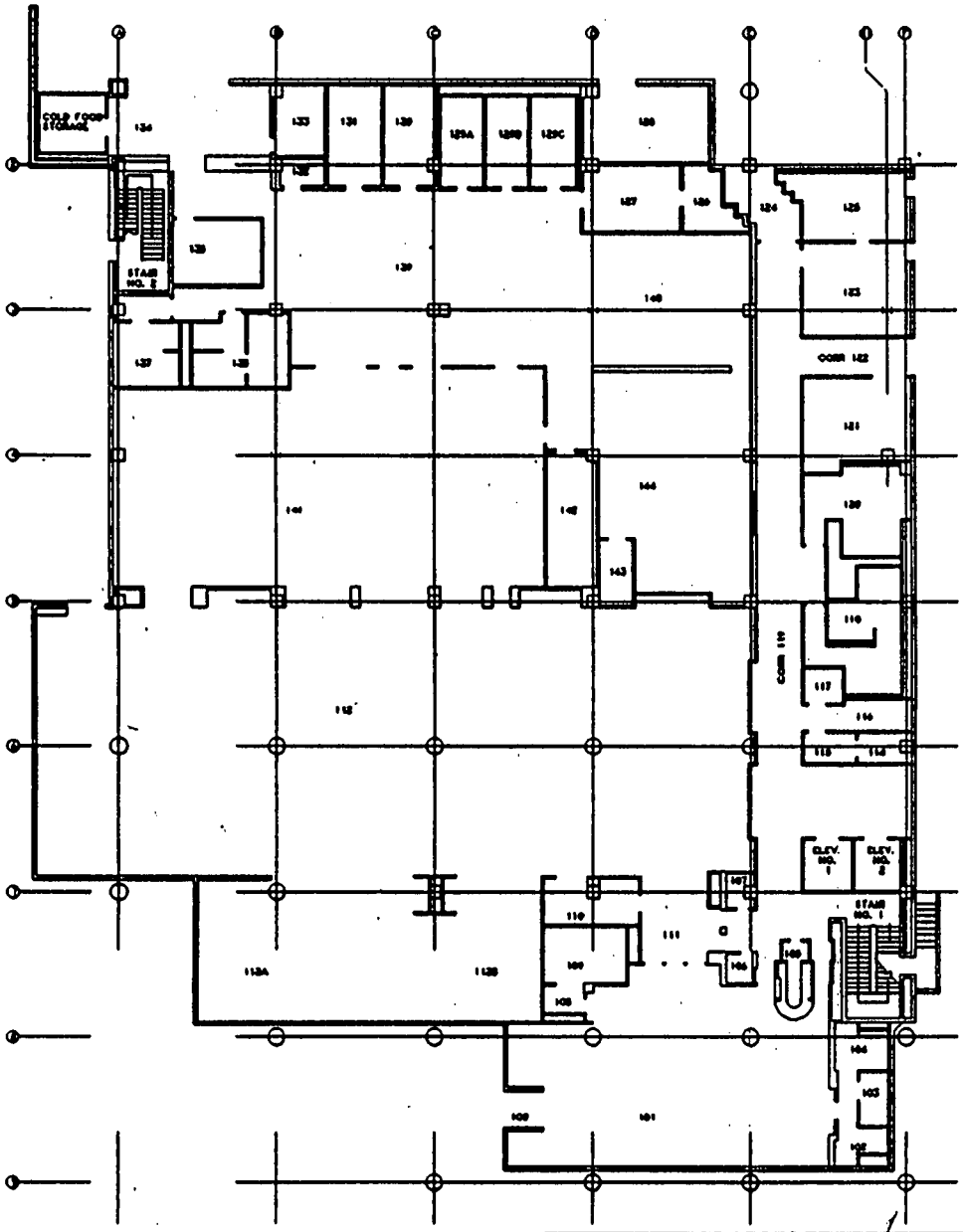
FIGURE 3B – OSE BLDG.

C 4 of 4

Appendix D

Floor Plans

REV	DATE	REVISION	BY	CHKD	DES	APPD	APPD	N
8	12/12/91	ASBUILT ISSUE	DCW				DVD	



UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification
Office. Reviewer Initials: KDM
5/4/98

UNCLASSIFIED

OSE BLDG
FIRST FLOOR
BLDG CODE:3543

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

APPROVALS: DATE:
SAFETY COMMITTEE REMARKS:
NONE TRUEDOC TEDOC EDOC
TECH. REP.
GR. MGR.
TRUEDOC
TEDOC
EDOC

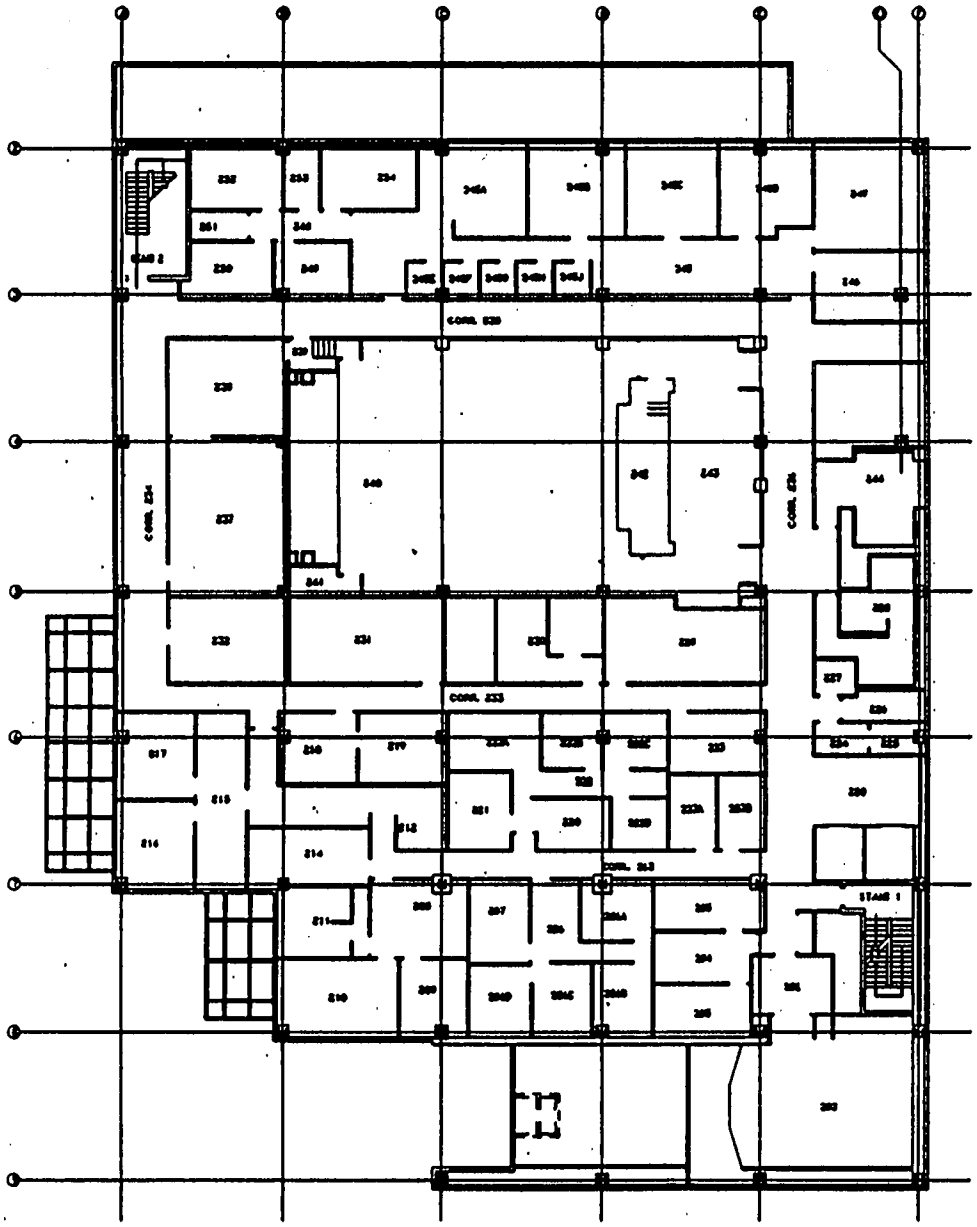
SHEET	1	2	3	4	5	6
SCALE	0	0	0	0	0	

TITLE (U) TITLE CLASSIFICATION
OSE BLDG
FLOOR PLANS

SIZE	DRAWING NUMBER	JOB NUMBER
C	FSC911315	12335

DWG TYPE SFP | FROM OSE BLDG | CADD 14845 | SCALE AS NOTED | SHEET 1 OF 5
DRAWN MO-REL-12/12/91 | DESIGN MO-BRJ-V3.0

1 of 5

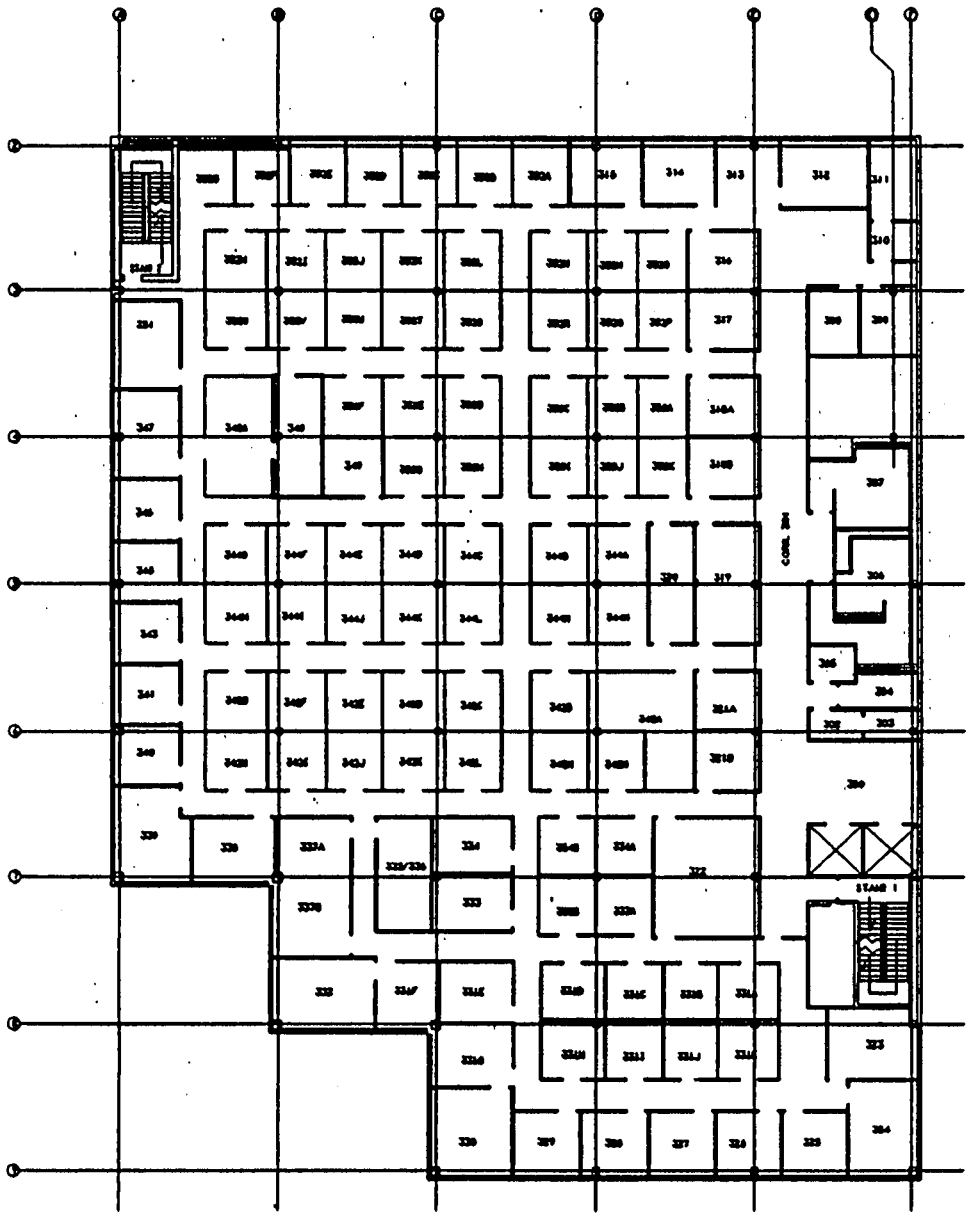


UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification
Office. Reviewer Initials: DM

OSE BLDG
SECOND FLOOR
BLDG CODE:3543

DRAWING NUMBER FSC911315	JOB NUMBER 12335
DRAWING CLASSIFICATION UNCLASSIFIED	
SIZE C	CODE 14865 / SCALE AS NOTED
	SHEET 2
STATUS MD-REL-12/13/91	

D 2 of 5

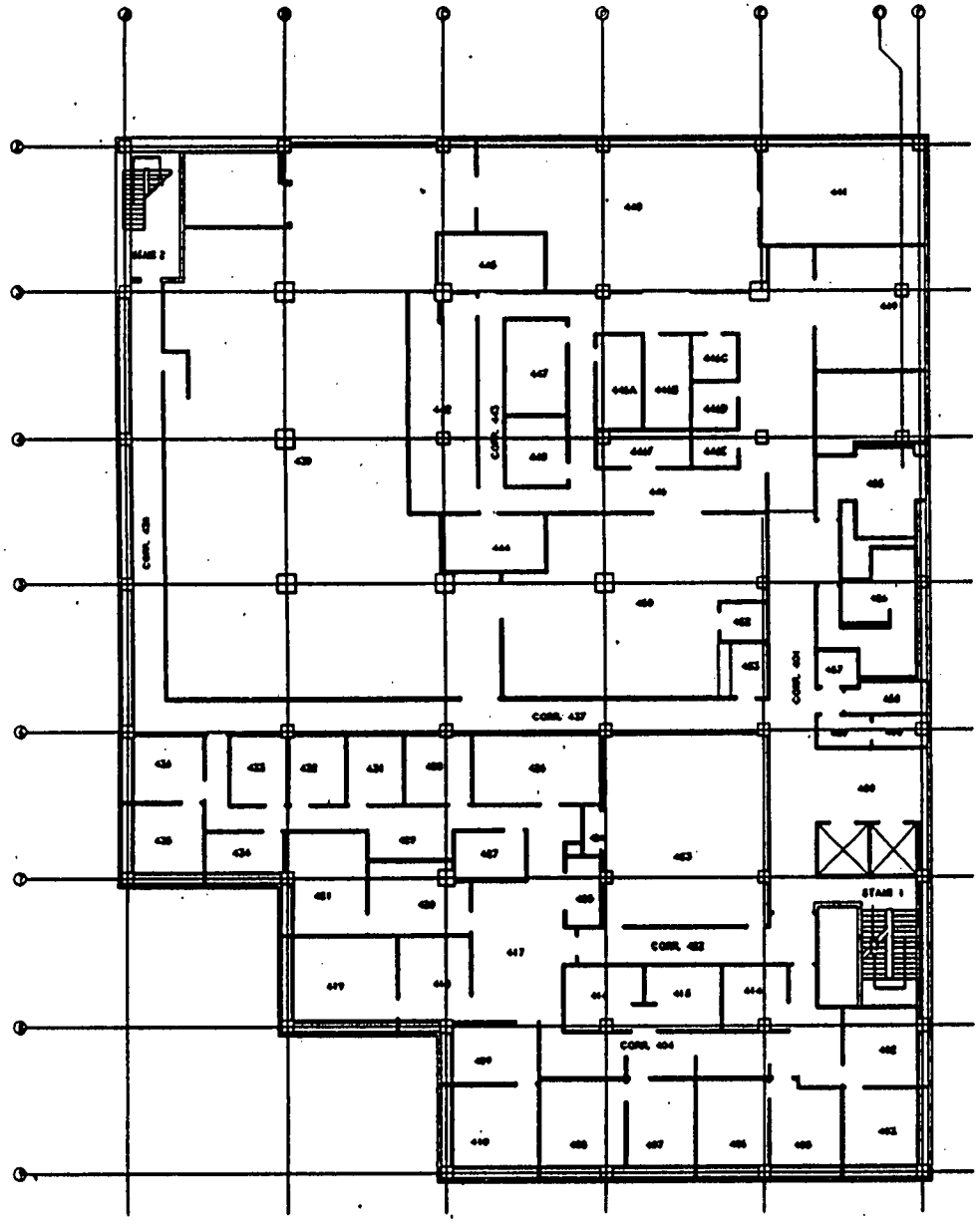


UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification
Office. Reviewer Initials: RDM

OSE BLDG
THIRD FLOOR
BLDG CODE:3543

DRAWING NUMBER FSC911315	JOB NUMBER 12335
DRAWING CLASSIFICATION UNCLASSIFIED	
SIZE C	CADD 14865 / SCALE AS NOTED
	SHEET 3
STATUS NO-REL-12/12/91	

D 3 of 5



UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification Office. Reviewer Initials: RDM
5/4/98

UNCLASSIFIED

0 5' 10' 20' 40'

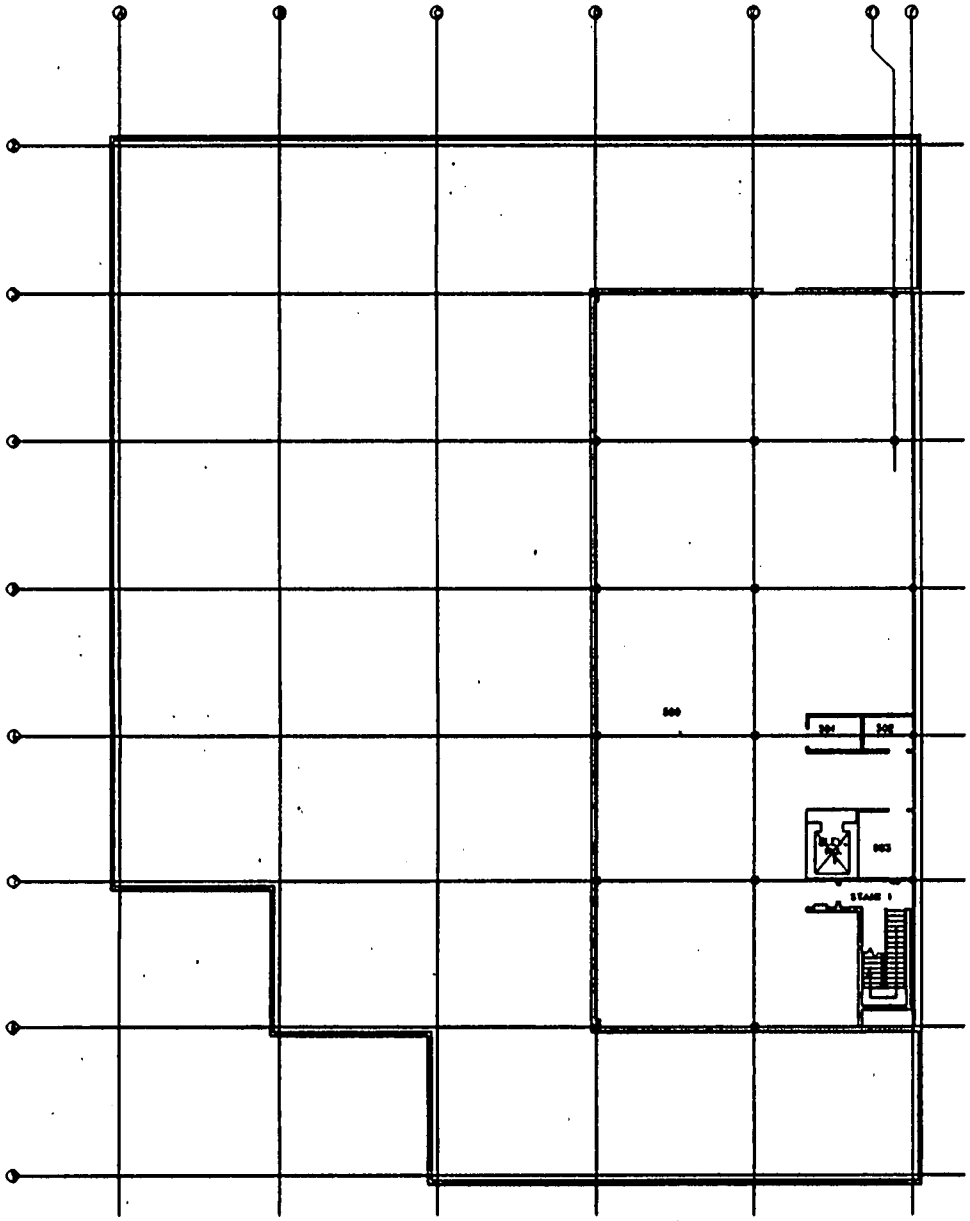
OSE BLDG
FOURTH FLOOR
BLDG CODE:3543

NOT FOR PUBLIC DISSEMINATION

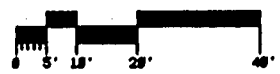
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DRAWING NUMBER	FSC911315
JOB NUMBER	12335
DRAWING CLASSIFICATION	UNCL
SIZE	C
CODE	14865
SCALE	AS NOTED
ISSUE	B
SHEET	4
STATUS	MO-REL-12/12/91

D 4 of 5



UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification
Office. Reviewer Initials CRM



OSE BLDG
PENTHOUSE
BLDG CODE:3543

DRAWING NUMBER FSC911315		JOB NUMBER 12335
DRAWING CLASSIFICATION UNCLASSIFIED		
SIZE C	CODE 14865	SCALE AS NOTED
	ISSUE 0	SHEET 5
STATUS NO-REL-12/12/91		

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Appendix E

Aerial Photographs

E 1of3

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E 3 of 3

Appendix F

Environmental Appraisal Report of the Mound Plant (excerpt)

Based on an August 2003 review by subject matter experts,
hand-written corrections have been made to the report provided in this appendix.

9.20 BUILDING OSE

9.20.1 Scope of Building OSE 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 OSE on the morning of February 29, 1996. The Environmental Appraisal Checklist (EAC) was used to record findings. The EAC is found in Attachment 1 (Section 9.20.6.1). The appraisers were accompanied by a Department of Energy (DOE) representative, a process manager from the photo lab, and the process supervisor in the cafeteria. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.20.6.2).

9.20.2 Description of Building OSE

Building OSE is a 90,072-square-foot structure with four stories and a penthouse. The building is steel frame with a brick face and a built-up membrane (coal tar) roof. Its location is shown in Attachment 3 (Section 9.20.6.3). Building OSE is located in the northern region of Mound, east of Building A. Heating and air conditioning services are central steam and chilled water. Electric service is 480V. Floor plans are included as Attachment 4 (Section 9.20.6.4).

Building OSE was constructed in 1987 to provide engineering offices, DOE offices, photographic services, a cafeteria, an auditorium, and computer facilities. The building has been used for the same purposes since construction.

9.20.3 Summary of Findings

In general, the facility appears to be in excellent condition. There were several issues of environmental concern identified during the walk-through. The cafeteria appeared to be very orderly and well-kept. All food products were stored properly in their appropriate coolers. Cafeteria employees exhibited a sanitary appearance with all position clean garments. All have attended a Food Service Sanitation training course.

9.20.4 Observations

9.20.4.1 Air Emissions

There are no fumehoods. No air emissions permit applications have been submitted to the Regional Air Pollution Control Agency (RAPCA) for activities in the building. 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.

9.20.4.2 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.

9.20.4.2.1 Sanitary Wastewater

The building does have sanitary services, according to a diagram of underground utility lines, presented as Attachment 5 (Section 9.20.6.5). As discussed in Section 9.20.4.2.3. Chemicals, there is a potential for chemicals to enter the sanitary system. Of concern are chemicals used in the photo lab. It should be noted that they are non-toxic.

9.20.4.2.2 Storm Wastewater

The interior floor collection drains and the exterior of the building is 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.

9.20.4.2.3 Chemicals

A list of chemicals found in Building OSE is included in the BMQ. The information was gathered as part of the chemical inventory which is conducted annually. The inventory information dates to 1994. Confirmation of the 1994 inventory was not attempted as 1995 data were being compiled at the time of the appraisal. Storage, handling, and disposal of chemicals in the BMQ were reviewed to assure conformance to regulations related to 40 CFR 122, 40 CFR 261-265,268, and 29 CFR 1910.

Developers, bleaches, and fixer solutions are utilized in the photography area, a 5 percent sodium hypochlorite solution is used in the cafeteria, and common janitorial supplies are used throughout the building. Material Safety Data Sheets (MSDS's) were available in all areas. Drains are clean

and appear to drain properly. It was observed that the Flexicolor photographic processing system in Room 252 includes an overflow waste line to the floor drain. If the system should malfunction and cease to operate for a significant amount of time, small amounts of the water-soluble, non-toxic bleach and non-toxic developer could drain to the sanitary drain. There have not been any reported spills or releases of any significant amounts of chemicals.

9.20.4.3 Potable and Service Water

Potable water and service water are supplied to the building. Backflow in the mechanical prevention devices are installed at all visible points of potential cross-connection. There are four drinking fountains, one on the first floor, one on the second, one on the third, and one on the fourth. Model and serial numbers are located on the EAC included as Attachment 1 (Section 9.20.6.1). Potable water is also available from dispensers, other than drinking fountains, in the cafeteria. Service water is supplied to the building and used for the fire sprinkler system.

9.20.4.4 Chemical Storage and Hazardous Materials

Storage and handling procedures have been developed to comply with applicable standards. Very few chemicals are stored in Building OSE. The photoprocessing machine is self-contained and has proper secondary containment. Chemicals were properly labeled, segregated, and stored. Developer and bleach are changed every six weeks.

The building is equipped with appropriate charged fire extinguishers. Each extinguisher is bar-coded. The inspection date database is maintained within the Fire Station. There is an Emergency Evacuation Plan, and signs were posted.

A review of the Mound Active Underground Storage Tank (UST) Plan and visual inspection indicated that there are no sumps in or around the building. A 500-gallon liquid nitrogen tank is located about 20 feet south of Building OSE. There are no underground storage tanks proximate to the building.

~~The building was tested for asbestos containing building material (ACBM) and results were that ACBM was assumed to be present. (MD-10391, *Asbestos Program Manual*, 9-14-95).~~
Per Appendix I, it is unlikely that OSE Building contains asbestos. JKO 9/18/03

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

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

9.20.4.5 Solid, Hazardous, and Radioactive Wastes

Solid wastes generated are primarily paper as 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 contractor. Spent cooking grease is

collected in drums on the pad south of the cafeteria. The drums are in an enclosed bin, and once the drums are full, Waste Management personnel are contacted. The drums are then sent to a vendor for recycling. The service contracts are maintained by the Waste Management Group. Hazardous waste (developer, fixer and bleach) generated by the Photographic Development Group is assigned to be picked up weekly by Hazardous Waste personnel. There is no evidence that hazardous materials or wastes are mixed with solid waste streams.

9.20.4.6 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. A compactor has been placed to the south of the cafeteria for the recycling of cardboard. Electricity has yet to be connected to the compactor.

9.20.5 Findings and Recommendations

Photographs were taken to document the environmental appraisal. They are included as Attachment 6 (Section 9.20.6.6).

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

OSE-1 The penthouse above Building OSE was extremely cluttered with various items. Owners of the miscellaneous objects should either store them properly or dispose of them.

OSE-2 An appreciable amount of cardboard is being discarded from the cafeteria, and should be recycled. Power should be connected to the compactor and training to operate the compactor should be provided to all cafeteria employees.

OSE-3 A spray glue is used as an adhesive in the photo laboratory. The process manager should investigate whether an exhaust fan or vent is required for such operations.

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name OSE

Appraisers:

Name	Discipline
J Hausfeld	CWA
M Merker	RCRA

Building Manager: William Whitelow

Process Manager: Jim England

Jean Blevins

Date: 2/29/96

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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

'dii

Environmental Ap$_r$ sal Checklist

Building Name: BSE Appraisers: JA MM Date: 2/29

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 SANITARY	PHOTO LAB COLOR PRINT PROCESSOR
	Do the floor drains, sinks & toilets appear to be draining properly?	(Y) / N	
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)	

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9.20-9

9.20-10

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Environmental Appraisal Checklist

Building Name: CSE Appraisers: JA MM Date: 2/29

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

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	

Environmental Appraisal Checklist

Building Name: N/A Appraisers: Date:

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					

Source:_____

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9.20-11

9.20-12

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: JH MM Date: 2/29

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	
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~~	~~Needs small flammable cabinet~~ HAS one
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	

Environmental A| aisal Checklist

Building Name: OSE

Appraisers: JA MM

Date: 2/29

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	
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	NA
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	NA
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	NA
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	NA
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	NA
29 CFR 1910.104	Bulk oxygen storage shall be permanently placarded "OXYGEN - NO SMOKING - NO OPEN FLAMES".	Y / N	NA
	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	

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: JA MM Date: 2/29

HM Checklist

Regulatory Guideline	Question	Response	Comments
	Is there a process area?	Y / N	
	Does it have proper containment?	Y / N	N/A
	Is there a liquid bulk transfer area?	Y / N	NITROGEN TANK
	Is there proper containment?	Y / N	N/A
	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
OSE	500	LN_2	~A	Y / N	~A 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

Source: _____

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: [illegible] Date: 2/29

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	~~[illegible]~~,

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
OSE	1ST FLOOR	HALSEY TAYLOR	9- 11472-8-?
	2ND "	" "	9- 11472-5-83-0
	3RD "	" "	749 11472-5
	4TH "	" "	9- 11806-5-81

Source: _____

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: JA MM Date: 2/29

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~~ N/A	Yes. VKO 9/23/03 Corrected.
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~~ N/A	

Environmental A, ..raisal Checklist

Building Name: OSE Appraisers: JA MM Date: 2/29

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	
	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	

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: JA MM Date: 2/29

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:		N/A
	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.		

Environmental Appraisal Checklist

Building Name: OSE Appraisers: [illegible] Date: 2/29

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	N/A
	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	
	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	

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Environmental Appraisal Checklist

Building Name: OSE

Appraisers: JA mm

Date: 2/29

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	N/A
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	
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	

General Comments:

Environmental . ppraisal Checklist

Building Name: B/E Appraisers: JA mm Date: 2/29

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? If no for this building or area note this conclusion in the comment section.	Y / N	
	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	N/A
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	↓

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Environmental Appraisal Checklist

Building Name: BSE

Appraisers: JA mm

Date: 2/29

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	
	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	NO EQUIPMENT HAS PCB. LIGHT BALLAST MAY CONTAIN PCB.
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	N/A
	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	

Environmenta. .ppraisal Checklist

Building Name: OSE

Appraisers: JA MM

Date: 2/29

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	N/A
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	
	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	

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Environmental Appraisal Checklist

Building Name: OSL Appraisers: JA Date: 2/29

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	N/A
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	

GENERAL COMMENTS:

Building Name: 815 Appraisers: JH mm Date: 2/29

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	N/A
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	

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: [illegible] Date: 5/22

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	N/A
	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	
	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	

Environmental Appraisal Checklist

Building Name: OSE Appraisers: JA Date: 9/29

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	N/A
	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	

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Environmental Appraisal Checklist

Building Name: OSE

Appraisers: [illegible]

Date: 2/29

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	N/A
	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	

Environmental . .praisal Checklist

Building Name: OSE Appraisers: [illegible] Date: 2/29

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	N/A
	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:

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Environmenta. .ppraisal Checklist

Building Name: OSE Appraisers: JA [illegible] Date: 2/29

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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	CARDBOARD FROM CAFETERIA NOT BEING Recycled
	Are there solvent wastes?	Y / (N)	
	Is vehicle maintenance performed?	Y / (N)	
	Are oils used ?	Y / (N)	
	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	
	Storage tank agitators installed?	Y / N	
	Corrosive resistant materials used?	Y / N	
	Prevention of crude oil oxidation ?	Y / N	
	Drying?	Y / N	

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Environmental Appraisal Checklist

Building Name: BSE Appraisers: [illegible] Date: 2/29

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	N/A
	Are baghouse filters used to collect pesticides and pesticide intermediates?	Y / N	
	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	N/A
	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	

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: [illegible] Date: 2/29

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	N/A
	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	N/A
	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	N/A
	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	

Environmental . ,praisal Checklist

Building Name: OSE Appraisers: [illegible] Date: 7/29

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	N/A
	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?		N/A
	Hydraulic oil?	Y / N	
	Transformer oil?	Y / N	
	Metal working fluids?	Y / N	
	Spent lubricating oils?	Y / N	
	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	
	Rags and absorbants used to their limit?	Y / N	

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Environmental Appraisal Checklist

Building Name: OSE Appraisers: [illegible] Date: 2/25

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are these treatment techniques used to promote separation of oil/water wastes?		N/A
	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:		N/A
	Eliminating solvents?	Y / N	
	Reducing the use of solvents?	Y / N	
	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	

Environmental Appraisal Checklist

Building Name: OSE

Appraisers: JA WM

Date: 1/29

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	If there is a recycling program, what technique is used?	Y / N	N/A
	Distillation?	Y / N	
	Solids removal?	Y / N	
	Dispersion breaking?	Y / N	
	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 33 of 50

9.20-35

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Building Manager's Questionnaire

Penthouse SEND Name HP

Building Name: OSE Building Manager: W.H. Whitelow Phone: _____ Date: 12-07-95

Alternate: Penny Phone: _____

1st 2nd DOE - Becker 2nd floor - Al Ford

3RD - Kevin Rohr + 4TH FIELD OFFICE, + Computer Rm Guy Hermann

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

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

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

4. Provide a physical description of the building.

Building is a 90,072-ft^2 structure with four stories and a penthouse. It is constructed of concrete block with a brick face and aluminum windows and has a BUM roof (coal tar). HVAC services are central steam and chilled water. The 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?

Houses engineering offices, DOE offices, cafeteria, auditorium, and computer facilities.

Source: Mound Buildings, 5-9-95

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

Previously used as office space for uncleared employees, part-time employees, and new employees. Planned for conversion to its present use in January of 1994.

Source: Mound Buildings, 5-9-95

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow 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: Cafeteria, photographic development, offices, auditorium, computer facilities

How Wastes Are Generated:

Waste from the kitchen is simply grease from the fryers used to prepare food for the cafeteria.

There are four photographic processes in Building OSE. Each of the four is described below.

(1) Ilford Color Process—The three chemicals used are Cibachrome Developer, P-22 Bleach (which is primarily sulfuric acid and acetic acid), and P-22 Fixer. After use the developer is put in a waste can labeled "Developer" for pickup by Waste Management. Used P-22 Bleach is neutralized with a material provided by Ilford, and the resulting mixture is put in a waste can labeled "Bleach." Used P-22 Fixer, which contains a small amount of silver thiosulfate, is put in a waste can labeled "Fixer."

(2) Kodak Color Print Process—Kodak EP-2 Developer and Kodak Bleach are used in this process. The used chemicals are put in the waste cans labeled "Developer" and "Bleach," respectively.

(3) Kodak Black and White Print Process—Kodak Dektomatic Developer and Kodak Fixer are used. Used materials are placed in the appropriate waste cans.

Note that in processes 1, 2, and 3, water to wash the prints is put in the drain to the sewer.

(4) Kodak Film Development Process—Black and white film is developed using Kodak T-Max Developer and Kodak Fixer. Color negative film is processed with the Kodak C-41 Flexicolor system which includes developer, bleach, stabilizer, and fixer. Color positive film (slide film) is processed with the Kodak E-6 System which consists of developer, reversal bath, color developer, conditioner, bleach, fixer, and stabilizer. All of the chemicals used in these film development processes are biodegradable and are designed to be diluted and flushed down the drain to the sewer.

Contact:
Phone #:

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

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow 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

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow 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? RAIN DRAIN FROM ROOF

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

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

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

9.20-42

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

17. Does the building contain transformers or capacitors? No

Source: PCB ANNUAL DOCUMENT REPORT

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

Source: PCB ANNUAL DOCUMENT REPORT

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)
P-22 BLEACH	L	8/GA
E-6 FIXER	M	1/GA
E-6 PRE BLEACH	M	1/GA
E-6 REVERSAL BATH	M	1/GA
FIXER "A"	M	1/GA
FIXER"B"	M	1/GA
FLEXICOLOR BLEACH	M	1/GA
FLEXICOLOR DEVELOPER	M	1/GA
FLEXICOLOR STABILIZER	M	1/QT
GLACIAL ACETIC ACID	P	1/GA
NITROGEN	P	150/CF
SODIUM HYDROXIDE	P	1/LB
SODIUM SULFITE	P	4/LB
T-MAX	M	2/GA
Z-PROPANOL	P	1/QT
P-22	M	4/GA
P-22 DEVELOPER	M	4/GA
RA BLEACH/FIX	M	3/GA
RA DEVELOPER	M	3/GA
RA DEVELOPER STARTER	M	4/L
FIXER POLYMER RT	M	4/GA
POLYMAX RT DEVELOPER	M	2/GA
TONER CLEAR-MIX	L	8/GA

Source: Chemical Inventory 1994

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow 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?

WASTE MGT.

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

ATTACHED

23. Where do excess janitorial supplies go?

OSE 117, 227, 306, 457

Source: _____

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

Chemical	Amount	Chemical	Amount
ATTACHED			
ROUNDUP	AS NEEDED		

Source: IND. HYG.

ecord#	COMMON	CHEMICAL
1	BLUE MAX SPRAY BUFF	BLUE MAX SPRAY BUFF
2	CLEAN-N-DRY	CLEAN-N-DRY
3	CLR WINDOW	CLR WINDOW
4	CONQUEST	CONQUEST
5	DD/85 SPRAY	DD/85 SPRAY
6	DMQ	DMQ
7	DUO-POWDER	DUO-POWDER
8	FLOOR FINISH/ABOVE	FLOOR FINISH/ABOVE
9	FOUNTAIN HEAD	FOUNTAIN HEAD
10	GLOSS-EXTENDERA	GLOSS-EXTENDERA
11	GREASE-BE-GONE	GREASE-BE-GONE
12	HEAD START	HEAD START
13	INSECT SPRAY/CHERRY	INSECT SPRAY/CHERRY
14	INSECTICIDE/WAS	INSECTICIDE/WAS
15	KINDEST CARE	KINDEST CARE
16	LAVA HAND SOAP	LAVA HAND SOAP
17	LIL BROTHER SAM	LIL BROTHER SAM
18	NABC	NABC
19	NEUT. FLOOR CORP.	NEUT. FLOOR CORP.
20	ODOR BANE	ODOR BANE
21	ON-BASE SEALER	ON-BASE SEALER
22	ONE-STEP/SURE BET	ONE-STEP/SURE BET
23	POLISH/LEMON	POLISH/LEMON
24	PUMMEL HAND SOAP	PUMMEL HAND SOAP
25	RINSE FREE/STRIP	RINSE FREE/STRIP
26	SBS-61 LOTION SOAP	SBS-61 LOTION SOAP
27	SCRUB-ENDER	SCRUB-ENDER
28	SEAL, CON-SEAL	SEAL, CON-SEAL
29	SEALER/IRONSTONE	SEALER/IRONSTONE
30	SHINELINE BASE	SHINELINE BASE
31	SNAPOUT	SNAPOUT
32	SPIN-OUT	SPIN-OUT
33	SPOT, PILE DRIVER	SPOT, PILE DRIVER
34	SPOTTER, PULL OUT	SPOTTER, PULL OUT
35	STAINLESS CLEANER	STAINLESS CLEANER
36	STATCIDE, GP	STATCIDE, GP
37	STRIPPER, ZIP	STRIPPER, ZIP
38	SURFACE GLEEM	SURFACE GLEEM
39	TREATMENT/DUST	TREATMENT/DUST
40	TRIPLE SSS	TRIPLE SSS
41	VESTA POWER	VESTA POWER
42	WINDOW SHINE	WINDOW SHINE

Cus Todial Chemical list

9.20-45

J. Jad

☐ INITIAL SERVICE
☑ REGULAR SERVICE
☐ EXTRA SERVICE

TERMINIX.

TERMITE and PEST CONTROL

copy

COMMERCIAL SERVICE AND INSPECTION REPORT

BRANCH	ACCOUNT	RT	TELEPHONE	GRID	S DAY	F	T	PRODUCTION	TIME IN
2419	006093-	07	000/000-0000 513/865-4595	E30 -	2FR	S	P	0000005000 09	7:30 AM

SERVICE PROPERTY AT

E G & G MOUND
EARNIE HAYES 865-4310
MOUND AVENUE
MIAMISBURG OH 45342-0000

BRANCH

TERMINIX INTERNATIONAL
4712 PAYNE AVENUE
DAYTON OH 45414-0
513/274-5800

OPERATOR NAME & CERTIFICATION NUMBER: [illegible] 1407

SUPERVISOR NAME & CERTIFICATION NUMBER: DANIEL J. STECK #1207

TARGET PEST(S): ☑ T2 Cockroaches ☑ T3 Ants ☐ T18 Rats ☐ T19 Mice ☐ Other: ☐ Other:

SERVICE AREAS	INSPECTED	TREATED
☐ C1 FOOD AREAS:	☐	☐
☐ C2 OFFICES:	☐	☐
☐ C3 STORAGE/UTILITY:	☐	☐
☐ C4 PUBLIC AREAS:	☐	☐
☐ C5 REST ROOMS:	☐	☐
☐ C6 EXTERIOR AREAS:	☐	☐
☐	☐	☐
☐	☐	☐

PESTICIDE(S) TO BE APPLIED		EPA'S	T/C	AMOUNT
☐ P24	PT279 Engage (Chlorpyrifos) 0.5%	499-292		
☑ P10	PT565 + XLO (Pyrethrin) 0.5%	499-310		
☐ P04	Dursban L.O. (Chlorpyrifos) 0.5%	62719-55		
☑ P11	Conquer (Esfenvalerate) 0.05%	1021-1565-57076	C	1.9
☐ P23	Tempo 20 WP (Cyfluthrin) 0.05%	3125-380		
☐ P06	Ficam W (Bendiocarb) 0.5%	45639-1		
☐ P21	Knox-Out 2FM (Diazinon) 1%	4581-335-AA-499		
☐ P07	Gentrol (Hydroprene) 0.125%	2724-304-50809		
☐ P12	Precor (Methoprene) 0.008%	2724-352-50809		
☑ P02	Drione Dust (Silica/Pyrethrin) 1%	4816-353AA	T	2
☐ P05	Ficam D (Bendiocarb) 1%	45639-3		
☐ P03	Dursban G (Chlorpyrifos) 0.5%	10370-36-432		
☐ P08	Maxforce Bait (Hydramethylnon) 1.65%	64248-1		
☐ P27	Avert Roach Bait (Avermectin) 0.05%	499-294		
☐ P09	PT270 Dursban (Chlorpyrifos) 0.5%	499-147		
☐ P25	PT280 Orthene (Acephate) 1%	499-230		
☐ P26	Maxforce Gel (Hydramethylnon) 2.15%	64248-5		
☐ P14	Ditrac All Weather Cake (Diphacinone) 0.005%	12455-5		
☐ P20	Talon G (Brodifacoum) 0.005%	10182-38		
☐ P47	Contrac Blox (Bromadiolone) 0.005%	12455-79		
☐ P34	Ditrac Bait Pack (Diphacinone) 0.005%	12455-19		
☐ P16	Glue Boards			
☐ P17	Ketch-All/Tin Cat			
☐ P19	Snap Traps			

TREATMENT CODE:
C = Crack & Crevice
S = Spot
G = General
T = Space Treatment
B = 3' Band

Supervisor's Comments: ☐ Treat for Infestation/Prevention or Inspect areas indicated.

EQUIP.
F = Fogger
HD = Hand Dust
B&G = Comp. Air

SPECIAL SERVICE INSTRUCTIONS

GENERAL PC , C-BLDG. A-BLDG, MEDICAL, GH BLDG
SM CAFETERIA.(MONTHLY) -- OS-EAST CAFETERIA,
NEW CAFETERIA ONLY / P.O. #38224

BALANCE AS OF
NOVEMBER 29
DEC CHARGE
SALES TAX
TOTAL DUE

CUSTOMER'S SIGNATURE: [illegible]

SERVICE TECHNICIAN'S SIGNATURE: [illegible] DATE: 12-15-93

AMOUNT PAID: ☐ CASH ☐ CHECK

9.20-46

☐ INITIAL SERVICE
☑ REGULAR SERVICE
☐ EXTRA SERVICE

TERMINIX.

TERMITE and PEST CONTROL

COPY

COMMERCIAL SERVICE AND INSPECTION REPORT

BRANCH	ACCOUNT	RT.	TELEPHONE	GRID	S DAY	F	T	PRODUCTION	TIME IN	TIME
2418	006092-	07	000/000-0000 513/865-3921	E30 -	2FR	S	P	00004577 09	7:40 AM	5:25

SERVICE PROPERTY AT

E G & G MOUND
P. O. #38224
MOUND AVE
MIAMISBURG OH 45342-0000

BRANCH

TERMINIX INTERNATIONAL
4712 PAYNE AVENUE
DAYTON OH 45414-0000
513/274-5800

OPERATOR NAME & CERTIFICATION NUMBER: [illegible] 1067

SUPERVISOR NAME & CERTIFICATION NUMBER: DANIEL J. STECK #1207

TARGET PEST(S): ☐ T2 Cockroaches ☑ T18 Rats ☐ Other: ☐ T3 Ants ☐ T19 Mice ☐ Other:

SERVICE AREAS:	INSPECTED	TREATED
☐ C1 FOOD AREAS:	☐	☐
☐ C2 OFFICES:	☐	☐
☐ C3 STORAGE/UTILITY:	☐	☐
☐ C4 PUBLIC AREAS:	☐	☐
☐ C5 REST ROOMS:	☐	☐
☐ C6 EXTERIOR AREAS:	☐	☐
☐	☐	☐
☐	☐	☐

PESTICIDE(S) TO BE APPLIED	EPA'S	T/C	AMOUNT
☐ P24 PT279 Engage (Chlorpyrifos) 0.5%	499-292		
☑ ~~P10~~ PT565 + XLO (Pyrethrin) 0.5%	499-310	C	3
☐ P04 Dursban L.O. (Chlorpyrifos) 0.5%	62719-55		
☑ ~~P11~~ Conquer (Esfenvalerate) 0.05%	1021-1565-57076	C	[illegible]
☐ P23 Tempo 20 WP (Cyfluthrin) 0.05%	3125-380		
☐ P06 Ficam W (Bendiocarb) 0.5%	45639-1		
☐ P21 Knox-Out 2FM (Diazinon) 1%	4581-335-AA-499		
☐ P07 Gentrol (Hydroprene) 0.125%	2724-304-50809		
☐ P12 Precor (Methoprene) 0.008%	2724-352-50809		
☑ P02 Drione Dust (Silica/Pyrethrin) 1%	4816-353AA		[illegible]
☐ P05 Ficam D (Bendiocarb) 1%	45639-3	X	
☐ P03 Dursban G (Chlorpyrifos) 0.5%	10370-36-432		
☐ P08 Maxforce Bait (Hydramethylnon) 1.65%	64248-1		
☐ P27 Avert Roach Bait (Avermectin) 0.05%	499-294		
☐ P09 PT270 Dursban (Chlorpyrifos) 0.5%	499-147		
☐ P25 PT280 Orthene (Acephate) 1%	499-230		
☐ P26 Maxforce Gel (Hydramethylnon) 2.15%	64248-5		
☐ P14 Ditrac All Weather Cake (Diphacinone) 0.005%	12455-5		
☐ P20 Talon G (Brodifacoum) 0.005%	10182-38		
☐ P47 Contrac Blox (Bromadiolone) 0.005%	12455-79		
☐ P34 Ditrac Bait Pack (Diphacinone) 0.005%	12455-19		
☐ P16 Glue Boards			
☐ P17 Ketch-All/Tin Cat			
☐ P19 Snap Traps			

TREATMENT CODE:
C = Crack & Crevice
S = Spot
G = General
T = Space Treatment
B = 3' Band

Supervisor's Comments: ☐ Treat for Infestation/Prevention or Inspect areas indicated.

EQUIP. CODE
F = Fogger
HD = Hand Dust
B&G = Comp. Air
B.

SPECIAL SERVICE INSTRUCTIONS

SER. OLD CAFE, SMPP, GUARDS REST ROMS AND BASINS IN MEDICAL AREA
P. O. # 38224

BALANCE AS OF NOVEMBER 29
DEC CHARGE
SALES TAX
TOTAL DUE 9.20-47

CUSTOMER'S SIGNATURE: [illegible]

SERVICE TECHNICIAN'S SIGNATURE: [illegible] DATE: 12-15-94

AMOUNT PAID: CASH ☐ CHECK ☐

Building Name: OSE Building Manager: W.H. Whitelow 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.

Registration Number	Content	Quantity	Last Inspection Date	Preventive Maintenance Performed	Inside Or Outside
	NITROGEN	500 GAL		Y/N	
7782-37-9	01C			Y/N	249
7782-37-9	02C			Y/N	OUTSIDE
				Y/N	
				Y/N	

Source: Emergency and Hazardous Chemical Inventory Form - Chemical Storage Tanks on EGG Mound Site Owned and Maintained by Outside Contractors 8/8/94

26. Is there a sump or pit or underground tank in or around the building?
Yes (No) Unknown
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
ATTACHED	

Source: Characterization of Mounds Hazardous, Radioactive, and Mixed Wastes 08/15/90

OSE-245	PHOTO FIXER	D003 D011	41.1
[illegible]245	PHOTO FIXER	D003 D011	5.0
OSE-245	PHOTO FIXER	D003 D004 D010 D011	1.4
OSE-245	PHOTO FIXER	D003 D011	41.3
C [illegible]45	PHOTO FIXER SAMPLE, LP94-877	D003 D011	1.4
OSE-245	PHOTO WASTE	NONE	227.8
OSE-245	PHOTO WASTE	NONE	239.0
OSE-245	PHOTO WASTE	D003 D004 D010	48.0
OSE-245	PHOTO WASTE	D002	65.1
OSE-245	PHOTO WASTE	D002 D003	39.7
OSE-245	PHOTO WASTE SAMPLE, LP94-878	D002	1.3
OSE-245	PHOTO WASTE, SAMPLE 93-548	D003 D004 D010	0.8
OSE-245	PHOTO WASTE- NO METALS	D002	302.6
OSE-245	POLAROID FILM	D011	11.7
OSE-245	SODIUM BISULFITE	NONE	4.2
OSE-245	UNIVERSAL CLEANER KIT PART A	D001 D007	7.6
OSE-245	UNIVERSAL CLEANER KIT PART B	D002	7.1
OSE-245	UNIVERSAL CLEANER KIT PART C	D002	7.2
OSE-245	Z DEVELOPER	D002	37.6
OSE-245	Z FIXER	NONE	76.5
OSE-250	PHOTO BLEACH	D011	195.0
OSE-250	PHOTO BLEACH	D011	194.5
OSE-250	PHOTO BLEACH	NONE	338.4
OSE-250	PHOTO WASTE	D011	221.2
OSE-250	PHOTO WASTE	D008 D011	256.4
OSE-250	PHOTO WASTE	D008 D011	300.7
[illegible]450	CLEANER 50	NONE	1.5
[illegible]-450	TONER MIX TCM-58 BLACK	D001	4.7
OSE-450	TONER MIX TCM-58 BLUE	D001	4.1
450	TONER MIX TCM-58 RED	D001	3.9
OSE-450	TONER MIX TCM-58 YELLOW	D001	4.0
OSE-450	TONER REPLENISHER RP-585C	D001	0.4
OSE-450	TONER REPLENISHER RP-585M	D001	0.7
OSE-450	TONER REPLENISHER RP-585Y	D001	0.6
OSE-450	TONER REPLENISHER RP-588	D001	0.5
OSE-453	TONER REPLENISHER	D001	4.4
OSE-453	TONER REPLENISHER	D001	0.4
OSE-453	TONER REPLENISHER	D001	0.4
OSE-453	TONER REPLENISHER	D001	2.4
OSE-453	TONER REPLENISHER	D001	0.8
OSE-453	TONER REPLENISHER	D001	0.3
OSE-453	TONER REPLENISHER	D001	3.5
OSE-453	TONER REPLENISHER	D001	0.4
OSE-453	TONER REPLENISHER	D001	17.3
OSE-453	TONER REPLENISHER, BLACK	D001	1.0
OSE-453	TRICHLOROETHANE (1,1,1-)	F002	1.4
OSE-218	HYSOL PART A	NONE	3.0
OSE-218	HYSOL PART B	NONE	1.0
OSE-245	PHOTO BLEACH	NONE	175.5
OSE-245	PHOTO BLEACH	D011	289.8
OSE-245	PHOTO BLEACH	D011	292.1
OSE-245	PHOTO BLEACH	NONE	43.2
OSE-245	PHOTO BLEACH	NONE	1.4
OSE-245	PHOTO BLEACH	NONE	40.6
[illegible]245	PHOTO BLEACH	D002	41.9
OSE-245	PHOTO BLEACH	NONE	5.0
OSE-245	PHOTO BLEACH	NONE	35.9
OSE-245	PHOTO BLEACH	D002	40.2
OSE-245	PHOTO BLEACH SAMPLE, LP94-876	NONE	1.2
OSE-245	PHOTO DEVELOPER	NONE	1.4
OSE-245	PHOTO DEVELOPER	NONE	3.0
OSE-245	PHOTO DEVELOPER	NONE	2.0

D 7a

9.20-49

OSE

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow 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: _____

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9.20-50

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow 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: _____

Building Name: OSE Building Manager: W.H. Whitelow 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.

NONE KNOWN OF

9.20-52

Building Manager's Questionnaire

Building Name: OSE Building Manager: W.H. Whitelow 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.

MOUND WASTE MIN PROGRAM

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

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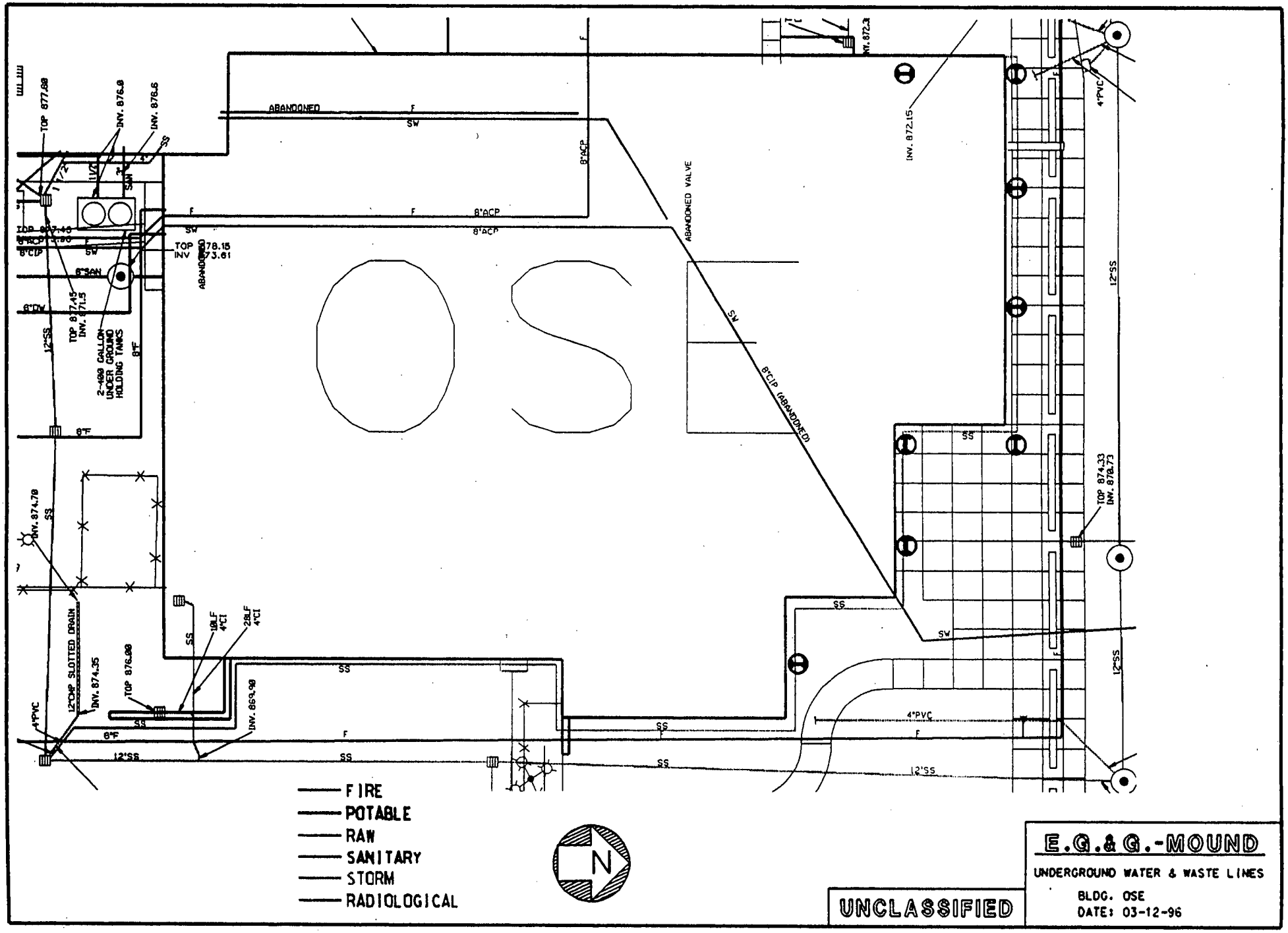
9.20-53



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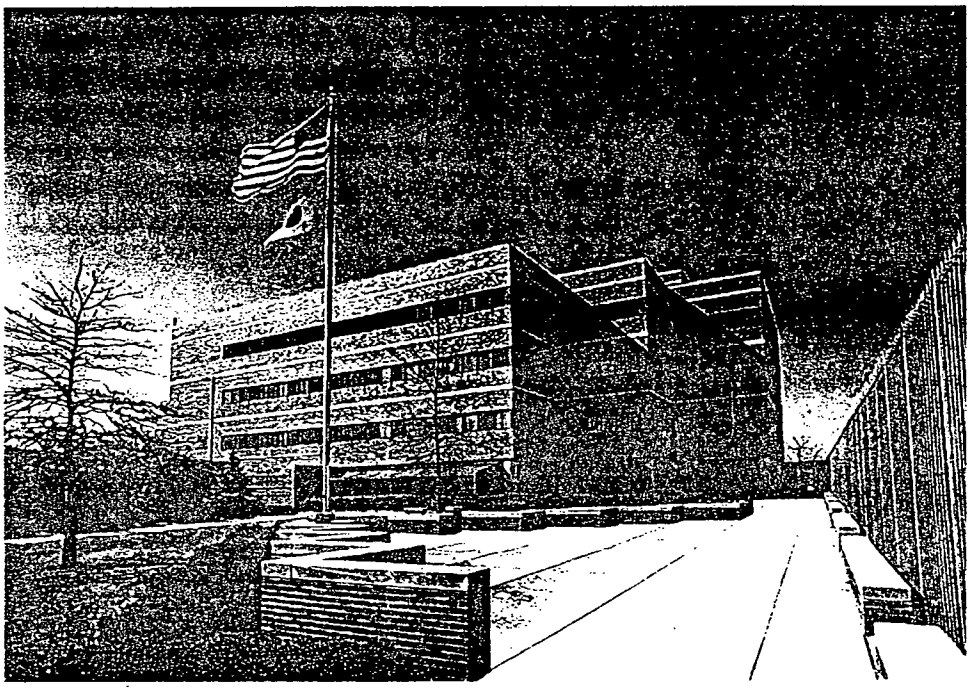
Appendix G

Radiological Information

Final Status Report
For
Building OSE



Prepared by: Roderick C. Case / Date: July 24, 2003

Reviewed by: Galen Tomlinson / Date: 8-4-03

Approved by: A. Stephen Collas / Date: 8-4-03

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1.0 Historical Review

OSE Building is a 90,072-square-foot structure with four stories and a penthouse. It was constructed in 1987 to ease the use of temporary office spaces, and to replace the aging food services facility available in C Building.

OSE Building through its nearly 16-year-plus history has been used primarily as an office area and administrative use area for the DOE's Ohio Field Office, for the DOE's site office as the "Dayton Area Office." Other operations included DOE's computer center. Other administrative operations located in OSE were the human resources department, Environmental Group, the Public Relations organization and Audio-Visual center, Purchasing, the Transition group, Freedom of Information Reading Room, worker transition center, Graphic Services and cafeteria. The building has been used for the same purposes since construction. No research, development, or production activities using radioactive or energetic materials have occurred in the building.

OSE Building has not had any major modifications, other than the reconfiguration of some of the interior rooms. Therefore, the original "as-built" building footprint resembles the building, as it exists today.

OSE Building will be transferred to the Miamisburg Mound Community Improvement Corporation (MMCIC) for economic development in accordance with Mound Closure Project goals.

A complete structural and operational history can be found in Reference 1.

2.0 Survey Objectives

The objective of this survey plan was to confirm the classification of Building OSE as non-impacted. No radioactive processes occurred in this building and no radioactive material was ever used or stored there.

The objectives were accomplished by measuring the fixed and removable contamination on building surfaces and performing isotopic analysis on any sediment found in building drains or ventilation system. General area gamma dose rates were measured in occupied areas. The survey data is compared to the release criteria of DOE Order 5400.5 using methods defined in Reference 2. The specific survey objectives are outlined in the Survey Plan Form (SPF OSE-01) (see Enclosures).

Table 1 lists the permissible surface contamination guideline values as stated in DOE Order 4500.5. These limits are the Derived Concentration Guidelines (DCGL's) for building and structure release.

Table 1

Allowable Total Residual Surface Contamination (dpm/100cm^2)*				
Radionuclides*		Average*	Maximum*	Removable*
Group 1	Transuranics, I-125, I129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	100	300	20
Group 2	Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1,000	3,000	200
Group 3	U-Natural, U-235, U-238 and associated decay products, alpha emitters	5,000	15,000	1,000
Group 4	Beta-gamma emitters (Radionuclides with decay modes other than alpha emission or spontaneous fission) except for Sr-90 and others noted above	5,000	15,000	1,000
Tritium		N/A	N/A	10,000

* Note: Refer to DOE Order 5400.5, Radiation Protection of the Public and the Environment, for specific information on surface contamination guidelines and additional notes.

The average activity levels shown in Table 1 assumes that the residual contamination is uniformly distributed across the survey unit and is the $DCGL_w$ for this survey. The maximum activity shown in Table 1 represents the Elevated Measurement Comparison ($DCGL_{emc}$) for small (<100cm^2) areas of activity that may be observed in the survey unit while scanning. Since no process activities were ever associated with OSE, it is assumed that Pu-238 is the potential contaminant of concern and the Group 1 limits are appropriate for alpha measurements. Group 4 limits are used for beta/gamma measurements. Since OSE will be transitioned for public occupancy, the external dose limit per DOE Order 5400.5.IV.4.c is 20 μR/hr above the average background level.

2.1 Survey Design

The characterization survey was designed to evaluate the building internal and external surfaces. The building was divided into survey units as follows:

Survey Unit 1 – First Floor interior surfaces

Survey Unit 2 – Second Floor interior surfaces

Survey Unit 3 – Third Floor interior surfaces

Survey Unit 4 – Fourth Floor Interior surfaces

Survey Unit 5 – Penthouse, Roof, and Exterior Walls

Since the variability was expected to be small within the survey unit, the Type I error chosen is $\alpha = 0.05$ and the Type II error is $\beta = 0.01$. The number of data points was determined by calculating the relative shift (Δ/σ) from the DCGL value, the lower bound of

the gray region (LBGR), and the standard deviation (σ) of the contaminant in the survey unit (Δ/σ = DCGL-LBGR/σ). For this survey plan, the LBGR was set at 50% of the $DCGL_w$. The standard deviation was estimated to be 17dpm/100cm^2 based on survey data from similar surfaces and the relative shift was calculated as 2.95. The required number of data points (n = 20) was obtained from Table 5.5, Reference 2.

Twenty (20) judgmental data points were placed throughout each survey unit and are broadly representative of the survey unit. Hallways and major walkways throughout the building were scanned for alpha contamination.

Sediment samples were collected from floor drains and ventilation units. Since no sediment was available in these areas, smear samples were obtained for analysis. Direct alpha and beta readings were taken at each sediment sample location.

Loose surface contamination was measured by smearing an area of 100cm^2 at each data point. Smears were counted for gross alpha/beta activity. Removable tritium contamination was measured on interior surfaces by liquid scintillation counting of coin smears.

General area dose rates (at waist level) were taken at random locations throughout the building.

Replicate surveys were performed in accordance with Reference 3.

The instruments selected for this survey were the Ludlum 2350-1 data logger with a 43-68 hand-held gas flow proportional (GFP) detector for alpha and beta measurements and a 43-37 GFP large area floor probe for alpha scanning. A Bicron MicroREM dose rate instrument was used in accordance with Reference 4. Laboratory instruments used were appropriate for the analysis requested. Instrument calibration and source check data was documented in accordance with Mound procedures.

2.2 Survey Data

The gross alpha and beta fixed point measurements from each survey unit were collected and compared directly to the $DCGL_w$. A graphical representation of the average and maximum total activity for each survey unit is shown in Attachment 1.

The following table shows the net results of the maximum and average total (fixed and removable) alpha and beta activity for each area.

Total Activity Results

Area	Alpha (dpm/100cm^2)			Beta (dpm/100cm^2)		
	Max	Average	±	Max	Average	±
Survey Unit 1	38	21.1	5.7	2592	1390.9	290.2
Survey Unit 2	38	12.8	5.4	2066	1129.4	145.8
Survey Unit 3	31	14.3	4.3	2019	1200.3	125.4
Survey Unit 4	38	13.1	5.1	1991	1037.9	152.8
Survey Unit 5	76	38.0	9.1	3287	1987.3	332.9

The results of the removable alpha and beta surface activity are shown below. All results were significantly less than the $DCGL_w$.

Removable Alpha & Beta Activity Results

Area	Alpha (dpm/100cm²)			Beta (dpm/100cm²)		
	Max	Average	±	Max	Average	±
Survey Unit 1	6.56	1.53	0.88	17.66	3.15	1.67
Survey Unit 2	4.37	1.42	0.56	5.48	2.23	0.67
Survey Unit 3	4.37	1.31	0.72	5.48	2.65	0.74
Survey Unit 4	4.37	0.75	0.56	6.69	2.54	0.81
Survey Unit 5	2.19	0.52	0.37	5.32	1.93	0.66

The highest removable tritium activity was 20.97 dpm/100cm2 (RSDS# 03-TF-0164). The average removable tritium was 2.51 dpm/100cm2 (±0.73).

The floors and major walkways throughout the building were scanned for alpha activity. The highest activity measured was 51 dpm/100cm2 (RSDS# 03-TF-0162).

The highest general area gamma dose rate was $\leq$ 6 μR/hr (RSDS# 03-TF-0175).

2.3 Sediment Sample Data

Sediment smear samples were obtained from floor drains and ventilation units. Sediment smear samples were analyzed for gross alpha, beta and tritium activity in accordance with the survey plan (See RSDS # 03-TF-0166). No gross alpha, beta, or tritium activity was observed at any sediment sample location above background. The highest removable gross alpha was 6.55 dpm/100cm^2, 11.86 dpm/100cm^2 beta, and 34.71 dpm/100cm^2 tritium. Direct alpha and beta measurements were taken at each sample location. The highest direct activity observed was 80 dpm/100cm^2 alpha and 455 dpm/100cm^2 beta.

2.4 Quality Control

Quality control measurements were taken to ensure the quality of the data. Fifteen data points were selected at random from the sample group of 105 data points. The highest, lowest, and median alpha measurements and corresponding beta measurements were selected from each survey unit. Replicate measurements were taken at these locations using the same instruments and performed in the same manner as the original survey. The acceptance criterion for fixed-point measurements is that the variance in the measurements of the original sample population is in agreement (within a factor of two at the 95% confidence level) with the variance in the replicate samples. Negative beta values occur when the measured value is below the instrument background level. These values are used for this analysis to show the true variability of the data set. The results of the replicate surveys are shown in the following table:

Replicate Analysis Results

Location #	Alpha (dpm/100cm^2)			Beta (dpm/100cm^2)		
	Initial	± 2σ	Replicate	Initial	± 2σ	Replicate
QC2-19	0	0.00	0	892	59.73	1052
QC2-08	38	12.33	15	808	56.85	949
QC2-04	23	9.59	0	958	61.90	892
QC3-06	0	0.00	31	902	60.07	1071
QC3-12	15	7.75	23	1052	64.87	920
QC3-16	31	11.14	8	977	62.51	1033
QC4-18	23	9.59	15	967	62.19	827
QC4-09	38	12.33	15	1982	89.04	2113
QC4-06	0	0.00	46	902	90.07	1127
QC1-19	38	12.33	38	2292	95.75	2226
QC1-13	0	0.00	15	1061	65.15	1099
QC1-08	15	7.75	8	920	60.66	892
QC5-17	76	17.44	61	1127	67.14	1446
QC5-14	0	0.00	31	1399	74.81	1550
QC5-05	38	12.33	15	3090	111.18	3062
Variance (S^2)	259.2		293.9	267492		410594
Ratio			0.88			0.65
Agreement			Yes			Yes

Replicate analyses were not performed on smears or sediment samples. Quality control procedures, blanks, and spikes are a part of the laboratory quality control program at Mound. Participation in the DOE/EML inter-laboratory quality assurance program provides acceptable assurance of nuclide identification reliability and ensures a high quality of sample results. Since a relatively small number of samples were taken for this survey, additional replicate analysis was not required for this survey.

Field instrumentation is source checked each day prior to use and again at the completion of survey activities for that day. A known source is placed in a source holder to ensure a reproducible geometry is achieved. Acceptance criteria is ± 20% of the initial source response following calibration. Results are documented in accordance with Mound Radiological Control procedures. Laboratory instrumentation is source checked and documented in accordance with Mound Laboratory procedures.

2.5 Conclusion

The objective of this survey plan was to determine whether or not the residual radioactivity of the surfaces of building materials associated with Building OSE satisfy the site release criteria established by DOE Order 5400.5. This was accomplished by comparing the survey data to the release criteria in accordance with the MARSSIM (Reference 2). The scanning survey found no elevated measurement areas above the $DCGL_w$. No activity was found above screening levels in sediment samples.

All of the DQO's for this survey plan have been met and no further surveys are required. Building OSE meets the surface release criteria established by DOE Order 5400.5.

The following table shows the maximum fixed and removable activity found on the inside and outside building surfaces.

Building OSE Survey Results

TYPE	RSDS (Radiological Survey Data Sheet)	LOCATION	SURVEY RESULTS (dpm/100 cm^2) (Note 1)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 2)
Highest Alpha Smearable Activity	03-TF-0164	Floor	6.56	20
Highest Alpha Fixed Activity	03-TF-0164	Roof	76	100
Highest Beta Smearable Activity	03-TF-0164	Floor	17.66	1000
Highest Beta Fixed Activity	03-TF-0164	Roof	3287	5000
Highest Tritium Smearable Activity	03-TF-0164	Floor	20.97	10,000

Note 1: Residual 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.

3.0 Attachments and Enclosures

Attachment 1 – Average Total Alpha and Beta Graph

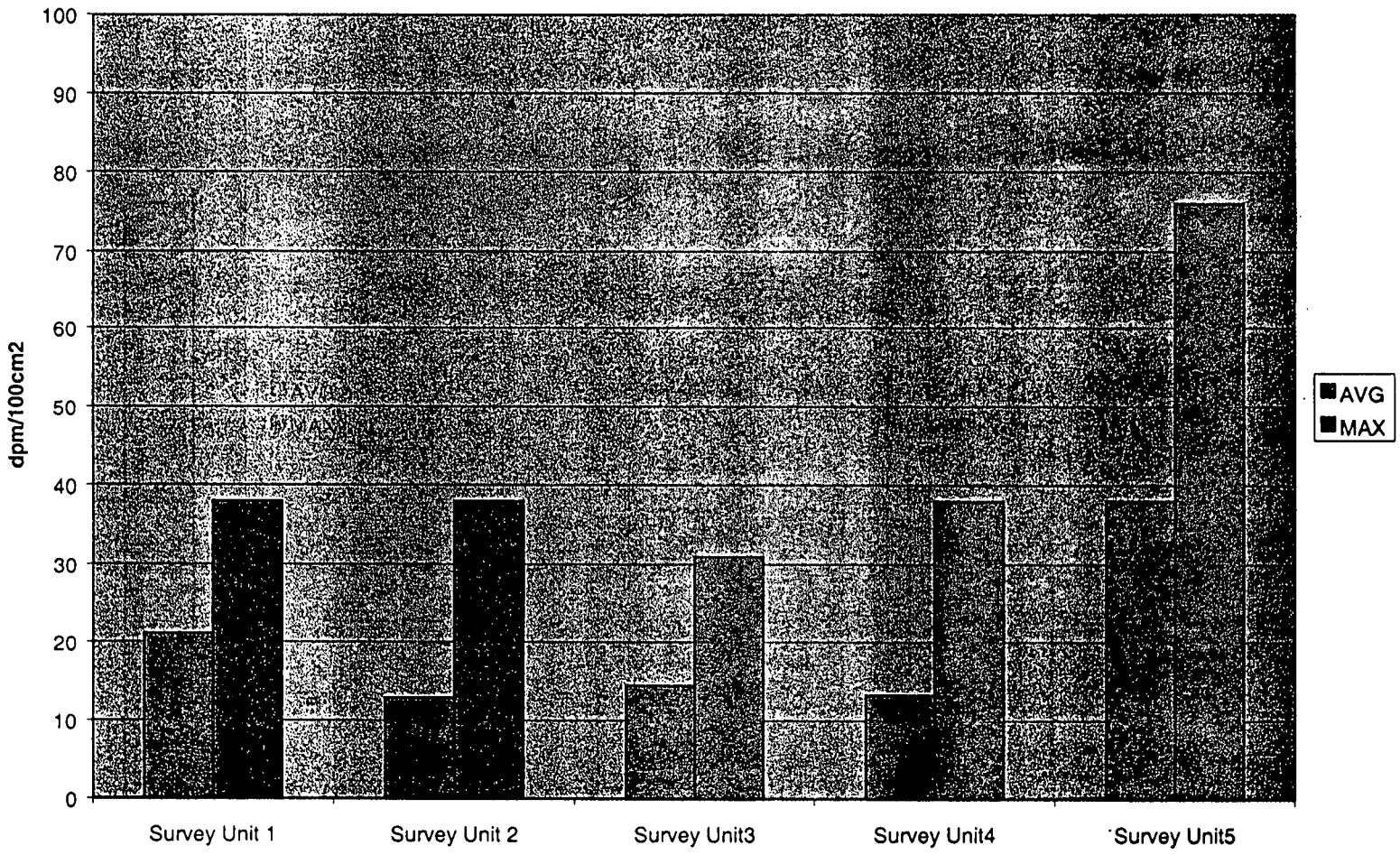
Enclosure 1 – Sample Data Analysis Worksheets

Enclosure 2 – SPF OSE-01

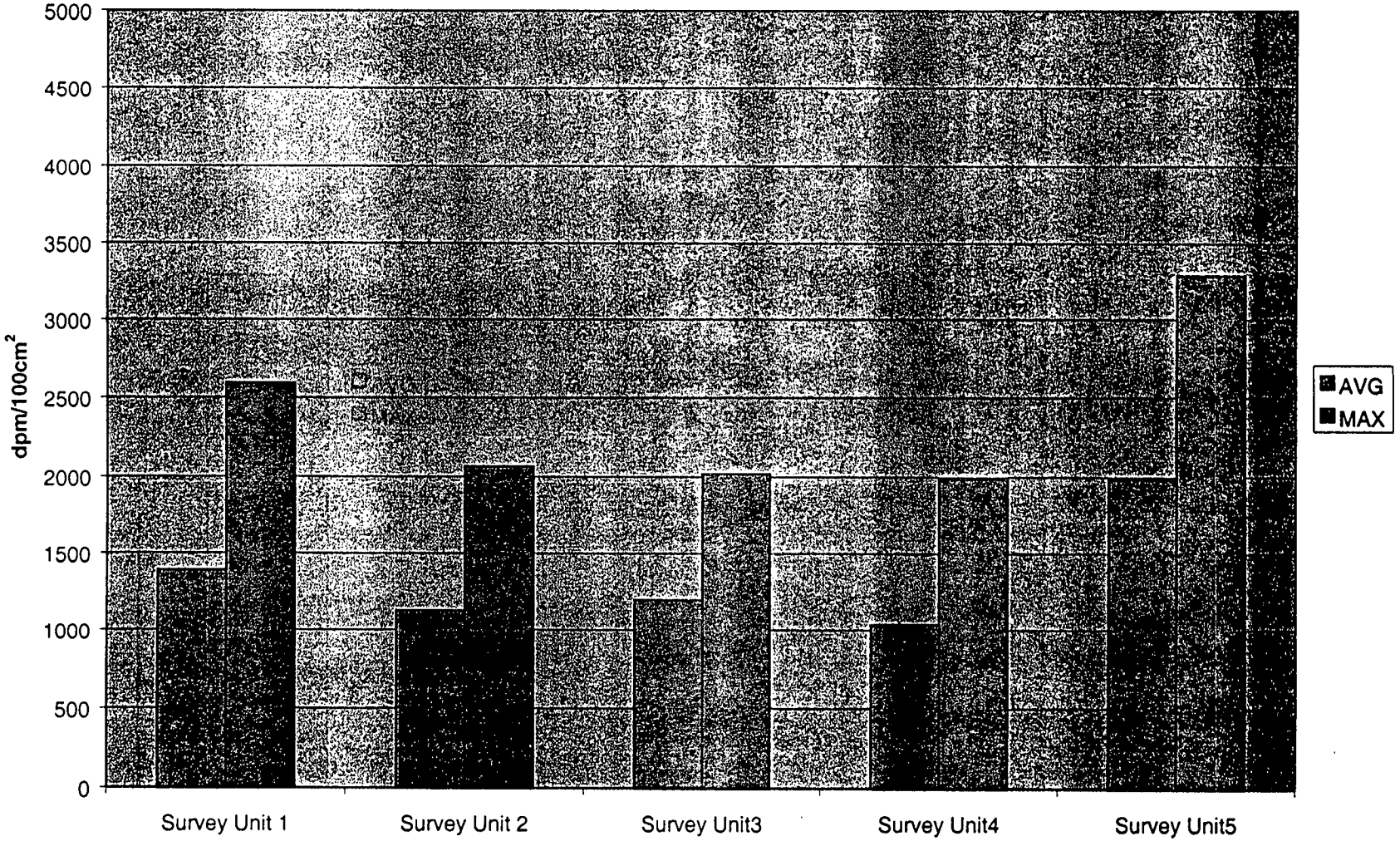
4.0 References

1. CH2MHILL Mound, Inc., EC&AS Department, White Paper: Building OSE Structural History and Process History Summary Background Document, May 2003
2. NUREG 1575, Rev 1, Aug 2000, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM)
3. MARSSIM Implementing Procedures, *Field Quality Control for Building Contamination Surveys*, MD-80046, Op. 402
4. MD80036, Issue 34, Op. No. 30056, *Operation of the Bicron Micro REM Survey Meter*

Building OSE Average & Maximum Total Alpha



Building OSE Average and Maximum Total Beta Activity



Building OSE Survey and Sample Data Worksheet

Building OSE Survey Data Collection Sheet

		Smearable			Fixed	
Location	RSDS#	α	β	H^3	α	β
SU1 01	0164	0	2.74	0	8	864
SU1 02	0164	0	4.11	10.94	23	930
SU1 03	0164	2.17	17.66	5.99	8	967
SU1 04	0164	4.37	3.8	4.01	8	1061
SU1 05	0164	2.19	1.21	13.17	0	883
SU1 06	0164	0	0	20.97	31	1212
SU1 07	0164	0	4.11	9.76	31	2592
SU1 08	0164	0	2.74	3.9	15	920
SU1 09	0164	0	4.11	6.86	38	1165
SU1 10	0164	0	1.37	1.03	23	1080
SU1 11	0164	0	4.11	2.21	23	733
SU1 12	0164	4.37	0	15.87	38	958
SU1 13	0164	2.18	5.32	9.89	0	1061
SU1 14	0164	0	4.11	0.93	8	1080
SU1 15	0164	0	2.74	9.6	31	1700
SU1 16	0164	0	1.37	7.21	15	920
SU1 17	0164	4.37	1.06	0	38	2395
SU1 18	0164	6.56	2.27	3.04	31	2423
SU1 19	0164	2.19	0	0	38	2292
SU1 20	0164	2.19	0	0	15	2583
SU2-01	0164	0	1.37	0	0	958
SU2-02	0164	2.19	1.21	9.72	0	996
SU2-03	0164	2.18	5.32	1.04	23	1005
SU2-04	0164	0	1.37	5.85	23	958
SU2-05	0164	2.19	1.21	1.05	8	1071
SU2-06	0164	2.18	3.95	0.08	8	939
SU2-07	0164	0	1.37	5.96	0	930
SU2-08	0164	2.19	1.21	1.38	38	808
SU2-09	0164	0	2.74	1.99	15	1061
SU2-10	0164	2.18	2.58	0.09	31	1146
SU2-11	0164	0	5.48	0	8	1202
SU2-12	0164	2.19	1.21	1.05	0	1127
SU2-13	0164	2.19	1.21	0.09	23	911
SU2-14	0164	2.19	1.21	2.97	23	2038
SU2-15	0164	0	1.37	6.29	31	2066
SU2-16	0164	0	0	10.8	8	1080
SU2-17	0164	4.37	3.8	0	0	1174
SU2-18	0164	2.19	1.21	1.99	8	1061
SU2-19	0164	0	2.74	3.95	0	892
SU2-20	0164	2.18	3.95	0	8	1165
SU3-01	0164	0	0	0	23	1136
SU3-02	0164	4.37	2.43	2.98	8	1399
SU3-03	0164	2.19	0	1.7	15	939
SU3-04	0164	0	1.37	0	8	1099
Location	RSDS#	α	β	H^3	α	β
SU3-05	0164	0	2.74	4.81	8	1146

SU3-06	0164	2.19	1.21	0	0	902
SU3-07	0164	0	5.48	0	0	1136
SU3-08	0164	4.37	2.43	2.93	31	1146
SU3-09	0164	2.18	2.58	0	23	1118
SU3-10	0164	2.18	3.95	0	15	1136
SU3-11	0164	0	0	0.08	8	1146
SU3-12	0164	0	4.11	0	15	1052
SU3-13	0164	0	5.48	0	8	1212
SU3-14	0164	2.18	3.95	8.74	8	1944
SU3-15	0164	0	2.74	0	23	2019
SU3-16	0164	0	1.37	0	31	977
SU3-17	0164	4.37	3.8	1.03	8	1108
SU3-18	0164	0	1.37	2.98	31	1146
SU3-19	0164	0	4.11	2.01	15	1099
SU3-20	0164	2.18	3.95	0	8	1146
SU4-01	0164	0	1.37	0	0	1174
SU4-02	0164	0	1.37	0	0	920
SU4-03	0164	0	0	1.13	15	1071
SU4-04	0164	0	1.37	0	15	949
SU4-05	0164	0	0	3.9	8	920
SU4-06	0164	0	4.11	5.78	0	902
SU4-07	0164	2.18	2.58	0	8	1024
SU4-08	0164	0	5.48	2.98	8	827
SU4-09	0164	2.18	2.58	0.09	38	1982
SU4-10	0164	2.18	6.69	0	15	1991
SU4-11	0164	0	2.74	0	31	751
SU4-12	0164	2.19	1.21	0	23	949
SU4-13	0164	0	4.11	0	8	864
SU4-14	0164	2.18	2.58	0	0	686
SU4-15	0164	0	1.37	0	8	817
SU4-16	0164	0	4.11	2.97	8	939
SU4-17	0164	0	1.37	3.05	31	780
SU4-18	0164	0	4.11	0	23	967
SU4-19	0164	4.37	3.8	5.08	23	1080
SU4-20	0164	0	0	5.08	0	1165
SU5-01	0164	0	0	0	0	3212
SU5-02	0164	0	1.37	0	23	3203
SU5-03	0164	2.19	1.21	2.94	46	3203
SU5-04	0164	2.18	5.32	0	31	1071
SU5-05	0164	0	1.37	3.79	38	3090
SU5-06	0164	0	1.37	0.73	46	3053
SU5-07	0164	0	2.74	0.08	46	3015
SU5-08	0164	0	0	2.93	15	2912
SU5-09	0164	0	1.37	0	54	2498
SU5-10	0164	0	0	0	54	3287
SU5-11	0164	0	0	2.09	8	1728
SU5-12	0164	0	1.37	0	8	1240
Location	RSDS#	α	β	H^3	α	β
SU5-13	0164	0	4.11	0	8	1747
SU5-14	0164	2.18	2.58	0	0	1399
SU5-15	0164	2.19	1.21	0	23	1822
SU5-16	0164	0	2.74	1.09	31	1512

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Building OSE Survey and Sample Data Worksheet

SU5-17	0164	2.18	5.32	4.17	76	1127
SU5-18	0164	0	4.11	0	38	1052
SU5-19	0164	0	4.11	0	76	1277
SU5-20	0164	0	1.37	0	61	1240
SU5-21	0164	2.18	3.95	0	61	1296
SU5-22	0164	0	1.37	4.56	54	1465
SU5-23	0164	0	1.37	0	54	1428
SU5-24	0164	0	0	0	69	1212
SU5-25	0164	0	0	3.7	31	1569

	α	β	H^3	α	β
Avg	1.081905	2.473524	2.505524	20.72381	1379.324
SD	1.488241	2.251848	3.801573	18.09191	658.0995
Max	6.56	17.66	20.97	76	3287
#	105	105	105	105	105
Conf	0.28466	0.430717	0.727137	3.460487	125.8764
Var				327.3172	433094.9

Scan Data

Location	RSDS#	α dpm/100cm2
U-1 S 01	0162	51
U-1 S 02	0162	44
U-2 S 01	0162	17
U-2 S 02	0162	22
U-3 S 01	0162	21
U-3 S 02	0162	22
U-4 S 01	0162	34

Avg	30.14286
Max	51
SD	13.10761
#	7
+/-	9.710063

Instrument Data

	Inst	SN	CDD	RSDS	α Bkg(cpm)	β Bkg(cpm)
1	L2350	5855/4864	6/18/04	0164	0.2	111
2	L2360	5833/5847	3/13/04	0166	1	109
3	L2350	5856/5675	5/12/04	0162	6.4	
4	L2350	5855/5850	6/18/04	0162	6.6	
5	B µREM	3945	7/8/04	0175		

	Smearable			Fixed	
	α	β	H^3	α	β
Survey Unit 1 First Floor					
Number	20	20	20	20	20
Avg	1.5295	3.1415	6.269	21.1	1390.95
SD	2.018161	3.809374	5.921496	13.04607	662.14051
Max	6.56	17.66	20.97	38	2592
+/-	0.88448	1.669499	2.595159	5.71758	290.19011
Survey Unit 2 Second Floor					
Number	20	20	20	20	20
Avg	1.421	2.2255	2.715	12.75	1129.4
SD	1.283383	1.52779	3.328974	12.2254	332.62788
Max	4.37	5.48	10.8	38	2066
+/-	0.562456	0.66957	1.458958	5.357914	145.7777
Survey Unit 3 Third Floor					
Number	20	20	20	20	20
Avg	1.3105	2.6535	1.363	14.3	1200.3
SD	1.647075	1.699032	2.256119	9.712174	286.08576
Max	4.37	5.48	8.74	31	2019
+/-	0.721848	0.744619	0.988768	4.256463	125.38012
Survey Unit 4 Fourth Floor					
Number	20	20	20	20	20
Avg	0.764	2.5475	1.503	13.1	1037.9
SD	1.282035	1.85423	2.094351	11.65242	348.72111
Max	4.37	6.69	5.78	38	1991
+/-	0.561866	0.812636	0.917872	5.106798	152.83073
Survey Unit 5 Ext/Roof/Pent					
Number	25	25	25	25	25
Avg	0.524	1.9344	1.0432	38.04	1986.32
SD	0.951696	1.694981	1.611856	23.12733	849.22733
Max	2.19	5.32	4.56	76	3287
+/-	0.373057	0.664419	0.631835	9.065733	332.8905

Graph Data Alpha					
	Survey Uni	Survey Uni	Survey Uni	Survey Unit	Survey Unit5
AVG	21.1	12.75	14.3	13.1	38.04
MAX	38	38	31	38	76
Graph Data Beta					
	Survey Uni	Survey Uni	Survey Uni	Survey Unit	Survey Unit5
AVG	1390.95	1129.4	1200.3	1037.9	1986.32
MAX	2592	2066	2019	1991	3287

Vents and Drains

Location	RSDS#	α	β	H^3	α	β

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Building OSE Survey and Sample Data Worksheet

VD-01	0166	2.18	6.69	2.04	0	220
VD-02	0166	0	0	17.48	10	155
VD-03	0166	0	0	2.94	10	455
VD-04	0166	2.19	1.21	34.71	10	285
VD-05	0166	2.18	2.58	9.58	0	375
VD-06	0166	0	1.37	8.44	0	290
VD-07	0166	0	1.37	0	0	165
VD-08	0166	0	1.37	13.67	10	90
VD-09	0166	0	0	13.61	20	215
VD-10	0166	0	1.37	5.01	10	160
VD-11	0166	2.19	1.21	6.78	40	150
VD-12	0166	2.18	2.58	2.93	50	175
VD-13	0166	0	2.74	6.12	60	130
VD-14	0166	2.18	8.06	23.23	30	95
VD-15	0166	0	4.11	13.96	0	125
VD-16	0166	0	0	13.87	40	215
VD-17	0166	0	2.74	0	70	140
VD-18	0166	2.19	0	0	0	95
VD-19	0166	0	0	12.65	0	235
VD-20	0166	0	1.37	0	10	170
VD-21	0166	2.18	2.58	4.52	20	110
VD-22	0166	0	1.37	8.64	30	70
VD-23	0166	6.55	11.86	11.63	30	240
VD-24	0166	2.18	6.69	31.23	80	170
VD-25	0166	0	2.74	10.24	30	155
VD-26	0166	0	6.85	8.63	50	140
VD-27	0166	0	1.37	2.13	10	135
VD-28	0166	2.19	1.21	3.89	50	120
VD-29	0166	4.37	3.8	5.31	80	260
VD-30	0166	0	2.74	4.2	50	65
VD-31	0166	0	2.74	3.06	40	115
VD-32	0166	2.18	8.06	2.12	50	185
VD-33	0166	0	4.11	6.83	30	135
VD-34	0166	0	5.48	2.04	70	260
VD-35	0166	4.37	2.43	2.01	40	220
VD-36	0166	2.19	0	4.88	80	320
VD-37	0166	0	2.74	3.06	80	260
VD-38	0166	2.18	5.32	3.91	70	300
VD-39	0166	0	2.74	0.42	30	65
VD-40	0166	4.37	2.43	4.81	60	140

Vents and Drains

Number	40	40	40	40	40
Avg	1.20125	2.90075	7.7645	33.75	185.125
SD	1.636701	2.674031	7.912584	26.66867	86.591344
Max	6.55	11.86	34.71	80	455
+/-	0.507209	0.828674	2.452087	8.2645423	26.834403

Replicate Fixed Point QC

alpha (dpm/100cm2)	beta (dpm/100cm2)

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Location #	initial	2σ	replicate	initial	2σ	replicate
QC2-19	0	0.00	0	892	59.73	1052
QC2-08	38	12.33	15	808	56.85	949
QC2-04	23	9.59	0	958	61.90	892
QC3- 6	0	0.00	31	902	60.07	1071
QC3-12	15	7.75	23	1052	64.87	920
QC3-16	31	11.14	8	977	62.51	1033
QC4-18	23	9.59	15	967	62.19	827
QC4-09	38	12.33	15	1982	89.04	2113
QC4-06	0	0.00	46	902	60.07	1127
QC1-19	38	12.33	38	2292	95.75	2226
QC1-13	0	0.00	15	1061	65.15	1099
QC1-08	15	7.75	8	920	60.66	892
QC5-17	76	17.44	61	1127	67.14	1446
QC5-14	0	0.00	31	1399	74.81	1550
QC5-05	38	12.33	15	3090	111.18	3062
Variance (S2) =	259.1556		293.9714	267491.96		410594.4
Ratio			0.881567			0.6514749
Agreement			YES			YES

QC Replicate Measurements

	Location	RSDS#	α	β
1	QC2-19	0164	0	1052
2	QC2-08	0164	15	949
3	QC2-04	0164	0	892
4	QC3- 6	0164	31	1071
5	QC3-12	0164	23	920
6	QC3-16	0164	8	1033
7	QC4-18	0164	15	827
8	QC4-09	0164	15	2113
9	QC4-06	0164	46	1127
10	QC1-19	0164	38	2226
11	QC1-13	0164	15	1099
12	QC1-08	0164	8	892
13	QC5-17	0164	61	1446
14	QC5-14	0164	31	1550
15	QC5-05	0164	15	3062

SURVEY PLAN FORM

SP NUMBER	OSE-01	DATE OF REQUEST	July 2, 2003
TYPE OF SP	☐ FSS ☒ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:		
AREA/LOCATION	Building OSE		
PURPOSE	The purpose of this SP is to characterize Building OSE to support decisions on final disposition.		
SURVEY UNIT # 1	First Floor	SURVEY UNIT # 4	Fourth Floor
SURVEY UNIT # 2	Second Floor	SURVEY UNIT # 5	Penthouse Roof and Exterior
SURVEY UNIT # 3	Third Floor	SURVEY UNIT	

SAMPLE TYPE

☐ SURFACE SOIL SAMPLE:

☐ SUB-SURFACE SOIL SAMPLE:

☒ SEDIMENT SAMPLE: See specific sediment sampling instructions on page 2.

☐ Rubbelized Material:

☐ OTHER:

SURVEY TYPE

SURFACE SCAN	☐ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of 1" per second at a distance of not more than ¼" from surface
		PROBE TYPE	43-37 Floor Probe or 43-20 Hand Probe		
STATIC MEASURE-MENT	☐ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Perform 1 minute counts at specified locations not more than ¼" from surface. See Note below.
		PROBE TYPE	43-20 Hand Probe		
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☐ ALPHA	INST. TYPE	L 2360 (or equivalent)	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Issue 29, Op. No. 30031, *Operation of the Ludlum 2360 Scaler/Ratemeter with Ludlum 43-93 Alpha/Beta Scintillator*, Section 6.3
		PROBE TYPE	L 43-93 (or equivalent)		
DOSE RATE MEASURE-MENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Bicron Micro REM	DETECTOR DISTANCE FROM SURFACE	General area Dose Rate measurements at waist level (3') from floor
		PROBE TYPE	Internal		

OTHER SURVEY TYPES OR COMMENTS

Note: Survey Unit 5 alpha measurements may be taken with L2360 with 43-93 alpha/beta probe.

All surveys shall be performed and documented in accordance with Mound Radiological Control procedures.

Take photographs of survey units, if possible. Pay particular attention to grid markings or other identifying features. Date and label photos.

Any sampling and surveying discrepancies shall be documented in the Comments section on the Survey Plan Form.

SP NUMBER	OSE-01	DATE OF REQUEST	July 2, 2003

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc. Exercise extreme caution when performing surveys from ladders or scaffolds. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
2. Ensure ventilation units are de-energized prior to attempting to collect a sample. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.

Floor Scan Measurements using a Ludlum 2350 with 43-37 alpha probe

1. Set the Ludlum 2350-1 datalogger to alarm at 75dpm/100cm^2 in the ratemeter mode.
2. Perform a floor scan of hallways and major walkways throughout the building.
3. Perform a 30 second integrated count at every location where an alarm is obtained. In addition, obtain a 30 second integrated count at any point where an audible or visual indication of elevated activity is observed at twice the background rate.
4. Record the location and surface material type of the area scanned on the RSDS map and document the results of any integrated counts.

Static Measurements Using L 2350 with 43-20 (alpha) probe and L 2360 with 43-93 (beta) probe or equivalent

1. Perform an alpha and beta count on at least twenty (20) data points in each Survey Unit. Data points are selected by the surveyor and should be broadly representative of the entire survey unit.
2. Perform an alpha and beta measurement on at least ten (10) data points on the roof. Data points are randomly selected by the surveyor and should be broadly representative of the entire survey unit.
3. Perform an alpha and beta measurement on at least ten (10) data points on the building exterior walls and exposed foundations. Data points are randomly selected by the surveyor and should be broadly representative of the entire survey unit.
4. Perform an integrated alpha and beta count at each sediment sample location.
5. Record location, surface material type, and results on RSDS map in accordance with Mound Rad Con procedures.
6. Document gross activity for each location (No "<" values). Record instrument background at survey location.

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each survey point identified above.
2. Count each smear for alpha, beta, and H^3. H^3 analysis is not required for building external surfaces.
3. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

Dose Rate Measurement with Bicron Micro REM meter

1. Obtain general area dose rates at various locations in normally occupied areas of each interior survey unit.
2. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

Sediment Samples

1. Collect approximately 250ml of debris from at least one accessible ventilation unit, floor drain, and any other area where debris has accumulated in each survey unit.
2. If insufficient material is present at these sample locations, obtain a representative smear of the location.
3. Document sample information and description of material on Attachment 1.
4. Label sample container with sample number, date and time of collection, and location in accordance with Mound procedures.

Continued Next Page

. Show sample location on the RSDS map.

. Submit sediment samples to laboratory for isotopic analysis. Submit smears for gross alpha and beta analysis.

. Additional intrusive samples may be collected in areas of elevated activity as determined by the MARSSIM Engineer.

Quality Control

. QC measurements will be performed by re-surveying 3 data points in each survey unit. Data points selected for resurvey should include the highest, lowest, and average readings in the survey unit.

. Sediment samples or smears with measured activity above the MDA may be resubmitted for replicate analysis. Ensure alpha and beta smear results are obtained before performing H^3 analysis.

. Record location, material, and results on RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
MARISSM Engineer	Roderick Case	**DATE**	July 2, 2003
Technical Reviewer	Galen Tomlinson	**DATE**	7-2-03
Rad Con Manager	A. Stephen Collas	**DATE**	7-7-03
SP CLOSE-OUT SIGNATURES			
MARISSM Engineer	R. CASE	**DATE**	7-24-03
Technical Reviewer	G. TOMLINSON	**DATE**	8-4-03
Rad Con Manager	ASCollas	**DATE**	8-4-03
COMMENTS			

Sample Number	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									
OSE-01-									

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RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSE	SURVEY NO. 03-TF-0162
PURPOSE: MARSSM Survey Plan OSE-01 Floor Scan Unit 1, 2, 3 and 4	RWP NO. NA
	DATE: 7-8-03
	TIME: 1530

MAP/DRAWING

See Attached

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
2350	5856/5675	5-12-04
2350	5855/5850	6-18-04
	NA	

[redacted] HP # 5214 7474 Date: 7-21-03

Counted by: (Signature) N HP # Date:

Counted by: (Print Name) [redacted] HP # 6178 Date: 7-21-03

ML-9620 (2-98)

Survey No. 03-TF-0162

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		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-9620A (4-98)

OSE BUILDING CHARACTERIZATION ALPHA FLOOR SCAN SURVEY

UNIT 1,2,3 AND 4

RSDS# 03-TF-0162 RCT: KA RCT: [illegible]

43-20 BKG:	0	EFF:	0.2	PROBE AREA:	181	cm2	Surface Eff:	0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2	PROBE AREA:	584	cm2	Surface Eff:	0.5	Detector # :	1

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRC BKG	5856	5214	5675	1		7/8/03	7:25	32	300	11
SRC CHECK	5856	5214	5675	1		7/8/03	8:03	2081	60	3563
SRC CHECK	5856	5214	5675	1		7/8/03	8:09	1935	60	3313
SRC CHECK	5856	5214	5675	1		7/8/03	8:11	2192	60	3753
SRC CHECK	5856	5214	5675	1		7/8/03	8:13	2093	60	3584
SRC CHECK	5856	5214	5675	1		7/8/03	8:15	2082	60	3565
SRC CHECK	5856	5214	5675	1		7/8/03	8:17	2135	60	3656
U-3 S 01	5856	5214	5675	1	1	7/8/03	13:40	6	30	21
SRC BKG	5856	5214	5675	1		7/9/03	7:55	41	300	14
SRC CHECK	5856	5214	5675	1		7/9/03	8:12	1987	60	3402
SRC CHECK	5856	5214	5675	1		7/9/03	8:15	2061	60	3529
SRC CHECK	5856	5214	5675	1		7/9/03	8:16	2161	60	3700
SRC CHECK	5856	5214	5675	1		7/9/03	8:18	2105	60	3604
SRC CHECK	5856	5214	5675	1		7/9/03	8:20	2051	60	3512
SRC CHECK	5856	5214	5675	1		7/9/03	8:21	2147	60	3676
U-2 S 01	5856	5214	5675	1	3	7/9/03	13:49	5	30	17
SRC BKG	5856	5214	5675	1		7/10/03	7:21	38	300	13
SRC CHECK	5856	5214	5675	1		7/10/03	7:26	2119	60	3628
SRC CHECK	5856	5214	5675	1		7/10/03	7:27	2131	60	3649
SRC CHECK	5856	5214	5675	1		7/10/03	7:30	2214	60	3791
SRC CHECK	5856	5214	5675	1		7/10/03	7:32	2100	60	3596
SRC CHECK	5856	5214	5675	1		7/10/03	7:33	2072	60	3548
SRC CHECK	5856	5214	5675	1		7/10/03	7:35	2134	60	3654
U-1 S 01	5856	5214	5675	1	5	7/10/03	9:44	15	30	51
U-4 S 01	5856	5214	5675	1	7	7/10/03	14:21	10	30	34

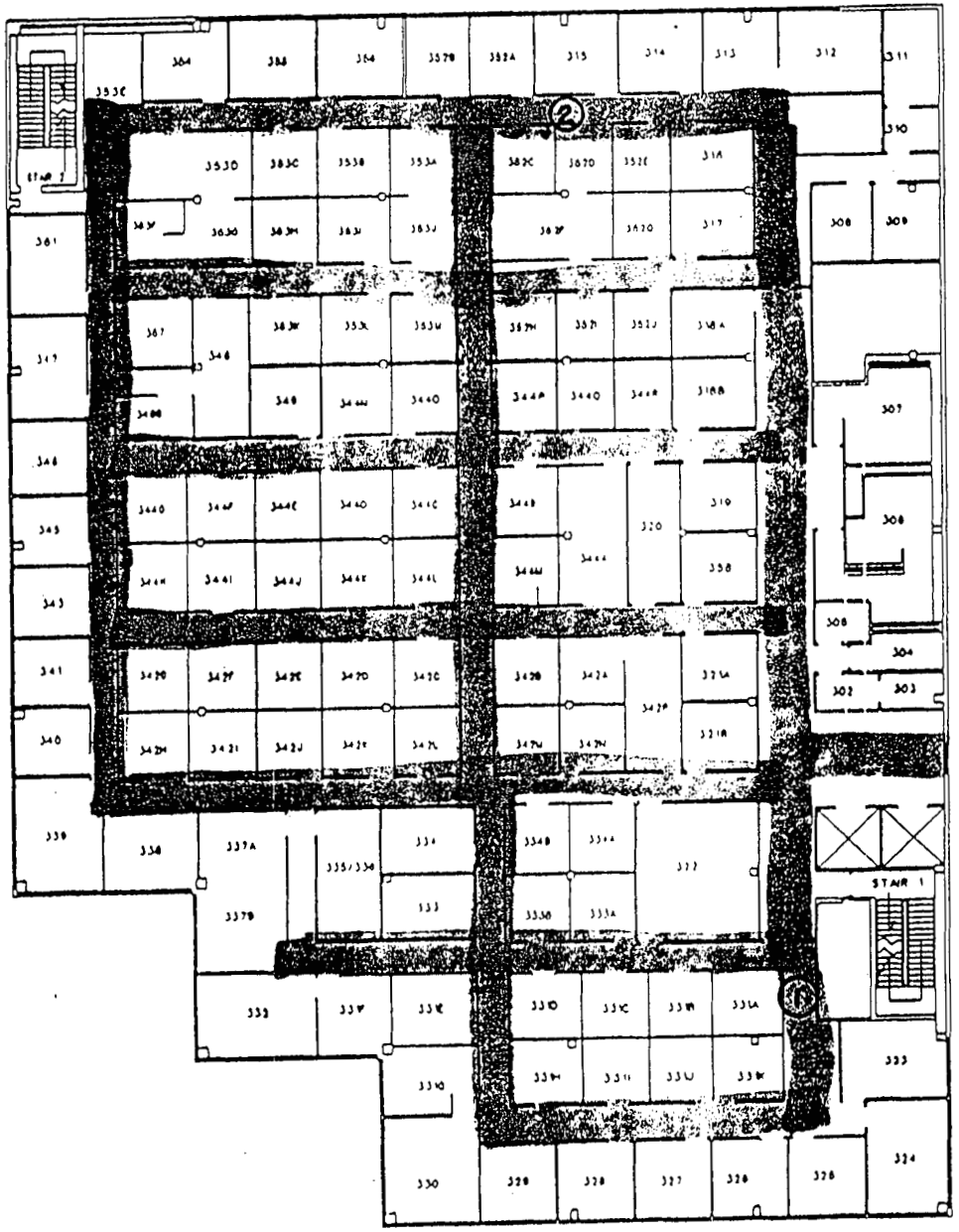
OSE BUILDING CHARACTERIZATION ALPHA FLOOR SCAN SURVEY

UNIT 1,2,3 AND 4

RSDS# 03-TF-0162 RCT: KA RCT: SK

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	1.23	cm2	Surface Eff:	0.5	Detector # :
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:	0.5	Detector # :

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRC BKG	5855	7474	5850	3		7/8/03	7:21	33	300	12
SRC CHECK	5855	7474	5850	3		7/8/03	7:38	2275	60	4166
SRC CHECK	5855	7474	5850	3		7/8/03	7:40	2190	60	4011
SRC CHECK	5855	7474	5850	3		7/8/03	7:42	2285	60	4185
SRC CHECK	5855	7474	5850	3		7/8/03	7:44	2246	60	4113
SRC CHECK	5855	7474	5850	3		7/8/03	7:47	2264	60	4146
SRC CHECK	5855	7474	5850	3		7/8/03	7:48	2310	60	4230
U-3 S 02	5855	7474	5850	3	2	7/8/03	13:39	6	30	22
SRC BKG	5855	7474	5850	3		7/9/03	7:48	20	300	7
SRC CHECK	5855	7474	5850	3		7/9/03	7:57	2227	60	4078
SRC CHECK	5855	7474	5850	3		7/9/03	7:58	2243	60	4108
SRC CHECK	5855	7474	5850	3		7/9/03	8:01	2350	60	4304
SRC CHECK	5855	7474	5850	3		7/9/03	8:02	2294	60	4201
SRC CHECK	5855	7474	5850	3		7/9/03	8:04	2319	60	4247
SRC CHECK	5855	7474	5850	3		7/9/03	8:08	2307	60	4225
U-2 S 02	5855	7474	5850	3	4	7/9/03	13:40	6	30	22
SRC BKG	5855	7474	5850	3		7/10/03	7:23	37	300	14
SRC CHECK	5855	7474	5850	3		7/10/03	7:38	2166	60	3967
SRC CHECK	5855	7474	5850	3		7/10/03	7:40	2316	60	4241
SRC CHECK	5855	7474	5850	3		7/10/03	7:42	2295	60	4203
SRC CHECK	5855	7474	5850	3		7/10/03	7:43	2113	60	3870
SRC CHECK	5855	7474	5850	3		7/10/03	7:45	2159	60	3954
SRC CHECK	5855	7474	5850	3		7/10/03	7:47	2252	60	4124
U-1 S 02	5855	7474	5850	3	6	7/10/03	8:53	12	30	44



OSE BLDG
THIRD FLOOR
CLASS: UNCL

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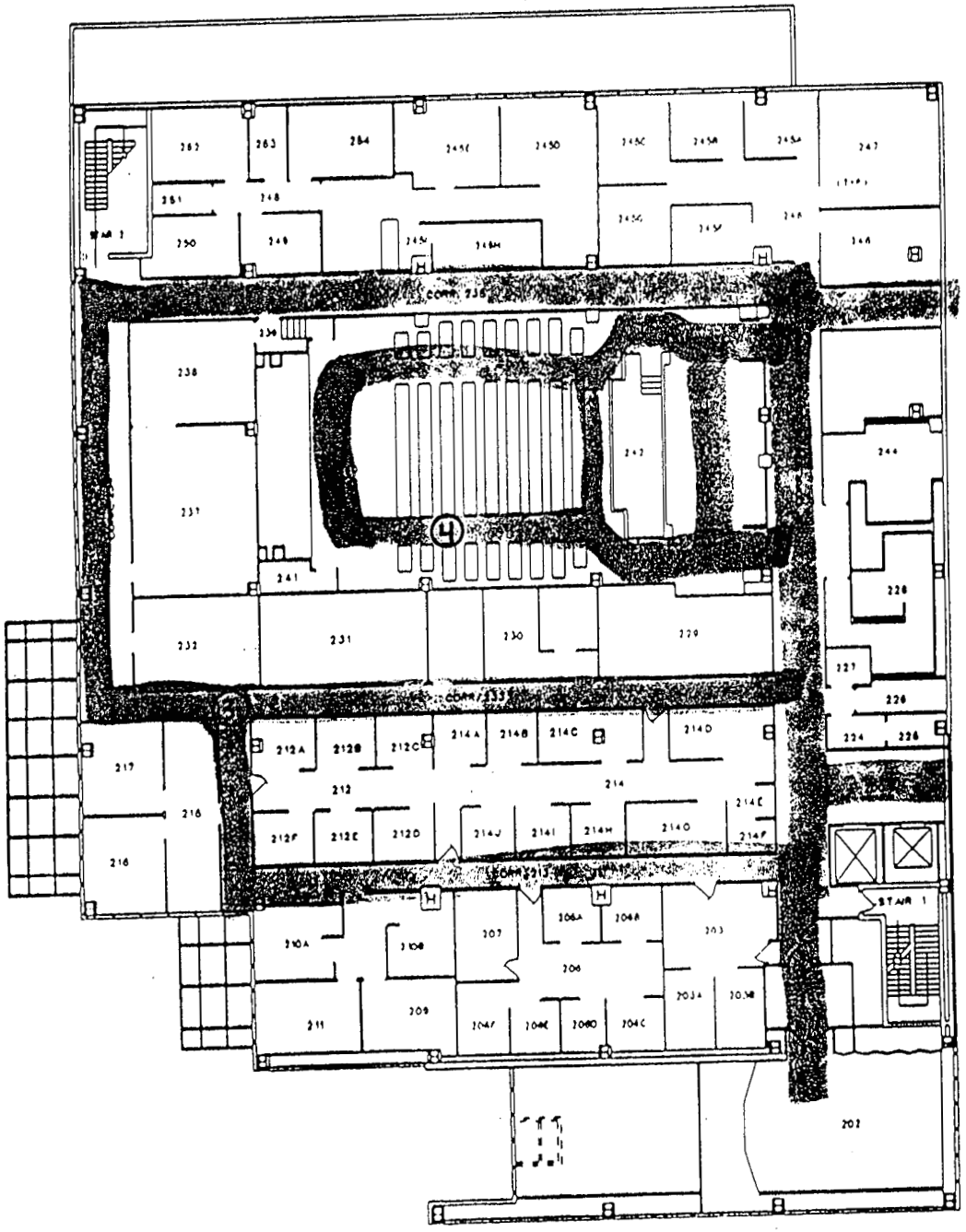

OSE BLDG
SECOND FLOOR
CLASS: UNCL

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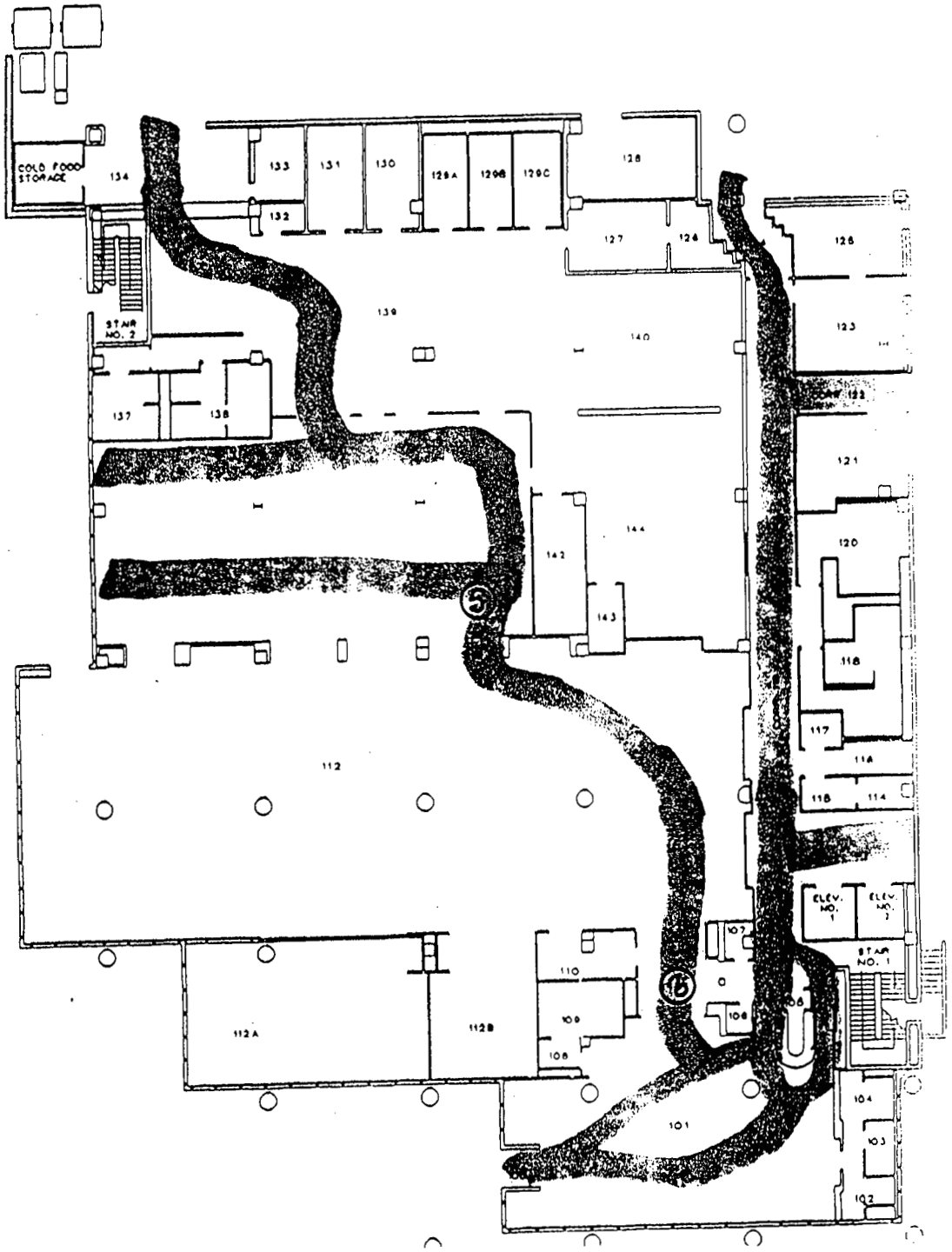

OSE BLDG
FIRST FLOOR
CLASS: UNCL

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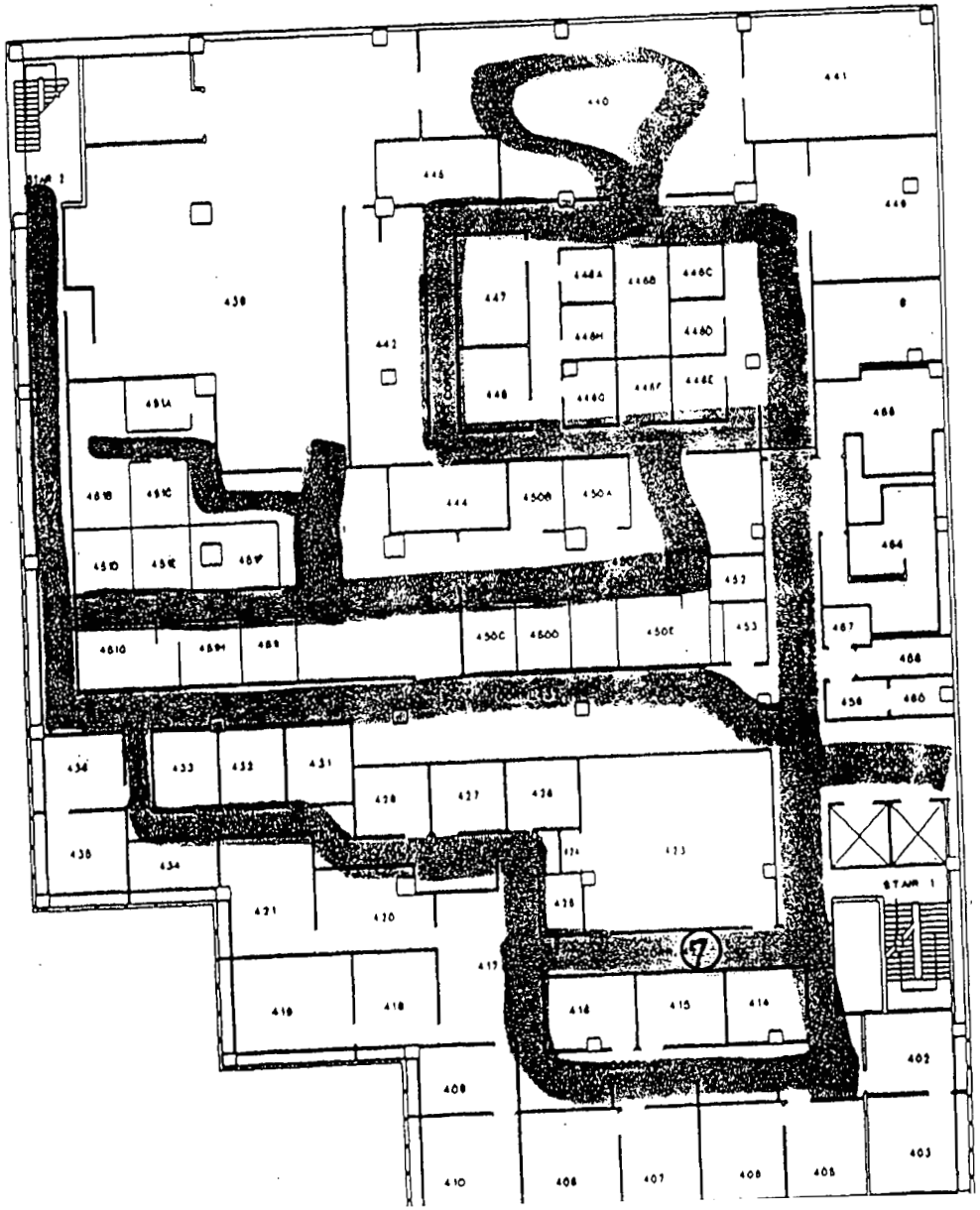

OSE BLDG
FOURTH FLOOR

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSE	SURVEY NO. 03-TF-01164
PURPOSE: MARISSM Survey PLAN OSE-01 Survey UNITS 1,2,3,4,5	RWP NO. NA
	DATE: 7-14-03
	TIME: 1530

MAP/DRAWING

See ATTACHED

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
2350	5855/5864	6-18-04
2360	5833/5847	3-13-04
	NA	

[redacted]	HP # 5214 7474	Date: 7-21-03
Counted by: (Signature) See	HP #	Date:
Counted by: (Print Name) ATTAched		
Reviewed/Ap[redacted]	HP # 7492	Date: 7-22-03
Reviewed/Approved by: (Print [redacted]		

ML-9620 (2-98)

Survey No. 03-TF-0164

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-20	See Attached			UNIT 1
21-40	↓	↓	↓	UNIT 2
41-60	↓	↓	↓	UNIT 3
61-80	↓	↓	↓	UNIT 4
81-105	↓	↓	↓	UNIT 5
		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-9620A (4-98)

OSE BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 1

RSDS# 03-TF-0164 RCT: DJH RCT: [illegible]

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	1		7/15/03	6:51	2	300	3	
SRCCHECK	5855	6178	5864	1		7/15/03	6:53	1949	60	14909	
SRCCHECK	5855	6178	5864	1		7/15/03	6:55	2084	60	15942	
SRCCHECK	5855	6178	5864	1		7/15/03	6:58	1971	60	15077	
SRCCHECK	5855	6178	5864	1		7/15/03	7:00	2047	60	15659	
EU-1 01	5855	6178	5864	1	1	7/15/03	13:05	1	60	8	
EU-1 02	5855	6178	5864	1	2	7/15/03	13:08	3	60	23	
EU-1 03	5855	6178	5864	1	3	7/15/03	13:11	1	60	8	
EU-1 04	5855	6178	5864	1	4	7/15/03	13:14	1	60	8	
EU-1 05	5855	6178	5864	1	5	7/15/03	13:19	0	60	0	
EU-1 06	5855	6178	5864	1	6	7/15/03	13:22	4	60	31	
EU-1 07	5855	6178	5864	1	7	7/15/03	13:25	4	60	31	
EU-1 08	5855	6178	5864	1	8	7/15/03	13:29	2	60	15	
EU-1 09	5855	6178	5864	1	9	7/15/03	13:31	5	60	38	
EU-1 10	5855	6178	5864	1	10	7/15/03	13:35	3	60	23	
EU-1 11	5855	6178	5864	1	11	7/15/03	13:38	3	60	23	
EU-1 12	5855	6178	5864	1	12	7/15/03	13:40	5	60	38	
EU-1 13	5855	6178	5864	1	13	7/15/03	13:43	0	60	0	
EU-1 14	5855	6178	5864	1	14	7/15/03	13:46	1	60	8	
EU-1 15	5855	6178	5864	1	15	7/15/03	13:50	4	60	31	
EU-1 16	5855	6178	5864	1	16	7/15/03	13:53	2	60	15	
EU-1 17	5855	6178	5864	1	17	7/15/03	13:56	5	60	38	
EU-1 18	5855	6178	5864	1	18	7/15/03	14:02	4	60	31	
EU-1 19	5855	6178	5864	1	19	7/15/03	14:05	5	60	38	
EU-1 20	5855	6178	5864	1	20	7/15/03	14:08	2	60	15	
QC 19	5855	5214	5864	1		7/15/03	14:11	5	60	38	
QC 13	5855	5214	5864	1		7/15/03	14:16	2	60	15	
QC 08	5855	5214	5864	1		7/15/03	14:19	1	60	8	

OSE BUILDING CHARACTERIZATION BETA SURVEY UNIT 1

RSDS# 03-TF-0164 RCT: RCT:

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/15/03	7:05	521	300	979	
SRCCHECK	5855	6178	5864	2		7/15/03	7:08	2049	60	19245	
SRCCHECK	5855	6178	5864	2		7/15/03	7:09	1944	60	18259	
SRCCHECK	5855	6178	5864	2		7/15/03	7:11	2299	60	21593	
SRCCHECK	5855	6178	5864	2		7/15/03	7:12	2295	60	21555	
EU-1 01	5855	6178	5864	2	1	7/15/03	13:06	92	60	864	
EU-1 02	5855	6178	5864	2	2	7/15/03	13:09	99	60	930	
EU-1 03	5855	6178	5864	2	3	7/15/03	13:12	103	60	967	
EU-1 04	5855	6178	5864	2	4	7/15/03	13:15	113	60	1061	
EU-1 05	5855	6178	5864	2	5	7/15/03	13:20	94	60	883	
EU-1 06	5855	6178	5864	2	6	7/15/03	13:23	129	60	1212	
EU-1 07	5855	6178	5864	2	7	7/15/03	13:26	276	60	2592	
EU-1 08	5855	6178	5864	2	8	7/15/03	13:30	98	60	920	
EU-1 09	5855	6178	5864	2	9	7/15/03	13:33	124	60	1165	
EU-1 10	5855	6178	5864	2	10	7/15/03	13:36	115	60	1080	
EU-1 11	5855	6178	5864	2	11	7/15/03	13:39	78	60	733	
EU-1 12	5855	6178	5864	2	12	7/15/03	13:42	102	60	958	
EU-1 13	5855	6178	5864	2	13	7/15/03	13:44	113	60	1061	
EU-1 14	5855	6178	5864	2	14	7/15/03	13:47	115	60	1080	
EU-1 15	5855	6178	5864	2	15	7/15/03	13:51	181	60	1700	
EU-1 16	5855	6178	5864	2	16	7/15/03	13:54	98	60	920	
EU-1 17	5855	6178	5864	2	17	7/15/03	13:57	255	60	2395	
EU-1 18	5855	6178	5864	2	18	7/15/03	14:03	258	60	2423	
EU-1 19	5855	6178	5864	2	19	7/15/03	14:06	244	60	2292	
EU-1 20	5855	6178	5864	2	20	7/15/03	14:09	275	60	2583	
QC 19	5855	5214	5864	2		7/15/03	14:12	237	60	2226	
QC 13	5855	5214	5864	2		7/15/03	14:17	117	60	1099	
QC 08	5855	5214	5864	2		7/15/03	14:20	95	60	892	

OSE BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 2

RSDS# 03-TF-0164 RCT: DJ RCT: KA

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	7474	5864	1		7/14/03	7:20	1	300	2	
SRC CHECK	5855	7474	5864	1		7/14/03	7:23	1911	60	14618	
SRC CHECK	5855	7474	5864	1		7/14/03	7:25	1926	60	14733	
SRC CHECK	5855	7474	5864	1		7/14/03	7:27	1988	60	15207	
SRC CHECK	5855	7474	5864	1		7/14/03	7:28	2112	60	16156	
EU-2 01	5855	7474	5864	1	21	7/14/03	14:03	0	60	0	
EU-2 02	5855	7474	5864	1	22	7/14/03	14:09	0	60	0	
EU-2 03	5855	7474	5864	1	23	7/14/03	14:12	3	60	23	
EU-2 04	5855	7474	5864	1	24	7/14/03	14:15	3	60	23	
EU-2 05	5855	7474	5864	1	25	7/14/03	14:18	1	60	8	
EU-2 06	5855	7474	5864	1	26	7/14/03	14:21	1	60	8	
EU-2 07	5855	7474	5864	1	27	7/14/03	14:24	0	60	0	
EU-2 08	5855	7474	5864	1	28	7/14/03	14:27	5	60	38	
EU-2 09	5855	7474	5864	1	29	7/14/03	14:30	2	60	15	
EU-2 10	5855	7474	5864	1	30	7/14/03	14:34	4	60	31	
EU-2 11	5855	7474	5864	1	31	7/14/03	14:37	1	60	8	
EU-2 12	5855	7474	5864	1	32	7/14/03	14:41	0	60	0	
EU-2 13	5855	7474	5864	1	33	7/14/03	14:45	3	60	23	
EU-2 14	5855	7474	5864	1	34	7/14/03	14:48	3	60	23	
EU-2 15	5855	7474	5864	1	35	7/14/03	14:51	4	60	31	
EU-2 16	5855	7474	5864	1	36	7/14/03	14:55	1	60	8	
EU-2 17	5855	7474	5864	1	37	7/14/03	14:58	0	60	0	
EU-2 18	5855	7474	5864	1	38	7/14/03	15:01	1	60	8	
EU-2 19	5855	7474	5864	1	39	7/14/03	15:04	0	60	0	
EU-2 20	5855	7474	5864	1	40	7/14/03	15:07	1	60	8	
QC 19	5855	6178	5864	1		7/14/03	15:10	0	60	0	
QC 08	5855	6178	5864	1		7/14/03	15:14	2	60	15	
QC 04	5855	6178	5864	1		7/14/03	15:17	0	60	0	

OSE BUILDING CHARACTERIZATION BETA SURVEY UNIT 2

RSDS# 03-TF-0164 RCT: [illegible] RCT: KA

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	7474	5864	2		7/14/03	7:36	555	300	1043	
SRC CHECK	5855	7474	5864	2		7/14/03	7:39	2029	60	19057	
SRC CHECK	5855	7474	5864	2		7/14/03	7:41	1955	60	18362	
SRC CHECK	5855	7474	5864	2		7/14/03	7:43	2170	60	20381	
SRC CHECK	5855	7474	5864	2		7/14/03	7:45	2143	60	20128	
EU-2 01	5855	7474	5864	2	21	7/14/03	14:04	102	60	958	
EU-2 02	5855	7474	5864	2	22	7/14/03	14:10	106	60	996	
EU-2 03	5855	7474	5864	2	23	7/14/03	14:13	107	60	1005	
EU-2 04	5855	7474	5864	2	24	7/14/03	14:16	102	60	958	
EU-2 05	5855	7474	5864	2	25	7/14/03	14:19	114	60	1071	
EU-2 06	5855	7474	5864	2	26	7/14/03	14:22	100	60	939	
EU-2 07	5855	7474	5864	2	27	7/14/03	14:25	99	60	930	
EU-2 08	5855	7474	5864	2	28	7/14/03	14:28	86	60	808	
EU-2 09	5855	7474	5864	2	29	7/14/03	14:32	113	60	1061	
EU-2 10	5855	7474	5864	2	30	7/14/03	14:35	122	60	1146	
EU-2 11	5855	7474	5864	2	31	7/14/03	14:38	128	60	1202	
EU-2 12	5855	7474	5864	2	32	7/14/03	14:42	120	60	1127	
EU-2 13	5855	7474	5864	2	33	7/14/03	14:46	97	60	911	
EU-2 14	5855	7474	5864	2	34	7/14/03	14:49	217	60	2038	
EU-2 15	5855	7474	5864	2	35	7/14/03	14:52	220	60	2066	
EU-2 16	5855	7474	5864	2	36	7/14/03	14:56	115	60	1080	
EU-2 17	5855	7474	5864	2	37	7/14/03	14:59	125	60	1174	
EU-2 18	5855	7474	5864	2	38	7/14/03	15:02	113	60	1061	
EU-2 19	5855	7474	5864	2	39	7/14/03	15:05	95	60	892	
EU-2 20	5855	7474	5864	2	40	7/14/03	15:08	124	60	1165	
QC 19	5855	6178	5864	2		7/14/03	15:11	112	60	1052	
QC 08	5855	6178	5864	2		7/14/03	15:15	101	60	949	
QC 04	5855	6178	5864	2		7/14/03	15:18	95	60	892	

OSE BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 3

RSDS# 03-TF-0164 RCT: KA RCT: SR

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	7474	5864	1		7/14/03	7:20	1	300	2	
SRC CHECK	5855	7474	5864	1		7/14/03	7:23	1911	60	14618	
SRC CHECK	5855	7474	5864	1		7/14/03	7:25	1926	60	14733	
SRC CHECK	5855	7474	5864	1		7/14/03	7:27	1988	60	15207	
SRC CHECK	5855	7474	5864	1		7/14/03	7:28	2112	60	16156	
EU-3 01	5855	7474	5864	1	41	7/14/03	12:41	3	60	23	
EU-3 02	5855	7474	5864	1	42	7/14/03	12:45	1	60	8	
EU-3 03	5855	7474	5864	1	43	7/14/03	12:48	2	60	15	
EU-3 04	5855	7474	5864	1	44	7/14/03	12:51	1	60	8	
EU-3 05	5855	7474	5864	1	45	7/14/03	12:54	1	60	8	
EU-3 06	5855	7474	5864	1	46	7/14/03	12:57	0	60	0	
EU-3 07	5855	7474	5864	1	47	7/14/03	13:01	0	60	0	
EU-3 08	5855	7474	5864	1	48	7/14/03	13:04	4	60	31	
EU-3 09	5855	7474	5864	1	49	7/14/03	13:07	3	60	23	
EU-3 10	5855	7474	5864	1	50	7/14/03	13:11	2	60	15	
EU-3 11	5855	7474	5864	1	51	7/14/03	13:14	1	60	8	
EU-3 12	5855	7474	5864	1	52	7/14/03	13:17	2	60	15	
EU-3 13	5855	7474	5864	1	53	7/14/03	13:20	1	60	8	
EU-3 14	5855	7474	5864	1	54	7/14/03	13:23	1	60	8	
EU-3 15	5855	7474	5864	1	55	7/14/03	13:26	3	60	23	
EU-3 16	5855	7474	5864	1	56	7/14/03	13:30	4	60	31	
EU-3 17	5855	7474	5864	1	57	7/14/03	13:34	1	60	8	
EU-3 18	5855	7474	5864	1	58	7/14/03	13:37	4	60	31	
EU-3 19	5855	7474	5864	1	59	7/14/03	13:40	2	60	15	
EU-3 20	5855	7474	5864	1	60	7/14/03	13:47	1	60	8	
QC 06	5855	5214	5864	1		7/14/03	13:51	4	60	31	
QC 12	5855	5214	5864	1		7/14/03	13:55	3	60	23	
QC 16	5855	5214	5864	1		7/14/03	13:58	1	60	8	

OSE BUILDING CHARACTERIZATION BETA SURVEY UNIT 3

RSDS# 03-TF-0164 RCT: KA RCT: [illegible]

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	7474	5864	2		7/14/03	7:36	555	300	1043	
SRC CHECK	5855	7474	5864	2		7/14/03	7:39	2029	60	19057	
SRC CHECK	5855	7474	5864	2		7/14/03	7:41	1955	60	18362	
SRC CHECK	5855	7474	5864	2		7/14/03	7:43	2170	60	20381	
SRC CHECK	5855	7474	5864	2		7/14/03	7:45	2143	60	20128	
EU-3 01	5855	7474	5864	2	41	7/14/03	12:43	121	60	1136	
EU-3 02	5855	7474	5864	2	42	7/14/03	12:46	149	60	1399	
EU-3 03	5855	7474	5864	2	43	7/14/03	12:49	100	60	939	
EU-3 04	5855	7474	5864	2	44	7/14/03	12:52	117	60	1099	
EU-3 05	5855	7474	5864	2	45	7/14/03	12:55	122	60	1146	
EU-3 06	5855	7474	5864	2	46	7/14/03	12:58	96	60	902	
EU-3 07	5855	7474	5864	2	47	7/14/03	13:02	121	60	1136	
EU-3 08	5855	7474	5864	2	48	7/14/03	13:05	122	60	1146	
EU-3 09	5855	7474	5864	2	49	7/14/03	13:08	119	60	1118	
EU-3 10	5855	7474	5864	2	50	7/14/03	13:12	121	60	1136	
EU-3 11	5855	7474	5864	2	51	7/14/03	13:15	122	60	1146	
EU-3 12	5855	7474	5864	2	52	7/14/03	13:18	112	60	1052	
EU-3 13	5855	7474	5864	2	53	7/14/03	13:21	129	60	1212	
EU-3 14	5855	7474	5864	2	54	7/14/03	13:24	207	60	1944	
EU-3 15	5855	7474	5864	2	55	7/14/03	13:27	215	60	2019	
EU-3 16	5855	7474	5864	2	56	7/14/03	13:31	104	60	977	
EU-3 17	5855	7474	5864	2	57	7/14/03	13:35	118	60	1108	
EU-3 18	5855	7474	5864	2	58	7/14/03	13:38	122	60	1146	
EU-3 19	5855	7474	5864	2	59	7/14/03	13:41	117	60	1099	
EU-3 20	5855	7474	5864	2	60	7/14/03	13:48	122	60	1146	
QC 06	5855	5214	5864	2		7/14/03	13:52	114	60	1071	
QC 12	5855	5214	5864	2		7/14/03	13:56	98	60	920	
QC 16	5855	5214	5864	2		7/14/03	13:59	110	60	1033	

OSE BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 4

RSDS# 03-TF-0164 RCT: KA RCT: SK

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	7474	5864	1		7/14/03	7:20	1	300	2	
SRC CHECK	5855	7474	5864	1		7/14/03	7:23	1911	60	14618	
SRC CHECK	5855	7474	5864	1		7/14/03	7:25	1926	60	14733	
SRC CHECK	5855	7474	5864	1		7/14/03	7:27	1988	60	15207	
SRC CHECK	5855	7474	5864	1		7/14/03	7:28	2112	60	16156	
EU-4 01	5855	7474	5864	1	61	7/14/03	8:22	0	60	0	
EU-4 02	5855	7474	5864	1	62	7/14/03	8:26	0	60	0	
EU-4 03	5855	7474	5864	1	63	7/14/03	8:30	2	60	15	
EU-4 04	5855	7474	5864	1	64	7/14/03	8:34	2	60	15	
EU-4 05	5855	7474	5864	1	65	7/14/03	8:37	1	60	8	
EU-4 06	5855	7474	5864	1	66	7/14/03	8:40	0	60	0	
EU-4 07	5855	7474	5864	1	67	7/14/03	8:43	1	60	8	
EU-4 08	5855	7474	5864	1	68	7/14/03	8:47	1	60	8	
EU-4 09	5855	7474	5864	1	69	7/14/03	8:51	5	60	38	
EU-4 10	5855	7474	5864	1	70	7/14/03	8:55	2	60	15	
EU-4 11	5855	7474	5864	1	71	7/14/03	8:59	4	60	31	
EU-4 12	5855	7474	5864	1	72	7/14/03	9:02	3	60	23	
EU-4 13	5855	7474	5864	1	73	7/14/03	9:36	1	60	8	
EU-4 14	5855	7474	5864	1	74	7/14/03	9:39	0	60	0	
EU-4 15	5855	7474	5864	1	75	7/14/03	9:43	1	60	8	
EU-4 16	5855	7474	5864	1	76	7/14/03	9:46	1	60	8	
EU-4 17	5855	7474	5864	1	77	7/14/03	9:49	4	60	31	
EU-4 18	5855	7474	5864	1	78	7/14/03	9:52	3	60	23	
EU-4 19	5855	7474	5864	1	79	7/14/03	9:55	3	60	23	
EU-4 20	5855	7474	5864	1	80	7/14/03	9:58	0	60	0	
QC 18	5855	5214	5864	1		7/14/03	10:01	2	60	15	
QC 09	5855	5214	5864	1		7/14/03	10:05	2	60	15	
QC 06	5855	5214	5864	1		7/14/03	10:09	6	60	46	

OSE BUILDING CHARACTERIZATION BETA SURVEY UNIT 4

RSDS# 03-TF-0164 RCT: KA RCT: SK

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	7474	5864	2		7/14/03	7:36	555	300	1043	
SRC CHECK	5855	7474	5864	2		7/14/03	7:39	2029	60	19057	
SRC CHECK	5855	7474	5864	2		7/14/03	7:41	1955	60	18362	
SRC CHECK	5855	7474	5864	2		7/14/03	7:43	2170	60	20381	
SRC CHECK	5855	7474	5864	2		7/14/03	7:45	2143	60	20128	
EU-4 01	5855	7474	5864	2	61	7/14/03	8:23	125	60	1174	
EU-4 02	5855	7474	5864	2	62	7/14/03	8:27	98	60	920	
EU-4 03	5855	7474	5864	2	63	7/14/03	8:31	114	60	1071	
EU-4 04	5855	7474	5864	2	64	7/14/03	8:35	101	60	949	
EU-4 05	5855	7474	5864	2	65	7/14/03	8:39	98	60	920	
EU-4 06	5855	7474	5864	2	66	7/14/03	8:41	96	60	902	
EU-4 07	5855	7474	5864	2	67	7/14/03	8:44	109	60	1024	
EU-4 08	5855	7474	5864	2	68	7/14/03	8:48	88	60	827	
EU-4 09	5855	7474	5864	2	69	7/14/03	8:52	211	60	1982	
EU-4 10	5855	7474	5864	2	70	7/14/03	8:56	212	60	1991	
EU-4 11	5855	7474	5864	2	71	7/14/03	9:00	80	60	751	
EU-4 12	5855	7474	5864	2	72	7/14/03	9:03	101	60	949	
EU-4 13	5855	7474	5864	2	73	7/14/03	9:37	92	60	864	
EU-4 14	5855	7474	5864	2	74	7/14/03	9:40	73	60	686	
EU-4 15	5855	7474	5864	2	75	7/14/03	9:44	87	60	817	
EU-4 16	5855	7474	5864	2	76	7/14/03	9:47	100	60	939	
EU-4 17	5855	7474	5864	2	77	7/14/03	9:51	83	60	780	
EU-4 18	5855	7474	5864	2	78	7/14/03	9:54	103	60	967	
EU-4 19	5855	7474	5864	2	79	7/14/03	9:56	115	60	1080	
EU-4 20	5855	7474	5864	2	80	7/14/03	9:59	124	60	1165	
QC 18	5855	5214	5864	2		7/14/03	10:03	88	60	827	
QC 09	5855	5214	5864	2		7/14/03	10:07	225	60	2113	
QC 06	5855	5214	5864	2		7/14/03	10:10	120	60	1127	

OSE BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 5

RSDS# 03-TF-0164 RCT: DJH RCT: SK

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	1		7/15/03	6:51	2	300	3	
SRCCHECK	5855	6178	5864	1		7/15/03	6:53	1949	60	14909	
SRCCHECK	5855	6178	5864	1		7/15/03	6:55	2084	60	15942	
SRCCHECK	5855	6178	5864	1		7/15/03	6:58	1971	60	15077	
SRCCHECK	5855	6178	5864	1		7/15/03	7:00	2047	60	15659	
EU-5 01	5855	6178	5864	1	81	7/15/03	7:26	0	60	0	
EU-5 02	5855	6178	5864	1	82	7/15/03	7:30	3	60	23	
EU-5 03	5855	6178	5864	1	83	7/15/03	7:33	6	60	46	
EU-5 04	5855	6178	5864	1	84	7/15/03	7:37	4	60	31	
EU-5 05	5855	6178	5864	1	85	7/15/03	7:42	5	60	38	
EU-5 06	5855	6178	5864	1	86	7/15/03	7:45	6	60	46	
EU-5 07	5855	6178	5864	1	87	7/15/03	7:51	6	60	46	
EU-5 08	5855	6178	5864	1	88	7/15/03	7:55	2	60	15	
EU-5 09	5855	6178	5864	1	89	7/15/03	7:59	7	60	54	
EU-5 10	5855	6178	5864	1	90	7/15/03	8:02	7	60	54	
EU-5 11	5855	6178	5864	1	91	7/15/03	8:14	1	60	8	
EU-5 12	5855	6178	5864	1	92	7/15/03	8:18	1	60	8	
EU-5 13	5855	6178	5864	1	93	7/15/03	8:21	1	60	8	
EU-5 14	5855	6178	5864	1	94	7/15/03	8:24	0	60	0	
EU-5 15	5855	6178	5864	1	95	7/15/03	8:27	3	60	23	
EU-5 16	5855	6178	5864	1	96	7/15/03	8:32	4	60	31	
EU-5 17	5855	6178	5864	1	97	7/15/03	8:36	10	60	76	
EU-5 18	5855	6178	5864	1	98	7/15/03	8:39	5	60	38	
EU-5 19	5855	6178	5864	1	99	7/15/03	8:42	10	60	76	
EU-5 20	5855	6178	5864	1	100	7/15/03	8:45	8	60	61	
EU-5 21	5855	6178	5864	1	101	7/15/03	8:48	8	60	61	
EU-5 22	5855	6178	5864	1	102	7/15/03	8:52	7	60	54	
EU-5 23	5855	6178	5864	1	103	7/15/03	8:55	7	60	54	
EU-5 24	5855	6178	5864	1	104	7/15/03	8:58	9	60	69	
EU-5 25	5855	6178	5864	1	105	7/15/03	9:01	4	60	31	
QC 17	5855	5214	5864	1		7/15/03	9:05	8	60	61	
QC 14	5855	5214	5864	1		7/15/03	9:08	4	60	31	
QC 05	5855	5214	5864	1		7/15/03	9:21	2	60	15	

OSE BUILDING CHARACTERIZATION BETA SURVEY UNIT 5

RSDS# 03-TF-0164 RCT: KA RCT: SK

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/15/03	7:05	521	300	979	
SRCCHECK	5855	6178	5864	2		7/15/03	7:08	2049	60	19245	
SRCCHECK	5855	6178	5864	2		7/15/03	7:09	1944	60	18259	
SRCCHECK	5855	6178	5864	2		7/15/03	7:11	2299	60	21593	
SRCCHECK	5855	6178	5864	2		7/15/03	7:12	2295	60	21555	
EU-5 01	5855	6178	5864	2	81	7/15/03	7:27	342	60	3212	
EU-5 02	5855	6178	5864	2	82	7/15/03	7:31	341	60	3203	
EU-5 03	5855	6178	5864	2	83	7/15/03	7:35	341	60	3203	
EU-5 04	5855	6178	5864	2	84	7/15/03	7:38	114	60	1071	
EU-5 05	5855	6178	5864	2	85	7/15/03	7:43	329	60	3090	
EU-5 06	5855	6178	5864	2	86	7/15/03	7:46	325	60	3053	
EU-5 07	5855	6178	5864	2	87	7/15/03	7:52	321	60	3015	
EU-5 08	5855	6178	5864	2	88	7/15/03	7:56	310	60	2912	
EU-5 09	5855	6178	5864	2	89	7/15/03	8:00	266	60	2498	
EU-5 10	5855	6178	5864	2	90	7/15/03	8:03	350	60	3287	
EU-5 11	5855	6178	5864	2	91	7/15/03	8:15	184	60	1728	
EU-5 12	5855	6178	5864	2	92	7/15/03	8:19	132	60	1240	
EU-5 13	5855	6178	5864	2	93	7/15/03	8:22	186	60	1747	
EU-5 14	5855	6178	5864	2	94	7/15/03	8:25	149	60	1399	
EU-5 15	5855	6178	5864	2	95	7/15/03	8:28	194	60	1822	
EU-5 16	5855	6178	5864	2	96	7/15/03	8:33	161	60	1512	
EU-5 17	5855	6178	5864	2	97	7/15/03	8:37	120	60	1127	
EU-5 18	5855	6178	5864	2	98	7/15/03	8:40	112	60	1052	
EU-5 19	5855	6178	5864	2	99	7/15/03	8:43	136	60	1277	
EU-5 20	5855	6178	5864	2	100	7/15/03	8:46	132	60	1240	
EU-5 21	5855	6178	5864	2	101	7/15/03	8:49	138	60	1296	
EU-5 22	5855	6178	5864	2	102	7/15/03	8:53	156	60	1465	
EU-5 23	5855	6178	5864	2	103	7/15/03	8:56	152	60	1428	
EU-5 24	5855	6178	5864	2	104	7/15/03	8:59	129	60	1212	
EU-5 25	5855	6178	5864	2	105	7/15/03	9:02	167	60	1569	
QC 17	5855	5214	5864	2		7/15/03	9:06	154	60	1446	
QC 14	5855	5214	5864	2		7/15/03	9:09	165	60	1550	
QC 05	5855	5214	5864	2		7/15/03	9:22	326	60	3062	

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200307160724	**Count Date:**	7/16/2003
Group:	E	**Count Minutes:**	1.5
Serial Number:	78218-1	**Count Mode:**	Simultaneous
Batch ID:	03-TF-0164 RILEY-105 BSB	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	57	0.00	0.00	2.74	2.04
2	91	0.00	0.00	4.11	2.50
3	88	2.17	1.92	17.66	5.21
4	4	4.37	2.72	3.80	2.51
5	54	2.19	1.92	1.21	1.45
6	33	0.00	0.00	0.00	0.00
7	19	0.00	0.00	4.11	2.50
8	100	0.00	0.00	2.74	2.04
9	18	0.00	0.00	4.11	2.50
10	65	0.00	0.00	1.37	1.45
11	66	0.00	0.00	4.11	2.50
12	86	4.37	2.72	0.00	0.23
13	56	2.18	1.92	5.32	2.90
14	93	0.00	0.00	4.11	2.50
15	35	0.00	0.00	2.74	2.04
16	6	0.00	0.00	1.37	1.45
17	3	4.37	2.72	1.06	1.46
18	27	6.56	3.33	2.27	2.06
19	77	2.19	1.92	0.00	0.16
20	47	2.19	1.92	0.00	0.16
21	5	0.00	0.00	1.37	1.45
22	60	2.19	1.92	1.21	1.45
23	95	2.18	1.92	5.32	2.90
24	22	0.00	0.00	1.37	1.45
25	36	2.19	1.92	1.21	1.45
26	43	2.18	1.92	3.95	2.51
27	90	0.00	0.00	1.37	1.45
28	41	2.19	1.92	1.21	1.45
29	62	0.00	0.00	2.74	2.04
30	53	2.18	1.92	2.58	2.05
31	92	0.00	0.00	5.48	2.89
32	88	2.19	1.92	1.21	1.45
33	50	2.19	1.92	1.21	1.45
34	11	2.19	1.92	1.21	1.45
35	38	0.00	0.00	1.37	1.45
36	76	0.00	0.00	0.00	0.00
37	46	4.37	2.72	3.80	2.51

BS Brown

KA ~~Pag. 1 of 3~~ KA KA

Alpha/Beta Analysis

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
38	79	2.19	1.92	1.21	1.45
39	82	0.00	0.00	2.74	2.04
40	7	2.18	1.92	3.95	2.51
41	71	0.00	0.00	0.00	0.00
42	98	4.37	2.72	2.43	2.06
43	61	2.19	1.92	0.00	0.16
44	3	0.00	0.00	1.37	1.45
45	30	0.00	0.00	2.74	2.04
46	11	2.19	1.92	1.21	1.45
47	63	0.00	0.00	5.48	2.89
48	52	4.37	2.72	2.43	2.06
49	66	2.18	1.92	2.58	2.05
50	9	2.18	1.92	3.95	2.51
51	50	0.00	0.00	0.00	0.00
52	17	0.00	0.00	4.11	2.50
53	69	0.00	0.00	5.48	2.89
54	99	2.18	1.92	3.95	2.51
55	90	0.00	0.00	2.74	2.04
56	71	0.00	0.00	1.37	1.45
57	34	4.37	2.72	3.80	2.51
58	39	0.00	0.00	1.37	1.45
59	11	0.00	0.00	4.11	2.50
60	39	2.18	1.92	3.95	2.51
61	42	0.00	0.00	1.37	1.45
62	4	0.00	0.00	1.37	1.45
63	86	0.00	0.00	0.00	0.00
64	21	0.00	0.00	1.37	1.45
65	10	0.00	0.00	0.00	0.00
66	6	0.00	0.00	4.11	2.50
67	28	2.18	1.92	2.58	2.05
68	24	0.00	0.00	5.48	2.89
69	28	2.18	1.92	2.58	2.05
70	68	2.18	1.92	6.69	3.24
71	45	0.00	0.00	2.74	2.04
72	97	2.19	1.92	1.21	1.45
73	44	0.00	0.00	4.11	2.50
74	57	2.18	1.92	2.58	2.05
75	49	0.00	0.00	1.37	1.45
76	76	0.00	0.00	4.11	2.50
77	81	0.00	0.00	1.37	1.45
78	34	0.00	0.00	4.11	2.50
79	43	4.37	2.72	3.80	2.51
80	23	0.00	0.00	0.00	0.00
81	77	0.00	0.00	0.00	0.00
82	31	0.00	0.00	1.37	1.45
83	93	2.19	1.92	1.21	1.45

KA ~~Page 2 of 3~~ KA KA

Alpha/Beta Analysis

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
84	81	2.18	1.92	5.32	2.90
85	62	0.00	0.00	1.37	1.45
86	87	0.00	0.00	1.37	1.45
87	20	0.00	0.00	2.74	2.04
88	2	0.00	0.00	0.00	0.00
89	8	0.00	0.00	1.37	1.45
90	91	0.00	0.00	0.00	0.00
91	75	0.00	0.00	0.00	0.00
92	97	0.00	0.00	1.37	1.45
93	20	0.00	0.00	4.11	2.50
94	32	2.18	1.92	2.58	2.05
95	79	2.19	1.92	1.21	1.45
96	68	0.00	0.00	2.74	2.04
97	17	2.18	1.92	5.32	2.90
98	82	0.00	0.00	4.11	2.50
99	15	0.00	0.00	4.11	2.50
100	80	0.00	0.00	1.37	1.45
101	12	2.18	1.92	3.95	2.51
102	84	0.00	0.00	1.37	1.45
103	45	0.00	0.00	1.37	1.45
104	87	0.00	0.00	0.00	0.00
105	19	0.00	0.00	0.00	0.00
		KA		KA	

Batch ID: 03-TF-0164 RILEY-105 BSB

16 Jul 2003 12:04 ALPHA/BETA - 1.09 Page #

Protocol #: 3 Pw H3 405828 User : 5268

Time: 2.00
Data Mode: DPM Nuclide: SM6LS02 Quench Set: SM6LS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5	18.6	0	0.0	6.96
Region B:	2.0	18.6	0	0.0	6.84
Region C:	40.0	2000	0	0.0	11.60

Quench Indicator: tSIE/AEC
~~Ext Std Terminator: Count~~
03-TF-0164 RILEY-105 BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT3.DAT
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.96	6.84	0	B	455.76		0.00	11.60
0	2.00	79.48	76.34	0		472.83	179.23	32.85	0.00
1	2.00	0.00	0.00	0		633.92	0.00	0.00	0.90
2	2.00	5.75	4.98	0		658.62	10.94	10.14	3.90
3	2.00	3.04	2.55	0		616.99	5.99	9.41	3.90
4	2.00	2.04	1.66	0		620.85	4.01	8.95	0.00
5	2.00	6.93	6.66	0		661.53	13.17	10.54	1.40
6	2.00	10.62	9.34	0		613.37	20.97	12.27	7.93
7	2.00	5.11	4.10	0		655.27	9.76	9.93	5.40
8	2.00	2.04	1.79	0		655.59	3.90	8.70	0.90
9	2.00	3.54	3.16	0		638.47	6.86	9.45	3.52
10	2.00	0.54	0.16	0		662.15	1.03	8.00	0.00
11	2.00	1.12	0.24	0		613.47	2.21	8.59	0.00
12	2.00	8.36	5.93	0		662.67	15.87	11.04	10.64
13	2.00	5.04	5.16	0		621.50	9.89	10.18	3.90
14	2.00	0.48	0.10	0		634.67	0.93	8.15	0.00
15	2.00	4.94	4.22	0		632.23	9.60	10.05	0.00
16	2.00	3.54	2.95	0		578.72	7.21	9.93	0.00
17	2.00	0.00	0.00	0		633.93	0.00	0.00	0.00
18	2.00	1.54	1.66	0		617.01	3.04	8.76	0.00
19	2.00	0.00	0.00	0		624.82	0.00	0.00	0.00
20	2.00	0.00	0.00	0		569.92	0.00	0.00	0.00
21	2.00	0.00	0.00	0		503.54	0.00	0.00	0.00
22	2.00	5.02	4.45	0		637.01	9.72	10.04	7.40
23	2.00	0.54	0.00	0		655.30	1.04	8.05	6.90
24	2.00	3.04	3.16	0		646.64	5.85	9.18	0.00
25	2.00	0.54	0.31	0		640.78	1.05	8.14	1.44
26	2.00	0.04	0.16	0		666.56	0.08	7.76	0.00
27	2.00	3.04	3.16	0		623.10	5.96	9.36	0.00
28	2.00	0.72	0.00	0		648.88	1.38	8.17	0.00
29	2.00	1.04	1.16	0		657.51	1.99	8.26	1.40
30	2.00	0.04	0.00	0		650.55	0.09	7.85	0.00
31	2.00	0.00	0.00	0		657.35	0.00	0.00	2.90
32	2.00	0.54	0.00	0		640.27	1.05	8.15	0.00
33	2.00	0.04	0.00	0		566.88	0.09	8.41	0.00
34	2.00	1.54	1.16	0		646.75	2.97	8.55	0.00

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Protocol #: 3 Pw H3 405828 User : 5268

S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	3.04	2.66	0	561.08	6.29	9.86	0.00
36	2.00	5.70	4.38	0	665.34	10.80	10.08	0.00
37	2.00	0.00	0.00	0	638.07	0.00	0.00	0.00
38	2.00	1.04	0.78	0	656.19	1.99	8.27	0.00
39	2.00	2.04	1.81	0	640.76	3.95	8.81	0.00
40	2.00	0.00	0.00	0	624.21	0.00	0.00	0.40
41	2.00	0.00	0.00	0	608.33	0.00	0.00	0.00
42	2.00	1.54	1.31	0	642.64	2.98	8.58	0.00
43	2.00	0.85	0.47	0	597.55	1.70	8.58	0.00
44	2.00	0.00	0.00	0	657.09	0.00	0.00	0.00
45	2.00	2.54	1.85	0	672.31	4.81	8.83	0.00
46	2.00	0.00	0.00	0	611.27	0.00	0.00	0.00
47	2.00	0.00	0.00	0	634.82	0.00	0.00	0.00
48	2.00	1.54	1.27	0	662.80	2.93	8.44	0.40
49	2.00	0.00	0.00	0	648.81	0.00	0.00	0.00
50	2.00	0.00	0.00	0	655.27	0.00	0.00	0.00
51	2.00	0.04	0.16	0	661.90	0.08	7.78	0.00
52	2.00	0.00	0.00	0	636.45	0.00	0.00	0.00
53	2.00	0.00	0.00	0	620.77	0.00	0.00	0.00
54	2.00	4.54	3.80	0	645.66	8.74	9.79	0.00
55	2.00	0.00	0.00	0	664.28	0.00	0.00	0.00
56	2.00	0.00	0.00	0	660.00	0.00	0.00	0.00
57	2.00	0.54	0.16	0	664.40	1.03	8.00	0.00
58	2.00	1.54	1.66	0	642.84	2.98	8.58	0.00
59	2.00	1.04	0.31	0	642.27	2.01	8.36	0.00
60	2.00	0.00	0.00	0	640.38	0.00	0.00	0.00
61	2.00	0.00	0.00	0	666.98	0.00	0.00	0.00
62	2.00	0.00	0.00	0	651.23	0.00	0.00	0.00
63	2.00	0.60	0.71	0	671.04	1.13	8.00	0.00
64	2.00	0.00	0.00	0	640.67	0.00	0.00	0.00
65	2.00	2.04	1.78	0	657.33	3.90	8.69	0.00
66	2.00	3.04	2.66	0	660.75	5.78	9.08	0.00
67	2.00	0.00	0.00	0	639.83	0.00	0.00	0.00
68	2.00	1.54	1.66	0	640.52	2.98	8.59	0.00
69	2.00	0.04	0.16	0	635.93	0.09	7.94	0.00
70	2.00	0.00	0.00	0	627.69	0.00	0.00	0.00
71	2.00	0.00	0.00	0	629.28	0.00	0.00	0.00
72	2.00	0.00	0.00	0	639.39	0.00	0.00	1.40
73	2.00	0.00	0.00	0	672.81	0.00	0.00	0.00
74	2.00	0.00	0.00	0	664.73	0.00	0.00	0.00
75	2.00	0.00	0.00	0	644.89	0.00	0.00	0.00
76	2.00	1.54	1.30	0	647.57	2.97	8.54	0.00
77	2.00	1.54	1.06	0	614.86	3.05	8.77	0.00
78	2.00	0.00	0.00	0	610.36	0.00	0.00	0.00
79	2.00	2.54	2.16	0	599.53	5.08	9.33	0.00
80	2.00	2.54	1.34	0	599.20	5.08	9.33	0.00
81	2.00	0.00	0.00	0	682.24	0.00	0.00	0.00
82	2.00	0.00	0.00	0	635.22	0.00	0.00	0.00
83	2.00	1.54	1.66	0	657.96	2.94	8.47	0.00
84	2.00	0.00	0.00	0	627.28	0.00	0.00	0.00
85	2.00	2.00	0.72	0	665.36	3.79	8.63	0.00
86	2.00	0.38	0.49	0	628.55	0.73	8.15	0.00
87	2.00	0.04	0.00	0	662.85	0.08	7.77	0.00
88	2.00	1.54	1.66	0	662.00	2.93	8.45	0.00
89	2.00	0.00	0.00	0	664.57	0.00	0.00	0.00
90	2.00	0.00	0.00	0	648.45	0.00	0.00	0.00

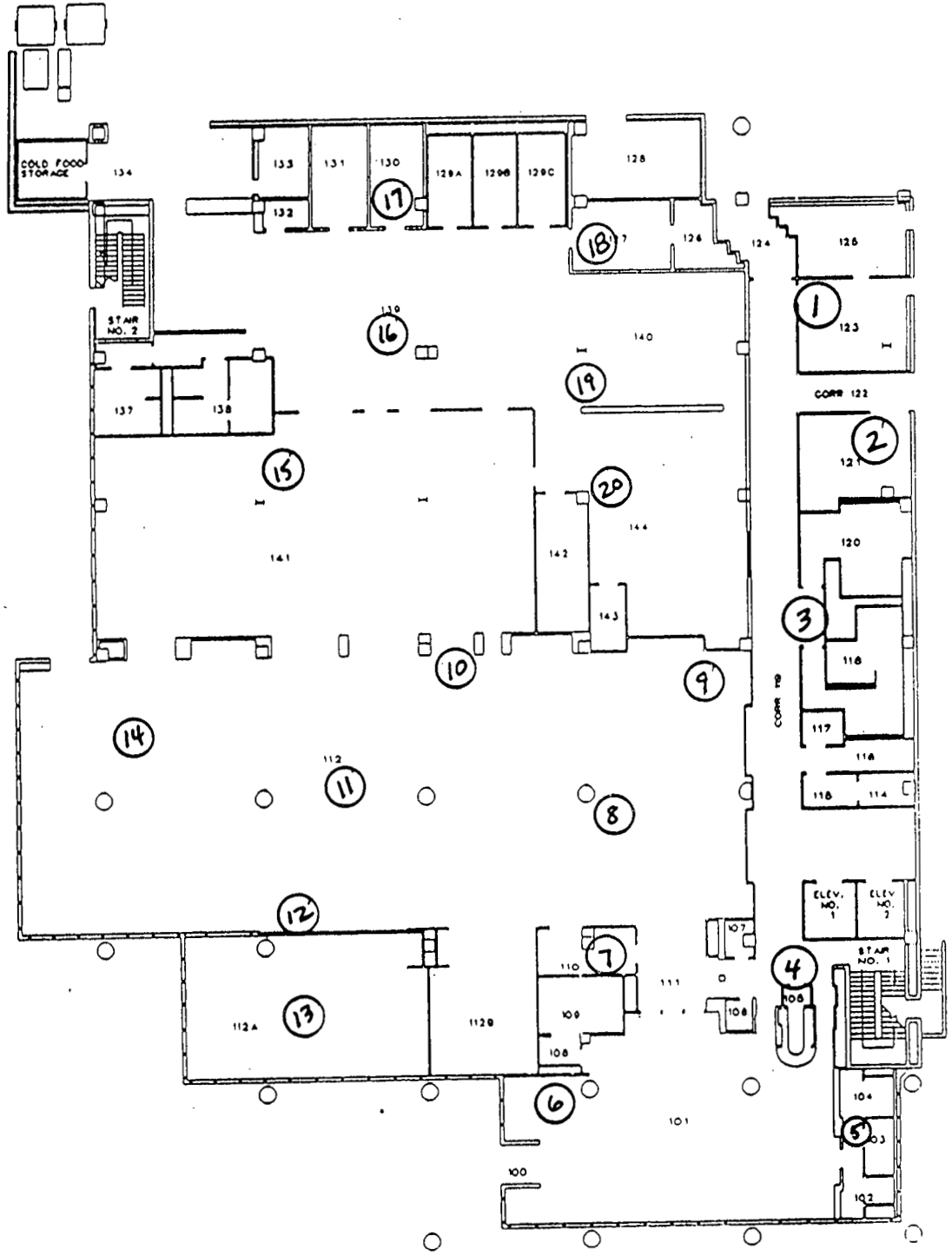
16 Jul 2003 16:21 ALPHA/BETA - 1.09 Page #3

Protocol #: 3 Pw H3 405828 User : 5268

S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
91	2.00	1.04	1.16	0	595.01	2.09	8.69	0.40
92	2.00	0.00	0.00	0	603.51	0.00	0.00	0.00
93	2.00	0.00	0.00	0	530.23	0.00	0.00	0.43
94	2.00	0.00	0.00	0	563.37	0.00	0.00	0.00
95	2.00	0.00	0.00	0	469.06	0.00	0.00	0.00
96	2.00	0.47	0.59	0	455.76	1.09	9.70	0.00
97	2.00	2.04	2.16	0	575.01	4.17	9.30	0.00
98	2.00	0.00	0.00	0	216.93	0.00	0.00	0.00
99	2.00	0.00	0.00	0	483.75	0.00	0.00	0.40
100	2.00	0.00	0.00	0	467.56	0.00	0.00	0.00
101	2.00	0.00	0.00	0	210.27	0.00	0.00	0.00
102	2.00	2.07	1.53	0	491.40	4.56	10.04	0.00
103	2.00	0.00	0.00	0	391.54	0.00	0.00	0.00
104	2.00	0.00	0.00	0	217.39	0.00	0.00	0.00
105	2.00	1.75	1.50	0	537.44	3.70	9.48	0.00

KA

03-TF-0164



OSE BLDG
FIRST FLOOR
CLASS: UNCL

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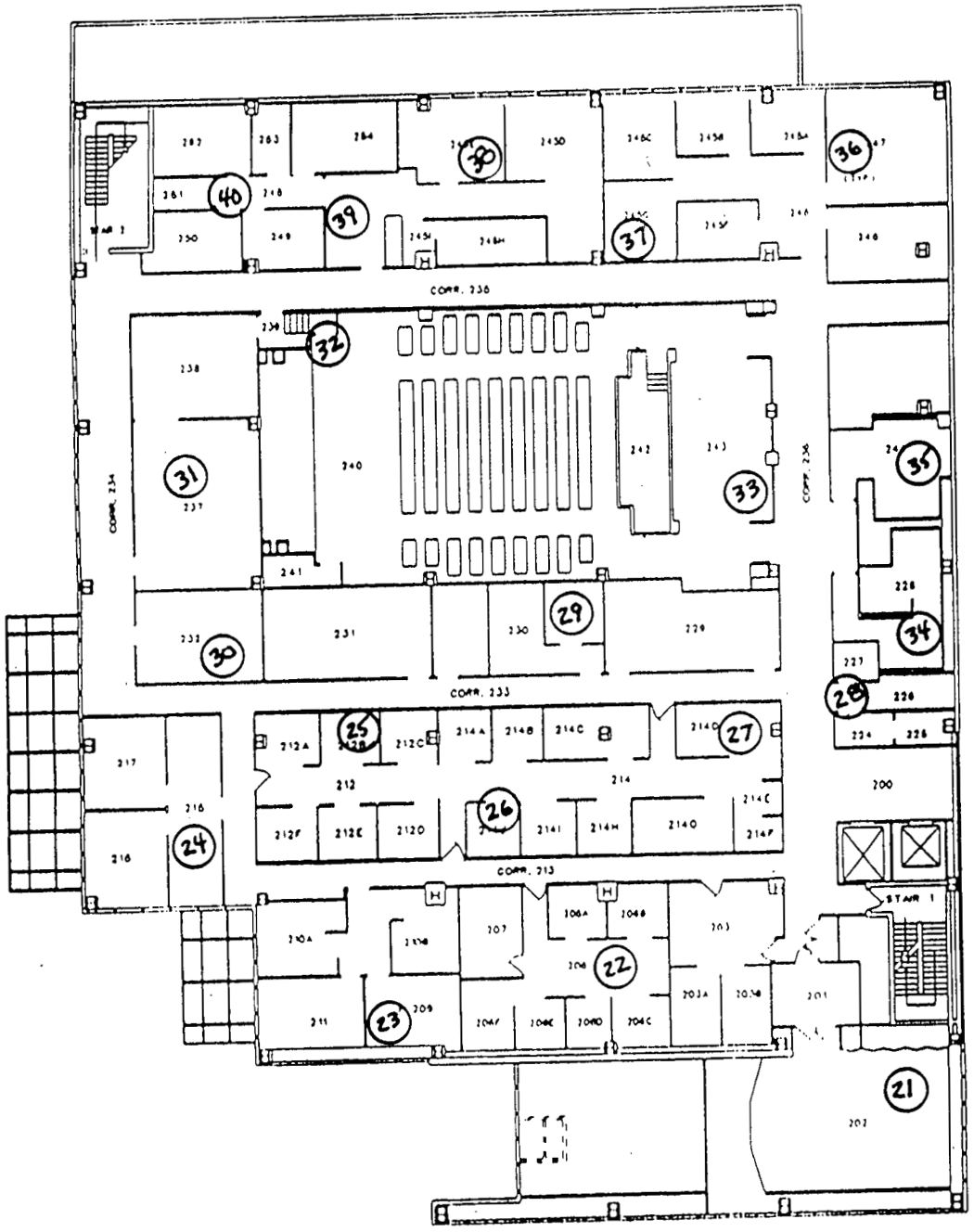

OSE BLDG
SECOND FLOOR
CLASS: UNCL

03-TF-01164

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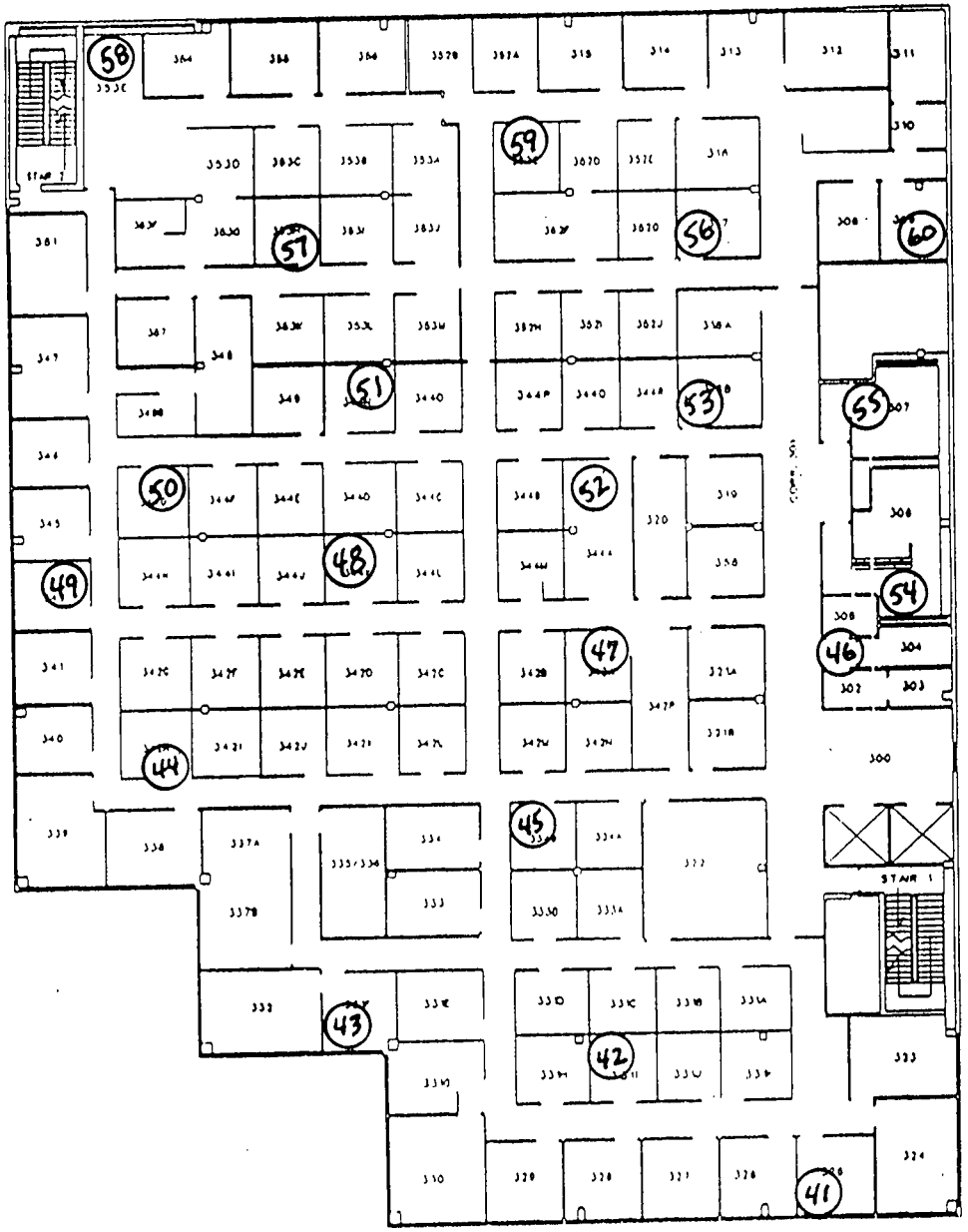
KA



OSE BLDG
THIRD FLOOR
CLASS: UNCL

03-TF-0164 21 of 23 KA

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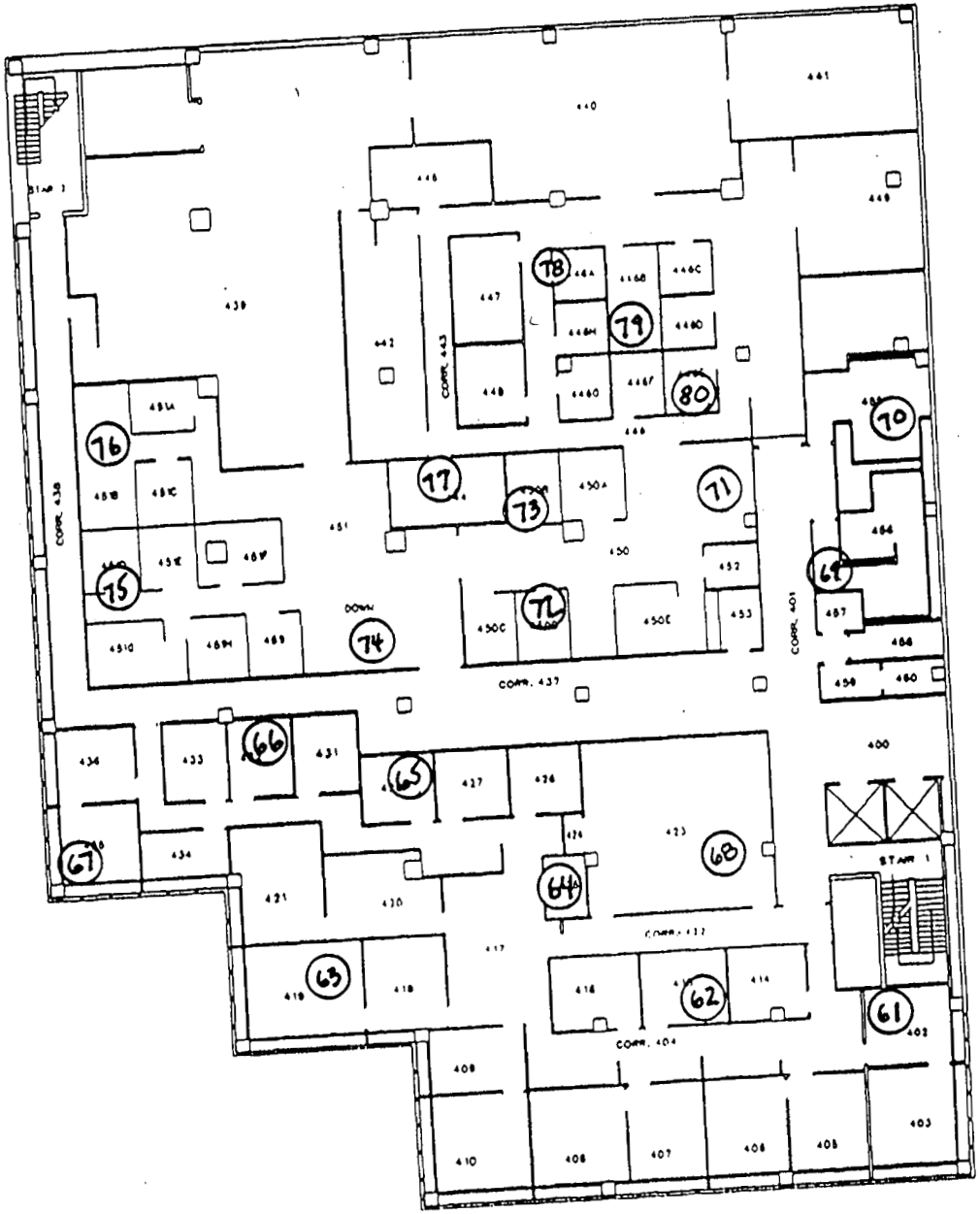

OSE BLDG
FOURTH FLOOR
CLASS: UNCL

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03-TF-0164

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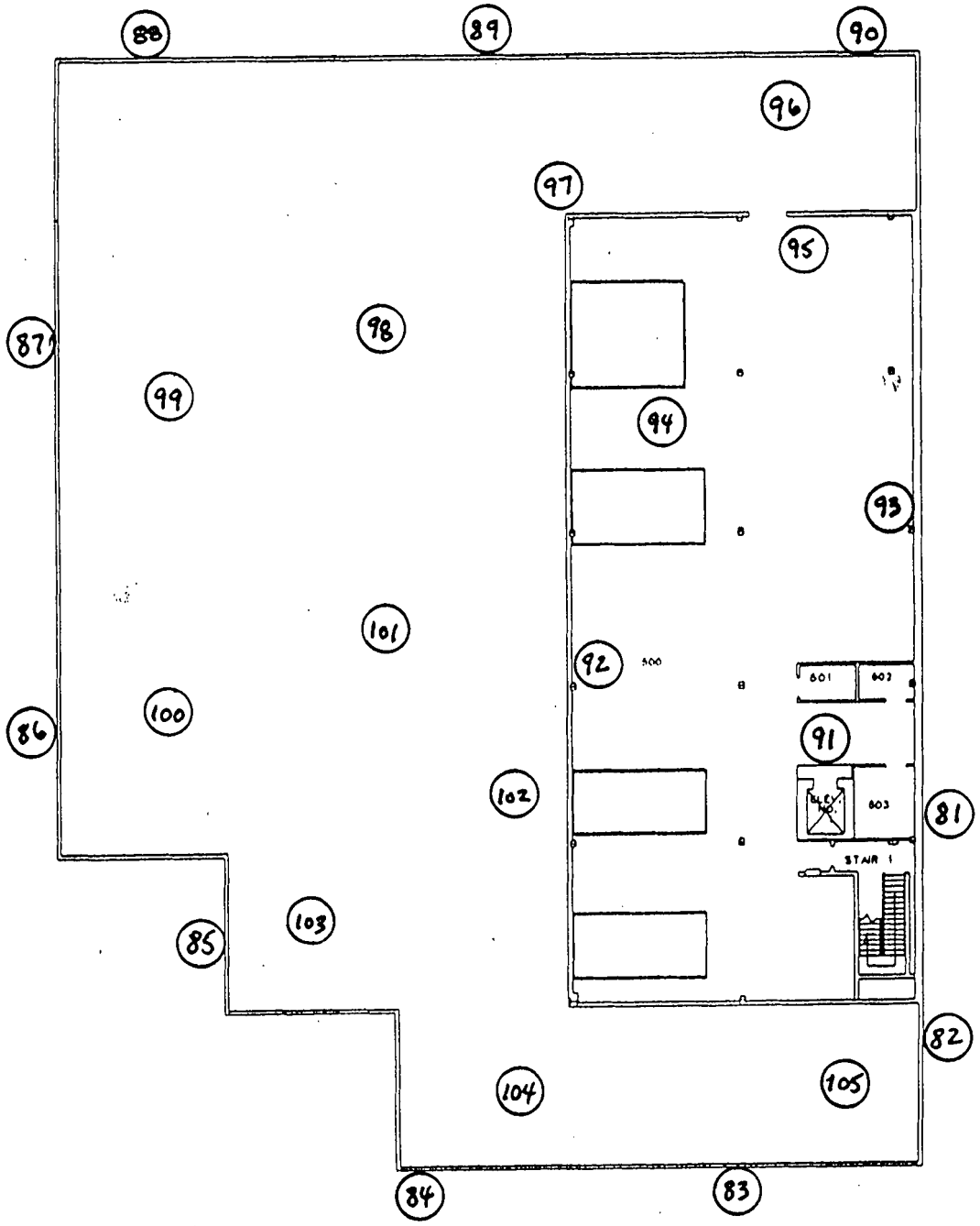
23 of 23

KA



OSE BLDG
PENTHOUSE
CLASS: UNCL

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSE	SURVEY NO. 03-TF-0166
PURPOSE: MARISSM SURVEY PLAN OSE-01 FLOOR DRAINS AND VENTILATION SYSTEM	RWP NO. NA
	DATE: 7-17-03
	TIME: 1530

MAP/DRAWING

See Attached

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
2360	5833/5847	3-13-04
	NA	

[redacted] HP # 7474 Date: 7-21-03

Counted by: (Signature) See Attached HP # Date:

Counted by: (Print Name) [redacted]

[redacted] HP # 5214 Date: 07-21-03

[redacted]

ML-9620 (2-98)

Survey No. 03-TF-0166

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-20	See			Floor Drains
21-40		Attached		Vents
		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-9620A (4-98)

OSE BLDG CHARACTERIZATION ALPHA and BETA SURVEY of FLOOR DRAINS and VENTILATION SYSTEM

RSDS# 03-TF-0166 RCT: KA RCT: NA

						BETA			ALPHA		
LOCATION	2360	RCT ID	PROBE	ITEM #	DATE	gross count	CT TIME	dpm/100cm2	gross count	CT TIME	dpm/100cm2
1	5833	7474	5847	1	7/17/03	153	60	220	1	60	0
2	5833	7474	5847	2	7/17/03	140	60	155	2	60	10
3	5833	7474	5847	3	7/17/03	200	60	455	2	60	10
4	5833	7474	5847	4	7/17/03	166	60	285	2	60	10
5	5833	7474	5847	5	7/17/03	184	60	375	1	60	0
6	5833	7474	5847	6	7/17/03	167	60	290	1	60	0
7	5833	7474	5847	7	7/17/03	142	60	165	1	60	0
8	5833	7474	5847	8	7/17/03	127	60	90	2	60	10
9	5833	7474	5847	9	7/17/03	152	60	215	3	60	20
10	5833	7474	5847	10	7/17/03	141	60	160	2	60	10
11	5833	7474	5847	11	7/17/03	139	60	150	5	60	40
12	5833	7474	5847	12	7/17/03	144	60	175	6	60	50
13	5833	7474	5847	13	7/17/03	135	60	130	7	60	60
14	5833	7474	5847	14	7/17/03	128	60	95	4	60	30
15	5833	7474	5847	15	7/17/03	134	60	125	1	60	0
16	5833	7474	5847	16	7/17/03	152	60	215	5	60	40
17	5833	7474	5847	17	7/17/03	137	60	140	8	60	70
18	5833	7474	5847	18	7/17/03	128	60	95	1	60	0
19	5833	7474	5847	19	7/17/03	156	60	235	1	60	0
20	5833	7474	5847	20	7/17/03	143	60	170	2	60	10
BETA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								109			
ALPHA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								1			

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OSE BLDG CHARACTERIZATION ALPHA and BETA SURVEY of FLOOR DRAINS and VENTILATION SYSTEM

RSDS# 03-TF-0166 RCT: KA RCT: NA

						BETA			ALPHA		
LOCATION	2360	RCT ID	PROBE	ITEM #	DATE	gross count	CT TIME	dpm/100cm2	gross count	CT TIME	dpm/100cm2
21	5833	7474	5847	21	7/17/03	131	60	110	3	60	20
22	5833	7474	5847	22	7/17/03	123	60	70	4	60	30
23	5833	7474	5847	23	7/17/03	157	60	240	4	60	30
24	5833	7474	5847	24	7/17/03	143	60	170	9	60	80
25	5833	7474	5847	25	7/17/03	140	60	155	4	60	30
26	5833	7474	5847	26	7/17/03	137	60	140	6	60	50
27	5833	7474	5847	27	7/17/03	136	60	135	2	60	10
28	5833	7474	5847	28	7/17/03	133	60	120	6	60	50
29	5833	7474	5847	29	7/17/03	161	60	260	9	60	80
30	5833	7474	5847	30	7/17/03	122	60	65	6	60	50
31	5833	7474	5847	31	7/17/03	132	60	115	5	60	40
32	5833	7474	5847	32	7/17/03	146	60	185	6	60	50
33	5833	7474	5847	33	7/17/03	136	60	135	4	60	30
34	5833	7474	5847	34	7/17/03	161	60	260	8	60	70
35	5833	7474	5847	35	7/17/03	153	60	220	5	60	40
36	5833	7474	5847	36	7/17/03	173	60	320	9	60	80
37	5833	7474	5847	37	7/17/03	161	60	260	9	60	80
38	5833	7474	5847	38	7/17/03	169	60	300	8	60	70
39	5833	7474	5847	39	7/17/03	122	60	65	4	60	30
40	5833	7474	5847	40	7/17/03	137	60	140	7	60	60
BETA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								109			
ALPHA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								1			

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Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200307171048	**Count Date:**	7/17/2003
Group:	J	**Count Minutes:**	1.5
Serial Number:	78218-1	**Count Mode:**	Simultaneous
Batch ID:	03-TF-0166 HARVEY-40 BSB	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Date:**	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	75	2.18	1.92	6.69	3.24
2	92	0.00	0.00	0.00	0.00
3	96	0.00	0.00	0.00	0.00
4	83	2.19	1.92	1.21	1.45
5	70	2.18	1.92	2.58	2.05
6	22	0.00	0.00	1.37	1.45
7	16	0.00	0.00	1.37	1.45
8	26	0.00	0.00	1.37	1.45
9	48	0.00	0.00	0.00	0.00
10	14	0.00	0.00	1.37	1.45
11	32	2.19	1.92	1.21	1.45
12	38	2.18	1.92	2.58	2.05
13	60	0.00	0.00	2.74	2.04
14	95	2.18	1.92	8.06	3.54
15	7	0.00	0.00	4.11	2.50
16	23	0.00	0.00	0.00	0.00
17	99	0.00	0.00	2.74	2.04
18	59	2.19	1.92	0.00	0.16
19	65	0.00	0.00	0.00	0.00
20	78	0.00	0.00	1.37	1.45
21	84	2.18	1.92	2.58	2.05
22	24	0.00	0.00	1.37	1.45
23	68	6.55	3.33	11.86	4.35
24	45	2.18	1.92	6.69	3.24
25	97	0.00	0.00	2.74	2.04
26	44	0.00	0.00	6.85	3.23
27	57	0.00	0.00	1.37	1.45
28	49	2.19	1.92	1.21	1.45
29	76	4.37	2.72	3.80	2.51
30	81	0.00	0.00	2.74	2.04
31	34	0.00	0.00	2.74	2.04
32	43	2.18	1.92	8.06	3.54
33	23	0.00	0.00	4.11	2.50
34	77	0.00	0.00	5.48	2.89
35	93	4.37	2.72	2.43	2.06
36	2	2.19	1.92	0.00	0.16
37	81	0.00	0.00	2.74	2.04

KA ~~Page 1 of 2~~ KA KA

Alpha/Beta Analysis

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
38	62	2.18	1.92	5.32	2.90
39	87	0.00	0.00	2.74	2.04
40	20	4.37	2.72	2.43	2.06

KA KA

Batch ID: 03-TF-0166 HARVEY-40 BSB

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5	18.6	0	0.0	5.47
Region B:	2.0	18.6	0	0.0	5.06
Region C:	40.0	2000	0	0.0	11.45

Quench Indicator: tSIE/AEC
~~Ext Std Terminator: Count~~
03-TF-0166 HARVEY-40 BSB
~~Luminescence Correction On~~
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT3.DAT
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	5.47	5.06	0	B	455.03		0.00	11.45
0	2.00	76.40	73.78	0		472.57	172.37	31.88	1.05
1	2.00	1.03	1.14	0		608.67	2.04	7.72	0.00
2	2.00	9.04	9.10	0		638.96	17.48	10.88	10.05
3	2.00	1.53	1.58	0		649.14	2.94	7.72	0.00
4	2.00	17.38	16.96	0		599.76	34.71	14.07	16.08
5	2.00	4.77	4.39	0		593.39	9.58	9.59	0.00
6	2.00	4.32	3.90	0		625.77	8.44	9.14	0.00
7	2.00	0.00	0.00	0		588.72	0.00	0.00	0.00
8	2.00	7.03	6.44	0		632.68	13.67	10.19	24.05
9	2.00	7.03	7.44	0		638.61	13.61	10.14	0.00
10	2.00	2.53	2.14	0		612.07	5.01	8.44	0.05
11	2.00	3.53	3.58	0		648.24	6.78	8.64	1.05
12	2.00	1.53	1.94	0		653.98	2.93	7.69	5.10
13	2.00	3.18	2.73	0		642.68	6.12	8.52	0.00
14	2.00	11.98	10.53	0		635.09	23.23	11.94	5.05
15	2.00	7.03	7.44	0		607.52	13.96	10.40	8.29
16	2.00	7.03	6.84	0		614.95	13.87	10.34	9.55
17	2.00	0.00	0.00	0		665.97	0.00	0.00	0.00
18	2.00	0.00	0.00	0		644.28	0.00	0.00	0.00
19	2.00	6.53	6.44	0		637.96	12.65	9.95	3.19
20	2.00	0.00	0.23	0		655.71	0.00	0.00	0.00
21	2.00	2.38	2.02	0		658.71	4.52	8.05	0.00
22	2.00	4.53	4.94	0		657.71	8.64	8.99	1.55
23	2.00	6.03	6.09	0		642.97	11.63	9.71	0.00
24	2.00	15.53	15.68	0		591.95	31.23	13.57	6.55
25	2.00	5.21	5.62	0		619.44	10.24	9.56	0.00
26	2.00	4.53	4.56	0		658.57	8.63	8.99	0.00
27	2.00	1.11	1.51	0		642.72	2.13	7.55	0.00
28	2.00	2.03	2.07	0		654.28	3.89	7.92	0.00
29	2.00	2.70	2.49	0		618.71	5.31	8.47	5.05
30	2.00	2.19	2.44	0		651.69	4.20	8.01	0.00
31	2.00	1.53	1.94	0		601.22	3.06	8.03	1.05
32	2.00	1.03	0.94	0		572.45	2.12	7.97	3.05
33	2.00	3.53	3.94	0		640.54	6.83	8.69	6.09
34	2.00	1.03	1.44	0		614.54	2.04	7.69	0.55

KA

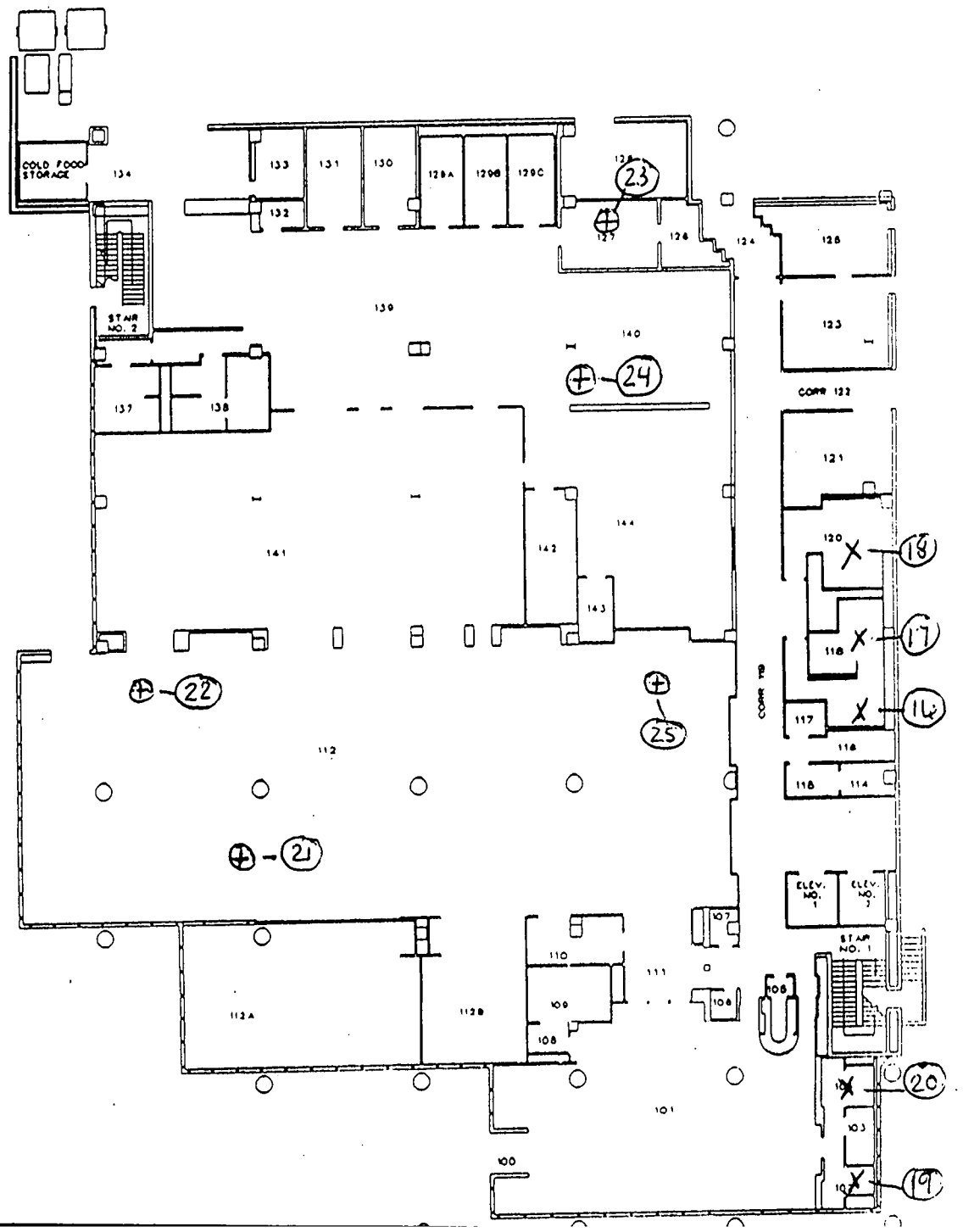
S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	1.03	0.94	0	634.87	2.01	7.56	0.00
36	2.00	2.53	2.23	0	644.94	4.88	8.21	0.00
37	2.00	1.53	1.67	0	600.18	3.06	8.04	4.05
38	2.00	2.03	0.86	0	647.65	3.91	7.96	0.55
39	2.00	0.21	0.00	0	606.32	0.42	7.31	0.00
40	2.00	2.53	2.16	0	664.83	4.81	8.09	1.21

14

03-TF-0166

X = FLOOR DRAIN

⊕ = VENTILATION



OSE BLDG
FIRST FLOOR
CLASS: UNCL

03-TF-0166

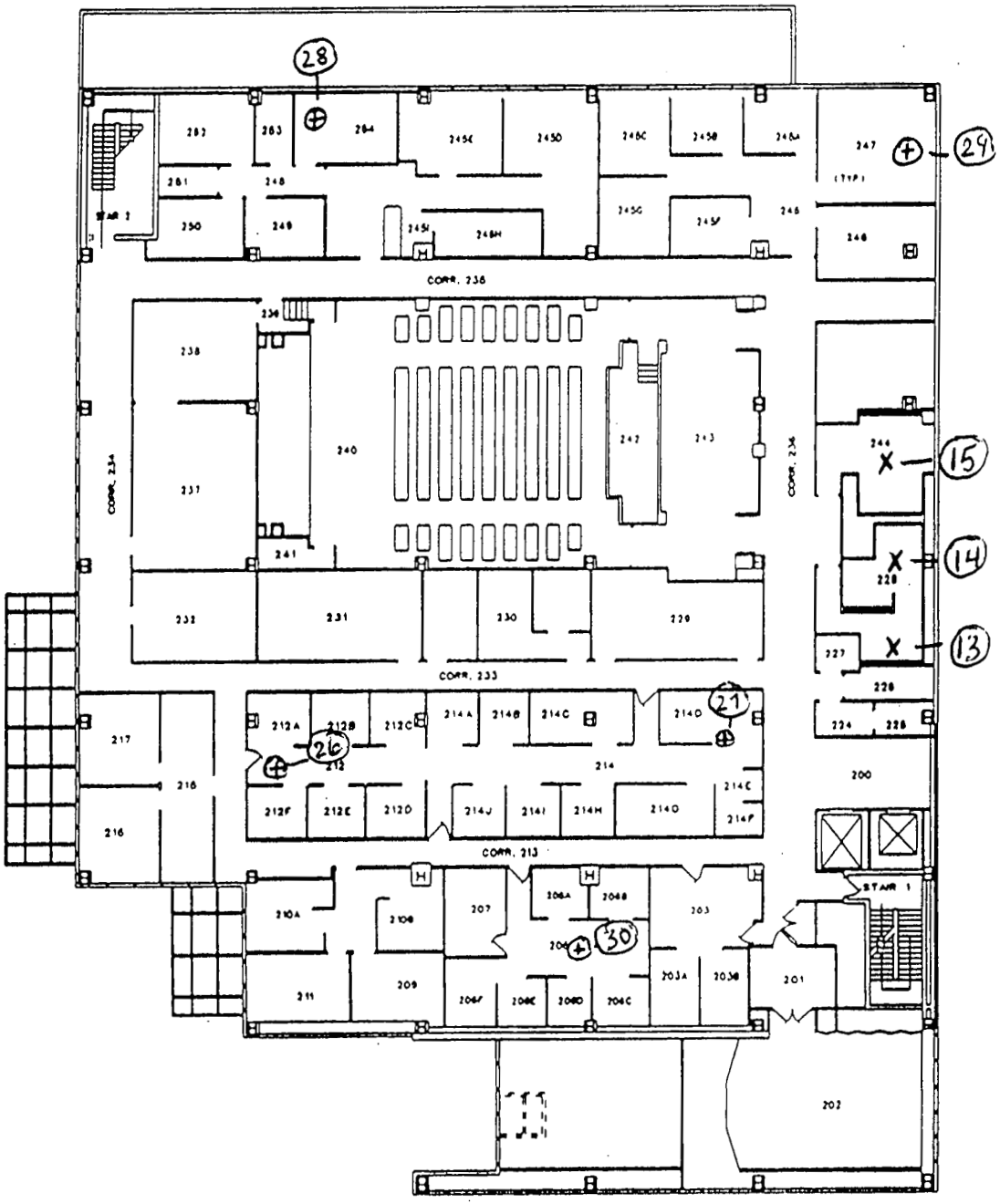
9 of 13

660 of 71

KA

X = FLOOR DRAIN

⊕ = VENTILATION



OSE BLDG
SECOND FLOOR
CLASS: UNCL

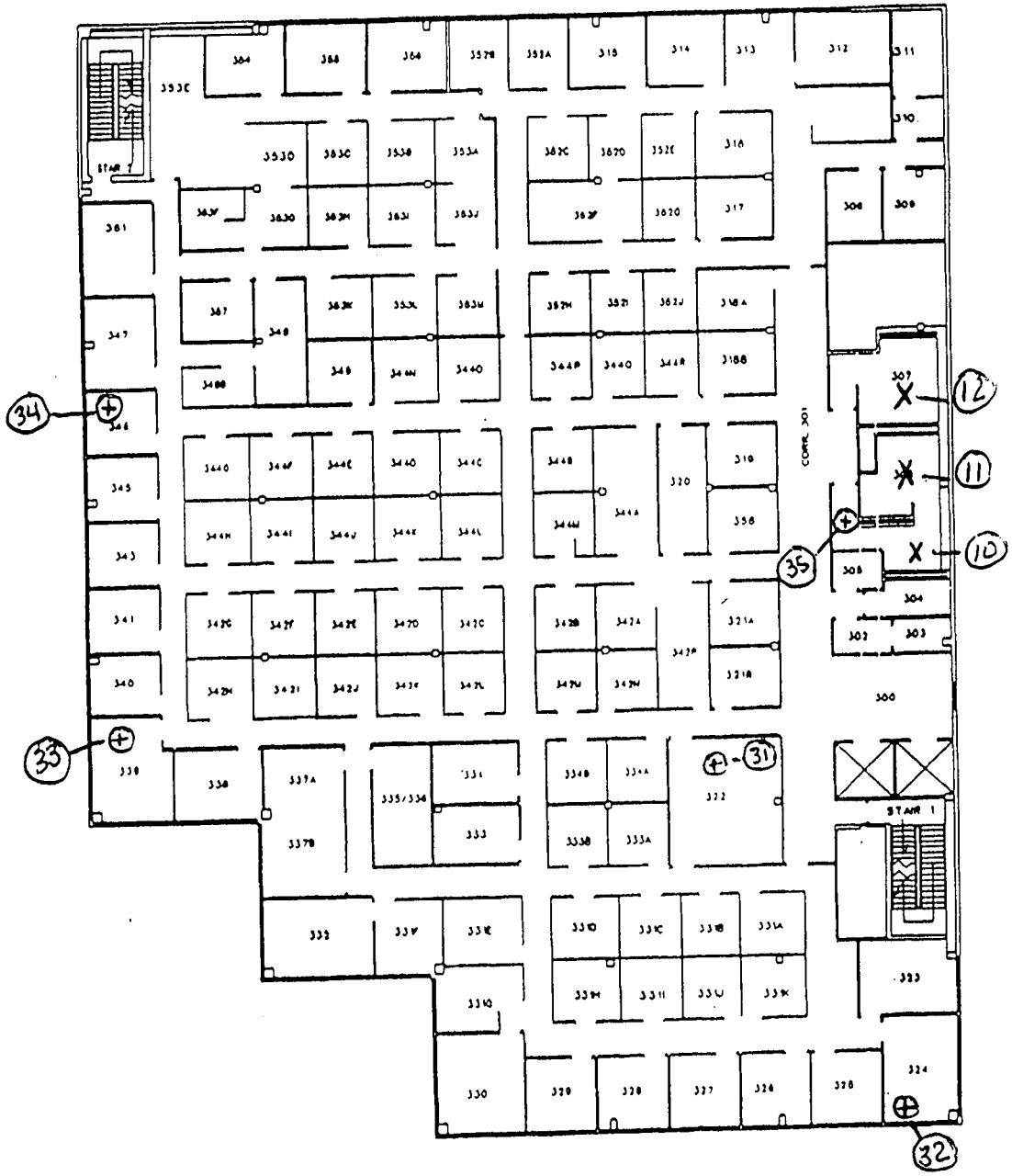
03-TF-0166 10 of 13

661 of 71

NA

X = FLOOR DRAIN.

⊕ = VENTILATION



OSE BLDG
THIRD FLOOR
CLASS: UNCL

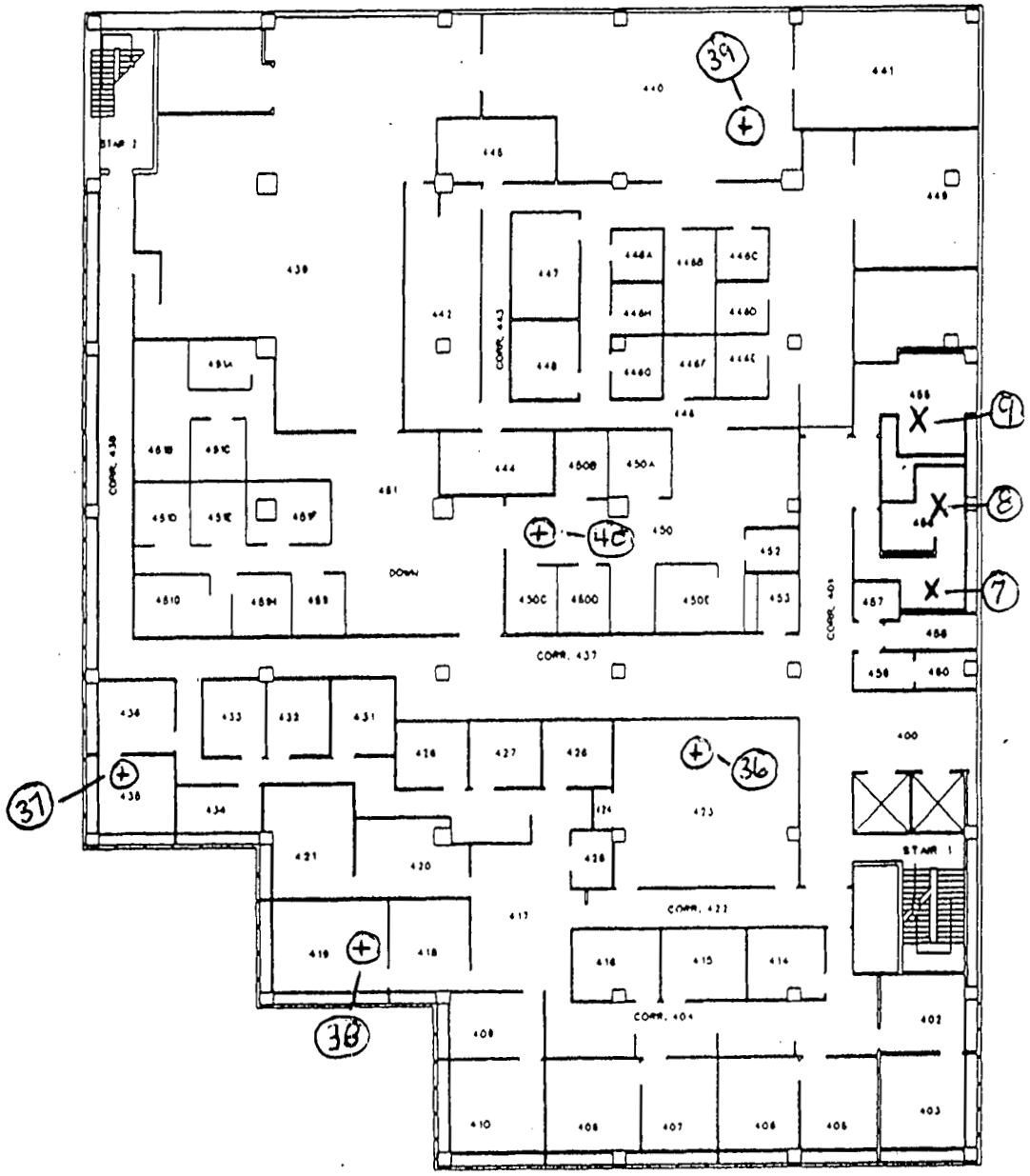
03 TF-0166 11 of 13

G62 of 71

KA

X = FLOOR DRAIN

⊕ = VENTILATION



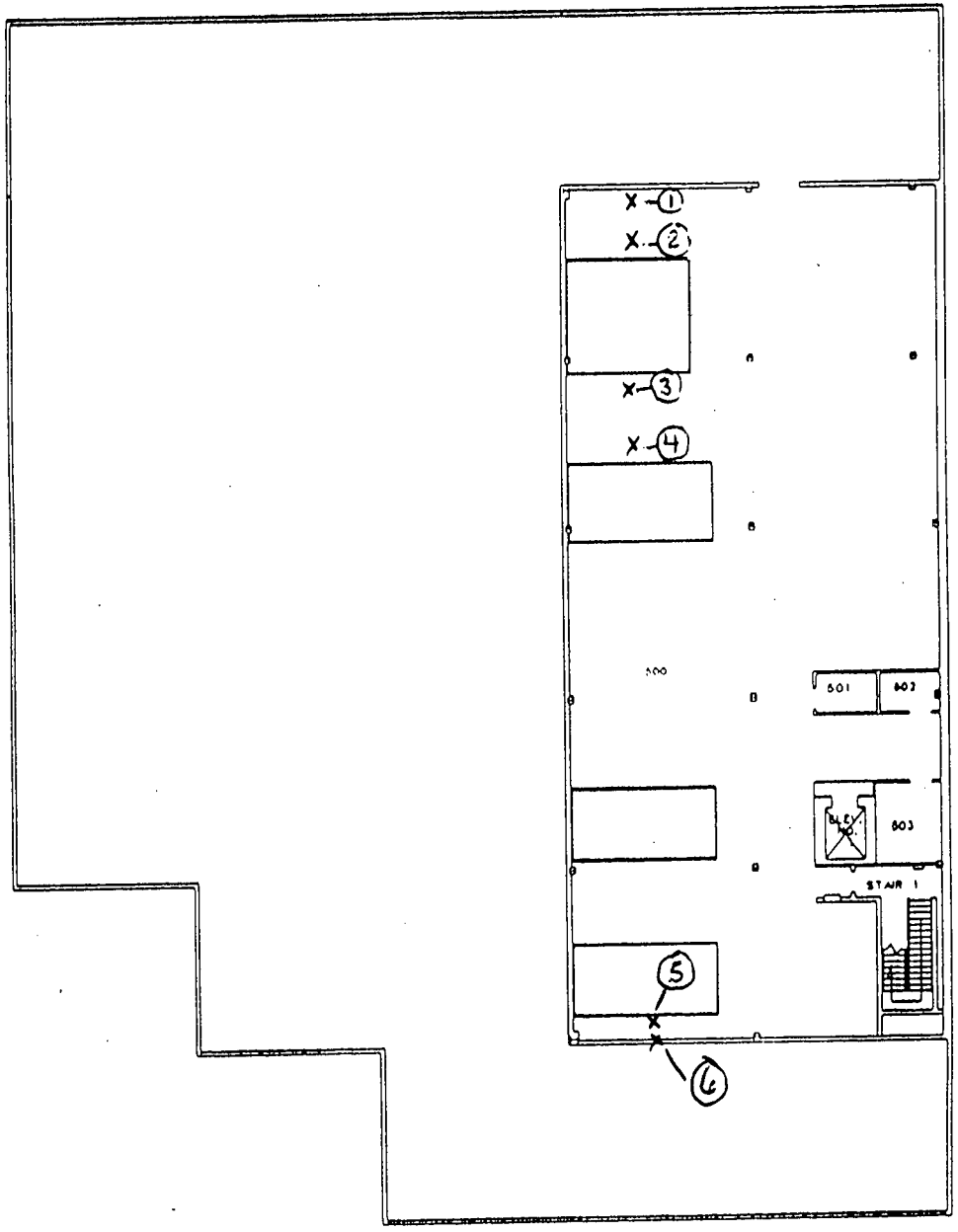
OSE BLDG
FOURTH FLOOR
CLASS: UNCL

03-TF-0166 12 of 13

663 of 71

KA

X = Floor DRAIN



OSE BLDG
PENTHOUSE
CLASS: UNCL

03-TF-0166 13 of 13

664 of 71

KA

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSE	SURVEY NO. 03-TF-0175
PURPOSE: MARISSM Survey Plan OSE-01 Dose Rate Survey	RWP NO. NA
	DATE: 7-24-03
	TIME: 1220

MAP/DRAWING

See ATTACHED

All Reading on Surveys ARE IN MICRO Rem/HR

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/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
MicRO Rem	3945	7-8-04
	NA	

[redacted] HP# 7474 Date: 7-24-03

[redacted]

Counted by: (Signature) N

HP# Date:

Counted by: (Print Name) A

[redacted] HP# 6178 Date: 7-24-02

[redacted]

ML-9620 (2-98)

Survey No. 03-TF-0175

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COPY

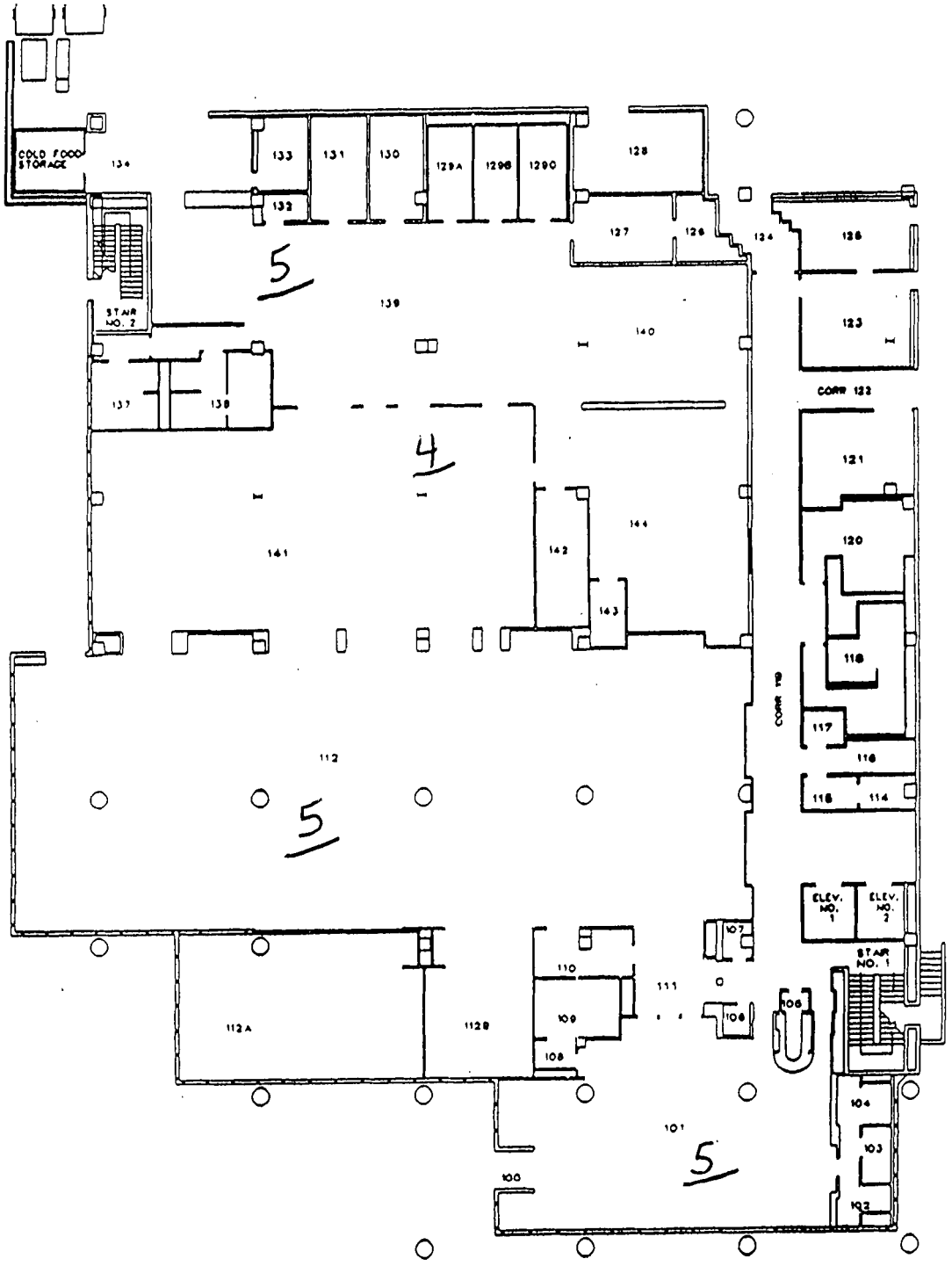
COMMENTS: N/A

NOTES:

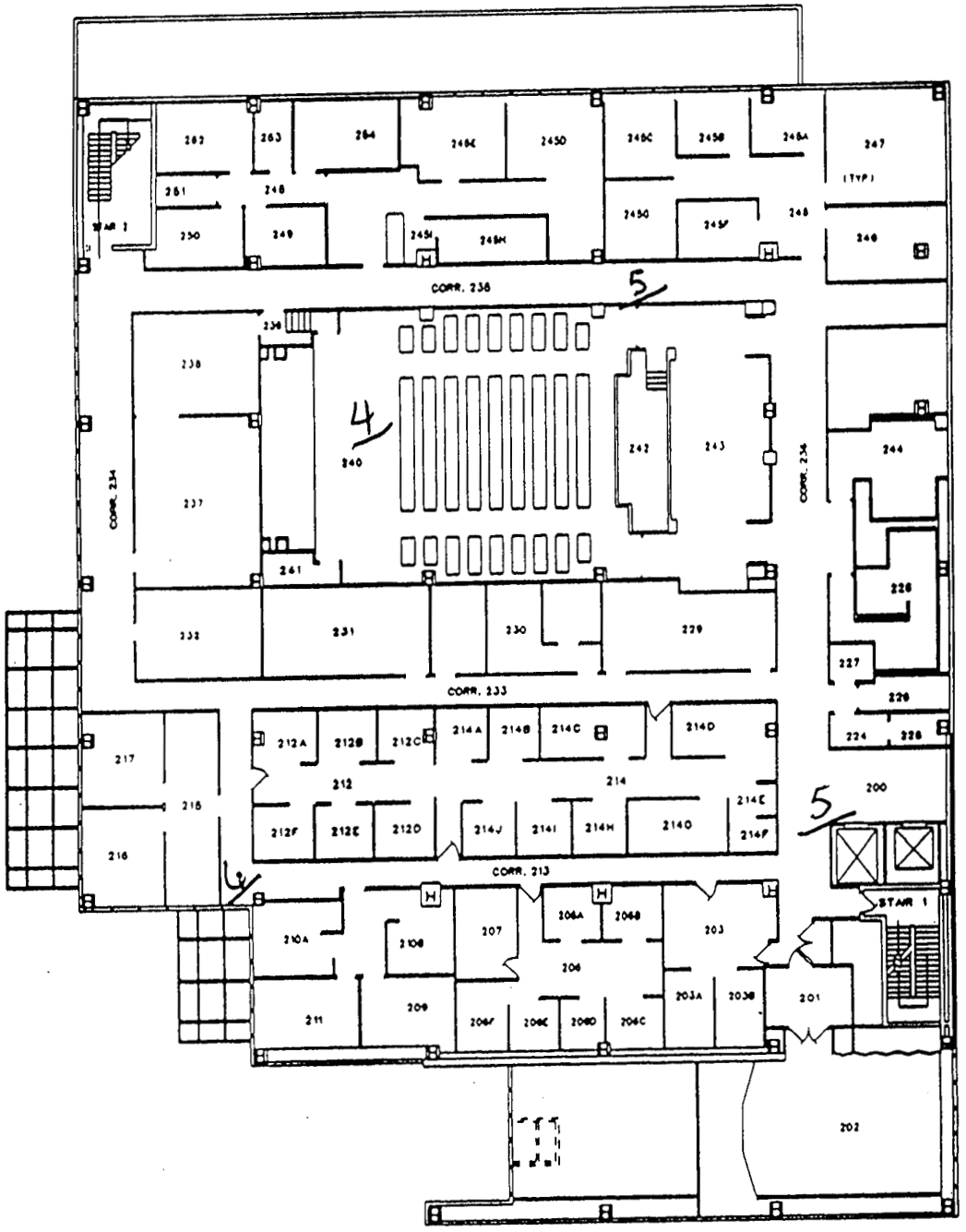
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type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

ML-9620 (4-98)

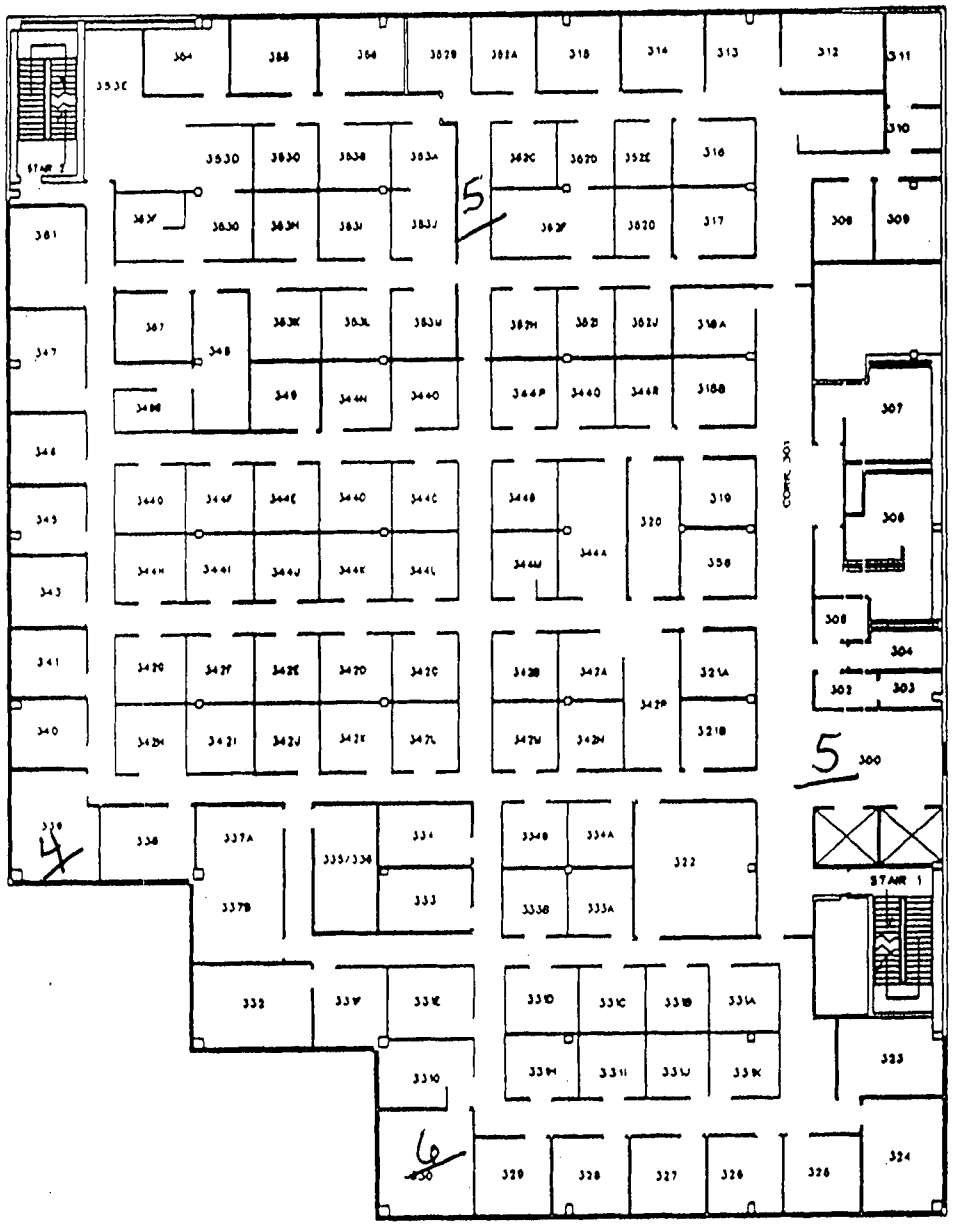
G-66071



OSE BLDG
FIRST FLOOR
CLASS: UNCL



OSE BLDG
SECOND FLOOR
CLASS: UNCL



OSE BLDG
THIRD FLOOR
CLASS: UNCL

03-TF-0175 KA

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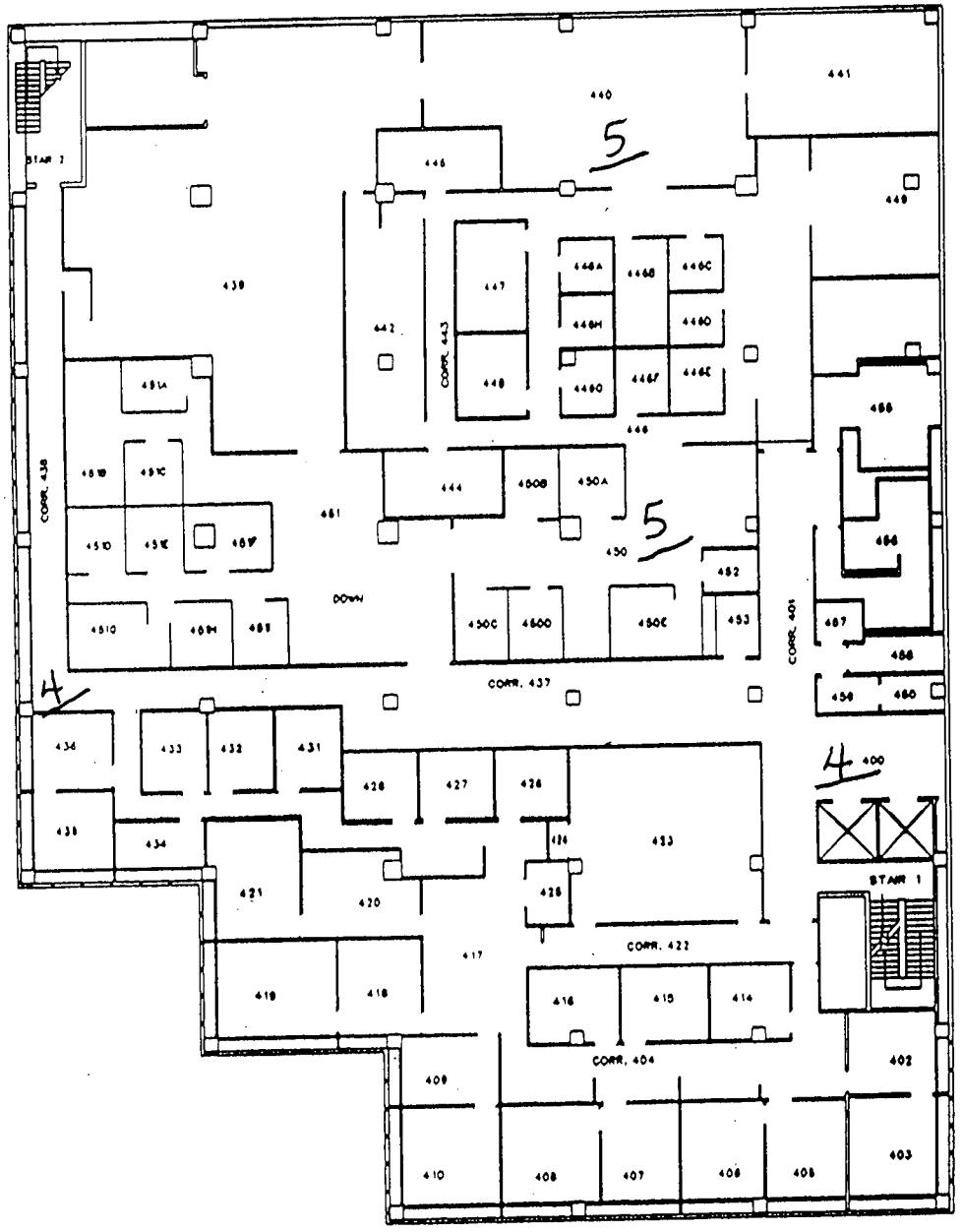
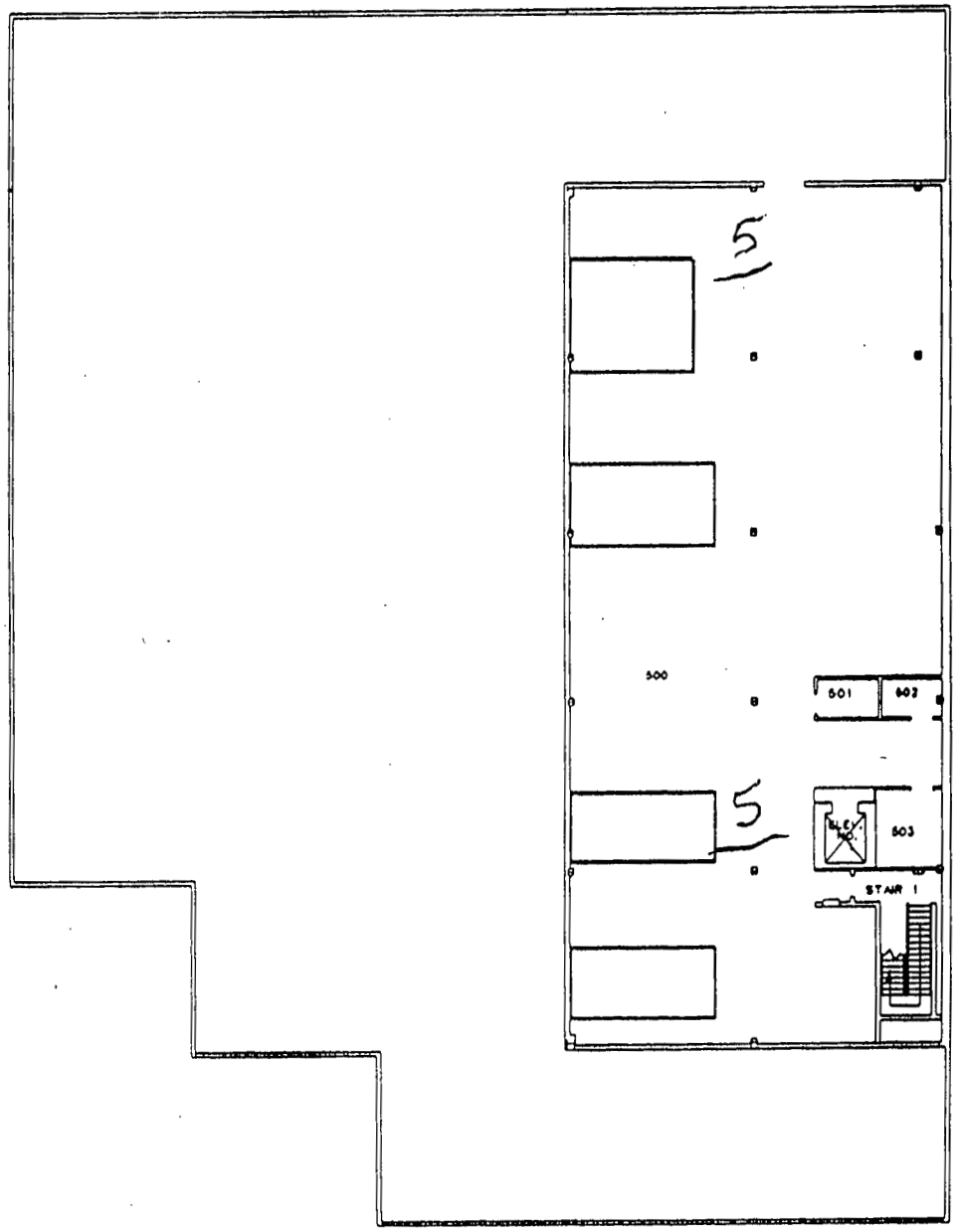


OSE BLDG
FOURTH FLOOR
CLASS: UNCL



OSE BLDG
PENTHOUSE
CLASS: UNCL

03-TF-0175 KA

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Tab 7

Appendix H

Radon Information

In the 1990 Indoor Radon Study (copy attached), the all results for OSE Building measured 0.5 pCi/L.

The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

Results are within acceptable limits.

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

Bldg	Bldg Description	Room	pCi/l	pCi/l	Manid	Dupid	Date	Date	Comments
21		ABOVE AIR SAMPLER	161.1	125.0	1670855	1666782	12/14/89	2/16/90	MET - OLD THORIUM STORAGE
21		ABOVE AIR SAMPLERS	115.7		1660508		12/14/89	2/16/90	MET - OLD THORIUM STORAGE
	SM	19 MID EAST WALL	4.0		1661547		12/12/89	2/19/90	HISTORY OF ELEVATED READINGS
48		114 B CLOSET ON SPRINKLER PIPE	3.2		1671292		12/12/89	2/19/90	
19		ROOM 1	2.6		1670051		12/12/89	2/19/90	
	OLD SO BLDG	BASEMENT RIGHT CABINET	2.4		1661595		12/14/89	2/19/90	
55		1 BELOW THERMOSTAT ON E WALL	2.1		1661515		12/18/89	2/19/90	
57		ROOM 1	1.9		1661565		12/12/89	2/19/90	
87		143	1.5		1661563		12/12/89	2/19/90	
998	FIRE STATION	ROOM 002 EQUIPMENT ROOM WITH SUMP	1.4		1654468		12/12/89	2/19/90	
24		ROOM 3 PLANT NORTH WALL	1.3		1672087		12/12/89	2/19/90	
	PAINT SHOP	PS 4	1.2		1661510		12/12/89	2/16/90	
30		ROOM 3 EAST	1.1		1671282		12/12/89	2/16/90	
100		103 MIDDLE OF NORTH WALL	1.0		1670060		12/12/89	2/19/90	
37		6 NORTH WALL	1.0		1670046		12/12/89	2/19/90	
34		34 A WEST WALL	.9	.8	1672062	1672042	12/12/89	2/19/90	MET
102		123	.9		1661577		12/14/89	2/19/90	
61		RM 221 MIDDLE OF NORTH WALL	.9		1661585		12/12/89	2/19/90	
67		101 N	.9		1670029		12/12/89	2/19/90	
G-13	LOG	G-514 WEST WALL	.8		1661544		12/12/89	2/16/90	
	T	CORRIDOR 26	.8		1670039		1/15/90	2/19/90	
	T	153	.8		1670067		1/15/90	2/19/90	
	T	78	.9		1670077		1/15/90	2/19/90	
	T	38	.9		1661586		1/15/90	2/19/90	
105	PARTS MACHINING BUILDING	STAIRWELL NEXT TO ROOM 127	.8		1661564		12/12/89	2/19/90	
25	ARAC	3 ON BOOK CASE MIDDLE	.8		1671314		12/18/89	2/19/90	
60		1 ON DOOR TO ROOM 3	.8		1670049		12/12/89	2/19/90	
	A	153C CENTER CUBICLE WEST WALL	.8		1672056		12/14/89	2/16/90	
	C BUILDING OLD CAFETERIA	NORTHEAST SECTION EXTERNAL WALL BK2	.8		1672052		12/12/89	2/16/90	
	R BUILDING	64 NORTH WALL	.8		1670068		12/12/89	2/16/90	
	SM	8 WEST WALL AT OLD RECOVERY	.8		1672057		12/11/89	2/16/90	
	WO BLDG	WO 8	.8		1670045		12/18/89	2/16/90	
87		126	.8		1670032		12/12/89	2/19/90	
68		ROOM 116 ON NORTH WALL RIGHT OF CEN	.7	.5	1661524	1661635	12/12/89	2/19/90	
81		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.5	1666703	1660522	12/15/89	2/19/90	
22		RM 1 EAST CORRIDOR ON STORAGE RACK	.7		1670070		12/12/89	2/19/90	
56	FIRE PUMP HOUSE	ROOM 1 THERE IS ONLY 1 ROOM	.7		1670066		12/12/89	2/19/90	
	E ANNEX	E 225 EAST WALL	.7		1661552		12/18/89	2/16/90	
	POWER HOUSE PH-1	REPAIR SHOP NORTH EAST CORNER	.7		1670040		12/12/89	2/19/90	
	W BLDG	W-135	.7		1661553		12/12/89	2/16/90	
26		ROOM 84 SOUTH WEST WALL	.6	.8	1672048	1667158	12/18/89	2/16/90	
69		RM 7 ON NORTH WALL	.6	.4	1672044	1672077	12/12/89	2/19/90	
26		ROOM 64 SOUTH WEST WALL	.6		1671279		12/12/89	2/16/90	
35		RM 7	.6		1654458		12/14/89	2/19/90	
34	PP BLDG	PP CORR 136	.6		1670016		12/14/89	2/19/90	
72		ON OVERHEAD DOOR BEAM	.6		1672069		1/03/90	2/19/90	
93		HALLWAY 107 (MIDWAY)	.6		1661629		12/13/89	2/20/90	
98	FIRE STATION	ROOM 114 DORM	.6		1661507		12/12/89	2/19/90	
	COS	RM STAIRWELL AT BASEMENT LEVEL	.6		1672086		12/14/89	2/19/90	
	OSM	120 C	.6		1661573		12/12/89	2/16/90	
	SM	150 WEST END GAS BOX	.6		1670043		12/11/89	2/16/90	
	A	34 EAST WALL	.5	.7	1672015	1672051	12/14/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5	.5	1650110	1666010	12/12/89	2/16/90	

Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
45		WORK STATION AREA	.4		1681568		12/14/89	2/18/90	
46		81 EAST WALL	.4		1672070		12/12/89	2/18/90	
49		WALL OUTSIDE RM 125	.4		1678020		12/14/89	2/18/90	
51		107 TOP OF FUME HOOD	.4		1681575		12/12/89	2/18/90	
63		ROOM 134	.4		1672059		12/12/89	2/20/90	
63W		RM 4	.4		1678078		12/14/89	2/18/90	
65		ROOM 10 CONFERANCE ROOM	.4		1671284		12/14/89	2/18/90	
66		OFFICE AREA	.4		1681554		12/12/89	2/18/90	
68		EAST WALL CENTER BEAM	.4		1681555		12/14/89	2/18/90	
69		RM 10A	.4		1681576		12/12/89	2/18/90	
70		170 MEETING ROOM CENTER WALL	.4		1678041		12/12/89	2/18/90	
88		ROOM 116	.4		1671295		12/12/89	2/18/90	
95	SN/PP	95- BLD-ROOM81	.4		1661531		12/12/89	2/20/90	
	OS BUILDING	CORRIDOR 2 - 6 FT. ABOVE FLOOR	.4		1678071		12/13/89	2/18/90	
	I	I HALLWAY	.4		1667194		12/12/89	2/18/90	
	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	2/18/90	
	R BUILDING	12 SOUTH WALL	.4		1681566		12/13/89	2/18/90	
34		BURN ROOM			1654481		12/12/89		BURNT (NOT AVAILABLE)
61		RM 151			1681567		12/13/89		MISSING

Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	R BUILDING	163 NEXT TO NORTH WALL	.5	.6	1660533	1660816	12/12/89	2/16/90	
101		ROOM 5 ON SOUTH WEST WALL IN OFFSET	.5		1671288		12/12/89	2/19/90	
	"B" 175	175 WEST WALL	.5		1678040		12/12/89	2/16/90	
36		ELECTRICAL PANEL RM IN ELECTRONICS	.5		1678062		12/12/89	2/15/90	
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		1678050		12/12/89	2/16/90	
50		CELL 113	.5		1681502		12/12/89	2/19/90	
79		CENTRAL HALLWAY WEST OF DOOR TO RMT	.5		1681605		12/18/89	2/16/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.5		1678079		12/15/89	2/19/90	
91		1ST FLOOR	.5		1661525		12/15/89	2/16/90	
91		2ND FLOOR OUTSIDE RM215	.5		1681593		12/15/89	2/16/90	
92		HALLWAY RIGHT OFF ROOM 8	.5		1661509		12/12/89	2/19/90	
94		BAY 2 NORTH WALL	.5		1654477		12/12/89	2/19/90	
	A	215 WEST WALL	.5		1681572		12/14/89	2/16/90	
	A	1040 WEST WALL	.5		1681540		12/14/89	2/16/90	
	COS	119 N WALL NEAR PUNCH PRESS	.5		1654456		12/12/89	2/19/90	
	COS	318 WALL CABINET TO RIGHT OF SINK	.5		1681590		12/12/89	2/19/90	
	E BUILDING	150 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		1681507		12/18/89	2/16/90	
	GK 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	
	N BLDG	ROOM 127	.5		1681571		12/12/89	2/16/90	
	NH	NH-8	.5		1671268		12/18/89	2/19/90	
	E BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/19/90	
	OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/9[illegible]	
	OSE	CORRIDOR 301 ACROSS FROM WATER FOUN	.5		1672084		12/15/89	2/16/9[illegible]	
	OSE	CORR 212 SOUTH WALL NEAR 218 DOOR	.5		1678036		12/15/89	2/16/9[illegible]	
	OSW	2ND FLOOR	.5		1681611		12/12/89	2/16/90	
	POWER HOUSE PH-1	STATIONARY BOARD CORNER	.5		1678073		12/12/89	2/19/90	
	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		1678015		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	
	OSE	113 BULLETIN BOARD OPPOSITE ELEVATO	.5		1678027		12/15/89	2/16/9[illegible]	
	NH	NH-24	.4		1667187		12/14/89	2/19/90	
	DS BUILDING	CORRIDOR 7 NEXT TO ROOM 216	.4		1661614		12/12/89	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	2/19/90	
27		CELL 8 - WALL	.4		1681583		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		1681570		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

From: Christopher Ahlquist
To: Darnell, Val; Kramer, Donald
Date: 6/5/03 7:43PM
Subject: OSE

Don & Val -

For OSE Building asbestos and lead paint concerns, the following is provided for your use:

Asbestos

No previous asbestos surveys have been conducted. Given the relatively recent date of construction, it is unlikely that OSE Building would have been constructed with asbestos-containing materials. The current OSHA Construction Standard for Asbestos does not require a building owner to presume building materials contain asbestos in such a recent construction unless the owner has reason to believe otherwise. The EPA NESHAP regulation requires that any building be evaluated for asbestos materials prior to a demolition or a renovation which may impact such materials.

Lead

No previous lead surveys or sampling data could be found for OSE Building. Observed paint coatings were largely intact.

Although untested paint coatings must be assumed to contain lead, the observed condition of the paint indicates that there are currently no lead paint hazards within the buildings. No further action would be necessary to protect occupant or worker health unless any coatings were to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.). If these types of activities are planned, the affected paint coatings should be tested to verify the absence of lead.

These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

Appendix J

Lead Information

From: Christopher Ahlquist
To: Darnell, Val; Kramer, Donald
Date: 6/5/03 7:43PM
Subject: OSE

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These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

Appendix K

Chemical Information

Chemicals and Products Previously Used or Stored in OSE Building

A list of photographic processing solutions and their components is attached.

Anti-Static Fluid
Blanket Wash
Blue Max Spray Buff
chlorodifluoromethane/chloropenta-fluoroethane
Cleaner 50
Clean-N-Dry
CLR Window
Conquer (Eslenvalerate) 0.05%
Conquest
DD/85 Spray
Deglazing Solvent
dichlorodifluoromethane
DMQ
Drione Dust (Silica/Pyrethrin) 1%
Duo-Powder
Electrostatic Solution
Floor Finish/Above
Fountain Head
Fountain Solution
Glacial Acetic Acid
Gloss-Extendera
Grease-Be-Gone
Head Start
Ink
Ink Roller Conditioner
Insect Spray/Cherry
Insecticide
Kindest Care
Lava Hand Soap
Lil Brother Sam
NABC
Neut. Floor Corp.
Nitrogen
Odor Bane
On-Base Sealer
One-Step/Sure Bet
Polaroid Film
Polish/Lemon
PT565 + XLO (Pyrethrin) 0.5%
Pummel Hand Soap
Rinse Free/Strip
RoundUp
SBS-61 Lotion Soap
Scrub-Ender
Seal, Con-Seal
Sealer/Ironstone
Shineline Base
silver thiosulfate
Snapout
Sodium hydroxide
Sodium hypochlorite
Spin-Out
Spot, Pile Driver
Spotter, Pull Out
Stainless Cleaner
Statcide, GP
Stripper, Zip
Surface Gleem
TC Metals
T-Max
Toner Clear-Mix
Toner Mix TCM-58 Black
Toner Mix TCM-58 Blue
Toner Mix TCM-58 Red
Toner Mix TCM-58 Yellow
Toner Replenisher
Toner Replenisher RP-585C
Toner Replenisher RP-585M
Toner Replenisher RP-585Y
Toner Replenisher RP-58B
Toner Replenisher, Black
Treatment/Dust
Trichloroethane (1,1,1-)
Triple SSS
Universal Cleaner Kit Part A
Universal Cleaner Kit Part B
Universal Cleaner Kit Part C
Vesta Power
Viking Make-Up Sol.
Western -Age
Window Shine
Z-Propanol

Photography Developing Solutions and Components
The following information was obtained from the Material Safety Data Sheets (MSDSs) at the photography laboratory in OSE Building in August 2003.

Solution	Components
E-6 Developer	Potassium sulfite Potassium carbonate Diethylene glycol Potassium hydroquinone monosulfonate Sodium carbonate
E-6 Reversal bath	Sodium propionate Substituted phosphonate Stannous chloride Propionic acid
E-6 Developer, Color (part A)	Tripotassium phosphate Potassium hydroxide Substituted phosphonate Sodium sulfite
E-6 Developer, Color (part B)	4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate monohydrate Sodium bisulfite
E-6 Pre-Bleach	Stabilizing agent (proprietary) Potassium sulfite Ethylenediaminetetraacetic acid Methanol 1-thioglycerol
E-6 Bleach (part A)	Ammonium (ethylenedinitrilotetraaceto) ferrate Ammonium bromide Hydrobromic acid Potassium nitrate
E-6 Bleach (part B)	Dipotassium ethylenediaminetetraacetic acid Tripotassium ethylenediaminetetraacetic acid
E-6 Fixer	Ammonium thiosulfate Ammonium sulfite Sodium metabisulfite Ethylenediaminetetraacetic acid
E-6 Final rinse	Nonionic surfactant Substituted thiazolin-3-one
Flexicolor developer (part A)	Potassium carbonate Potassium bicarbonate Sodium sulfite Pentetic acid, Pentasodium salt Potassium sulfite Sodium bromide
Flexicolor developer (part B)	Hydroxylamine sulfate
Flexicolor developer (part C)	4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate sodium bisulfate
Flexicolor developer (working solution)	Potassium carbonate Potassium bicarbonate Potassium sulfite 4-(N-ethyl0B020hydroxyethyl)-2-methylphenylenediamine sulfate
Flexicolor Bleach (part A)	Ammonium bromide Acetic acid

Solution	Components
Flexicolor Bleach (part B)	Ferric ammonium propylenediaminetetraacetic acid Ammonium nitrate Acetic acid Ammonium acetate
Flexicolor fixer and replenisher	Ammonium thiosulfate Ammonium sulfite Sodium bisulfite Ammonium acetate
Flexicolor stabilizer and replenisher	Formaldehyde Methanol Organosilicone
Dektomatic developer and replenisher (AKA Polymax RT)	Sodium sulfite Potassium carbonate Hydroquinone Potassium hydroxide
Hardening fixer	Ammonium thiosulphate Sodium acetate Aluminum sulfate Sodium bisulfite
P-22 developer (part A)	Potassium sulfite Potassium metaborate Sodium sulfite Ascorbic acid Potassium bromide Boric acid
P-22 developer (part B)	Ethoxydiglycol Hydroquinone 4-methyl-1-phenyl-3-pyrazolidone Benzotriazole
P-22 bleach (part A)	Sulfuric acid Sodium nitro benzene sulfonate
P-22 bleach (part B)	Acetic acid Potassium iodide Sodium mercapto propane sulfonate Quinoxaline adduct
P-22 Neutral (part A)	Sulfuric acid Nitro benzene sulfonate
P-22 Neutral (part B)	Acetic acid Potassium iodide Butyric acid adduct
P-22 Bleach neutralizer	Sodium carbonate Silicone-glycol polydimethyl siloxanes Silica
P-22 Fixer (part A)	Ammonium thiosulfate Potassium sulfite Potassium bisulfite NA4-EDTA
P-22 Fixer (part B)	N-methyl-pyrrolidone (NMP)
T-Max Developer	Diethanolamine sulfur dioxide Hydroquinone Sodium bisulfite
Photo-flo 200 solution	Propylene glycol P-tert-octylphenoxy polyethyl alcohol

Appendix L

Soil Sampling, Vicinity

Historic Sample Locations within 30 feet of OSE Building

25 0 25 50 75 100 Feet

■ Sample Detect

△ Surface Sample

N W E S

MOUND

Environmental Restoration Geographic Information System

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09/23/03

OSE Building Detects

Location _name	Sample _id	Collection _date	Value_name	Measured _value	Value_ units	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media	Comments
S0126	4073	19830801	Plutonium-238	0.4000	PCI/G	0.0100	RAD	0.0	0.0			RSS	Soil	2

*Comments

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

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OSE Building Non-Detects

Location _name	Sample _id	Collection _date	Value_name	Measured _value	Value_ units	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
S0126	4073	19830801	Thorium-232	2.0000	PCI/G	2.0000	RAD	0.0	0.0	U		RSS	Soil

Comparison values for results with comments are provided on the "Comparisons for Soil Analytical Results" table at the end of this appendix.
Lab and data qualifiers are defined on the pages immediately following the non-detects table in this appendix.

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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.

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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.

Comparisons for Soil Analytical Results			
10^{-6} Risk-Based Guideline Values			
107-06-2	1,2-Dichloroethane	3.20E+00	MG/KG
118-96-7	2,4,6-Trinitrotoluene	1.91E+02	MG/KG
72-55-9	4,4'-DDE	9.00E+00	MG/KG
50-29-3	4,4'-DDT	9.00E+00	MG/KG
309-00-2	Aldrin	1.80E-01	MG/KG
5103-71-9	Alpha Chlordane	8.50E+00	MG/KG
12672-29-6	Aroclor-1248	3.85E-01	MG/KG
11096-82-5	Aroclor-1260	3.85E-01	MG/KG
7440-38-2	Arsenic	1.20E+03	MG/KG
71-43-2	Benzene	8.90E+00	MG/KG
56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
7440-41-7	Beryllium	7.00E-01	MG/KG
319-85-7	Beta-BHC	1.65E+00	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
75-27-4	Bromodichloromethane	4.80E+01	MG/KG
75-25-2	Bromoform	3.75E+02	MG/KG
7440-43-9	Cadmium	1.00E+04	MG/KG
56-23-5	Carbon Tetrachloride	4.60E+00	MG/KG
67-66-3	Chloroform	3.10E+00	MG/KG
7440-47-3	Chromium	1.50E+03	MG/KG
218-01-9	Chrysene	4.10E+02	MG/KG
53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
124-48-1	Dibromochloromethane	3.55E+01	MG/KG
75-09-2	Dichloromethane	3.95E+02	MG/KG
60-57-1	Dieldrin	1.85E-01	MG/KG
5103-74-2	Gamma Chlordane	8.50E+00	MG/KG
58-89-9	Gamma-BHC (Lindane)	2.30E+00	MG/KG
76-44-8	Heptachlor	0.66	MG/KG
1024-57-3	Heptachlor Epoxide	0.33	MG/KG
193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
78-59-1	Isophorone	3.15E+03	MG/KG
86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
87-86-5	Pentachlorophenol	2.50E+01	MG/KG
121-82-4	RDX	2.70E+01	MG/KG
79-01-6	Trichloroethene	5.09E+00	MG/KG
7440-41-7	1,1,1,2-Tetrachloroethane	1.10E-02	MG/L
7440-38-2	1,1,2,2-Tetrachloroethane	1.40E-03	MG/L
14952-40-0	Actinium-227	4.50E-01	PCI/G
14596-10-2	Americium-241	6.30E+00	PCI/G
13982-38-2	Bismuth-207	1.60E-01	PCI/G
10045-97-3	Cesium-137	3.40E-01	PCI/G
10198-40-0	Cobalt-60	7.00E-02	PCI/G

14255-04-0	Lead-210	6.20E-01	PCI/G
13981-16-3	Plutonium-238	6.10E+00	PCI/G
15117-48-3	Plutonium-239	6.00E+00	PCI/G
PU239/240	Plutonium-240	6.00E+00	PCI/G
13966-00-2	Potassium-40	1.42E+00	PCI/G
14331-85-2	Protactinium-231	3.90E-01	PCI/G
13982-63-3	Radium-226	9.00E-02	PCI/G
10098-97-2	Strontium-90	9.40E+00	PCI/G
14274-82-9	Thorium-228	1.10E-01	PCI/G
14269-63-7	Thorium-230	9.00E-02	PCI/G
7440-29-1	Thorium-232	7.00E-02	PCI/G
10028-17-8	Tritium	2.35E+04	PCI/G
13968-55-3	Uranium-233	9.68E-01	PCI/G
13966-29-5	Uranium-234	1.05E+01	PCI/G
15117-96-1	Uranium-235	1.60E+00	PCI/G
7440-61-1	Uranium-238+D	1.00E-01	PCI/G
14596-10-2	Americium-241	4.90E-01	PCI/L
14331-79-4	Bismuth-210	2.20E+01	PCI/L
15262-20-1	Radium-228	3.30E-01	PCI/L
13967-73-2	Strontium-85	1.10E+02	PCI/L
10098-97-2	Strontium-90	3.90E+00	PCI/L
15623-47-9	Thorium-227	4.00E+00	PCI/L
14274-82-9	Thorium-228	6.90E-01	PCI/L
14269-63-7	Thorium-230	1.20E-01	PCI/L
7440-29-1	Thorium-232	3.10E-01	PCI/L
7440-61-1	Uranium-238	1.10E-01	PCI/L
OU9 Soil Background Value			
72-54-8	4,4'-DDD	4.2	MG/KG
72-55-9	4,4'-DDE	4.3	MG/KG
50-29-3	4,4'-DDT	13	MG/KG
309-00-2	Aldrin	ND	MG/KG
5103-71-9	Alpha Chlordane	ND	MG/KG
319-84-6	Alpha-BHC	ND	MG/KG
7429-90-5	Aluminum	19000	MG/KG
14596-10-2	Americium-241	ND	MG/KG
12672-29-6	Aroclor-1248	ND	MG/KG
11097-69-1	Aroclor-1254	58	MG/KG
11096-82-5	Aroclor-1260	ND	MG/KG
7440-38-2	Arsenic	8.6	MG/KG
7440-39-3	Barium	180	MG/KG
7440-41-7	Beryllium	1.3	MG/KG
319-85-7	Beta-BHC	ND	MG/KG
7440-69-9	Bismuth	ND	MG/KG
13982-38-2	Bismuth-207	ND	MG/KG
14331-79-4	Bismuth-210m	ND	MG/KG
7440-43-9	Cadmium	2.1	MG/KG
7440-70-2	Calcium	310000	MG/KG
7440-47-3	Chromium	20	MG/KG

7440-48-4	Cobalt	19	MG/KG
7440-50-8	Copper	26	MG/KG
57-12-5	Cyanide	ND	MG/KG
60-57-1	Dieldrin	ND	MG/KG
959-98-8	Endosulfan I	ND	MG/KG
1031-07-8	Endosulfan Sulfate	ND	MG/KG
72-20-8	Endrin	ND	MG/KG
7421-93-4	Endrin Aldehyde	ND	MG/KG
53494-70-5	Endrin Ketone	ND	MG/KG
5103-74-2	Gamma Chlordane	ND	MG/KG
58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
76-44-8	Heptachlor	ND	MG/KG
1024-57-3	Heptachlor Epoxide	ND	MG/KG
77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
7439-89-6	Iron	35000	MG/KG
7439-92-1	Lead	48	MG/KG
7439-93-2	Lithium	26	MG/KG
7439-95-4	Magnesium	40000	MG/KG
7439-96-5	Manganese	1400	MG/KG
7439-97-6	Mercury	ND	MG/KG
72-43-5	Methoxychlor	30	MG/KG
7439-98-7	Molybdenum	27	MG/KG
7440-02-0	Nickel	32	MG/KG
7440-09-7	Potassium	1900	MG/KG
7782-49-2	Selenium	ND	MG/KG
7440-22-4	Silver	1.7	MG/KG
7440-23-5	Sodium	240	MG/KG
7440-28-0	Thallium	0.46	MG/KG
7440-31-5	Tin	20	MG/KG
7440-62-2	Vanadium	25	MG/KG
7440-66-6	Zinc	140	MG/KG
14952-40-0	Actinium-227	1.10E-01	PCI/G
10045-97-3	Cesium-137	0.42	PCI/G
14255-04-0	Lead-210	1.20E+00	PCI/G
13981-16-3	Plutonium-238	0.13	PCI/G
15117-48-3	Plutonium-239	1.80E-01	PCI/G
PU239/240	Plutonium-240	1.80E-01	PCI/G
13966-00-2	Potassium-40	37	PCI/G
14331-85-2	Protactinium-231	1.10E-01	PCI/G
13982-63-3	Radium-226	2	PCI/G
10098-97-2	Strontium-90	0.72	PCI/G
14274-82-9	Thorium-228	1.5	PCI/G
14269-63-7	Thorium-230	1.9	PCI/G
7440-29-1	Thorium-232	1.4	PCI/G
10028-17-8	Tritium	1.6	PCI/G
13966-29-5	Uranium-234	1.1	PCI/G
15117-96-1	Uranium-235	0.11	PCI/G
7440-61-1	Uranium-238	1.2	PCI/G

Core Team Determined Screening Level			
7439-92-1	Lead	400	MG/KG
14952-40-0	Actinium-227	5.60E-01	PCI/G
14596-10-2	Americium-241	6.3	PCI/G
13982-38-2	Bismuth-207	1.75E-01	PCI/G
10045-97-3	Cesium-137	0.76	PCI/G
10198-40-0	Cobalt-60	7.00E-02	PCI/G
14255-04-0	Lead-210	1.80E+00	PCI/G
13981-16-3	Plutonium-238	55	PCI/G
14331-85-2	Protactinium-231	4.00E+00	PCI/G
13982-63-3	Radium-226	2.1	PCI/G
14274-82-9	Thorium-228	1.61	PCI/G
14269-63-7	Thorium-230	2	PCI/G
7440-29-1	Thorium-232	1.47	PCI/G
15117-96-1	Uranium-235	1.7	PCI/G
7440-61-1	Uranium-238+D	1.3	PCI/G
Maximum Contaminant Level for Drinking Water			
71-55-6	1,1,1-Trichloroethane	0.2	MG/L
79-00-5	1,1,2-Trichloroethane	0.005	MG/L
75-35-4	1,1-Dichloroethene	0.007	MG/L
120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
156-59-2	1,2-cis-Dichloroethene	0.07	MG/L
106-93-4	1,2-Dibromoethane	0.00005	MG/L
95-50-1	1,2-Dichlorobenzene	0.6	MG/L
107-06-2	1,2-Dichloroethane	0.005	MG/L
78-87-5	1,2-Dichloropropane	0.005	MG/L
156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
106-46-7	1,4-Dichlorobenzene	0.075	MG/L
95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
94-75-7	2,4-D	0.07	MG/L
7440-36-0	Antimony	0.0006	MG/L
7440-38-2	Arsenic	0.05	MG/L
7440-39-3	Barium	2	MG/L
71-43-2	Benzene	0.005	MG/L
50-32-8	Benzo(a)pyrene	0.002	MG/L
7440-41-7	Beryllium	0.004	MG/L
117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
75-27-4	Bromodichloromethane	0.008	MG/L
75-25-2	Bromoform	0.008	MG/L
7440-43-9	Cadmium	0.005	MG/L
56-23-5	Carbon Tetrachloride	0.005	MG/L
57-74-9	Chlordane	0.002	MG/L
108-90-7	Chlorobenzene	0.1	MG/L
67-66-3	Chloroform	0.008	MG/L
7440-47-3	Chromium	0.1	MG/L
7440-50-8	Copper	1.3	MG/L
57-12-5	Cyanide	0.2	MG/L
96-12-8	Dibromochloropropane	0.0002	MG/L

75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
88-85-7	Dinoseb	0.007	MG/L
1746-01-6	Dioxin	0.00000003	MG/L
72-20-8	Endrin	0.002	MG/L
100-41-4	Ethylbenzene	0.07	MG/L
16984-48-8	Flouride	4	MG/L
58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
76-44-8	Heptachlor	0.0004	MG/L
1024-57-3	Heptachlor Epoxide	0.0002	MG/L
118-74-1	Hexachlorobenzene	0.001	MG/L
77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
7439-92-1	Lead	0.015	MG/L
7439-97-6	Mercury	0.002	MG/L
72-43-5	Methoxychlor	0.04	MG/L
7440-02-0	Nickel	0.1	MG/L
NO3	Nitrate	10	MG/L
14797-65-0	Nitrite	1	MG/L
87-86-5	Pentachlorophenol	0.001	MG/L
7782-49-2	Selenium	0.05	MG/L
100-42-5	Styrene	0.1	MG/L
127-18-4	Tetrachloroethene	0.005	MG/L
7440-28-0	Thallium	0.002	MG/L
108-88-3	Toluene	1	MG/L
8001-35-2	Toxaphene	0.003	MG/L
79-01-6	Trichloroethene	0.005	MG/L
75-01-4	Vinyl Chloride	0.002	MG/L
1330-20-7	Xylenes, Total	10	MG/L
14952-40-0	Actinium-227	0.4	PCI/L
14596-10-2	Americium-241	1.2	PCI/L
13982-38-2	Bismuth-207	1200	PCI/L
10045-97-3	Cesium-137	120	PCI/L
10198-40-0	Cobalt-60	400	PCI/L
13981-16-3	Plutonium-238	1.6	PCI/L
13982-63-3	Radium-226	4	PCI/L
10098-97-2	Strontium-90	40	PCI/L
14274-82-9	Thorium-228	16	PCI/L
14269-63-7	Thorium-230	12	PCI/L
7440-29-1	Thorium-232	2	PCI/L
10028-17-8	Tritium	20000	PCI/L
13968-55-3	Uranium-233	20	PCI/L
13966-29-5	Uranium-234	20	PCI/L
15117-96-1	Uranium-235	24	PCI/L
7440-61-1	Uranium-238	24	PCI/L
Guideline Values Based on the Hazard Index			
76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	7.00E+04	MG/KG
75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
120-82-1	1,2,4-Trichlorobenzene	2.04E+04	MG/KG
156-59-2	1,2-cis-Dichloroethene	2.13E+03	MG/KG

156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
99-65-0	1,3-Dinitrobenzene	2.00E+02	MG/KG
118-96-7	2,4,6-Trinitrotoluene	1.00E+03	MG/KG
78-93-3	2-Butanone	9.30E+03	MG/KG
95-57-8	2-Chlorophenol	1.06E+03	MG/KG
108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
50-29-3	4,4'-DDT	1.10E+02	MG/KG
106-44-5	4-Methylphenol	1.10E+03	MG/KG
67-64-1	Acetone	2.10E+04	MG/KG
309-00-2	Aldrin	6.4	MG/KG
5103-71-9	Alpha Chlordane	110	MG/KG
7429-90-5	Aluminum	210000	MG/KG
120-12-7	Anthracene	6.40E+04	MG/KG
7440-36-0	Antimony	8.50E+01	MG/KG
11097-69-1	Aroclor-1254	4.30E+00	MG/KG
7440-38-2	Arsenic	6.40E+01	MG/KG
7440-39-3	Barium	1.50E+04	MG/KG
65-85-0	Benzoic Acid	8.50E+05	MG/KG
7440-41-7	Beryllium	1.10E+03	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
75-27-4	Bromodichloromethane	4.30E+03	MG/KG
75-25-2	Bromoform	4.30E+03	MG/KG
85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
7440-43-9	Cadmium	2.10E+02	MG/KG
75-15-0	Carbon Disulfide	2.80E+02	MG/KG
56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
75-00-3	Chloroethane	1.60E+02	MG/KG
67-66-3	Chloroform	2.10E+03	MG/KG
7440-47-3	Chromium	1.10E+03	MG/KG
18540-29-9	Chromium-VI	6.39E+02	MG/KG
7440-50-8	Copper	7.90E+03	MG/KG
57-12-5	Cyanide	4.30E+03	MG/KG
124-48-1	Dibromochloromethane	4.30E+03	MG/KG
75-09-2	Dichloromethane	1.00E+03	MG/KG
60-57-1	Dieldrin	1.10E+01	MG/KG
84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
959-98-8	Endosulfan I	1300	MG/KG
33213-65-9	Endosulfan II	1300	MG/KG
100-41-4	Ethylbenzene	4.80E-01	MG/KG
86-73-7	Flourene	8.50E+03	MG/KG
206-44-0	Fluoranthene	8.50E+03	MG/KG
5103-74-2	Gamma Chlordane	110	MG/KG
58-89-9	Gamma-BHC (Lindane)	64	MG/KG
76-44-8	Heptachlor	110	MG/KG
1024-57-3	Heptachlor Epoxide	2.8	MG/KG
110-54-3	Hexane	9.10E+01	MG/KG
78-59-1	Isophorone	4.30E+04	MG/KG
7439-96-5	Manganese	2.70E+04	MG/KG

7439-97-6	Mercury	6.40E+01	MG/KG
72-43-5	Methoxychlor	1100	MG/KG
7440-02-0	Nickel	4.30E+03	MG/KG
87-86-5	Pentachlorophenol	6.40E+03	MG/KG
108-95-2	Phenol	1.30E+05	MG/KG
129-00-0	Pyrene	6.40E+03	MG/KG
7782-49-2	Selenium	1100	MG/KG
7440-22-4	Silver	1.10E+03	MG/KG
127-18-4	Tetrachloroethene	2.10E+03	MG/KG
7440-28-0	Thallium	17	MG/KG
7440-31-5	Tin	130000	MG/KG
108-88-3	Toluene	2.50E+02	MG/KG
75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
7440-62-2	Vanadium	1.50E+03	MG/KG
1330-20-7	Xylenes, Total	4.30E+05	MG/KG
7440-66-6	Zinc	6.40E+04	MG/KG
7440-41-7	1,1,1,2-Tetrachloroethane	2.90E-01	MG/L
7440-38-2	1,1,2,2-Tetrachloroethane	2.50E-01	MG/L
71-55-6	1,1,1-Trichloroethane	1.80E+00	MG/L
76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	2.50E+03	MG/L
7429-90-5	Aluminum	100	MG/L
7440-42-8	Boron	9.00E+00	MG/L
18540-29-9	Chromium-VI	3.00E-01	MG/L
7440-48-4	Cobalt	6	MG/L
7440-50-8	Copper	4.00E+00	MG/L
7439-98-7	Molybdenum	0.5	MG/L
7782-49-2	Selenium	0.5	MG/L
7440-28-0	Thallium	0.008	MG/L
7440-31-5	Tin	60	MG/L
2691-41-0	HMX	1.10E+04	UG/KG
121-82-4	RDX	6.40E+04	UG/KG

Appendix M

Occurrence Reports

No occurrence reports for OSE Building have been reported to DOE since the reporting system was initiated at MCP in 1991.

Appendix N

PRS Information

Recommendation sheets are not generated for PRSs requiring Further Assessment or that are unbinned. Accordingly, there are no recommendation sheets for PRSs 106, 211, and 212 included herein.

MOUND PLANT
PRS 107, 108, 109
Former Tank Sites

RECOMMENDATION:

PRSs 107, 108, and 109 are the location of three historical underground gasoline storage tanks. In December 1986 a truck wheel punctured one of the tanks. All three tanks were removed. Soil around the tanks was excavated, spread out at a stockpile location to volatilize the gasoline, and disposed at the Mound construction spoils area.

In 1996, an investigation was designed and implemented to determine if gasoline-related contaminants remained in or around the tank cavities. Three out of the five sample results indicate that both Total Petroleum Hydrocarbons (TPH) and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) are below State Fire Marshal action levels implemented under Bureau of Underground Storage Tanks Regulations (BUSTR). The other two samples had laboratory detection limits above the action level for Benzene. However, since the other constituents of gasoline are below their action levels in these two samples, it is expected that the actual Benzene level is also below its action level. In addition, Benzene was not detected in a water sample collected within a telecommunications pit adjacent to soil boring 02.

Therefore, NO FURTHER ASSESSMENT is recommended for PRSs 107, 108, and 109.

CONCURRENCE:

DOE/MEMP: Arthur W. Kleinrath 12/17/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 12/17/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 12/17/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 2/12/98 to 3/16/98

☒ No comments were received during the comment period.

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

N 1 of 2

MOUND PLANT
PRS 241
Soil Contamination-Main Hill Parking Lot Area

RECOMMENDATION:

PRS 241 consists of the northwest parking lots, including the parking lots east of OSE building, south of GH building and the parking lot north of A Building. This PRS was created due to the Soil Gas Survey and Geophysical Investigation - Reconnaissance Sampling Report, Feb.1993 because of several positive soil gas detections. These areas have always been and still are parking lots. No operations are known to have been performed in the parking lots east of OSE Building and north of A Building that would generate hazardous or radioactive wastes.

In 1992, reconnaissance soil gas sampling detected 8 ppb of trichloroethene (TCE) and 255 ppb toluene. These results were below calculated acceptable soil gas values. In addition, all radionuclides are at or below guideline criteria.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 241.

CONCURRENCE:

DOE/MEMP: Arthur W Kleinrath 5/13/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fisch 5/13/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 5/14/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 6/17/97 to 7/18/97

☐ No comments were received during the comment period.

☒ Comment responses can be found on page 1-2 of this package.

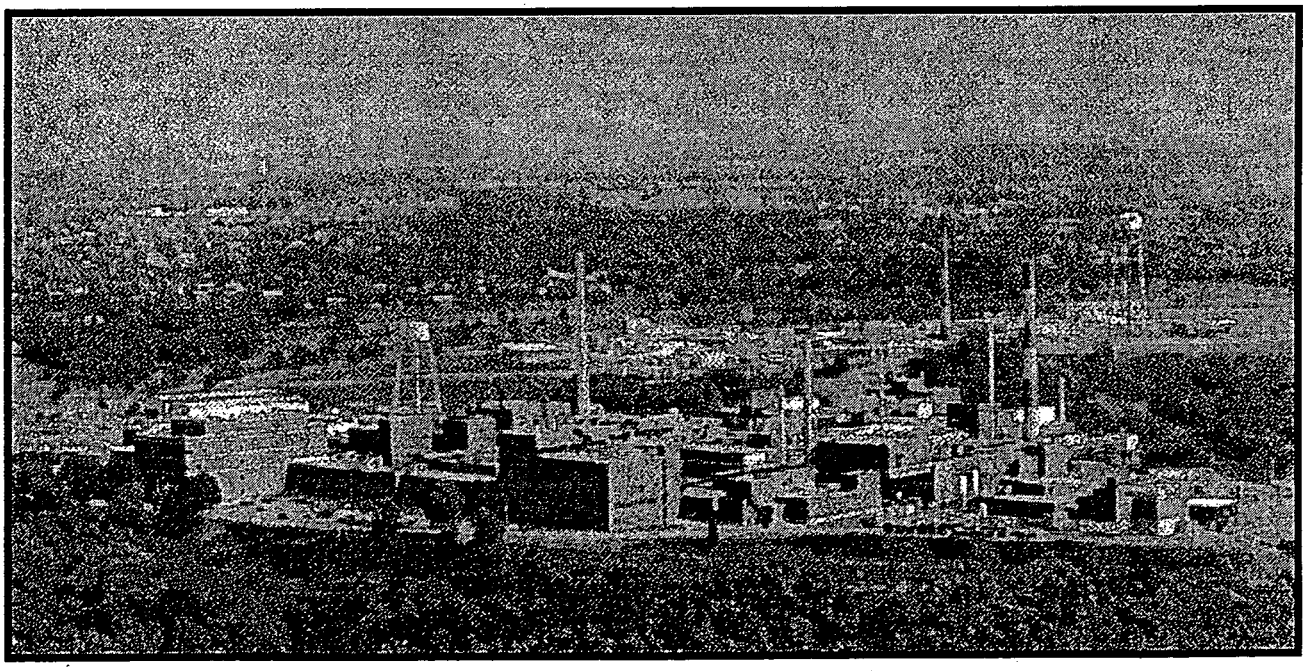
Environmental
Restoration
Program

Miamisburg Closure Project
Building Data Package

OSW Building

(Transition)

Final
January 2004



The Mound Core Team
500 Capstone Circle
Miamisburg, Ohio 45342

December 2003

Mr. Daniel Bird, AICP
Planning Manager
Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Bldg. 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the OSW Building Data Package. Attached is our response.

Should the responses to comments require additional detail, please contact Paul Lucas at (937) 847-8350, x314 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MCP:	Paul Lucas Paul Lucas, Remedial Project Manager	12/18/03 date
USEPA:	David P. Seely David P. Seely, Remedial Project Manager	12/18/03 date
OEPA:	Brian K. Nickel Brian K. Nickel, Project Manager	12/18/03 date

Response to MMCIC Comments on the OSW Building Data Package Public Review Draft October 2003

Substantive Comments

Comment 1. It is our understanding from the review of the OSW Building Data Package that this building has been inspected and is ready for permanent transfer to MMCIC. MMCIC concurs with this proposed activity.

Response 1. MMCIC's understanding is correct.

Comment 2. The Building Data Package states that a walk-through survey was performed to identify asbestos containing materials. Previous asbestos surveys (1989 and 1992) had identified asbestos containing materials throughout the building. A walk-through performed on June 3, 2003 found that most of the pipe insulation had been removed, although some remained, specifically in the penthouse area. Since MMCIC is to take ownership of this building, we would request any additional information available of the status of ACM in the building.

Response 2. Appendix I has been updated to include a memorandum summarizing the inventory of asbestos containing materials that were observed during the June 3, 2003 walk-though, as well as to include copies of the applicable portions of the previous asbestos surveys and management reports.

Comment 3. If MMCIC's understandings are correct, no specific response to the above comment is necessary, and MMCIC further understands these comments will be included in the final Building Data Package.

Response 3. We appreciate your input and review of our document.

Errata

Comment 1. No Comments.

RECOMMENDATION

OSW Building

Background:

OSW Building was constructed in 1974 as an administrative office area with approximately 52,280 square feet of floor space. The building contains office areas and conference rooms and has been used as an administrative support facility since constructed.

During the August 11, 2003 walkthrough of OSW Building, the building was mostly vacant except for a few employees remaining on the first and fourth floors. The second and third floors were completely vacant. At the time of building transition, it is anticipated that OSW Building will be vacant.

All radiological surface data and radon data are below applicable screening levels. No lead-based paint or asbestos hazards currently exist in the building. The BDP documents one occurrence of ethylene glycol being released from OSW Building directly into the sanitary sewer. Because the release was into the sanitary sewer and not into the interior of the building, there was no environmental impact on OSW Building. All known environmental issues (BDP Table 2) associated with OSW Building have been resolved.

Recommendation:

After thorough review of the environmental data and the Building Data Package, the Core Team agrees that all existing environmental issues associated with OSW Building have been resolved. Future use of OSW Building will be restricted to commercial/industrial use. The Core Team hereby recommends that the U.S. Department of Energy submit a letter to the Administrator of the U.S. EPA for final approval of the lease or sale of this property, as required by Section 120(h) of CERCLA.

DOE/MCP:	Paul C Lucas	9/17/03
	Paul Lucas, Remedial Project Manager	Date
USEPA:	David P Seely	9/17/03
	David P. Seely, Remedial Project Manager	Date
OEPA:	B. K. Nickel	9/17/03
	Brian K. Nickel, Project Manager	Date

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MIAMISBURG CLOSURE PROJECT

BUILDING DATA PACKAGES

The following documents are available (October 24, 2003) for public information in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio.

BDP Building OSW: Operational Support – West and
BDP Building OSE: Operational Support – East

Questions can be referred to Paul Lucas at (937) 847-8350 ext. 314

U.S. Department of Energy
U.S. Environmental Protection Agency
Ohio Environmental Protection Agency

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BDP OSW Building

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		**August 2003**
DRAFT (to Core Team)	The regulator review period is from August 18, 2003 through September 17, 2003.	**August 2003**
DRAFT PROPOSED FINAL (incorporates Core Team comments)	Regulator comments received and incorporated.	**October 2003**
PUBLIC REVIEW DRAFT	The public review period was October 24, 2003 through November 23, 2003.	**October 2003**
FINAL	Responses to public comments are included in the front of this document. Additional information regarding previous asbestos surveys has been added to Appendix I.	**January 2004**

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1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the transfer of OSW (Operational Support - West) Building to the Miamisburg Mound Community Improvement Corporation (MMCIC) 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 OSW Building located at the Department of Energy (DOE) Miamisburg Closure Project (MCP) 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 OSW Building, the soil beneath, and a 15-foot wide perimeter border around the building. The investigation of OSW Building 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 site 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 site contractor personnel, documents were reviewed. Information used to compile BDPs includes the following:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- Operable Unit 9 (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-22153, Mound Site Radionuclides By Location, June 1995 Contaminant Surveys
- MLM-3791, Mound Facility Physical Characterization, December 1993

2.0 OSW BUILDING OVERVIEW

OSW Building was constructed in 1974 as an administrative office area with approximately 52,280 square feet of floor space. The building contains office areas and conference rooms and has been used as an administrative support facility since constructed.

OSW Building is a four-story structure with a penthouse. The building is steel frame and concrete block with a brick face and a built-up membrane roof. The building is located in the northern portion of the site (Figure 1). Other than the reconfiguration of some of the interior rooms, OSW Building has not had any major modifications.

The OSW Building includes office space and conference rooms on each of its four floors. The third floor also includes training rooms with two inactive Leibert units, and the fourth floor includes a computer vault with two inactive Leibert units. The OSW Building is serviced by two elevators, and each floor of the building has both a men's and women's restroom located south of the elevators. OSW Building floor plans are provided as Appendix D.

The building uses a standalone chiller for cooling and boiler for heating. Electric service is 480 volts. The building has potable and service water, a fire sprinkler system, sanitary services, and storm drains.

2.1 Past Uses of OSW Building

OSW Building served as an office and administrative area since its construction in 1974. The building has provided offices for DOE's Miamisburg Closure Project (MCP), the Ohio Field Office's Records Management Group, and DOE's computer center. Site contractor functions located in the building included purchasing, site drafting and computer-aided design (CAD) operations, training, technical manuals, drawing control, and site cleanup staff. OSW Building housed equipment for photographic operations (film and microfiche developing) and for drawing reproduction, environmentally controlled rooms for the former central computing facility, and vaulted areas for the storage of sensitive documents.

No radiological process systems were part of these functions and no radioactive material was ever used or stored in OSW Building except for two sealed radioactive instrument check sources that were kept in a small cabinet bearing radiological postings located in the fourth floor entrance foyer. The sealed sources were used by Health Physics personnel assigned to the Balance of Site Structures (BOSS) group. These sources were stored and maintained in accordance with Mound procedures and do not affect the classification of the building. The sources were removed from the building. The building has been used as an administrative support facility since constructed. The building is not contaminated with any radioactive or energetic materials.

2.2 Current Uses of OSW Building

During the August 11, 2003 walkthrough of OSW Building, the building was mostly vacant except for a few employees remaining on the first and fourth floors. The second and third floors were completely vacant.

At the time of building transition, it is anticipated that OSW Building will be vacant.

2.3 Summary of Environmental Concerns and Findings – OSW Building

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	No previous lead surveys or sampling data could be found for OSW Building. Observed paint coatings were largely intact, although significant peeling paint coatings were observed in the Penthouse and in the stairwell on the north side of the building. The peeling paint coatings were tested for lead content in the field, and were found to not contain lead within the instrument's limit of detection (<0.1 mg/cm^2). Paint coatings that were intact throughout the building were not tested. Although untested paint coatings must be assumed to contain lead, the observed condition of the paint indicates that there are currently no lead paint hazards within the building (Appendix J).	No further action is necessary to protect occupant or worker health unless any coatings are to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.). If these types of activities are planned, the affected paint coatings should be tested to verify the absence of lead.
Chemicals	Appendix K provides a list of chemicals known to have been present in the building. Chemicals associated with photo development were previously used on the third and fourth floors. Those processes and the associated chemicals were removed from OSW Building.	At the time of the August 11, 2003 walkthrough, the only chemicals observed in OSW Building were small amounts of janitorial chemicals. No further action required.
Fluorescent Lamps and Polychlorinated Biphenyls (PCBs)	There are no capacitors or transformers containing PCBs located in the building. Fluorescent lamps are used in the building. Ballasts may contain PCBs.	Integral ballasts that may contain PCBs will remain in place. During the building walkthrough on August 11, 2003, no leaking ballasts were observed.
Air Emissions	There were no air emission sources in the building.	N/A

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Asbestos	Previous asbestos surveys (1989 and 1992) identified some asbestos-containing materials (ACMs): pipe insulation in the Penthouse (Rooms 501P and 502P) and in Room 404, a ceiling panel in Room 141 (10 sq. ft.), and floor tiles and associated mastic located throughout the building. All materials were identified as being either nonfriable or in an undamaged condition. On June 3, 2003 a walk-through survey of OSW Building was conducted. Most of the pipe insulation previously identified appeared to have been removed, although a significant amount remains in the Penthouse and is labeled as such. In addition, asbestos cement wall panels were in the Penthouse, and an asbestos cement board tabletop was located in Room 327C (6 sq ft). Floor tiles assumed to be ACM remain in numerous areas throughout the building. No damaged ACMs were seen during the survey. (Appendix I.)	Any remaining ACMs should be monitored periodically and managed to ensure that they remain undamaged. No other actions would be required unless the building is scheduled for renovation or demolition; such activities would require the removal of affected regulated asbestos.
Drainage Sumps	There is a sump (sewage lift station) outside the southeast corner of OSW Building that is part of the sanitary system. Sanitary waste from the building collects in the sump and is pumped on a per-volume basis into the sanitary sewer. OSW Building, including the sanitary system, is not contaminated with any radioactive or energetic materials.	No further action required.
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	Radiological surveys were performed and the building meets surface release criteria (see Section 2.4 and Appendix G).	No further action required.
Septic System	N/A	N/A

Table 1 - Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Wastewater	Handled by site wastewater facility.	N/A
Stains & Corrosion/HVAC	There are two Leibert (manufacturer) units in Room 402 that previously cooled the vault housing the magnetic tapes for the computer mainframes. These units had been connected to the plant chilled glycol system, but were drained and disconnected in 1997 following the occurrence detailed in Section 4.2.2 (Appendix M). There are also two Leibert units in Room 336 that previously cooled the training rooms. These were self-contained units and not connected to the site chilled glycol system.	Glycol was drained from the two Leibert units located in Room 402, and the units are disconnected and inactive. The two Leibert units located in Room 336 are inactive. No further action required.
Storage Tanks	N/A	N/A
Solid Waste Disposal	N/A	N/A
Migratory Hazards	N/A	N/A
Radon	Within acceptable limits (Appendix H).	N/A
Energetic Material	N/A	N/A
Soil Sampling	Appendix L provides a graphic showing all soil sample locations within a 15-foot perimeter of OSW Building and provides tables for all detected compounds (results above laboratory detection limits) and non-detected compounds (results below laboratory detection limits). All analytical results are below applicable screening levels (the Core Team approved, or the most restrictive of either the 10^{-6} Risk-Based Guideline Values [RBGVs] plus background or Hazard Index = 1).	Based on the historical analytical data, soil sampling is not planned.

N/A: not applicable

The above information will be disclosed to the new owner via the Environmental Summary.

2.4 Radiological Characterization Summary for OSW Building

A radiological assessment of OSW Building was performed by reviewing historic and operational records and performing radiological surveys. The building was used primarily as an office and administrative area for DOE and its site contractor. OSW Building has provided offices for the DOE's Miamisburg Closure Project (MCP) and the Ohio Field Office's Records Management group. Other operations included DOE's computer center, purchasing, site drafting and CAD operations, training, technical manuals, drawing control, and site cleanup staff. Photographic operations were also located in OSW Building in support of the drawing control operations. No radiological process systems were a part of these functions and, except for two sealed radioactive instrument check sources, no radioactive material was ever used or stored there.

Radiological surveys were performed throughout the building in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The surveys found no residual activity above the permissible surface contamination guideline. The review team concluded that the building meets radiological surface release criteria established by DOE Order 5400.5 (see Table 2), and no further radiological surveys are required. 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	SURVEY RESULTS (dpm/100 cm^2) (Note 1)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 2)
Highest Alpha Smearable Activity	03-TF-0165	Floor	6.56	20
Highest Alpha Fixed Activity	03-TF-0165	Roof	92	100
Highest Beta Smearable Activity	03-TF-0165	Floor	6.85	1,000
Highest Beta Fixed Activity	03-TF-0165	Roof	3,344	5,000
Highest Tritium Smearable Activity	03-TF-0165	Floor	13.66	10,000

Note 1: Residual 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: Guidelines per DOE Order 5400.5, Radiation Protection of the Public and the Environment.

The above table presents the highest values of the building surface radiological results. The complete Final Status Report (FSR) is provided in Appendix G, and includes details of the evaluation and testing processes, and the corresponding results. The worksheet of the building surface results (that support the above table) can be found on pages G 12-14. Additional worksheets are also included in the FSR documenting the data used to characterize a building area or room (such as the drain and vent data found on page G 16).

This data also meets the surface contamination guidelines presented in the above table, but are not included in the above table because they are not surveys of building surfaces.

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

OSW Building is located at the DOE MCP site, formerly known as Mound Plant. The MCP site 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 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 OSW Building

As shown in the Appendix C, Figures, OSW Building is bordered on the north by a concrete sidewalk, an asphalt parking lot, an asphalt roadway, and the current site fenceline; on the west by a small grassy area, an asphalt roadway, and the current site fenceline; and on the south by an asphalt roadway and parking area, H Building, and the concrete slabs from the demolished B Building and B Building solvent storage shed. The east side of OSW Building is connected to the west side of A Building.

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

The closest buildings to OSW Building are A Building, H Building, and the concrete slabs from the demolished B Building (demolished in 2001) and B Building solvent storage shed (dismantled in 1994).

A Building (Administrative Building), located east of and connected to OSW Building, is a 55,582 square-foot structure used as an administrative office facility. A Building is currently undergoing preparations for demolition.

H Building (Laundry), located south of OSW Building, is a 17,334 square-foot structure that housed a laundry, bioassay laboratories, a credit union, change rooms for men and women, and office space. H Building has been demolished.

The concrete slabs from B Building and the B Building solvent storage shed (PRS 129, Section 4.2.3), located south of OSW Building, are scheduled for removal together with the slabs for R and SW Buildings, following the demolition of R and SW Buildings.

These facilities are believed to have had minimal or no environmental impact on OSW Building.

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), the site has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. The site is currently operating a hazardous waste storage facility under a RCRA Part B Permit dated October 18, 1996. The site 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 RAPCA and the Ohio Environmental Protection Agency (OEPA). The site 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 March 2002 version of this report indicated that no reportable chemicals are stored in OSW Building.

The Mound Plant was identified as a contaminated site on the National Priorities List (NPL) under CERCLA (Superfund) in 1989. The Mound Plant was originally listed due to volatile organic compound (VOC) contamination in the western end of the lower valley area. The cleanup of the 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 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 site.

The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 Process". For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach.* The Mound

2000 Process system divided the site into geographical parcels containing more than 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. The PRSs were initially identified and documented as part of the Mound site scoping process under the Federal Facility Agreement (FFA). The original list of PRSs can be found in the OU9- Site Scoping Report Volume 12, Site Summary Report, 1994. One of the objectives of the Site Scoping report was to provide a comprehensive summary of PRSs identified through the scoping process. Subsequent to the 1994 Site Scoping Report, additional PRSs have been identified as information became available, bringing the site total to 440 PRSs. The assignment of a PRS does not necessarily mean that there is a threat to human health or the environment. The tabulation of all PRSs simply provides an explicit means of tracking and evaluating all potential releases onsite, the need for further action, and the identification of the authority responsible for action.

Through the process described above, the specific PRSs in the vicinity of OSW Building (Section 4.2.3) are listed in Table 3 along with their binning status and their locations shown on Figure 2. Of the three PRSs in the vicinity of OSW Building, all have been determined by the Core Team to require No Further Assessment (NFA). For a PRS to be binned NFA, the Core Team has reviewed the PRS data and agrees that all existing environmental issues associated with that PRS have been resolved and the PRS is protective of human health and the environment. No other PRSs associated with OSW Building have been identified.

4.2 Specific Record Sources for OSW Building

4.2.1 Occurrence Reports

A search of the occurrence reporting system revealed one report, which was minor and believed to be without impact to the environment of OSW Building. A copy of the occurrence report is provided in Appendix M.

- NPDES Permit Violation, Exceedance of Weekly Biological Oxygen Demand Limit at the Waste Water Treatment Plant (Section 4.2.2, Spills and Releases).

4.2.2 Spills and Releases

Occurrence Report No. OH-MB-EGGM-EGGMAT05-1997-0001 (Appendix M) indicates that in February 1997, a total of 795 gallons of chilled 30% ethylene glycol/water solution (2,235 pounds of ethylene glycol) was released to the site Waste Water Treatment Plant (WWTP). This happened when a valve on the fourth floor of OSW Building was opened in response to a lack of cooling from the air conditioning (Leibert) units in Room 402. The valve was mistakenly assumed to be a 'bypass' valve; however, it was the valve that

permitted discharge of single-pass cooling water to the sanitary sewer system that was to be used only during plant utility shutdowns.

Even though the occurrence report does not specifically state that the OSW Building drainline pipe was flushed with water to remove the glycol following the release, it can be reasonably assumed that after a period in excess of six years, any glycol remaining in the building drainline from the release would have evaporated and that testing to confirm the evaporation is not warranted. The occurrence report further indicates that by April 1997, the piping was modified so that the air conditioning units were disconnected from the plant glycol system and the drain to the sanitary sewer.

Because the above described release was into the sanitary sewer and not into the interior of the building, there was no environmental impact on OSW Building.

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 the site contractor tabulated all of the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, three are near OSW Building (see Table 3). Additional information is included in Appendix N.

Table 3 - PRSs in Proximity to OSW Building

PRS	CERCLA or Bldg. Related	Binning Status	Comments
129	CERCLA	No Further Assessment (NFA)	B Building Solvent Storage Shed
130	CERCLA	NFA	B Building Temporary Drum Storage Area
244	CERCLA	NFA	VOC Potential Hot Spots Locations 1076, 1077, Grounds

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

Three aerial photographs are presented in Appendix E; 1973 (prior to construction), 1983 (recently constructed), and 1996 (most recent aerial photo). These photographs were reviewed and no significant items were identified.

4.5 Interviews

Past Building Manager, W. H. Whitelow, was interviewed via a building manager questionnaire (included in Appendix F). The current Building Manager, G. L. Weidenbach, was interviewed regarding past facility operations and current conditions. No significant items related to the building were identified on the questionnaire or interviews.

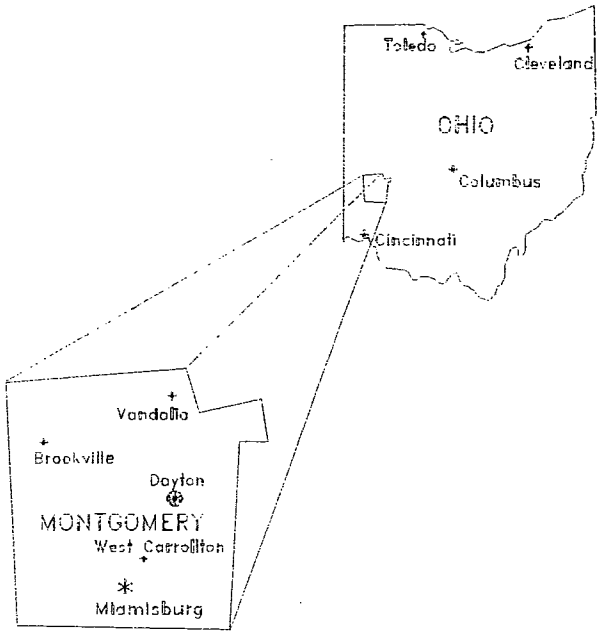
Appendix A

General Listing of Acronyms

ASTM	American Society for Testing and Materials
BDP	Building Data Package
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 Radiation Survey and Site Investigation Manual
MCP	Miamisburg Closure 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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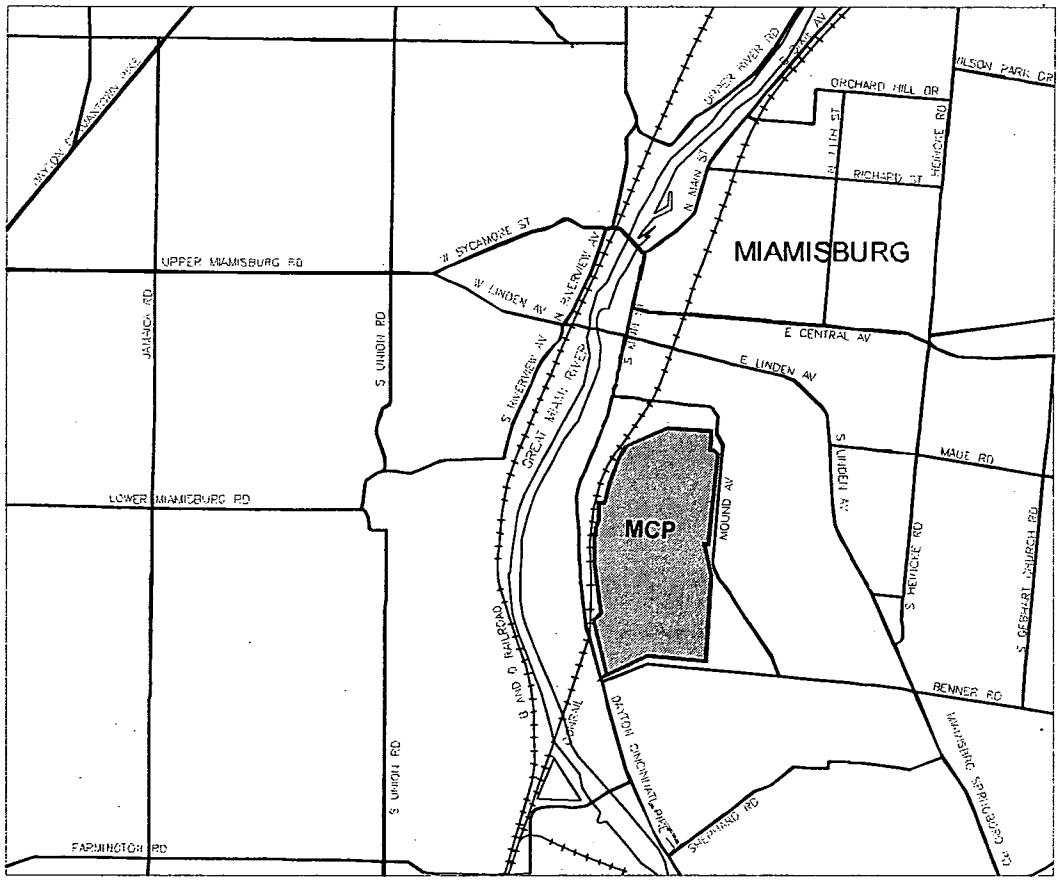
Cleveland
OHIO
Columbus
Cincinnati
Vandalia
Brookville
Dayton
MONTGOMERY
West Carrollton
Miamisburg


MIAMISBURG
MCP
UPPER MIAMISBURG RD
LOWER MIAMISBURG RD
FARMINGTON RD
S UNION RD
JAHNCKE RD
W SYCAMORE ST
W LINDEN AV
N RIVERVIEW AV
S RIVERVIEW AV
GREAT MIAMI RIVER
E CENTRAL AV
E LINDEN AV
S LINDEN AV
MAUE RD
MOUND AV
S HEMPLE RD
S GEBHART CHURCH RD
BENNER RD
HAMILTON SPRINGBORO RD
DAYTON CINCINNATI PIKE
SCHUMANN RD
B AND O RAILROAD
ORCHARD HILL DR
WILSON PARK DR
RICHARD ST
N MAIN ST
S MAIN ST
HEMPLE RD

B1 of 1

Appendix C

Figures

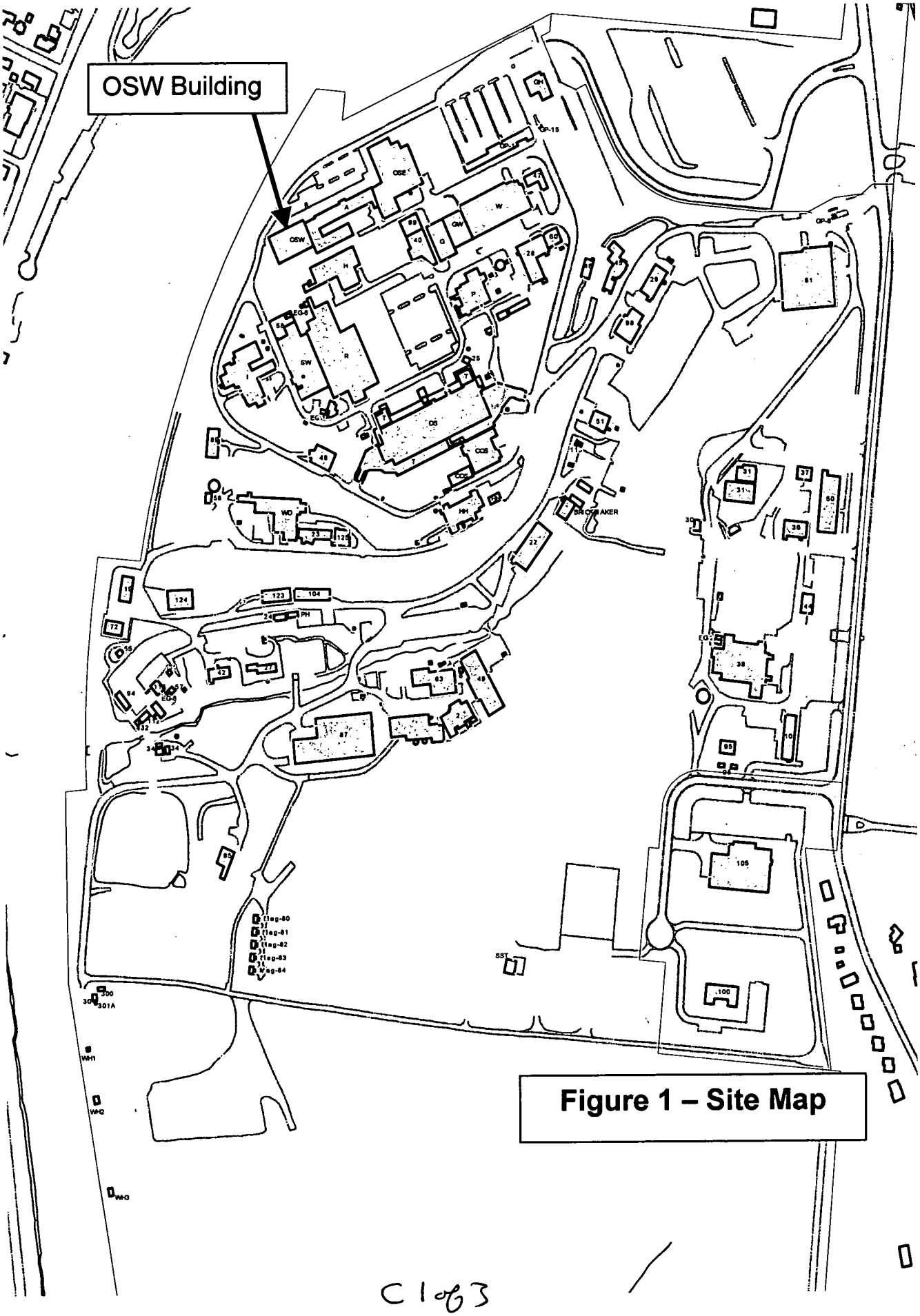


Figure 1 – Site Map

C 1 of 3

PRS Point

PRS Area

PRS Line

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

DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE | DRAWING NUMBER: vicinity.dgn | JOB NUMBER

DGN TYPE: STE | PROJ: ER-GIS | CADD | SCALE | SHEET 1 OF

STATUS: MD-REL-**/**/** | ORIGIN: MSTATION / J

Figure 2
OSW Building and Vicinity

ISS	DATE	REVISION	BY	CHKR	ENG	LPREC	APVD	S
	04/29/03		SSF					

C2 of 3

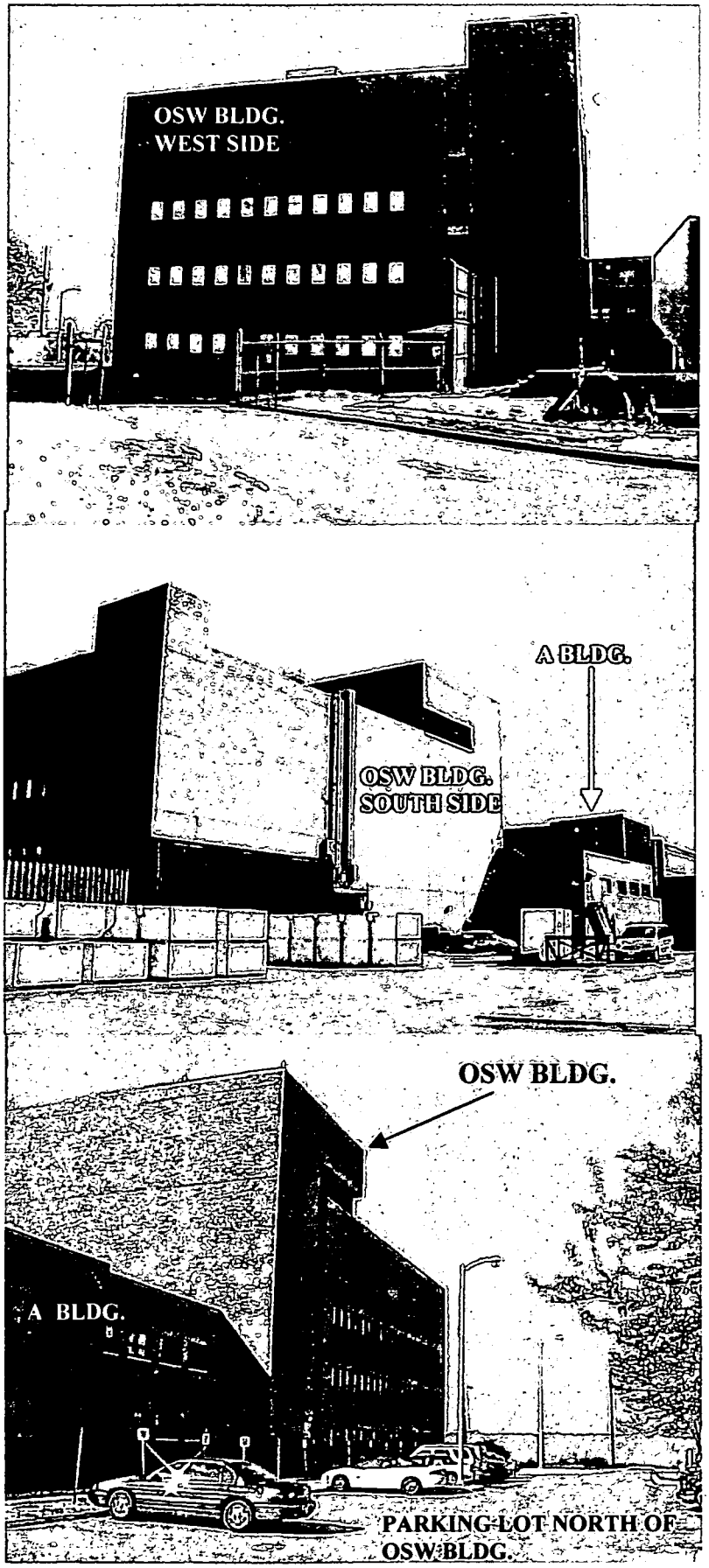


FIGURE 3 – OSW BLDG.

C383

Appendix D

Floor Plans

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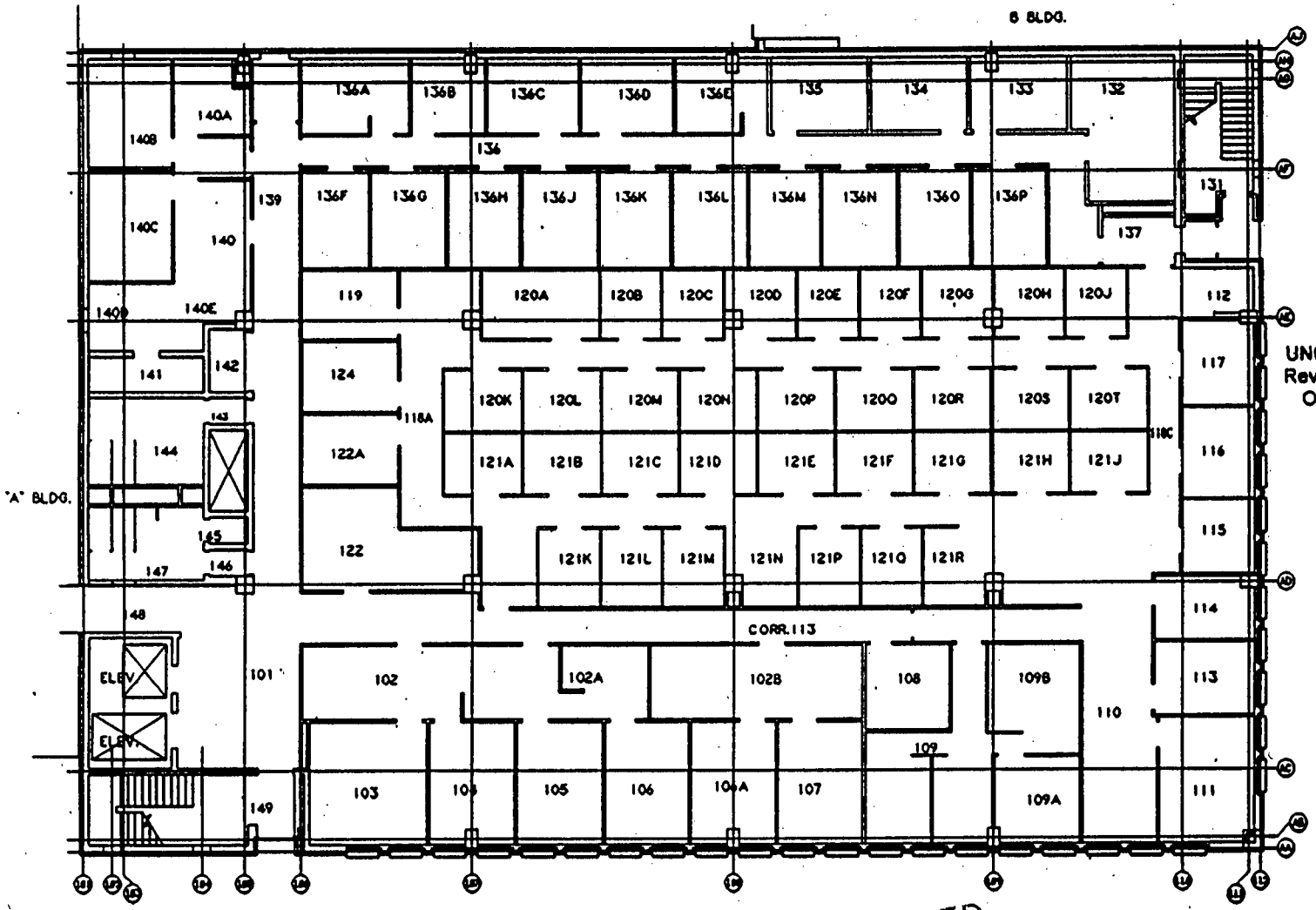


UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification Office. Reviewer Initials: RDK
5/4/98

UNCLASSIFIED

OSW BLDG
FIRST FLOOR
BLDG CODE:3537

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

APPROVALS: DATE:
SAFETY COMMITTEE REQUIRED:
___NONE ___TRUEDOC ___TEDOC ___EDOC
TECH. REP. ___
GR. MGR. ___
TRUEDOC ___
TEDOC ___
EDOC ___

SHEET	1	2	3	4	5	6
ISSUE	0	0	0	0	0	

FIRST CLASSIFICATION
SECTION CLASSIFICATION: UCNI

TITLE (U) TITLE CLASSIFICATION
OSW BLDG
FLOOR PLANS

SIZE C | DRAWING NUMBER FSC911316 | JOB NUMBER 12335

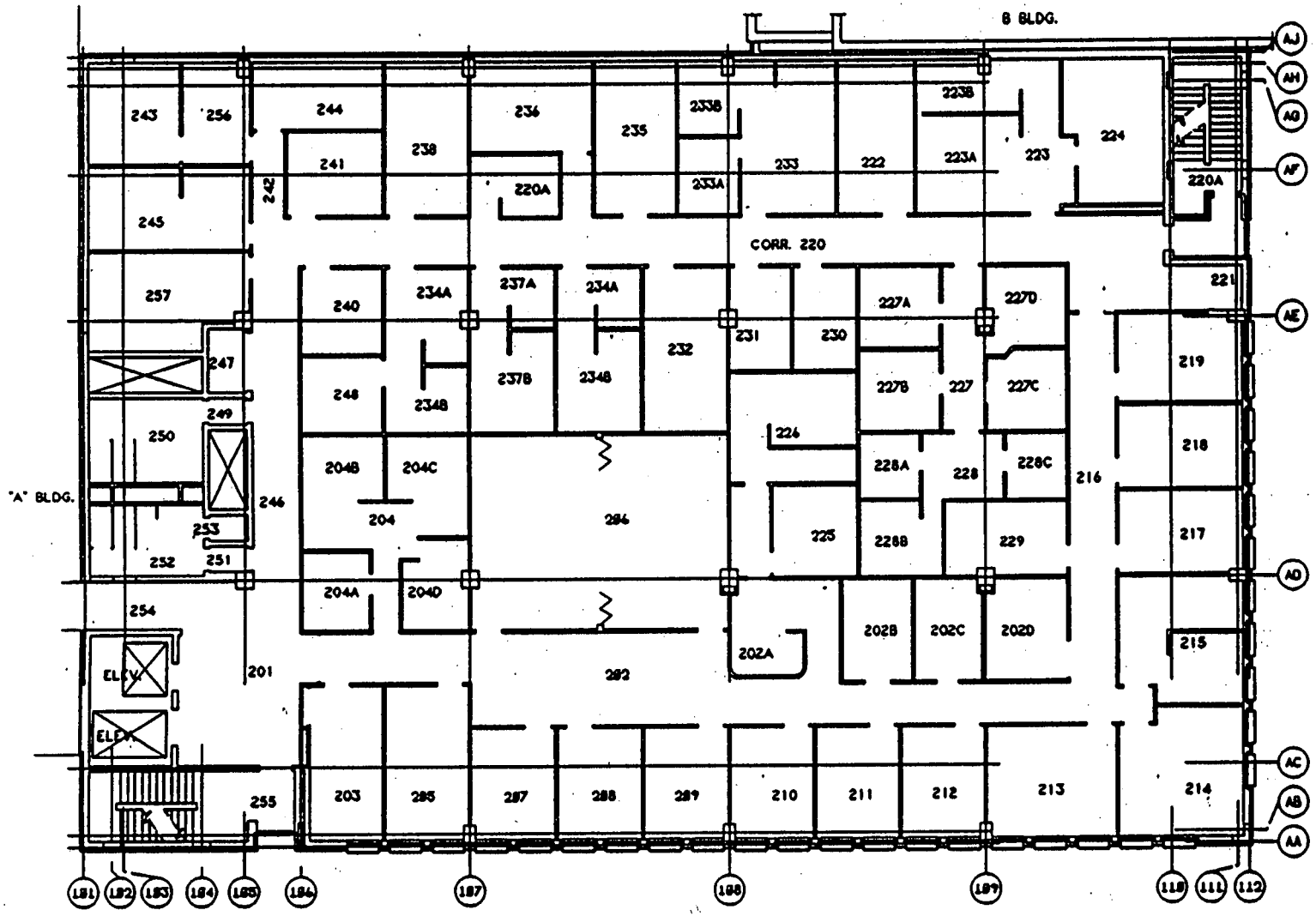
DWG TYPE SFP | FROM OSW BLDG | CODE 14065 | SCALE AS NOTED | SHEET 1 OF 5

STATUS MD-REL-12/12/91 | ORIGIN MD-BRJ-V3.J

SECTION END | PROJ MGR | SPONS | DWG MGR | CP & EE | PROJ REV | DWG MGR | APPD | DATE

4 3 2 1

5 of 5



OSW BLDG
SECOND FLOOR
BLDG CODE:3537

UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification
Office. Reviewer Initials:

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	ISSUE 0 / SHEET 2
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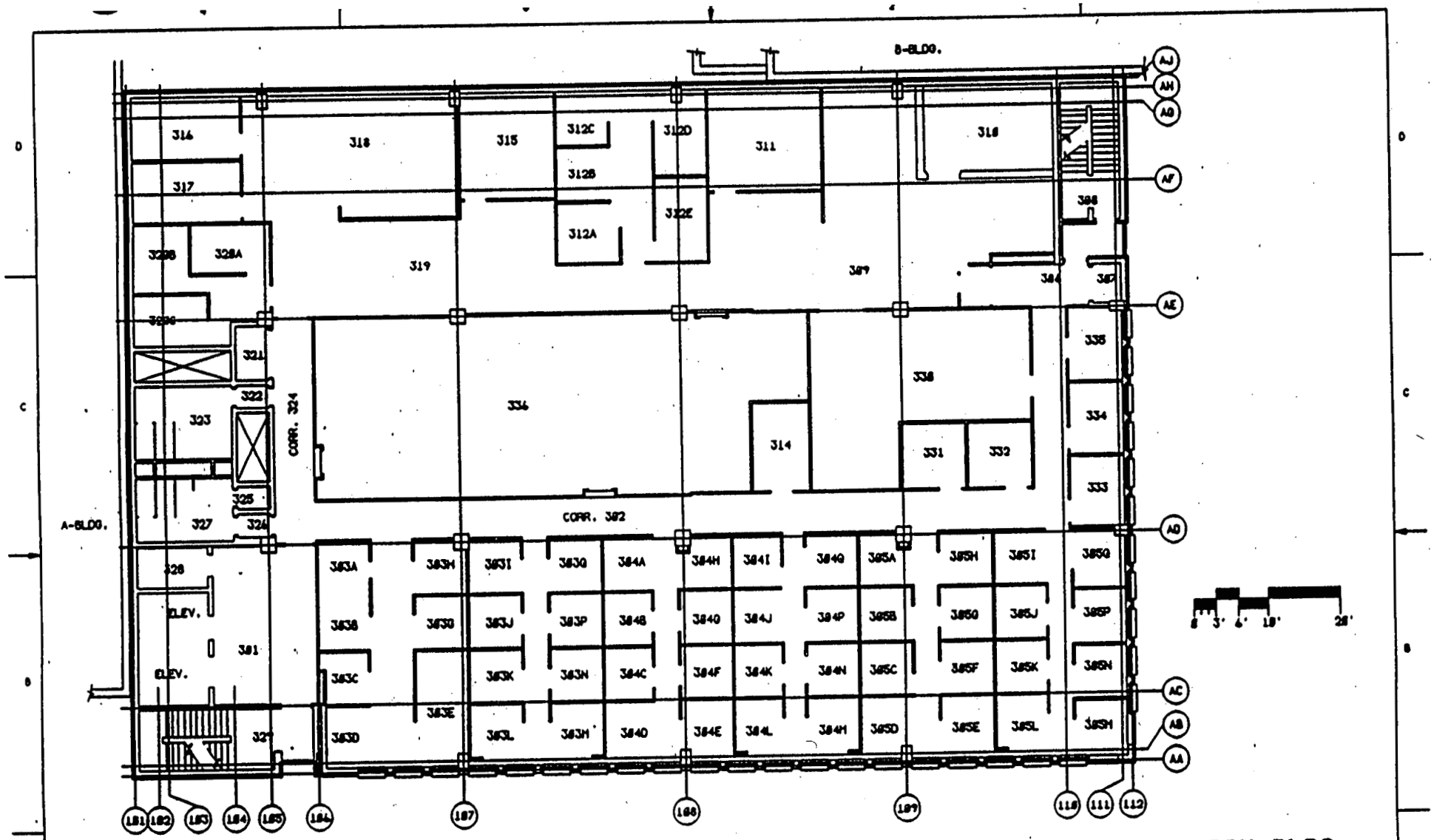

UNCLASSIFIED

OSW BLDG
THIRD FLOOR
BLDG CODE:3537

NOTICE: This document / page does NOT contain Unclassified Controlled Nuclear Information(UCNI)

Reviewing Official: Paul B. Dowd

Sr. Classification Consultant Date: 4-23-03

[Label File: "Not-UCNI.des"

NOT FOR PUBLIC DISSEMINATION

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JOB NUMBER	12335
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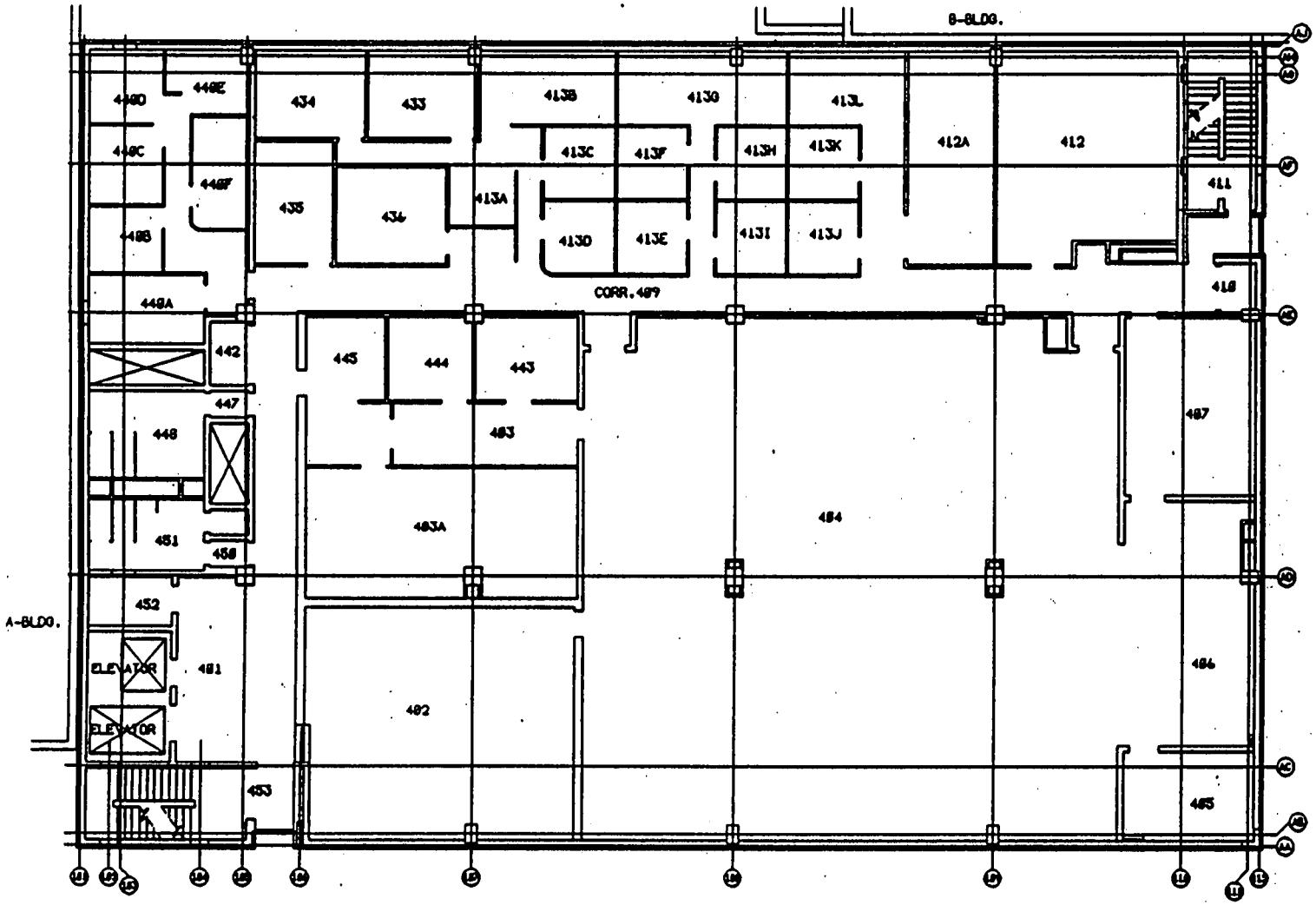
CLASS	MO-REL-12/12/91

D 3 of 5



OSW BLDG
FOURTH FLOOR
BLDG CODE:3537

UNCLASSIFIED & NON-SENSITIVE
Reviewed by Hound Declassification
Office. Reviewer Initials: KDM
2/11/98
JIT IV

UNCLASSIFIED

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

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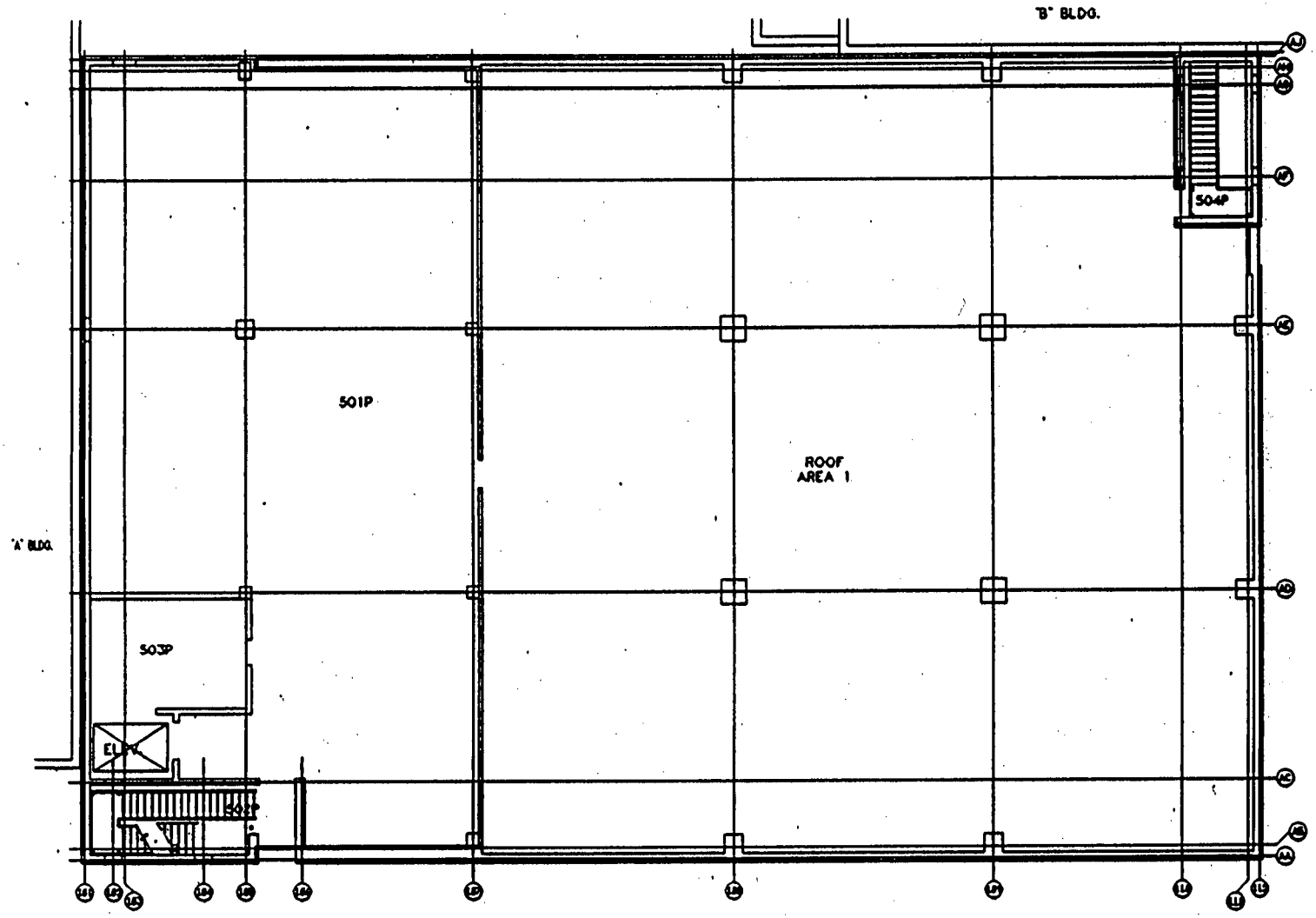

OSW BLDG
PENTHOUSE
BLDG CODE:3537

UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification
Office. Reviewer Initials: RMM

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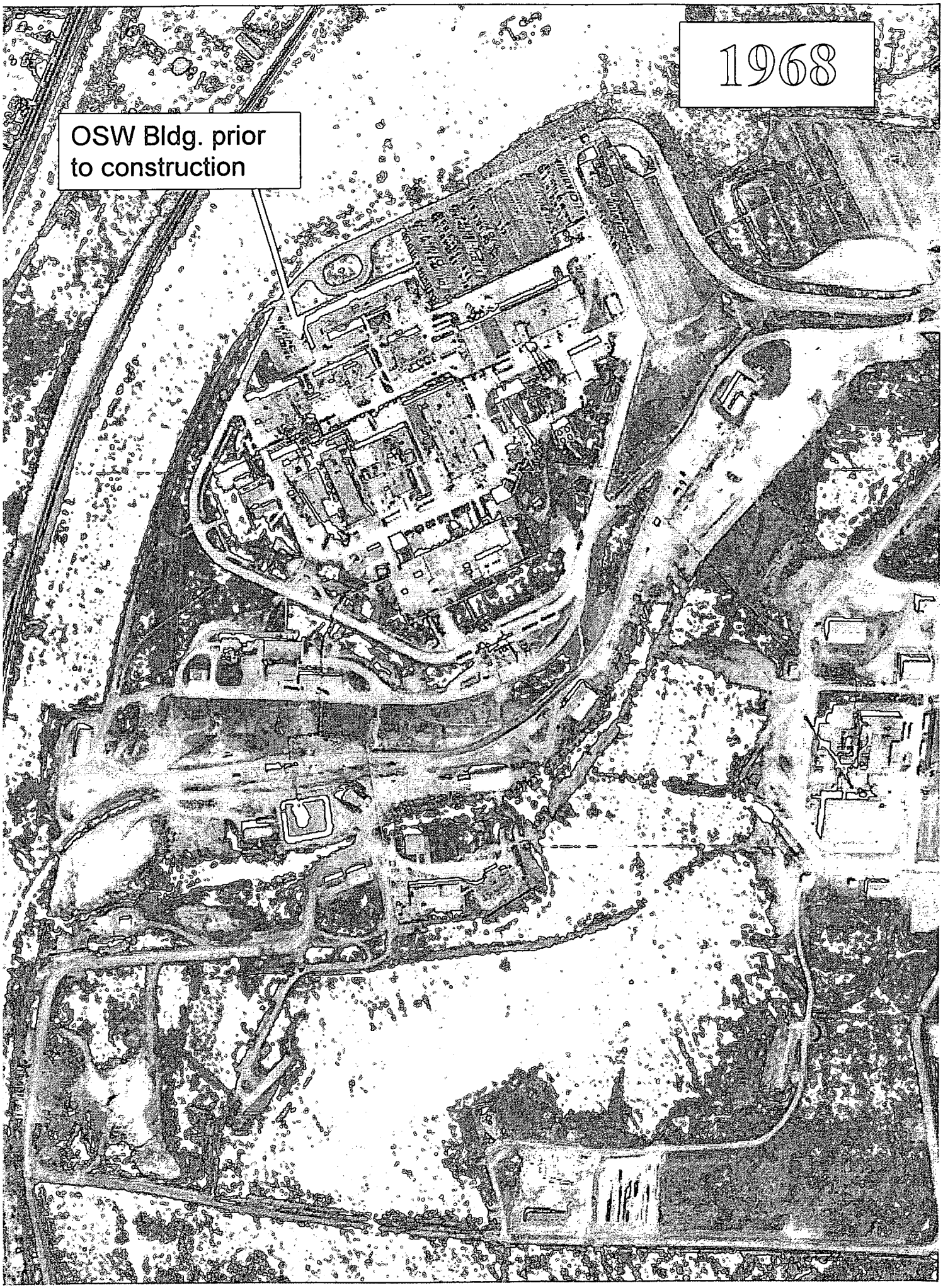
ISSUE 0	SHEET 5
STATUS MD-CREL-12/12/91	

Appendix E

Aerial Photographs



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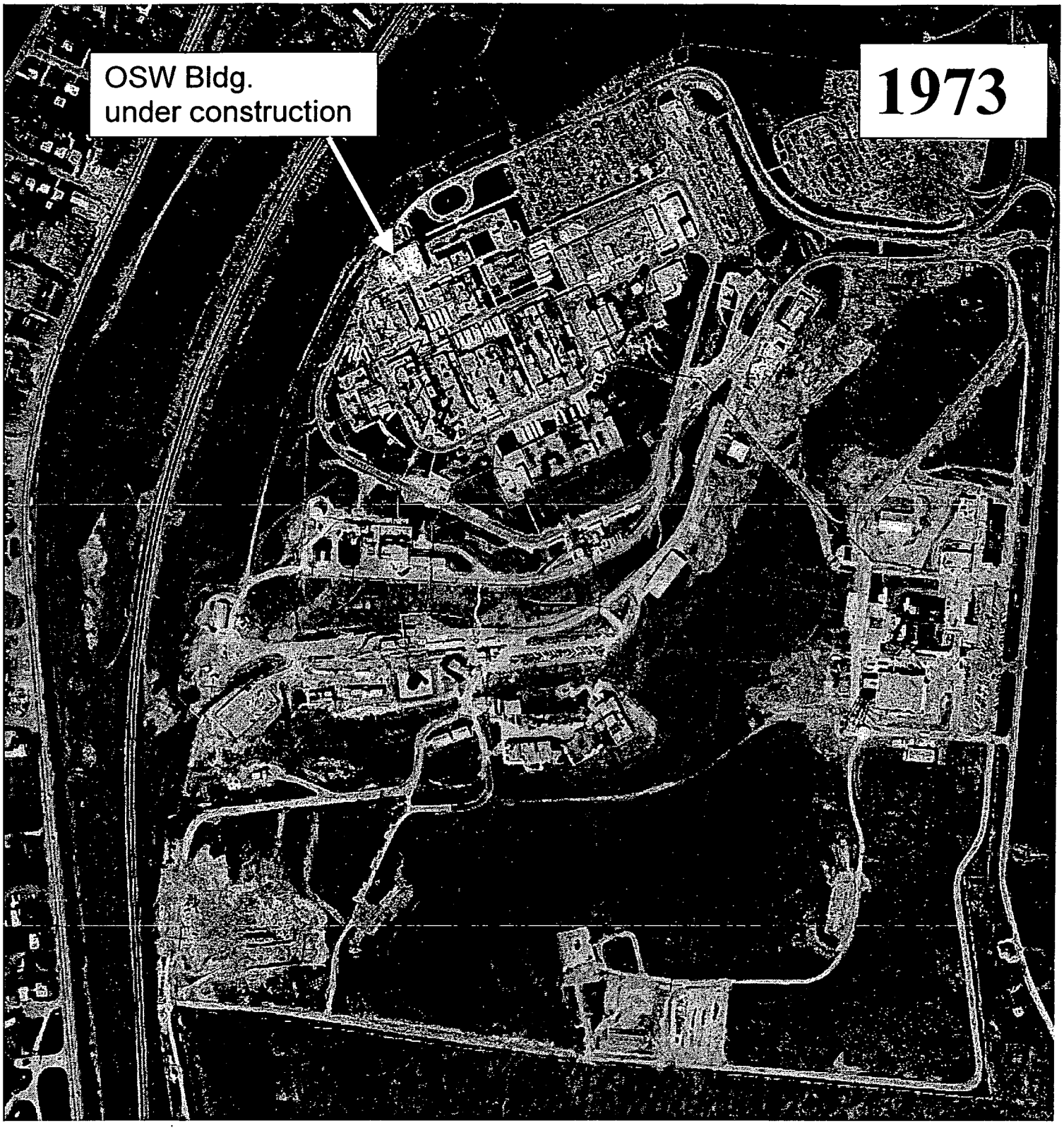

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Appendix F

Environmental Appraisal Report of the Mound Plant (excerpt)

Based on an August 2003 review by subject matter experts,
hand-written corrections have been made to the report provided in this appendix.

9.21 BUILDING OSW

9.21.1 Scope of Building OSW 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 OSW on the morning of February 29, 1996. The Environmental Appraisal Checklist (EAC) was used to record findings. The EAC is found in Attachment 1 (Section 9.21.6.1). The appraisers were accompanied by the process manager of Drawing Control. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.21.6.2).

9.21.2 Description of Building OSW

Building OSW is a four-story, 52,280-square-foot building constructed of concrete block with a brick face and a built-up membrane (coal tar) roof. Its location is shown in Attachment 3 (Section 9.21.6.3). Building OSW is located in the northern region of the Mound site, west of Building A. heating and air conditioning services are central steam and chilled water. Electric service is 480V.

Building OSW was constructed in 1975 and houses computer-aided design (CAD) products, processes, drawing control program management, and administrative offices. Building OSW is not contaminated with any radioactive or energetic materials. The building has been used as an administrative support facility since constructed.

9.21.3 Summary of Findings

On the third floor of Building OSW, a film developing process is in operation. Chemicals used are mainly developers and fixer solutions. The spent chemicals are deposited in 2-or 5-gallon approved waste cans for pickup by Waste Management. Pickup is scheduled for every Tuesday, but is usually needed only once a month. The area appeared to be well-maintained and Material Safety Data Sheets (MSDS's) were readily available. Several issues of concern were identified during the walk-through, but after speaking with the process manager, it appears that the process is operating under proper guidelines. There were no suggestions made related to improvement of management practices nor any issues of environmental concern.

9.21.4 Observations

9.21.4.1 Air Emissions

There are no fumehoods. There are no fuel-burning units in the building. There is no evidence of fugitive dust. The building is not included in the Mound Air Emissions Database.

No air emission permit applications have been submitted to RAPCA for activities in the building.

9.21.4.2 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.

9.21.4.2.1 Sanitary Wastewater

The building does utilize sanitary services, according to a diagram of underground lines, presented as Attachment 5 (Section 9.21.6.5). Confirmation of drainage of sanitary waste into the sanitary line was not within the scope of the project and was therefore not verified with dye or smoke tests.

9.21.4.2.2 Storm Wastewater

The interior floor collection drains and the exterior of the building is 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.

9.21.4.2.3 Chemicals

Chemicals used in Building OSW include the developer and fixer solutions mentioned earlier in the report and general janitorial supplies. MSDS's are available. Drains are clean and appear to drain properly. There has not been any reported spills or releases of any chemicals.

9.21.4.3 Potable and Service Water

Potable water and service water are supplied to the building. Backflow in the mechanical prevention devices are installed at all visible points of potential cross connection. There are eight drinking fountains, two on the first floor, two on the second, two on the third, and two on the fourth. Model and serial numbers are located on the checklist. Service water is supplied to the building and used for the fire sprinkler system.

9.21.4.4 Chemical Storage and Hazardous Materials

Storage and handling procedures have been developed to comply with applicable standards. Very few chemicals are stored in Building OSW. Photoprocessing chemicals were found to be properly labeled, segregated and stored.

The building is equipped with appropriate charged fire extinguishers. Each extinguisher is bar coded. The inspection date database is maintained within the Fire Station. 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 aboveground storage tanks in or around the building. There is a sump containing water outside the southeast corner of the building that is pumped on a per-volume basis to the sanitary sewer. There are no underground storage tanks proximate to the building.

The building was tested for asbestos-containing building material (ACBM) and results were that ACBM was suspected to be present, (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.

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

9.21.4.5 Solid, Hazardous, and Radioactive Wastes

Hazardous wastes are generated in the building. Solid wastes generated are primarily paper (cardboard boxes) and some waste photoprocessing chemicals. 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 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. There is a designated Satellite Accumulation Area (SAA) for photoprocessing chemicals. The waste chemicals have secondary containment and waste management checks the SAA weekly. Waste profiles and other characterization data were not reviewed.

9.21.4.6 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.

9.21.5 Findings and Recommendations

Photographs were taken to document the environmental appraisal. They are included as Attachment 6 (Section 9.21.6.6). Through an inspection and review of reference materials for Building OSW, it appears that there are no issues of environmental concern related to the structure or processes housed within it.

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name OSW

Appraisers:

Name	Discipline
J Hausfeld	CWA
M Meeker	RCRA

Building Manager: William Whitelow

Process Manager:

Date: 2/29/96

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

Building Name: OSW Appraisers: HAUSFELD MERKER Date: 2/29/96

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?	[illegible] (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 _____ _____	ALMOST ALL ADMIN Film Developing → WASTE PICKED UP ~~MICROFICHE PROCESSING - REMOVED~~
	Do the floor drains, sinks & toilets appear to be draining properly?	(Y)/ N	
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 SEWAGE AUTO Y / (N) Y / (N)	NOT REQUIRED
	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)	

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Environmental Appraisal Checklist

Building Name: OSW Appraisers: Date:

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

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	

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Building Name: OSW Appraisers: Date:

N/A

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					

Source:

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9.21-11

Environmental Appraisal Checklist

Building Name: Appraisers: Date:

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	
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 N/A	
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	

Building Name: Appraisers: Date:

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	
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 N/A	
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 N/A	
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 N/A	
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	

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Environmental Appraisal Checklist

Building Name: Appraisers: Date:

HM Checklist

Regulatory Guideline	Question	Response	Comments
	Is there a process area?	Y / (N)	
	Does it have proper containment?	Y / (N)	
	Is there a liquid bulk transfer area?	Y / (N)	
	Is there proper containment?	Y / N NA	
	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
OJW	1500	NITROGEN	est full	(Y) / N	Y / (N)	Y / (N)	(NA) 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

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Source: _____

Building Name: OSW Appraisers: Date:

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	UNKNOWN

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TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
OSW	1st FLOOR	HALSEY TAYLOR WALL MOUNT	2 FOUNTAINS No MODEL #
"	2ND FLOOR	"	2 FOUNTAINS "
"	3rd FLOOR	"	2 FOUNTAINS "
"	4th FLOOR	"	2 FOUNTAINS "

Source: _____

9.21-15

Environmental Appraisal Checklist

Building Name: Appraisers: Date:

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 N/A	NONE
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)	

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Building Name: OSW Appraisers: Date:

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	
	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	NOT LOCKED
	Are containers moved within 3 days of being filled?	(Y) / N	WEEKLY PICKUP

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Environmental Appraisal Checklist

Building Name: Appraisers: Date:

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:	N/A	
	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.		

Building Name: OSW Appraisers: Date:

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	N/A
	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	
	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	

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Environmental Appraisal Checklist

Building Name: Appraisers: Date:

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	
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	

General Comments:

Environmental Appraisal Checklist

Building Name: OSW Appraisers: Date:

Asbestos Screening Checklist Corrected 9/18/03 VKD

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

Asbestos Checklist Refer to Appendix I for Asbestos information

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? If no for this building or area note this conclusion in the comment section.	Y / N	
	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	

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Environmental Appraisal Checklist

Building Name: OSW Appraisers: Date:

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	
	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	

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Building Name: OSW Appraisers: Date:

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	N/A
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	
	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	✓

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Environmental Appraisal Checklist

Building Name: OSW Appraisers: Date:

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	N/A
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	

GENERAL COMMENTS:

Building Name: OSW Appraisers: Date:

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	N/A
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	

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Environmental Appraisal Checklist

Building Name: OSW Appraisers: Date:

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	N/A
	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	
	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	

Building Name: OSW Appraisers: Date:

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	
	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	N/A
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	

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Environmental Appraisal Checklist

Building Name: OSW Appraisers: Date:

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	N/A
	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	

Building Name: OSW Appraisers: Date:

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	N/A
	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:

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Environmental Appraisal Checklist

Building Name: Appraisers: Date:

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	
	Are there solvent wastes?	Y / N	
	Is vehicle maintenance performed?	Y / N	
	Are oils used ?	Y / N	
	Are these corrosive wastes?	Y / N	
	Are there sludges?	Y / N	
	Are there halogenated organic (nonsolvent) wastes?	~~Y~~ / N	VKD 9/18/03
	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	N/A
	Ion exchange process?	Y / N	
	Lead in gasoline lowered to reduce tank sludge toxicity?	Y / N	
	Storage tank agitators installed?	Y / N	
	Corrosive resistant materials used?	Y / N	
	Prevention of crude oil oxidation ?	Y / N	
	Drying?	Y / N	

Building Name: OSW Appraisers: Date:

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	N/A
	Are baghouse filters used to collect pesticides and pesticide intermediates?	Y / N	
	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	N/A
	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

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Building Nan OSW Appraisers: Date:

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Waste Minimization/Pollution Prevention Activities Checklist

Reg. Guideline	Question	Response	Comments
	Are ion exchange resins used to remove heavy metals and cyanides from acid and base solutions?	Y / N	N/A
	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	
	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	
	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	

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Building Name: OSW Appraisers: Date:

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	N/A
	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?		N/A
	Hydraulic oil?	Y / N	
	Transformer oil?	Y / N	
	Metal working fluids?	Y / N	
	Spent lubricating oils?	Y / N	
	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	
	Rags and absorbants used to their limit?	Y / N	

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9.21-33

9.21-34

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Environmental Appraisal Checklist

Building Name: Appraisers: Date:

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are these treatment techniques used to promote separation of oil/water wastes?		N/A
	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	
	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	N/A
	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	N/A
	Is a method used to minimize the use of new materials such as a countercurrent process?	Y / N	N/A

Building Name: OSW Appraisers: Date:

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	
	Dissolved and emulsified organics recovery?	Y / N	
	Are any of these housekeeping procedures used to minimize the production of solvent wastes?		N/A
	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?	_____	

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9.21-35

M o u n d Electronic Message/AOS

From :William Whitelow

WHITWH

Dept. :Plant Engineering

Tel. No :3824

Date :22-Feb-1996 04:12pm EST

Subject :OSW & OSE Penthouse Access 2-22-96

TO :Visitor Control (VISITOR)

CC :Michael Merker (MERKMJ)

CC :John Hausfeld (HAUSJR)

CC :Eunice Warmoth (WARMEM)

Joy,

[redacted] (HP#5488) and [redacted] (HP# 8154) require temporary authorized access to the OSE and OSW penthouse card readers. This is necessary for IEMP audit activities. Please arrange for immediate access for the week of February 26th only. If you have any questions, please call me.

Thanks,

William H. Whitelow Jr.

Acting Property Manager

Northeast Main Hill Area

F 34 of 51

9.21-37

Building Manager's Questionnaire

Building Name: OSW Building Manager: W.H. Whitelow Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

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

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

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

   PENTHOUSE AREA

4. Provide a physical description of the building.

Four-story, 52,280-ft² building constructed of concrete block with a brick face and aluminum windows and has a BUM roof (coal tar). HVAC services are central steam and chilled water. Building is not contaminated with 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?

Houses ~~plant-wide computer system~~ and computer-aided design (CAD) products, processes, and facilities; drawing control program management and administrative offices, environmentally-controlled rooms for computer operations, vaulted areas for storage of sensitive documents, and drawing management equipment including computer output microfiche (COM), document scanning, and drawing production.

Source: Mound Buildings, 5-9-95

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

   AT ONE TIME IT HOUSED THE PLANT WIDE COMPUTER SYSTEMS.

Source: Mound Buildings, 5-9-95

Building Manager's Questionnaire

Building Name: OSW Building Manager: W.H. Whitelow 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: Offices, computer center, drawing production

How Wastes Are Generated:

On the third floor 16, 35, and 105 mm film is developed along with microfilm. Chemicals used are 3M CD-5 Developer, 3M Type 208 Fix Solution, Kodak 55 Developer, and Kodak 3001 Fixer. In the 105-mm film developing process, the film passes through the developer, a water bath, the fixer, and another water bath. One batch of chemicals is good for about 8 hours of processing. Processing is not continuous, so 8 hours of operation may be distributed over several days. When the chemicals are spent, the developer, fixer, and water from the two baths are put in 2- or 5-gal waste cans for pickup by Waste Management. Recron bleach is used to clean the machine that reproduces drawings on mylar. The bleach ~~evaporates.~~

The fourth floor photowaste comes from microfiche processing. Fluids required for this process are supplied in half-gallon jugs. These jugs are placed in the processing machine and connected to it so that the fluid can circulate through the machine and return to the jugs. After one week of processing, the jugs are replaced. Jugs containing used fluid are put in a box labeled "Photowaste," and Waste Management picks them up. Occasionally, a new box of fluid will be found to be unacceptable. It is also left for pickup by Waste Management.

GONE

Contact:
Phone #:

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

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Building Name: OSW Building Manager: W.H. Whitelow 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 Emissio
			Y / N					
			Y / N					
			Y / N					
			Y / N					
			Y / N					

Source: Mound Air Emissions Database 11/30/95

Building Name: OSW Building Manager: W.H. Whitelow 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? RAIN WATER FROM ROOF

15. Does the building discharge to the sanitary sewer? Yes No
Where? LAVS, TOILETS, FLOOR DRAINS

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

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

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Building Name: OSW Building Manager: W.H. Whitelow 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)
AMMONIA ABSORBER	S	10/LB
DEVELOPER CD-5	L	40/L
FIXER TYPE 028	L	90/L
PREMIXER DEVELOPER TYPE 852	L	120/ML
ISOPROPYL ALCHOL	L	1/PT
LASER PLOTTER 8836 DEVELOPER	S	1.5/GA
LASER PLOTTER 8836 FUSER OIL	L	5.4/L
CRT SCREEN CLEANER	L	8/OZ
SPRAY ADHESIVE	L	27/OZ

Source: Chemical Inventory 1994

Building Manager's Questionnaire

Building Name: OSW Building Manager: W.H. Whitelow 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?

WASTE NOT PICK UP

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

ATTACHED

23. Where do excess janitorial supplies go?

OSW 329
OSW 452

Source: _____

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

Chemical	Amount	Chemical	Amount
ATTACHED			
ROUNDUP	AS NEEDED		

Source: INV. HYGIENE

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ecord#	COMMON	CHEMICAL
1	BLUE MAX SPRAY BUFF	BLUE MAX SPRAY BU
2	CLEAN-N-DRY	CLEAN-N-DRY
3	CLR WINDOW	CLR WINDOW
4	CONQUEST	CONQUEST
5	DD/85 SPRAY	DD/85 SPRAY
6	DMQ	DMQ
7	DUO-POWDER	DUO-POWDER
8	FLOOR FINISH/ABOVE	FLOOR FINISH/ABOV
9	FOUNTAIN HEAD	FOUNTAIN HEAD
10	GLOSS-EXTENDERA	GLOSS-EXTENDERA
11	GREASE-BE-GONE	GREASE-BE-GONE
12	HEAD START	HEAD START
13	INSECT SPRAY/CHERRY	INSECT SPRAY/CHE
14	INSECTICIDE/WAS	INSECTICIDE/WAS
15	KINDEST CARE	KINDEST CARE
16	LAVA HAND SOAP	LAVA HAND SOAP
17	LIL BROTHER SAM	LIL BROTHER SAM
18	NABC	NABC
19	NEUT. FLOOR CORP.	NEUT. FLOOR CORP
20	ODOR BANE	ODOR BANE
21	ON-BASE SEALER	ON-BASE SEALER
22	ONE-STEP/SURE BET	ONE-STEP/SURE BE
23	POLISH/LEMON	POLISH/LEMON
24	PUMMEL HAND SOAP	PUMMEL HAND SOAP
25	RINSE FREE/STRIP	RINSE FREE/STRIP
26	SBS-61 LOTION SOAP	SBS-61 LOTION SO
27	SCRUB-ENDER	SCRUB-ENDER
28	SEAL, CON-SEAL	SEAL, CON-SEAL
29	SEALER/IRONSTONE	SEALER/IRONSTONE
30	SHINELINE BASE	SHINELINE BASE
31	SNAPOUT	SNAPOUT
32	SPIN-OUT	SPIN-OUT
33	SPOT, PILE DRIVER	SPOT, PILE DRIVE
34	SPOTTER, PULL OUT	SPOTTER, PULL OU
35	STAINLESS CLEANER	STAINLESS CLEANE
36	STATCIDE, GP	STATCIDE, GP
37	STRIPPER, ZIP	STRIPPER, ZIP
38	SURFACE GLEEM	SURFACE GLEEM
39	TREATMENT/DUST	TREATMENT/DUST
40	TRIPLE SSS	TRIPLE SSS
41	VESTA POWER	VESTA POWER
42	WINDOW SHINE	WINDOW SHINE

Cus Todrail Chemical list

9.21-47

☐ INITIAL SERVICE
☑ REGULAR SERVICE
☐ EXTRA SERVICE

TERMINIX.

TERMITE and PEST CONTROL

COPY

COMMERCIAL SERVICE AND INSPECTION REPORT

BRANCH	ACCOUNT	RT	TELEPHONE	GRID	S DAY	#	T	PRODUCTION	TIME IN	TIME
2418	006092-	07	000/000-0000 513/865-3921	E30 -	2FR	S	P	00004577 09	7:00 AM	5:7

SERVICE PROPERTY AT

E G & G MOUND
P. O. #38224
MOUND AVE
MIAMISBURG OH 45342-0000

BRANCH

TERMINIX INTERNATIONAL
4712 PAYNE AVENUE
DAYTON OH 45414-0001
513/274-5800

OPERATOR NAME & CERTIFICATION NUMBER

[illegible] 1067

SUPERVISOR NAME & CERTIFICATION NUMBER

DANIEL J. STECK #1207

TARGET PEST(S): ☐ T2 Cockroaches ☑ T18 Rats ☐ Other: ____
☐ T3 Ants ☐ T19 Mice ☐ Other: ____

SERVICE AREAS:	INSPECTED	TREATED
☐ C1 FOOD AREAS:	☐	☐
☐ C2 OFFICES:	☐	☐
☐ C3 STORAGE/UTILITY:	☐	☐
☐ C4 PUBLIC AREAS:	☐	☐
☐ C5 REST ROOMS:	☐	☐
☐ C6 EXTERIOR AREAS:	☐	☐
☐	☐	☐
☐	☐	☐

PESTICIDE(S) TO BE APPLIED	EPA'S	T/C	AMOUNT
☐ P24 PT279 Engage (Chlorpyrifos) 0.5%	499-292		
☐ ~~P10~~ PT565 + XLO (Pyrethrin) 0.5%	499-310	C	
☐ P04 Dursban L.O. (Chlorpyrifos) 0.5%	62719-55		
☐ ~~P11~~ Conquer (Esfenvalerate) 0.05%	1021-1565-57076	C	
☐ P23 Tempo 20 WP (Cyfluthrin) 0.05%	3125-380		
☐ P06 Ficam W (Bendiocarb) 0.5%	45639-1		
☐ P21 Knox-Out 2FM (Diazinon) 1%	4581-335-AA-499		
☐ P07 Gentrol (Hydroprene) 0.125%	2724-304-50809		
☐ P12 Precor (Methoprene) 0.008%	2724-352-50809		
☐ ~~P02~~ Drione Dust (Silica/Pyrethrin) 1%	4816-353AA		
☐ P05 Ficam D (Bendiocarb) 1%	45639-3	A	
☐ P03 Dursban G (Chlorpyrifos) 0.5%	10370-36-432		
☐ P08 Maxforce Bait (Hydramethylnon) 1.65%	64248-1		
☐ P27 Avert Roach Bait (Avermectin) 0.05%	499-294		
☐ P09 PT270 Dursban (Chlorpyrifos) 0.5%	499-147		
☐ P25 PT280 Orthene (Acephate) 1%	499-230		
☐ P26 Maxforce Gel (Hydramethylnon) 2.15%	64248-5		
☐ P14 Ditrac All Weather Cake (Diphacinone) 0.005%	12455-5		
☐ P20 Talon G (Brodifacoum) 0.005%	10182-38		
☐ P47 Contrac Blox (Bromadiolone) 0.005%	12455-79		
☐ P34 Ditrac Bait Pack (Diphacinone) 0.005%	12455-19		
☐ P16 Glue Boards			
☐ P17 Ketch-All/Tin Cat			
☐ P19 Snap Traps			

TREATMENT CODE:
C = Crack & Crevice
S = Spot
G = General
T = Space Treatment
B = 3' Band

Supervisor's Comments: ☐ Treat for Infestation/Prevention or Inspect areas indicated.

EQUIP. CODE
F = Fogger
HD = Hand Dust
B&G = Comp. Air

SPECIAL SERVICE INSTRUCTIONS

SER. OLD CAFE, SMPP, GUARDS REST ROMS AND
BASINS IN MEDICAL AREA
P. O. # 38224

BALANCE AS OF
NOVEMBER 29
DEC CHARGE
SALES TAX
TOTAL DUE

9.21-49

CUSTOMER'S SIGNATURE [illegible]

SERVICE TECHNICIAN'S SIGNATURE [illegible] DATE 12-15-90

AMOUNT PAID
CASH
CHECK

☐ INITIAL SERVICE
☑ REGULAR SERVICE
☐ EXTRA SERVICE

TERMINIX.

TERMITE and PEST CONTROL

copy

COMMERCIAL SERVICE AND INSPECTION REPORT

BRANCH	ACCOUNT	RT	TELEPHONE	GRID	S DAY	F	T	PRODUCTION	TIME IN	TIME OUT
2419	006093-1	07	000/000-0000 513/865-4585	000 -	2FR	S	P	00005000 09	7:30 AM	8:25

SERVICE PROPERTY AT	BRANCH
E O & G MOUND EARNIE HAYES 865-4310 MOUND AVENUE MIAMISBURG OH 45342-0000	TERMINIX INTERNATIONAL 4712 PAYNE AVENUE DAYTON OH 45414-0000 513/274-5800

OPERATOR NAME & CERTIFICATION NUMBER: [illegible] 1407

SUPERVISOR NAME & CERTIFICATION NUMBER: DANIEL J. STECK #1207

TARGET PEST(S): ☑ T2 Cockroaches ☑ T18 Rats ☐ Other: ☑ T3 Ants ☑ T19 Mice ☐ Other:

SERVICE AREAS	INSPECTED	TREATED	PESTICIDE(S) TO BE APPLIED	EPA'S	T/C	AMOUNT
☐ C1 FOOD AREAS:	☐	☐	☐ P24 PT279 Engage (Chlorpyrifos) 0.5%	499-292		
			☑ P10 PT565 + XLO (Pyrethrin) 0.5%	499-310		
			☐ P04 Dursban L.O. (Chlorpyrifos) 0.5%	62719-55		
☐ C2 OFFICES.	☐	☐	☑ P11 Conquer (Esfenvalerate) 0.05%	1021-1565-57076	C	1.9
			☐ P23 Tempo 20 WP (Cyfluthrin) 0.05%	3125-380		
			☐ P06 Ficam W (Bendiocarb) 0.5%	45639-1		
			☐ P21 Knox-Out 2FM (Diazinon) 1%	4581-335-AA-499		
☐ C3 STORAGE/UTILITY	☐	☐	☐ P07 Gentrol (Hydroprene) 0.125%	2724-304-50809		
			☐ P12 Precor (Methoprene) 0.008%	2724-352-50809		
			☑ P02 Drione Dust (Silica/Pyrethrin) 1%	4816-353AA		2
☐ C4 PUBLIC AREAS:	☐	☐	☐ P05 Ficam D (Bendiocarb) 1%	45639-3		
			☐ P03 Dursban G (Chlorpyrifos) 0.5%	10370-36-432		
			☐ P08 Maxforce Bait (Hydramethylnon) 1.65%	64248-1		
			☐ P27 Avert Roach Bait (Avermectin) 0.05%	499-294		
☐ C5 REST ROOMS:	☐	☐	☐ P09 PT270 Dursban (Chlorpyrifos) 0.5%	499-147		
			☐ P25 PT280 Orthene (Acephate) 1%	499-230		
			☐ P26 Maxforce Gel (Hydramethylnon) 2.15%	64248-5		
☐ C6 EXTERIOR AREAS:	☐	☐	☐ P14 Ditrac All Weather Cake (Diphacinone) 0.005%	12455-5		
			☐ P20 Talon G (Brodifacoum) 0.005%	10182-38		
			☐ P47 Contrac Blox (Bromadiolone) 0.005%	12455-79		
			☐ P34 Ditrac Bait Pack (Diphacinone) 0.005%	12455-19		
☐	☐	☐	☐ P16 Glue Boards			
			☐ P17 Ketch-All/Tin Cat			
			☐ P19 Snap Traps			
☐	☐	☐				

TREATMENT CODE:
C = Crack & Crevice
S = Spot
G = General
T = Space Treatment
B = 3' Band

Supervisor's Comments: ☐ Treat for Infestation/Prevention or Inspect areas indicated.

EQUIP. CODE
F = Fogger B = [illegible]
HD = Hand Dust A = [illegible]
B&G = Comp. Air T = [illegible]

SPECIAL SERVICE INSTRUCTIONS

GENERAL PC , C-BLDG. A-BLDG, MEDICAL, GH BLDG
SM CAFETERIA.(MONTHLY) -- OS-EAST CAFETERIA,
NEW CAFETERIA ONLY / P: O / #38224

BALANCE AS OF
NOVEMBER 29
DEC CHARGE
SALES TAX
TOTAL DUE

CUSTOMER'S SIGNATURE: [illegible]

AMOUNT PAID

CASH

SERVICE TECHNICIAN'S SIGNATURE

DATE

9.21-50

Building Manager's Questionnaire

Building Name: OSW Building Manager: W.H. Whitelow 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.

Registration Number	Content	Quantity	Last Inspection Date	Preventive Maintenance Performed	Inside Or Outside
	NITROGEN	1500 GAL		Y/N	
7782-37-9	NITROGEN	03C		Y/N	OUTSIDE
				Y/N	

Source: Emergency and Hazardous Chemical Inventory Form - Chemical Storage Tanks on EGG Mound Site Owned and Maintained by Outside Contractors 8/8/94

26. Is there a sump or pit or underground tank in or around the building?
Yes No Unknown
Is it double-walled? What does it contain? SEWAGE How many days per year is it filled?
Is there an emergency overflow tank? Have there been previous overflows?
UNKNOWN NO? NO?

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
Attached	

Source: Characterization of Mounds Hazardous, Radioactive, and Mixed Wastes 08/15/90

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9.21-51

OSW-311	PHOTO WASTE	D011	297.0
OSW-330	3M CHEMPAC FIXER	NONE	144.6
OSW-330	3M WASH ADDITIVE	D002	6.6
[illegible]330	ACETIC ACID	D002	1.[illegible]
OSW-330	ACETIC ACID, ALUMINUM CHLORIDE	D002	5.[illegible]
OSW-330	CONQUEST	D002	3.3
OSW-330	DUPONT FIXER HARDENER	D002	10.9
OSW-330	DUPONT HARDENER	NONE	10.7
OSW-330	FIXER	D002	2.7
OSW-330	KODAK DEVELOPER REPLENISHER PART B	NONE	12.5
OSW-330	KODAK DEVELOPER REPLENISHER PART C	D002	12.[illegible]
OSW-330	LIQUID PLUMBER	D001 D002	[illegible]5
OSW-330	PHOTO WASTE	D002 D011	290.1
OSW-330	PHOTO WASTE	D002	102.9
OSW-330	PHOTO WASTE	D002	213.0
OSW-330	PHOTO WASTE	D002	165.0
OSW-330	PHOTO WASTE	D002	293.2
OSW-330	PHOTO WASTE	D002	302.7
OSW-330	PHOTO WASTE	D002 D003 D011	160.6
OSW-330	PHOTO WASTE	D002 D003	296.7
OSW-330	PHOTO WASTE	D002 D003	177.1
OSW-330	PHOTO WASTE	D006 D007 D011	235.0
OSW-330	PHOTO WASTE	D006 D007 D011	291.2
OSW-330	PHOTO WASTE	D006 D007 D011	81.9
OSW-330	PHOTO WASTE	D006 D007 D011	332.0
OSW-330	POTASSIUM HYDROXIDE	D002	11.6
OSW-330	SODIUM HYPOCHLORITE	NONE	9.8
OSW-330	SODIUM HYPOCHLORITE, <7%	NONE	2.9
[illegible]-404	AMMONIUM HYDROXIDE	D002	6.7
[illegible]404	AMMONIUM HYDROXIDE	D002	3.4
OSW-404	AQUA AMMONIA	D002	3.5
OSW-404	AQUA AMMONIA	D002	3.0
OSW-404	AQUA AMMONIA	D002	3.0
OSW-404	AQUA AMMONIA	D002	3.3
OSW-404	AQUA AMMONIA	D002	3.5
OSW-404	AQUA AMMONIA	D002	3.7
OSW-404	AQUA AMMONIA	D002	2.2
OSW-404	AQUA AMMONIA	D002	10.3
OSW-404	CALCOMP TONER	D001	6.0
OSW-404	CALCOMP TONER	D001	6.0
OSW-404	CALCOMP TONER	D001	9.2
OSW-404	CALCOMP TONER	D001	8.0
OSW-404	PHOTO WASTE	D002 D003 D011	226.1
OSW-404	PHOTO WASTE	D002 D003 D011	264.1
OSW-404	PHOTO WASTE	D003 D011	295.0
OSW-404	PHOTO WASTE	D011	301.6
OSW-404	PHOTO WASTE	D011	298.2
OSW-404	PHOTO WASTE	D011	200.0
OSW-404	PHOTO WASTE	D011	308.2
OSW-404	PHOTO WASTE	D011	252.4
OSW-450	TONER MIX BLACK	D001	5.3
OSW-450	TONER MIX BLUE	D001	4.5
OSW-450	TONER MIX RED	D001	4.1
OSW-450	TONER MIX YELLOW	D001	4.3
[illegible]450	TONER REPLENISHER BLACK	D001	0.4

OSW-311	PHOTO WASTE	D011	293.6
OSW-311	PHOTO WASTE	D002	301.0
OSW-311	PHOTO WASTE	D002	301.0
OSW-311	PHOTO WASTE	D002 D003 D011	289.0
OSW-311	PHOTO WASTE	D011	240.0
OSW-311	PHOTO WASTE	D011	18.8
311	PHOTO WASTE	D011	310.5

OSW-450	TONER REPLENISHER BLUE	D001	0.9
OSW-450	TONER REPLENISHER RED	D001	0.8
OSW-450	TONER REPLENISHER YELLOW	D001	0.6

Building Name: OSW Building Manager: W.H. Whitelow 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: _____

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9.21-54

Building Manager's Questionnaire

Building Name: OSW Building Manager: W.H. Whitelow 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: _____

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9.21-55

Building Name: OSW Building Manager: W.H. Whitelow 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.

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9.21-56

Building Manager's Questionnaire

Building Name: OSW Building Manager: W.H. Whitelow Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

36. Is there a waste minimization program in the building? Yes N
Discuss your ideas about how to minimize waste.

MOUND WASTE MGT PROGRAM

37. Has a pollution prevention program been developed for the building? Yes N

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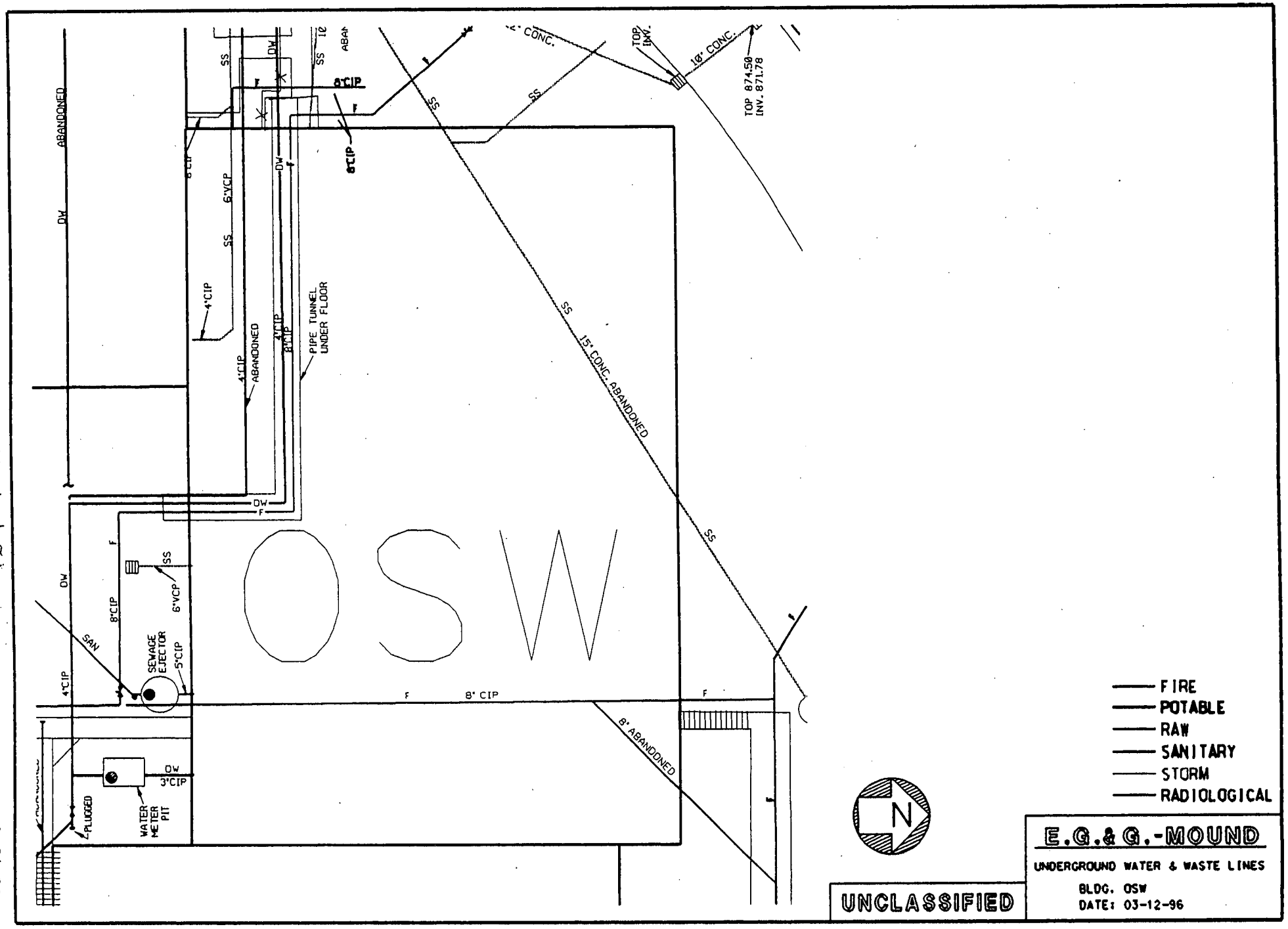
9.21-57



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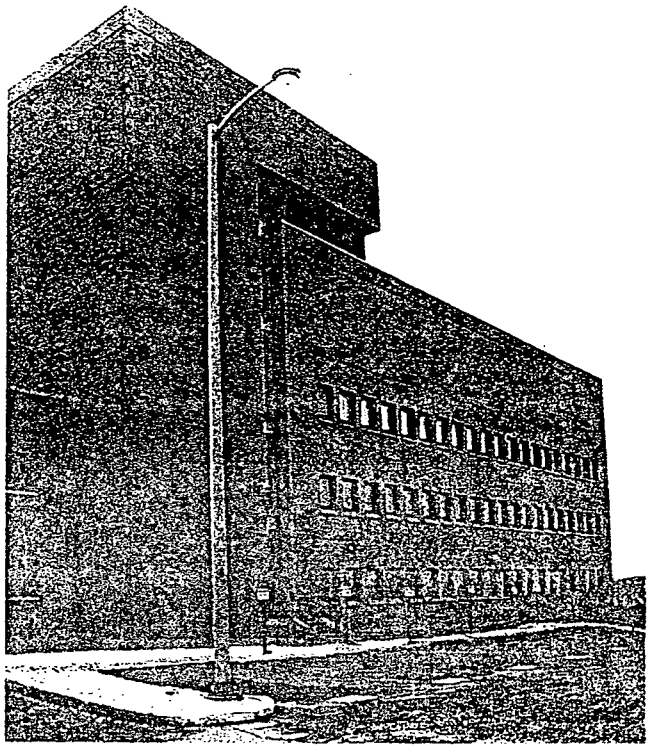
9.21-77

Appendix G

Radiological Information

Final Status Report
For
Building OSW



Prepared by:	Roderick C. Case /	**Date:**	July 24, 2003
Reviewed by:	Galen Tomlinson /	**Date:**	8-3-03
Approved by:	A. Stephen Collas /	**Date:**	8-4-03

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1.0 Historical Review

OSW Building is a 52,280-square-foot structure with four stories and a penthouse. It was constructed in 1974 in the northwestern region of the Mound site and named the Operational Support building.

OSW Building through its nearly 30-year history has been used primarily as an office area and administrative use area. OSW has provided offices for the DOE's MEMP, and the Ohio Field Office's Records Management Group. Other operations included DOE's computer center, the Purchasing Group, site drafting and "CAD" operations, Training Department, Technical Manuals Group, Drawing Control, and more recently, site cleanup staff. Photographic operations were also located in OSW Building in support of the Drawing Control Operations.

OSW Building has not had any major modifications, other than the reconfiguration of some of the interior rooms. Therefore, the original "as-built" building footprint resembles the building, as it exists today.

OSW has been used for the same purposes since construction. No research, development, or production activities using radioactive or energetic materials have occurred in the building and is considered to be non-impacted by site operations. A small cabinet on the fourth floor has been used to store sealed radioactive sources for instrument response checks. These sources are stored and maintained in accordance with Mound procedures and do not affect the classification of this building.

OSW Building will be transferred to the Miamisburg Mound Community Improvement Corporation (MMCIC) for economic development in accordance with Mound Closure Project goals.

A complete structural and operational history can be found in Reference 1.

2.0 Survey Objectives

The objective of this survey plan was to confirm the classification of Building OSW as non-impacted. This was accomplished by measuring the fixed and removable contamination on building surfaces and performing isotopic analysis on any sediment found in building drains. General area gamma dose rates were measured in occupied areas. The survey data was compared to the release criteria of DOE Order 5400.5 using methods defined in Reference 2. Documentation of sealed source surveys performed in accordance with MD 80043, Op 700 were reviewed to ensure no impact occurred. The specific survey objectives are outlined in each Survey Plan Form (see Enclosures).

Table 1 lists the permissible surface contamination guideline values as stated in DOE Order 4500.5. These limits are the Derived Concentration Guidelines (DCGL's) for building and structure release.

Table 1

Allowable Total Residual Surface Contamination (dpm/100cm^2)*				
Radionuclides*		**Average***	**Maximum***	**Removable***
Group 1	Transuranics, I-125, I129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	**100**	**300**	**20**
Group 2	Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	**1,000**	**3,000**	**200**
Group 3	U-Natural, U-235, U-238 and associated decay products, alpha emitters	**5,000**	**15,000**	**1,000**
Group 4	Beta-gamma emitters (Radionuclides with decay modes other than alpha emission or spontaneous fission) except for Sr-90 and others noted above	**5,000**	**15,000**	**1,000**
Tritium		**N/A**	**N/A**	**10,000**

* Note: Refer to DOE Order 5400.5, Radiation Protection of the Public and the Environment, for specific information on surface contamination guidelines and additional notes.

The average activity levels shown in Table 1 assumes that the residual contamination is uniformly distributed across the survey unit and is the $DCGL_w$ for this survey. The maximum activity shown in Table 1 represents the Elevated Measurement Comparison ($DCGL_{emc}$) for small (<100cm^2) areas of activity that may be observed in the survey unit while scanning. Since no process activities were ever associated with OSE, it is assumed that Pu-238 is the potential contaminant of concern and the Group 1 limits are appropriate for alpha measurements. Group 4 limits are used for beta/gamma measurements. Since OSE will be transitioned for public occupancy, the external dose limit per DOE Order 5400.5.IV.4.c is 20 μR/hr above the average background level.

2.1 Survey Design

The characterization survey was designed to evaluate the building internal and external surfaces. The building was divided into survey units as follows:

Survey Unit 1 – First Floor interior surfaces

Survey Unit 2 – Second Floor interior surfaces

Survey Unit 3 – Third Floor interior surfaces

Survey Unit 4 – Fourth Floor interior surfaces

Survey Unit 5 – Penthouse, Roof, and Exterior walls

Since the variability was expected to be small within the survey unit, the Type I error chosen is $\alpha = 0.05$ and the Type II error is $\beta = 0.01$. The number of data points was determined by calculating the relative shift (Δ/σ) from the DCGL value, the lower bound of

the gray region (LBGR), and the standard deviation (σ) of the contaminant in the survey unit (Δ/σ = DCGL-LBGR/σ). For this survey plan, the LBGR was set at 50% of the $DCGL_w$. The standard deviation was estimated to be 17dpm/100cm^2 based on survey data from similar surfaces and the relative shift was calculated as 2.95. The required number of data points (n = 20) was obtained from Table 5.5, Reference 2.

Twenty (20) judgmental data points were placed throughout each survey unit and are broadly representative of the survey unit. Hallways and major walkways throughout the building were scanned for alpha contamination.

Sediment samples were collected from floor drains and ventilation units. Since no sediment was available in these areas, smear samples were obtained for analysis. Direct alpha and beta readings were taken at each sediment sample location.

Loose surface contamination was measured by smearing an area of 100cm^2 at each data point. Smears were counted for gross alpha/beta activity. Removable tritium contamination was measured on interior surfaces by liquid scintillation counting of coin smears.

General Area dose rate measurements were taken in occupied areas.

Replicate surveys were performed in accordance with Reference 3.

The instruments selected for this survey were the Ludlum 2350-1 data logger with a 43-68 hand-held gas flow proportional (GFP) detector for alpha and beta measurements and a 43-37 GFP large area floor probe for alpha scanning. A Bicron MicroREM dose rate instrument was used in accordance with Reference 4. Laboratory instruments used were appropriate for the analysis requested. Instrument calibration and source check data is documented in accordance with Mound procedures.

2.2 Survey Data

The gross alpha and beta fixed point measurements from each survey unit was collected and compared directly to the $DCGL_w$. One data point on the exterior wall (SU5-06) and one data point on the roof (SU5-15) were found to be above the $DCGL_w$. A second data point on the roof was found to be just below the $DCGL_w$. It was believed that these elevated readings were the result of short-lived activity from Radon daughters. To test this, the affected areas were covered with a polyethylene sheet for 24 hours and re-surveyed. This process interrupts the equilibrium of the short-lived activity and allows the radon daughters to decay. The re-survey results showed that no long-lived activity was present at these locations above the $DCGL_w$. All of the remaining data points were found to be below the $DCGL_w$. A graphical representation of the average and maximum total activity for each survey unit is shown in Attachment 1.

The following table shows the net results of the maximum and average total (fixed and removable) alpha and beta activity for each area.

Total Activity Results

Area	Alpha (dpm/100cm^2)			Beta (dpm/100cm^2)		
	Max	Average	±	Max	Average	±
Survey Unit 1	38	11.6	5.16	1991	938.4	121.6
Survey Unit 2	31	13.0	3.6	2085	1015.7	124.4
Survey Unit 3	31	8.15	3.35	1832	986.6	104.4
Survey Unit 4	31	15.7	4.31	2057	884.7	129.2
Survey Unit 5	92	56.1	10.8	3344	2180.4	344.7

The results of the removable alpha and beta surface activity are shown below. All results were significantly less than the $DCGL_W$.

Removable Alpha & Beta Activity Results

Area	Alpha (dpm/100cm^2)			Beta (dpm/100cm^2)		
	Max	Average	±	Max	Average	±
Survey Unit 1	4.37	1.09	0.66	6.69	2.47	0.87
Survey Unit 2	6.56	1.09	0.85	6.85	3.14	0.82
Survey Unit 3	4.37	0.87	0.57	6.69	2.33	0.69
Survey Unit 4	6.56	0.87	0.79	5.48	1.87	0.71
Survey Unit 5	4.37	0.91	0.57	5.32	1.90	0.56

The highest removable tritium activity was 13.66 dpm/100cm^2 (RSDS# 03-TF-0165). The average removable tritium was 3.00 dpm/100cm2 (±0.67).

The floors and major walkways throughout the building were scanned for alpha activity. The highest activity measured was 21 dpm/100cm2 (RSDS# 03-TF-0165).

The highest general area gamma dose rate was $\leq$ 6 μR/hr (RSDS# 03-TF-0174).

2.3 Sediment Sample Data

Sediment smear samples were obtained from floor drains and ventilation units. Sediment smear samples were analyzed for gross alpha, beta and tritium activity in accordance with the survey plan (See RSDS # 03-TF-0167). No gross alpha, beta, or tritium activity was observed at any sediment sample location above background. The highest removable gross alpha was 6.04 dpm/100cm^2, 6.40 dpm/100cm^2 beta, and 55.84 dpm/100cm^2 tritium. Direct alpha and beta measurements were taken at each sample location. The highest direct activity observed was 80 dpm/100cm^2 alpha and 530 dpm/100cm^2 beta.

2.4 Quality Control

Quality control measurements were taken to ensure the quality of the data. Fifteen data points were selected at random from the sample group of 104 data points. The highest,

lowest, and median alpha measurements and corresponding beta measurements were selected from each survey unit. Replicate measurements were taken at these locations using the same instruments and performed in the same manner as the original survey. The acceptance criterion for fixed-point measurements is that the variance in the measurements of the original sample population is in agreement (within a factor of two at the 95% confidence level) with the variance in the replicate samples. The results of the replicate surveys are shown in the following table:

Replicate Analysis Results

Location #	Alpha (dpm/100cm^2)			Beta (dpm/100cm^2)		
	Initial	± 2σ	Replicate	Initial	± 2σ	Replicate
QC1-16	0	0.00	0	1126	67.11	972
QC1-07	24	9.80	8	837	57.86	847
QC1-01	39	12.49	0	962	62.03	818
QC2-16	31	11.14	24	2136	92.43	2223
QC2-12	0	0.00	8	1039	64.47	981
QC2-05	16	8.00	8	1126	67.11	914
QC3-05	31	11.14	0	1145	67.68	1058
QC3-09	16	8.00	8	1001	63.28	1020
QC3-10	0	0.00	16	895	59.83	895
QC4-01	0	0.00	8	885	59.50	827
QC4-05	31	11.14	0	1029	64.16	933
QC4-09	16	8.00	24	635	50.40	770
QC5-11	0	0.00	24	1270	71.27	866
QC5-06	78	17.66	102	2376	97.49	2771
QC5-10	55	14.83	55	3310	115.00	5979
Variance (S^2)	520.4		737.0	522526		478401
Ratio			0.71			1.1
Agreement			Yes			Yes

The replicate measurement at QC5-06 was above the DCGLw. This location was subsequently resurveyed as described above and found to be 76 dpm/100cm2 (RSDS# 03-TF-0165). Replicate analyses were not performed on smears or sediment samples. Quality control procedures, blanks, and spikes are a part of the laboratory quality control program at Mound. Participation in the DOE/EML inter-laboratory quality assurance program provides acceptable assurance of nuclide identification reliability and ensures a high quality of sample results. Since a relatively small number of samples were taken for this survey, additional replicate analysis was not required for this survey.

Field instrumentation is source checked each day prior to use and again at the completion of survey activities for that day. A known source is placed in a source holder to ensure a reproducible geometry is achieved. Acceptance criteria is ± 20% of the initial source response following calibration. Results are documented in accordance with Mound

Radiological Control procedures. Laboratory instrumentation is source checked and documented in accordance with Mound Laboratory procedures.

2.5 Conclusion

The objective of this survey plan was to determine whether or not the residual radioactivity of the surfaces of building materials associated with Building OSW satisfy the site release criteria established by DOE Order 5400.5. This was accomplished by comparing the survey data to the release criteria in accordance with the MARSSIM (Reference 2). The scanning survey found no elevated measurement areas above the $DCGL_W$. No activity was found above screening levels in sediment samples.

All of the DQO's for this survey plan have been met and no further surveys are required. Building OSW meets the surface release criteria established by DOE Order 5400.5.

The following tables show the maximum fixed and removable activity on the inside and outside building surfaces.

Building OSW Survey Results

TYPE	RSDS (Radiological Survey Data Sheet)	LOCATION	SURVEY RESULTS (dpm/100 cm^2) (Note 1)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 2)
Highest Alpha Smearable Activity	03-TF-0165	Floor	6.56	20
Highest Alpha Fixed Activity	03-TF-0165	Roof	92	100
Highest Beta Smearable Activity	03-TF-0165	Floor	6.85	1000
Highest Beta Fixed Activity	03-TF-0165	Roof	3344	5000
Highest Tritium Smearable Activity	03-TF-0165	Floor	13.66	10,000

Note 1: Residual 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.

3.0 Attachments and Enclosures

Attachment 1 – Average Total Alpha and Beta Graph

Enclosure 1 – Sample Data Analysis Worksheets

Enclosure 2 – SPF OSW-01

4.0 References

1. CH2MHILL Mound, Inc., EC&AS Department, White Paper: Building OSW Structural History and Process History Summary Background Document, May 2003

2. NUREG 1575, Rev 1, Aug 2000, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM)

3. MARSSIM Implementing Procedures, *Field Quality Control for Building Contamination Surveys*, MD-80046, Op. 402

4. MD80036, Issue 34, Op. No. 30056, *Operation of the Bicron Micro REM Survey Meter*

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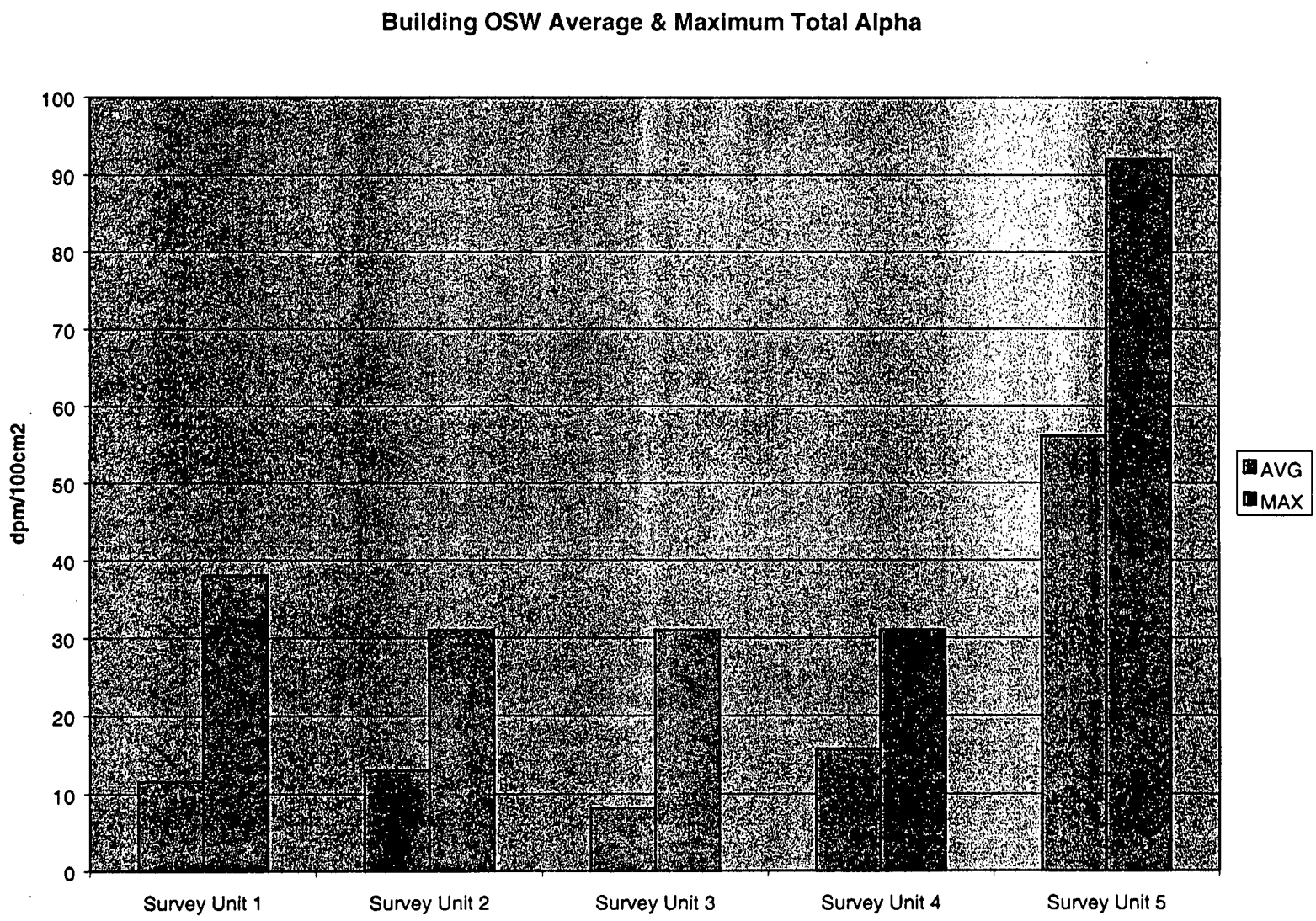
Building OSW Final Status Report
Attachment 1



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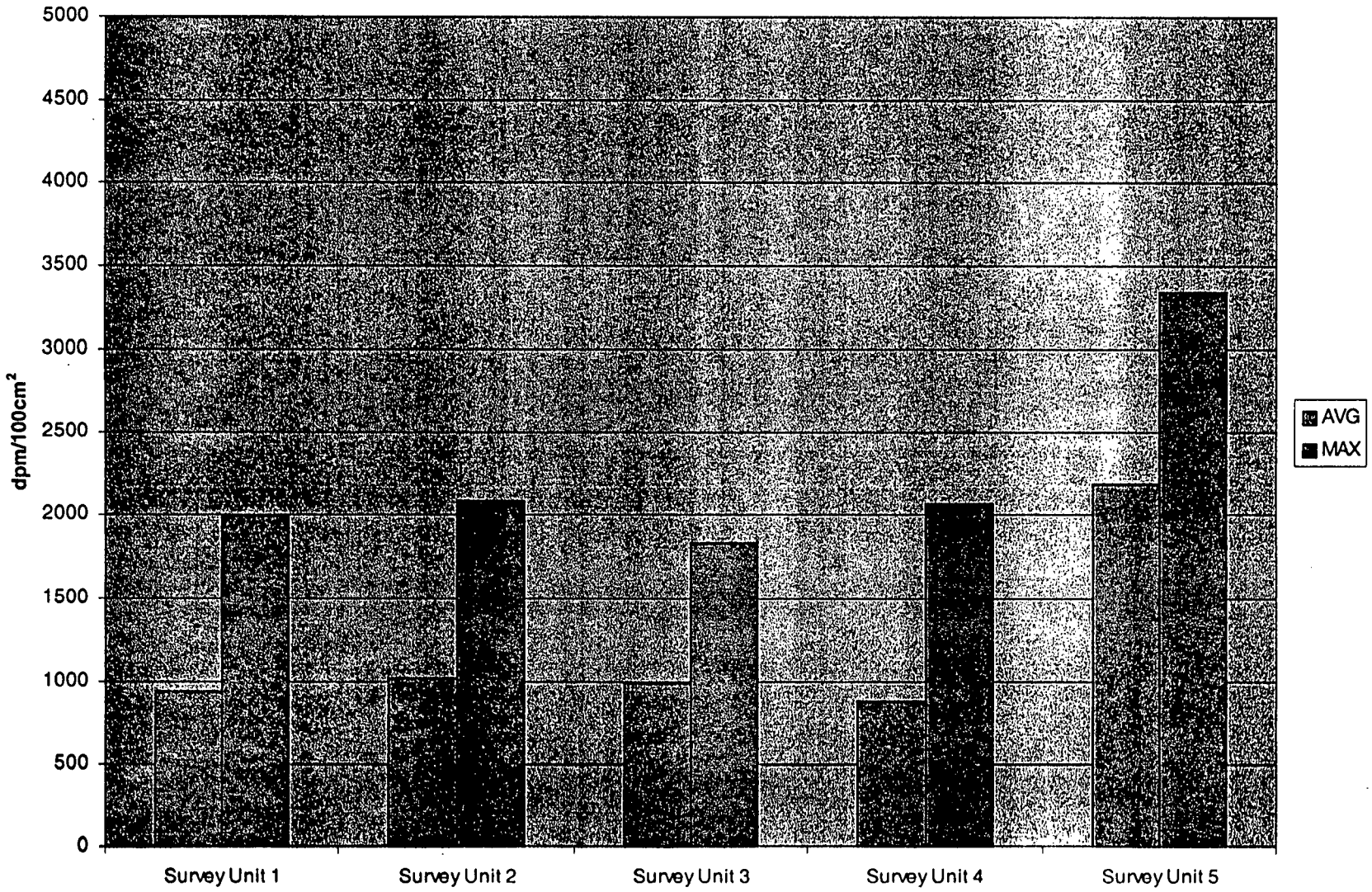
Building OSW Average and Maximum Total Beta Activity



Building OSW Survey Data Collection Sheet

		Smearable			Fixed	
Location	RSDS#	α	β	H^3	α	β
SU1 01	0165	2.18	6.69	0.92	38	939
SU1 02	0165	2.18	3.95	4.77	8	949
SU1 03	0165	0	4.11	7	8	817
SU1 04	0165	0	2.74	1.99	0	827
SU1 05	0165	0	0	3.83	0	996
SU1 06	0165	0	4.11	3.78	8	817
SU1 07	0165	0	2.74	0.93	23	817
SU1 08	0165	4.37	3.8	0	15	780
SU1 09	0165	0	0	1.95	8	958
SU1 10	0165	2.19	0	0	23	648
SU1 11	0165	0	1.37	3.85	15	902
SU1 12	0165	0	2.74	5.3	0	855
SU1 13	0165	2.19	0	7	0	742
SU1 14	0165	2.18	2.58	4.74	31	920
SU1 15	0165	4.37	2.43	0	8	986
SU1 16	0165	0	4.11	6.12	0	1099
SU1 17	0165	0	2.74	1.89	8	761
SU1 18	0165	0	0	5.94	8	1174
SU1 19	0165	2.18	5.32	8.79	0	789
SU1 20	0165	0	0	9.7	31	1991
SU2-01	0165	0	4.11	0	23	1005
SU2-02	0165	0	5.48	1.44	15	873
SU2-03	0165	0	1.37	7.31	8	958
SU2-04	0165	0	2.74	0	15	1221
SU2-05	0165	4.37	2.43	2.12	15	1099
SU2-06	0165	0	4.11	11.91	23	1174
SU2-07	0165	0	4.11	0	0	1090
SU2-08	0165	0	1.37	9.14	8	770
SU2-09	0165	0	5.48	6.93	0	892
SU2-10	0165	0	6.85	0	15	761
SU2-11	0165	0	4.11	0.65	15	1014
SU2-12	0165	6.56	0.9	5.74	0	1014
SU2-13	0165	0	1.37	0.59	8	1080
SU2-14	0165	2.18	2.58	0	15	892
SU2-15	0165	2.19	1.21	1.81	8	883
SU2-16	0165	2.18	6.69	0	31	2085
SU2-17	0165	0	1.37	2.02	15	996
SU2-18	0165	0	2.74	2.03	15	873
SU2-19	0165	0	1.37	1.99	8	873
SU2-20	0165	4.37	2.43	3.79	23	761
SU3-01	0165	2.18	6.69	2.08	8	949
SU3-02	0165	0	0	0	8	967
SU3-03	0165	2.18	3.95	0	0	1014
SU3-04	0165	0	2.74	13.59	8	949
Location	RSDS#	α	β	H^3	a	b
SU3-05	0165	0	1.37	11.06	31	1118

Building OSW Survey and Sample Data Worksheet

SU3-06	0165	2.19	1.21	1.01	0			986	
SU3-07	0165	0	1.37	1.86	15			1014	
SU3-08	0165	0	1.37	13.66	8			1202	
SU3-09	0165	0	1.37	4.78	15			977	
SU3-10	0165	0	0	0	0			873	
SU3-11	0165	2.18	3.95	3.05	8			667	
SU3-12	0165	2.19	1.21	0	8			798	
SU3-13	0165	0	1.37	3.9	8			892	
SU3-14	0165	2.18	2.58	7.6	15			986	
SU3-15	0165	4.37	2.43	4.97	0			1061	
SU3-16	0165	0	2.74	0	8			1005	
SU3-17	0165	0	4.11	0.64	15			1832	
SU3-18	0165	0	1.37	0	8			742	
SU3-19	0165	0	1.37	2.4	0			723	
SU3-20	0165	0	4.11	1.91	0			977	
SU4-01	0165	6.56	3.64	0	0			864	
SU4-02	0165	2.18	2.58	0	23			817	
SU4-03	0165	0	4.11	0	15			676	
SU4-04	0165	0	1.37	0	15			704	
SU4-05	0165	0	2.74	0	31			1005	
SU4-06	0165	0	2.74	0	8			817	
SU4-07	0165	2.19	1.21	0	23			761	
SU4-08	0165	0	0	2.83	31			723	
SU4-09	0165	0	4.11	1.93	15			620	
SU4-10	0165	0	1.37	0	23			827	
SU4-11	0165	0	5.48	4.74	15			873	
SU4-12	0165	0	1.37	4.88	8			920	
SU4-13	0165	4.37	3.8	0	23			836	
SU4-14	0165	2.19	1.21	0	8			798	
SU4-15	0165	0	1.37	0	15			1071	
SU4-16	0165	0	0	1.9	0			808	
SU4-17	0165	0	2.74	7.66	0			855	
SU4-18	0165	0	0	0	15			789	
SU4-19	0165	0	1.37	0	15			873	
SU4-20	0165	0	0	2.85	31			2057	
SU5-01	0165	0	0	0	38			2865	
SU5-02	0165	2.19	0	0	69			3053	
SU5-03	0165	0	1.37	2.38	69			3250	
SU5-04	0165	2.18	5.32	2.05	8			3146	
SU5-05	0165	0	1.37	5.12	69			2996	
SU5-06	0165	0	1.37	6.94		76	122	2320	3372
SU5-07	0165	0	1.37	13.63	69			3071	
SU5-08	0165	0	2.74	0	54			3344	
SU5-09	0165	0	2	3.88	46			3006	
SU5-10	0165	0	2	9.7	54			3231	
SU5-11	0165	4.37	1.06	3.84	0			1240	
SU5-12	0165	2.19	1.21	0	15			1709	
Location	RSDS#	α	β	H^3	a			b	
SU5-13	0165	0	0	0	8			1381	
SU5-14	0165	0	4.11	1.93	23			1277	
SU5-15	0165	2.18	2.58	1.91		69	115	2780	2160
SU5-16	0165	0	4.11	0	76			1850	

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SU5-17	0165	0	1.37	6.74	92		1362	
SU5-18	0165	0	2.74	1.78	54		1196	
SU5-19	0165	0	0	4.75	84		1005	
SU5-20	0165	0	1.37	0	76	99	2752	1503
SU5-21	0165	0	1.37	0	76		1090	
SU5-22	0165	4.37	3.8	4.08	61		1625	
SU5-23	0165	2.19	1.21	8.04	76		1287	
SU5-24	0165	2.19	1.21	0.59	84		1493	

	α	β	H^3	α	β
Avg	0.966442	2.33125	3.006058	22.25962	1238.808
SD	1.577277	1.731263	3.489147	24.10213	701.2467
Max	6.56	6.85	13.66	92	3344
#	104	104	104	104	104
Conf	0.303137	0.332731	0.670579	4.632188	134.7726

Scan Data

Location	RSDS#	α dpm/100cm2
U-1 S 01	0163	14
U-1 S 02	0163	11
U-2 S 01	0163	21
U-2 S 02	0163	4
U-3 S 01	0163	17
U-3 S 02	0163	15
U-4 S 01	0163	7
U-4 S 02	0163	11

Avg	12.5
Max	21
SD	5.451081
#	8
+/-	3.777332

Instrument Data

	Inst	SN	CDD	RSDS	α Bkg(cpm)	β Bkg(cpm)
1	L2350	5855/5864	6/18/04	0165	0.4	104
2	L2350	5855/5850	6/18/04	0163	5.2	
3	L2350	5856/5675	5/12/04	0163	5	
4	L2360	5833/5847	3/13/04	0167	1	109
5	B μREM	3945	7/8/04	0174		

	Smearable			Fixed	
	α	β	H^3	α	β
Survey Unit 1 First Floor					
Number	20	20	20	20	20
Avg	1.092	2.4715	3.925	11.6	938.35
SD	1.50344	2.001048	2.938993	11.76704	277.42961
Max	4.37	6.69	9.7	38	1991
+/-	0.658899	0.87698	1.288045	5.157029	121.58647
Survey Unit 2 Second Floor					
Number	20	20	20	20	20
Avg	1.0925	3.141	2.8735	13	1015.7
SD	1.942017	1.879672	3.492823	8.233436	283.81389
Max	6.56	6.85	11.91	31	2085
+/-	0.85111	0.823786	1.530767	3.608391	124.38445
Survey Unit 3 Third Floor					
Number	20	20	20	20	20
Avg	0.8735	2.2655	3.6255	8.15	986.6
SD	1.306636	1.63415	4.467237	7.638373	238.19704
Max	4.37	6.69	13.66	31	1832
+/-	0.572647	0.716184	1.957814	3.347598	104.39238
Survey Unit 4 Fourth Floor					
Number	20	20	20	20	20
Avg	0.8745	1.8785	1.3395	15.7	884.7
SD	1.794437	1.608714	2.206911	9.830672	294.81896
Max	6.56	5.48	7.66	31	2057
+/-	0.786431	0.705036	0.967202	4.308396	129.20754
Survey Unit 5 Ext/Roof/Pent					
Number	24	24	24	24	24
Avg	0.910833	1.82	3.223333	56.08333	2180.375
SD	1.42908	1.404261	3.63989	26.93295	861.48001
Max	4.37	5.32	13.63	92	3344
+/-	0.57174	0.56181	1.45623	10.77521	344.65694

Graph Data Alpha					
	Survey Uni	Survey Uni	Survey Uni	Survey Unit	Survey Unit 5
AVG	11.6	13	8.15	15.7	56.083333
MAX	38	31	31	31	92
Graph Data Beta					
	Survey Uni	Survey Uni	Survey Uni	Survey Unit	Survey Unit 5
AVG	938.35	1015.7	986.6	884.7	2180.375
MAX	1991	2085	1832	2057	3344

Vents and Drains

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Building OSW Survey and Sample Data Worksheet

Location	RSDS#	α	β	H^3	α	β
VD-01	0167	2.01	2.01	2.01	2.01	2.01
VD-02	0167	2.01	1.16	46.79	-10	375
VD-03	0167	2.01	1.16	55.84	0	365
VD-04	0167	0	1.28	51.71	10	375
VD-05	0167	3.96	6.16	33.14	70	530
VD-06	0167	2.01	1.16	1.52	40	505
VD-07	0167	4.01	2.32	8.87	10	65
VD-08	0167	0	3.84	31.33	0	205
VD-09	0167	0	1.28	2.63	20	190
VD-10	0167	6.04	2.2	14.15	0	475
VD-11	0167	4.01	2.32	0	20	345
VD-12	0167	1.97	3.72	7.32	50	235
VD-13	0167	0	3.84	0	10	295
VD-14	0167	0	5.12	9.45	0	225
VD-15	0167	0	1.28	11.82	10	185
VD-16	0167	2.01	1.16	10.83	30	110
VD-17	0167	1.99	2.44	0	20	-35
VD-18	0167	0	1.28	1.32	10	15
VD-19	0167	0	5.12	18.7	50	65
VD-20	0167	1.99	2.44	9.3	50	95
VD-21	0167	0	1.28	0	60	135
VD-22	0167	2.01	1.16	3.49	50	175
VD-23	0167	0	2.56	0	40	140
VD-24	0167	1.96	5	21.77	80	140
VD-25	0167	0	3.84	24.81	60	160
VD-26	0167	1.94	6.28	18.15	50	90
VD-27	0167	4	3.6	0	40	180
VD-28	0167	0	5.12	8.22	60	215
VD-29	0167	2.02	0	0	30	100
VD-30	0167	4	3.6	2.53	50	145
VD-31	0167	0	5.12	1.58	70	175
VD-32	0167	0	3.84	0	60	210
VD-33	0167	4.01	2.32	3.52	40	150
VD-34	0167	0	6.4	7.73	80	180
VD-35	0167	0	1.28	14.45	40	160

Vents and Drains

Number	35	35	35	35	35
Avg	1.541714	2.934	12.08514	34.343143	199.34314
SD	1.688542	1.763156	15.21208	25.623541	135.8102
Max	6.04	6.4	55.84	80	530
+/-	0.559404	0.584123	5.039668	8.4889226	44.993089

Replicate Fixed Point QC

alpha (dpm/100cm2)	beta (dpm/100cm2)

Location #	initial	2σ	replicate	initial	2σ	replicate
QC1-16	0	0.00	0	1099	66.30	949
QC1-07	23	9.59	8	817	57.17	827
QC1-01	38	12.33	0	939	61.29	798
QC2-16	31	11.14	23	2085	91.32	2170
QC2-12	0	0.00	8	1014	63.69	958
QC2-05	15	7.75	8	1099	66.30	892
QC3-05	31	11.14	0	1118	66.87	1033
QC3-09	15	7.75	8	977	62.51	996
QC3-10	0	0.00	15	873	59.09	864
QC4-01	0	0.00	8	864	58.79	808
QC4-05	31	11.14	0	1005	63.40	911
QC4-09	15	7.75	23	620	49.80	751
QC5-11	0	0.00	23	1240	70.43	866
QC5-06	76	17.44	99	2320	96.33	2771
QC5-10	54	14.70	54	3231	113.68	2646
Variance (S2) =	500.4952		695.2667	497989.78		481851.57
Ratio			0.719861			1.0334921
Agreement			YES			YES

QC Replicate Measurements

	Location	RSDS#	α	β
1	QC1-16	0165	0	949
2	QC1-07	0165	8	827
3	QC1-01	0165	0	798
4	QC2-16	0165	23	2170
5	QC2-12	0165	8	958
6	QC2-05	0165	8	892
7	QC3-05	0165	0	1033
8	QC3-09	0165	8	996
9	QC3-10	0165	15	864
10	QC4-01	0165	8	808
11	QC4-05	0165	0	911
12	QC4-09	0165	23	751
13	QC5-11	0165	23	866
14	QC5-06	0165	99	2771
15	QC5-10	0165	54	2646

SURVEY PLAN FORM

SP NUMBER	OSW-01	**DATE OF REQUEST**	July 2, 2003
TYPE OF SP	☐ FSS ☒ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:		
AREA/LOCATION	Building OSW		
PURPOSE	The purpose of this SP is to characterize Building OSW to support decisions on final disposition.		
SURVEY UNIT # 1	First Floor	**SURVEY UNIT # 4**	Fourth Floor
SURVEY UNIT # 2	Second Floor	**SURVEY UNIT # 5**	Penthouse Roof and Exterior
SURVEY UNIT # 3	Third Floor	**SURVEY UNIT**	

SAMPLE TYPE

☐ **SURFACE SOIL SAMPLE:**

☐ **SUB-SURFACE SOIL SAMPLE:**

☒ **SEDIMENT SAMPLE:** See specific sediment sampling instructions on page 2.

☐ **Rubbelized Material:**

☐ **OTHER:**

SURVEY TYPE

SURFACE SCAN	☐ BETA ☐ GAMMA ☒ ALPHA	**INST. TYPE**	L-2350	**SCAN RATE & DETECTOR DISTANCE FROM SURFACE**	Scan surface at a rate of 1" per second at a distance of not more than ¼" from surface
		PROBE TYPE	43-37 Floor Probe or 43-20 Hand Probe		
STATIC MEASURE-MENT	☐ BETA ☐ GAMMA ☒ ALPHA	**INST. TYPE**	L-2350	**SCAN RATE & DETECTOR DISTANCE FROM SURFACE**	Perform 1 minute counts at specified locations not more than ¼" from surface. See Note below.
		PROBE TYPE	43-20 Hand Probe		
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☐ ALPHA	**INST. TYPE**	L 2360 (or equivalent)	**COUNT TIME & DETECTOR DISTANCE FROM SURFACE**	Refer to MD-80036, Issue 29, Op. No. 30031, *Operation of the Ludlum 2360 Scaler/Ratemeter with Ludlum 43-93 Alpha/Beta Scintillator*, Section 6.3
		PROBE TYPE	L 43-93 (or equivalent)		
DOSE RATE MEASURE-MENT	☐ BETA ☒ GAMMA ☐ ALPHA	**INST. TYPE**	Bicron Micro REM	**DETECTOR DISTANCE FROM SURFACE**	General area Dose Rate measurements at waist level (3') from floor
		PROBE TYPE	Internal		

OTHER SURVEY TYPES OR COMMENTS

Note: Survey Unit 5 alpha measurements may be taken with L2360 with 43-93 alpha/beta probe.

All surveys shall be performed and documented in accordance with Mound Radiological Control procedures.

Take photographs of survey units, if possible. Pay particular attention to grid markings or other identifying features. Date and label photos.

Any sampling and surveying discrepancies shall be documented in the Comments section on the Survey Plan Form.

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SP NUMBER	OSW-01	DATE OF REQUEST	July 2, 2003

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc. Exercise extreme caution when performing surveys from ladders or scaffolds. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
2. Ensure ventilation units are de-energized prior to attempting to collect a sample. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.

Floor Scan Measurements using a Ludlum 2350 with 43-37 alpha probe

1. Set the Ludlum 2350-1 datalogger to alarm at 75dpm/100cm^2 in the ratemeter mode.
2. Perform a floor scan of hallways and major walkways throughout the building.
3. Perform a 30 second integrated count at every location where an alarm is obtained. In addition, obtain a 30 second integrated count at any point where an audible or visual indication of elevated activity is observed at twice the background rate.
4. Record the location and surface material type of the area scanned on the RSDS map and document the results of any integrated counts.

Static Measurements Using L 2350 with 43-20 (alpha) probe and L 2360 with 43-93 (beta) probe or equivalent

1. Perform an alpha and beta count on at least twenty (20) data points in each Survey Unit. Data points are selected by the surveyor and should be broadly representative of the entire survey unit.
2. Perform an alpha and beta measurement on at least ten (10) data points on the roof. Data points are randomly selected by the surveyor and should be broadly representative of the entire survey unit.
3. Perform an alpha and beta measurement on at least ten (10) data points on the building exterior walls and exposed foundations. Data points are randomly selected by the surveyor and should be broadly representative of the entire survey unit.
4. Perform an integrated alpha and beta count at each sediment sample location.
5. Record location, surface material type, and results on RSDS map in accordance with Mound Rad Con procedures.
6. Document gross activity for each location (No "<" values). Record instrument background at survey location.

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each survey point identified above.
2. Count each smear for alpha, beta, and H^3. H^3 analysis is not required for building external surfaces.
3. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

Dose Rate Measurement with Bicron Micro REM meter

1. Obtain general area dose rates at various locations in normally occupied areas of each interior survey unit.
2. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

Sediment Samples

1. Collect approximately 250ml of debris from at least one accessible ventilation unit, floor drain, and any other area where debris has accumulated in each survey unit.
2. If insufficient material is present at these sample locations, obtain a representative smear of the location.
3. Document sample information and description of material on Attachment 1.
4. Label sample container with sample number, date and time of collection, and location in accordance with Mound procedures.

Continued Next Page

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5. Show sample location on the RSDS map.
6. Submit sediment samples to laboratory for isotopic analysis. Submit smears for gross alpha and beta analysis.
7. Additional intrusive samples may be collected in areas of elevated activity as determined by the MARSSIM Engineer.

Quality Control

1. QC measurements will be performed by re-surveying 3 data points in each survey unit. Data points selected for resurvey should include the highest, lowest, and average readings in the survey unit.
2. Sediment samples or smears with measured activity above the MDA may be resubmitted for replicate analysis. Ensure alpha and beta smear results are obtained before performing H^3 analysis.
3. Record location, material, and results on RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
MARISSM Engineer	Roderick. Case	DATE	July 2, 2003
Technical Reviewer	Galen Tomlinson	DATE	7-2-03
Rad Con Manager	A. Stephen Collas	DATE	7-7-03
SP CLOSE-OUT SIGNATURES			
MARISSM Engineer	R. CASE	DATE	7-24-03
Technical Reviewer	G. TOMLINSON	DATE	8-4-03
Rad Con Manager		DATE	8-4-03

COMMENTS

Sample Number	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									
OSW-01-									

G21d73

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSW	SURVEY NO. 03-TF-0163
PURPOSE: MARISSM SURVEY PLAN OSW-01 FLOOR SCAN UNITS 1, 2, 3 AND 4	RWP NO. N/A
	DATE: 7-11-03
	TIME: 1530

MAP/DRAWING

SEE ATTACHED

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
2350	5856/5675	5-12-04
2350	5855/5850	6-18-04
	N/A	

[redacted]

	HP # 5214 7474	Date: 7-21-03
Counted by: (Signature) N/A	HP #	Date:
Counted by: (Print Name)		
	HP # 6178	Date: 7-21-03

[redacted]

ML-9620 (2-98)

Survey No. 03-TF-0163

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: N/A

NOTES:

See MD-80036 10002 for calculations of WB, extremity and skin dose rates.

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.

Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

L-9620A (4-98)

623473

OSW BUILDING CHARACTERIZATION ALPHA FLOOR SCAN SURVEY UNIT 1,2,3 AND 4

RSDS# 03-TF-0163 RCT: KS RCT: SK

43-20 BKG:	0	EFF:	0.2	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	1
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5856	5214	5675	1		7/11/03	6:24	25	300	9	
SRC CHECK	5856	5214	5675	1		7/11/03	6:39	2037	60	3488	
SRC CHECK	5856	5214	5675	1		7/11/03	6:40	2118	60	3627	
SRC CHECK	5856	5214	5675	1		7/11/03	6:42	2185	60	3741	
SRC CHECK	5856	5214	5675	1		7/11/03	6:44	2117	60	3625	
SRC CHECK	5856	5214	5675	1		7/11/03	6:45	2062	60	3531	
SRC CHECK	5856	5214	5675	1		7/11/03	6:47	2062	60	3531	
U-4 S 01	5856	5214	5675	1	1	7/11/03	8:01	2	30	7	
U-3 S 01	5856	5214	5675	1	3	7/11/03	8:52	5	30	17	
U-2 S 01	5856	5214	5675	1	5	7/11/03	10:18	6	30	21	
U-1 S 01	5856	5214	5675	1	7	7/11/03	12:39	4	30	14	

OSW BUILDING CHARACTERIZATION ALPHA FLOOR SCAN SURVEY UNIT 1,2,3 AND 4

RSDS# 03-TF-0163 RCT: KA RCT: [illegible]

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	123	cm2	Surface Eff:	0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:	0.5	Detector # :	3

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRC BKG	5855	7474	5850	3		7/11/03	6:22	26	300	10
SRC CHECK	5855	7474	5850	3		7/11/03	6:25	2134	60	3908
SRC CHECK	5855	7474	5850	3		7/11/03	6:27	2113	60	3870
SRC CHECK	5855	7474	5850	3		7/11/03	6:28	2317	60	4243
SRC CHECK	5855	7474	5850	3		7/11/03	6:30	2309	60	4229
SRC CHECK	5855	7474	5850	3		7/11/03	6:32	2258	60	4135
SRC CHECK	5855	7474	5850	3		7/11/03	6:33	2243	60	4108
U-4 S 02	5855	7474	5850	3	2	7/11/03	7:59	3	30	11
U-3 S 02	5855	7474	5850	3	4	7/11/03	8:50	4	30	15
U-2 S 02	5855	7474	5850	3	6	7/11/03	9:15	1	30	4
U-1 S 02	5855	7474	5850	3	8	7/11/03	12:45	3	30	11

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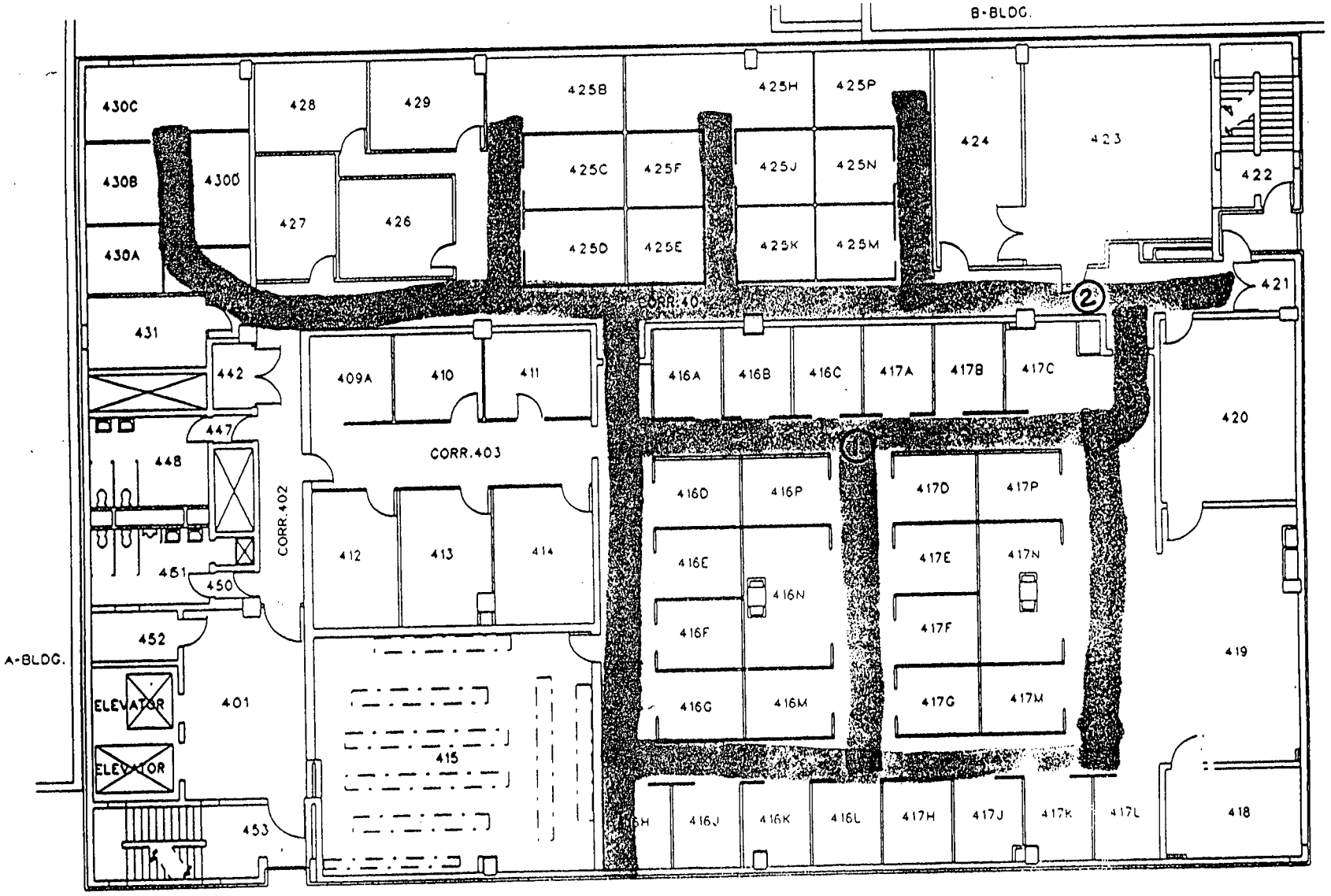

03-TF-0163

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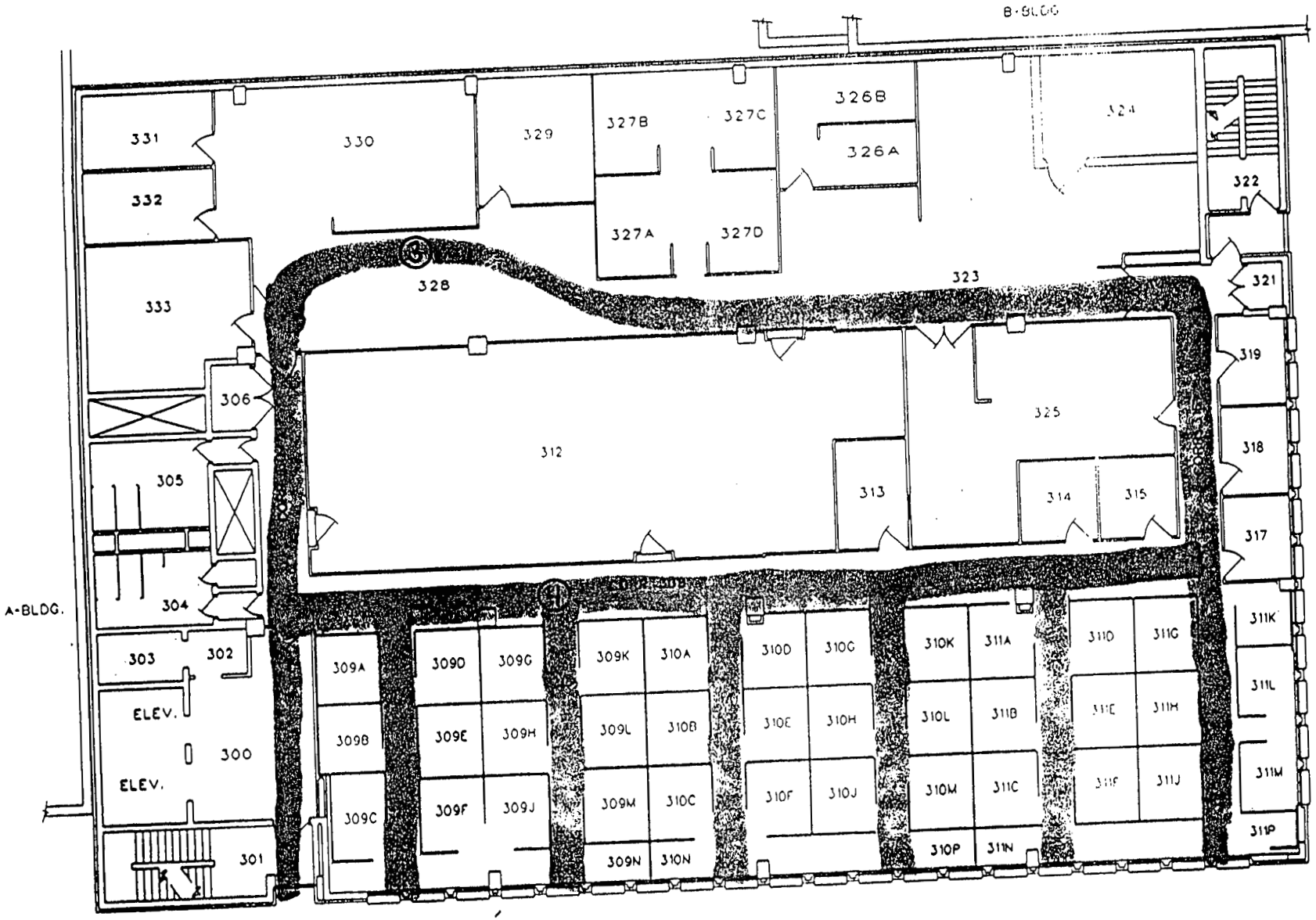
OSW BLDG
FOURTH FLOOR
CLASS: UNCL



03-TF-0163

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OSW BLDG
THIRD FLOOR
CLASS: UCNI

KA

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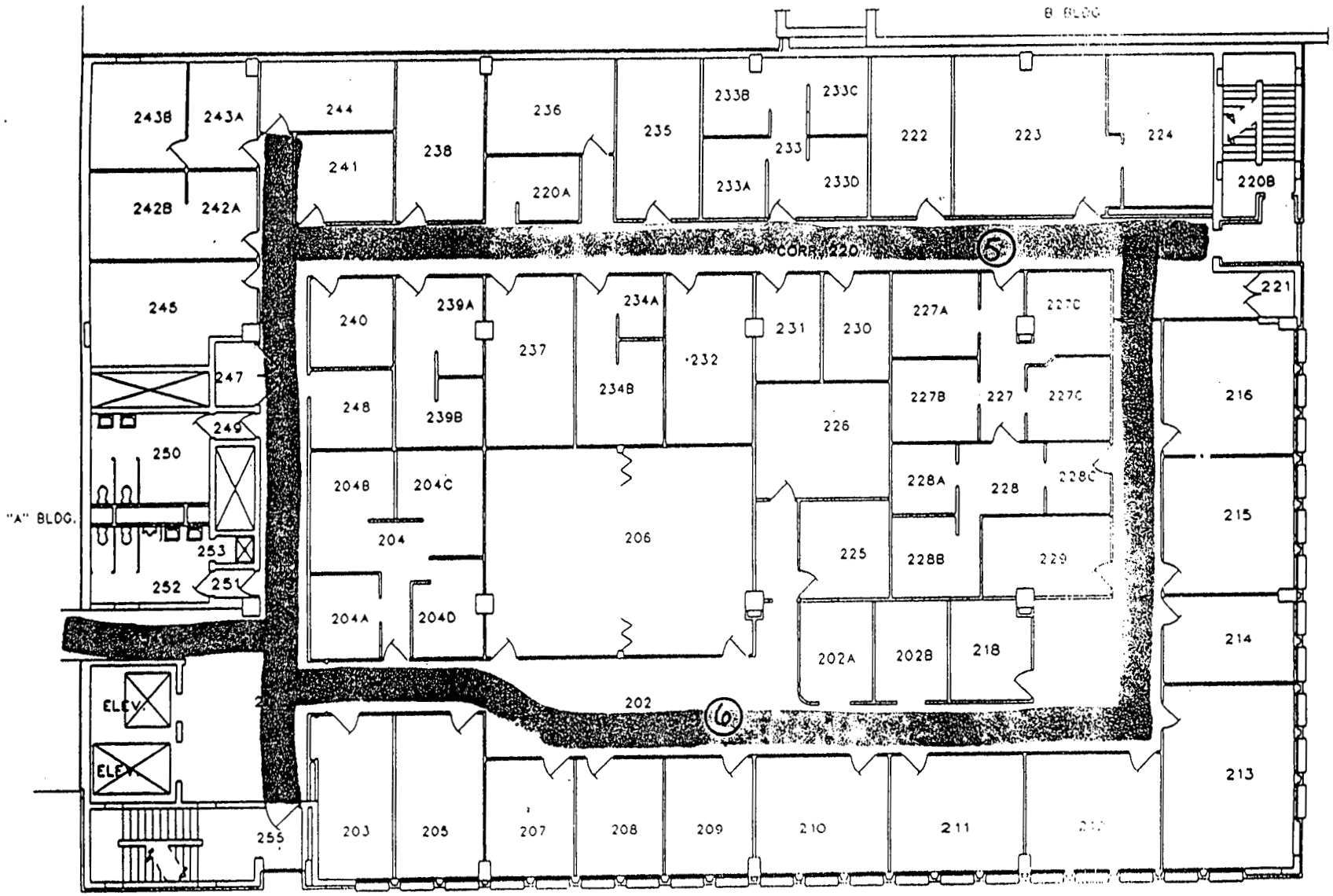

03-TF-0163

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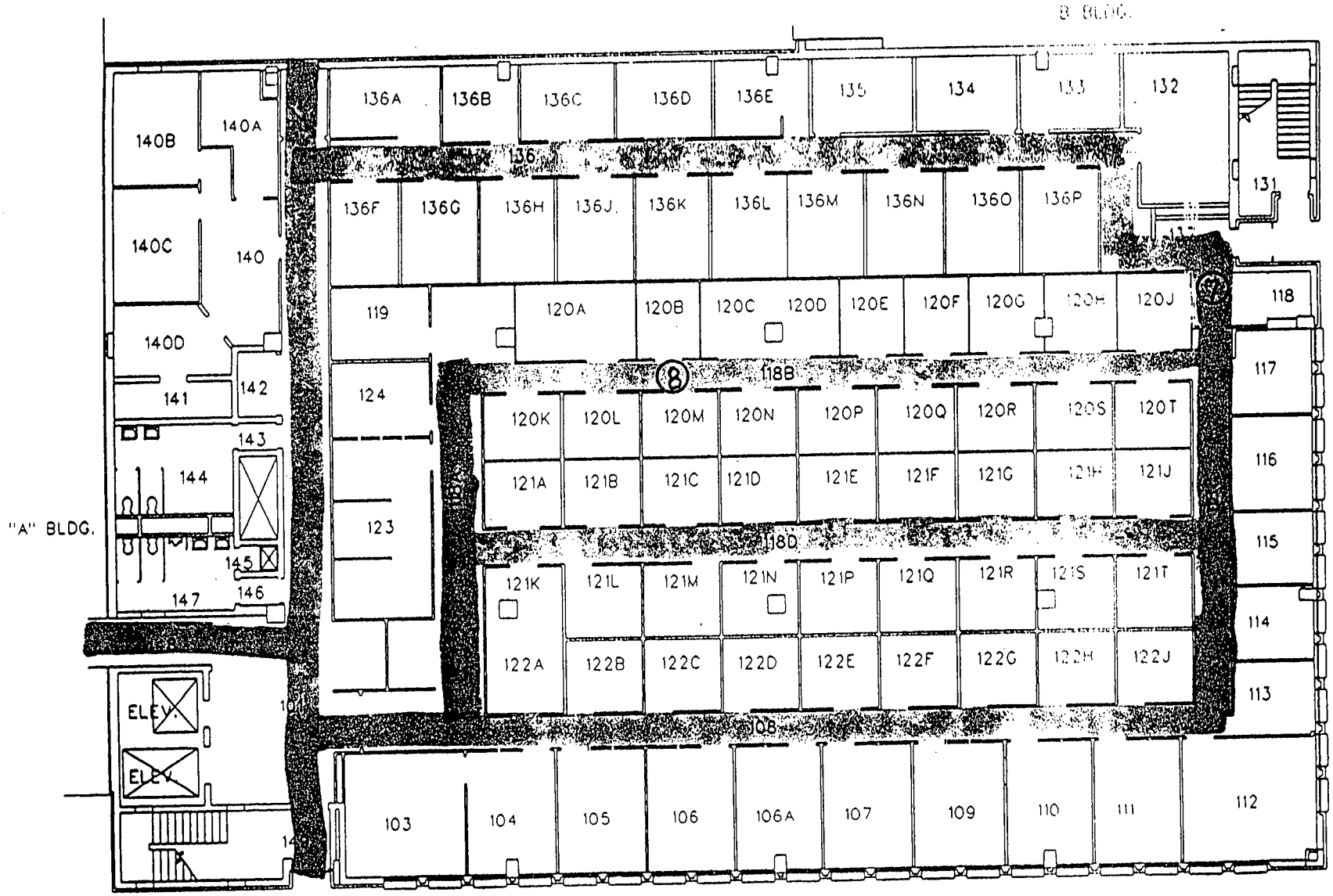
OSW BLDG
SECOND FLOOR
CLASS: UNCL

KA



03-TF-0163

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KA

OSW BLDG
FIRST FLOOR
CLASS: UNCL

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSW	SURVEY NO. 03-TF-0165
PURPOSE: MARISSM SURVEY PLAN OSW-01 SURVEY UNITS 1, 2, 3, 4 AND 5	RWP NO. N/A
	DATE: 7-16-03
	TIME: 1530

MAP/DRAWING

SEE ATTACHED

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5855/5864	6-18-04
2360	5833/5847	3-13-04
	N/A	

[redacted]

	HP # 5214 6178	Date: 7-21-03
[redacted]		
Counted by: (Signature) SEE ATTACHED	HP #	Date:
Counted by: (Print Name)		
Reviewed/App[redacted]	HP # 7492	Date: 7-22-03
Reviewed/Approved by [redacted]		

ML-9620 (2-98)

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Survey No. 03-TF-0165

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-20	SEE	ATTACHED		UNIT 1
21-40	↓	↓	↓	UNIT 2
41-60	↓	↓	↓	UNIT 3
61-80	↓	↓	↓	UNIT 4
81-104	↓	↓	↓	UNIT 5
		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-9620A (4-98)

G31473

OSW BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 1

RSDS# 03-TF-0165 RCT: DJA RCT: SK

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	1		7/16/03	6:19	8	300	12	
SRC CHECK	5855	6178	5864	1		7/16/03	6:23	1888	60	14443	
SRC CHECK	5855	6178	5864	1		7/16/03	6:25	1897	60	14511	
SRC CHECK	5855	6178	5864	1		7/16/03	6:26	2085	60	15950	
SRC CHECK	5855	6178	5864	1		7/16/03	6:28	2059	60	15751	
WU-1 01	5855	6178	5864	1	1	7/16/03	7:15	5	60	38	
WU-1 02	5855	6178	5864	1	2	7/16/03	7:18	1	60	8	
WU-1 03	5855	6178	5864	1	3	7/16/03	7:21	1	60	8	
WU-1 04	5855	6178	5864	1	4	7/16/03	7:23	0	60	0	
WU-1 05	5855	6178	5864	1	5	7/16/03	7:26	0	60	0	
WU-1 06	5855	6178	5864	1	6	7/16/03	7:29	1	60	8	
WU-1 07	5855	6178	5864	1	7	7/16/03	7:32	3	60	23	
WU-1 08	5855	6178	5864	1	8	7/16/03	7:35	2	60	15	
WU-1 09	5855	6178	5864	1	9	7/16/03	7:37	1	60	8	
WU-1 10	5855	6178	5864	1	10	7/16/03	7:40	3	60	23	
WU-1 11	5855	6178	5864	1	11	7/16/03	7:43	2	60	15	
WU-1 12	5855	6178	5864	1	12	7/16/03	7:46	0	60	0	
WU-1 13	5855	6178	5864	1	13	7/16/03	7:49	0	60	0	
WU-1 14	5855	6178	5864	1	14	7/16/03	9:40	4	60	31	
WU-1 15	5855	6178	5864	1	15	7/16/03	9:43	1	60	8	
WU-1 16	5855	6178	5864	1	16	7/16/03	9:46	0	60	0	
WU-1 17	5855	6178	5864	1	17	7/16/03	9:50	1	60	8	
WU-1 18	5855	6178	5864	1	18	7/16/03	9:53	1	60	8	
WU-1 19	5855	6178	5864	1	19	7/16/03	9:56	0	60	0	
WU-1 20	5855	6178	5864	1	20	7/16/03	9:59	4	60	31	
QC 16	5855	5214	5864	1		7/16/03	10:03	0	60	0	
QC 07	5855	5214	5864	1		7/16/03	10:06	1	60	8	
QC 01	5855	5214	5864	1		7/16/03	10:10	0	60	0	

OSW BUILDING CHARACTERIZATION BETA SURVEY UNIT 1

RSDS# 03-TF-0165 RCT: DJA RCT: DJR

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/16/03	6:34	531	300	997	
SRC CHECK	5855	6178	5864	2		7/16/03	6:38	2003	60	18813	
SRC CHECK	5855	6178	5864	2		7/16/03	6:40	1955	60	18362	
SRC CHECK	5855	6178	5864	2		7/16/03	6:44	2301	60	21612	
SRC CHECK	5855	6178	5864	2		7/16/03	6:45	2118	60	19893	
WU-1 01	5855	6178	5864	2	1	7/16/03	7:16	100	60	939	
WU-1 02	5855	6178	5864	2	2	7/16/03	7:19	101	60	949	
WU-1 03	5855	6178	5864	2	3	7/16/03	7:22	87	60	817	
WU-1 04	5855	6178	5864	2	4	7/16/03	7:25	88	60	827	
WU-1 05	5855	6178	5864	2	5	7/16/03	7:27	106	60	996	
WU-1 06	5855	6178	5864	2	6	7/16/03	7:30	87	60	817	
WU-1 07	5855	6178	5864	2	7	7/16/03	7:33	87	60	817	
WU-1 08	5855	6178	5864	2	8	7/16/03	7:36	83	60	780	
WU-1 09	5855	6178	5864	2	9	7/16/03	7:38	102	60	958	
WU-1 10	5855	6178	5864	2	10	7/16/03	7:41	69	60	648	
WU-1 11	5855	6178	5864	2	11	7/16/03	7:44	96	60	902	
WU-1 12	5855	6178	5864	2	12	7/16/03	7:47	91	60	855	
WU-1 13	5855	6178	5864	2	13	7/16/03	7:50	79	60	742	
WU-1 14	5855	6178	5864	2	14	7/16/03	9:41	98	60	920	
WU-1 15	5855	6178	5864	2	15	7/16/03	9:44	105	60	986	
WU-1 16	5855	6178	5864	2	16	7/16/03	9:47	117	60	1099	
WU-1 17	5855	6178	5864	2	17	7/16/03	9:51	81	60	761	
WU-1 18	5855	6178	5864	2	18	7/16/03	9:54	125	60	1174	
WU-1 19	5855	6178	5864	2	19	7/16/03	9:57	84	60	789	
WU-1 20	5855	6178	5864	2	20	7/16/03	10:00	212	60	1991	
QC 16	5855	5214	5864	2		7/16/03	10:04	101	60	949	
QC 07	5855	5214	5864	2		7/16/03	10:08	88	60	827	
QC 01	5855	5214	5864	2		7/16/03	10:11	85	60	798	

OSW BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 2

RSDS# 03-TF-0165 RCT: DGH RCT: [illegible]

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	1		7/16/03	6:19	8	300	12	
SRC CHECK	5855	6178	5864	1		7/16/03	6:23	1888	60	14443	
SRC CHECK	5855	6178	5864	1		7/16/03	6:25	1897	60	14511	
SRC CHECK	5855	6178	5864	1		7/16/03	6:26	2085	60	15950	
SRC CHECK	5855	6178	5864	1		7/16/03	6:28	2059	60	15751	
WU-2 01	5855	6178	5864	1	21	7/16/03	12:21	3	60	23	
WU-2 02	5855	6178	5864	1	22	7/16/03	12:26	2	60	15	
WU-2 03	5855	6178	5864	1	23	7/16/03	12:30	1	60	8	
WU-2 04	5855	6178	5864	1	24	7/16/03	12:33	2	60	15	
WU-2 05	5855	6178	5864	1	25	7/16/03	12:36	2	60	15	
WU-2 06	5855	6178	5864	1	26	7/16/03	12:39	3	60	23	
WU-2 07	5855	6178	5864	1	27	7/16/03	12:42	0	60	0	
WU-2 08	5855	6178	5864	1	28	7/16/03	12:45	1	60	8	
WU-2 09	5855	6178	5864	1	29	7/16/03	12:48	0	60	0	
WU-2 10	5855	6178	5864	1	30	7/16/03	12:53	2	60	15	
WU-2 11	5855	6178	5864	1	31	7/16/03	12:56	2	60	15	
WU-2 12	5855	6178	5864	1	32	7/16/03	12:59	0	60	0	
WU-2 13	5855	6178	5864	1	33	7/16/03	13:01	1	60	8	
WU-2 14	5855	6178	5864	1	34	7/16/03	13:04	2	60	15	
WU-2 15	5855	6178	5864	1	35	7/16/03	13:08	1	60	8	
WU-2 16	5855	6178	5864	1	36	7/16/03	13:11	4	60	31	
WU-2 17	5855	6178	5864	1	37	7/16/03	13:14	2	60	15	
WU-2 18	5855	6178	5864	1	38	7/16/03	13:17	2	60	15	
WU-2 19	5855	6178	5864	1	39	7/16/03	13:19	1	60	8	
WU-2 20	5855	6178	5864	1	40	7/16/03	13:23	3	60	23	
QC 16	5855	5214	5864	1		7/16/03	13:27	3	60	23	
QC 12	5855	5214	5864	1		7/16/03	13:31	1	60	8	
QC 05	5855	5214	5864	1		7/16/03	13:35	1	60	8	

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OSW BUILDING CHARACTERIZATION BETA SURVEY UNIT 2

RSDS# 03-TF-0165 RCT: RCT:

43-68 BKG:	0	EFF:	0.160	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/16/03	6:34	531	300	997	
SRC CHECK	5855	6178	5864	2		7/16/03	6:38	2003	60	18813	
SRC CHECK	5855	6178	5864	2		7/16/03	6:40	1955	60	18362	
SRC CHECK	5855	6178	5864	2		7/16/03	6:44	2301	60	21612	
SRC CHECK	5855	6178	5864	2		7/16/03	6:45	2118	60	19893	
NU-2 01	5855	6178	5864	2	21	7/16/03	12:22	107	60	1005	
NU-2 02	5855	6178	5864	2	22	7/16/03	12:27	93	60	873	
NU-2 03	5855	6178	5864	2	23	7/16/03	12:31	102	60	958	
NU-2 04	5855	6178	5864	2	24	7/16/03	12:34	130	60	1221	
NU-2 05	5855	6178	5864	2	25	7/16/03	12:37	117	60	1099	
NU-2 06	5855	6178	5864	2	26	7/16/03	12:40	125	60	1174	
NU-2 07	5855	6178	5864	2	27	7/16/03	12:44	116	60	1090	
NU-2 08	5855	6178	5864	2	28	7/16/03	12:46	82	60	770	
NU-2 09	5855	6178	5864	2	29	7/16/03	12:50	95	60	892	
NU-2 10	5855	6178	5864	2	30	7/16/03	12:54	81	60	761	
NU-2 11	5855	6178	5864	2	31	7/16/03	12:57	108	60	1014	
NU-2 12	5855	6178	5864	2	32	7/16/03	13:00	108	60	1014	
NU-2 13	5855	6178	5864	2	33	7/16/03	13:03	115	60	1080	
NU-2 14	5855	6178	5864	2	34	7/16/03	13:06	95	60	892	
NU-2 15	5855	6178	5864	2	35	7/16/03	13:09	94	60	883	
NU-2 16	5855	6178	5864	2	36	7/16/03	13:12	222	60	2085	
NU-2 17	5855	6178	5864	2	37	7/16/03	13:15	106	60	996	
NU-2 18	5855	6178	5864	2	38	7/16/03	13:18	93	60	873	
NU-2 19	5855	6178	5864	2	39	7/16/03	13:20	93	60	873	
NU-2 20	5855	6178	5864	2	40	7/16/03	13:24	81	60	761	
QC 16	5855	5214	5864	2		7/16/03	13:28	231	60	2170	
QC 12	5855	5214	5864	2		7/16/03	13:32	102	60	958	
QC 05	5855	5214	5864	2		7/16/03	13:36	95	60	892	

OSW BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 3

RSDS# 03-TF-0165 RCT: DJH RCT: DK

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	1		7/16/03	6:19	8	300	12	
SRC CHECK	5855	6178	5864	1		7/16/03	6:23	1888	60	14443	
SRC CHECK	5855	6178	5864	1		7/16/03	6:25	1897	60	14511	
SRC CHECK	5855	6178	5864	1		7/16/03	6:26	2085	60	15950	
SRC CHECK	5855	6178	5864	1		7/16/03	6:28	2059	60	15751	
WU-3 01	5855	6178	5864	1	41	7/16/03	13:44	1	60	8	
WU-3 02	5855	6178	5864	1	42	7/16/03	13:46	1	60	8	
WU-3 03	5855	6178	5864	1	43	7/16/03	13:49	0	60	0	
WU-3 04	5855	6178	5864	1	44	7/16/03	13:53	1	60	8	
WU-3 05	5855	6178	5864	1	45	7/16/03	13:55	4	60	31	
WU-3 06	5855	6178	5864	1	46	7/16/03	13:59	0	60	0	
WU-3 07	5855	6178	5864	1	47	7/16/03	14:02	2	60	15	
WU-3 08	5855	6178	5864	1	48	7/16/03	14:04	1	60	8	
WU-3 09	5855	6178	5864	1	49	7/16/03	14:07	2	60	15	
WU-3 10	5855	6178	5864	1	50	7/16/03	14:10	0	60	0	
WU-3 11	5855	6178	5864	1	51	7/16/03	14:14	1	60	8	
WU-3 12	5855	6178	5864	1	52	7/16/03	14:17	1	60	8	
WU-3 13	5855	6178	5864	1	53	7/16/03	14:20	1	60	8	
WU-3 14	5855	6178	5864	1	54	7/16/03	14:23	2	60	15	
WU-3 15	5855	6178	5864	1	55	7/16/03	14:26	0	60	0	
WU-3 16	5855	6178	5864	1	56	7/16/03	14:30	1	60	8	
WU-3 17	5855	6178	5864	1	57	7/16/03	14:34	2	60	15	
WU-3 18	5855	6178	5864	1	58	7/16/03	14:37	1	60	8	
WU-3 19	5855	6178	5864	1	59	7/16/03	14:40	0	60	0	
WU-3 20	5855	6178	5864	1	60	7/16/03	14:43	0	60	0	
QC 05	5855	5214	5864	1		7/16/03	14:46	0	60	0	
QC 09	5855	5214	5864	1		7/16/03	14:49	1	60	8	
QC 10	5855	5214	5864	1		7/16/03	14:52	2	60	15	

OSW BUILDING CHARACTERIZATION BETA SURVEY UNIT 3

RSDS# 03-TF-0165 RCT: 29A RCT: JE

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/16/03	6:34	531	300	997	
SRC CHECK	5855	6178	5864	2		7/16/03	6:38	2003	60	18813	
SRC CHECK	5855	6178	5864	2		7/16/03	6:40	1955	60	18362	
SRC CHECK	5855	6178	5864	2		7/16/03	6:44	2301	60	21612	
SRC CHECK	5855	6178	5864	2		7/16/03	6:45	2118	60	19893	
WU-3 01	5855	6178	5864	2	41	7/16/03	13:45	101	60	949	
WU-3 02	5855	6178	5864	2	42	7/16/03	13:48	103	60	967	
WU-3 03	5855	6178	5864	2	43	7/16/03	13:51	108	60	1014	
WU-3 04	5855	6178	5864	2	44	7/16/03	13:54	101	60	949	
WU-3 05	5855	6178	5864	2	45	7/16/03	13:57	119	60	1118	
WU-3 06	5855	6178	5864	2	46	7/16/03	14:00	105	60	986	
WU-3 07	5855	6178	5864	2	47	7/16/03	14:03	108	60	1014	
WU-3 08	5855	6178	5864	2	48	7/16/03	14:05	128	60	1202	
WU-3 09	5855	6178	5864	2	49	7/16/03	14:08	104	60	977	
WU-3 10	5855	6178	5864	2	50	7/16/03	14:11	93	60	873	
WU-3 11	5855	6178	5864	2	51	7/16/03	14:15	71	60	667	
WU-3 12	5855	6178	5864	2	52	7/16/03	14:18	85	60	798	
WU-3 13	5855	6178	5864	2	53	7/16/03	14:21	95	60	892	
WU-3 14	5855	6178	5864	2	54	7/16/03	14:24	105	60	986	
WU-3 15	5855	6178	5864	2	55	7/16/03	14:28	113	60	1061	
WU-3 16	5855	6178	5864	2	56	7/16/03	14:31	107	60	1005	
WU-3 17	5855	6178	5864	2	57	7/16/03	14:35	195	60	1832	
WU-3 18	5855	6178	5864	2	58	7/16/03	14:38	79	60	742	
WU-3 19	5855	6178	5864	2	59	7/16/03	14:41	77	60	723	
WU-3 20	5855	6178	5864	2	60	7/16/03	14:44	104	60	977	
QC 05	5855	5214	5864	2		7/16/03	14:47	110	60	1033	
QC 09	5855	5214	5864	2		7/16/03	14:50	106	60	996	
QC 10	5855	5214	5864	2		7/16/03	14:53	92	60	864	

OSW BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 4

RSDS# 03-TF-0165 RCT: DJH RCT: JK

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	1		7/17/03	7:06	4	300	6	
SRC CHECK	5855	6178	5864	1		7/17/03	7:10	1816	60	13892	
SRC CHECK	5855	6178	5864	1		7/17/03	7:11	1993	60	15246	
SRC CHECK	5855	6178	5864	1		7/17/03	7:13	2048	60	15666	
SRC CHECK	5855	6178	5864	1		7/17/03	7:15	2016	60	15422	
WU-4 01	5855	6178	5864	1	61	7/17/03	7:51	0	60	0	
WU-4 02	5855	6178	5864	1	62	7/17/03	7:56	3	60	23	
WU-4 03	5855	6178	5864	1	63	7/17/03	7:59	2	60	15	
WU-4 04	5855	6178	5864	1	64	7/17/03	8:02	2	60	15	
WU-4 05	5855	6178	5864	1	65	7/17/03	8:05	4	60	31	
WU-4 06	5855	6178	5864	1	66	7/17/03	8:08	1	60	8	
WU-4 07	5855	6178	5864	1	67	7/17/03	8:11	3	60	23	
WU-4 08	5855	6178	5864	1	68	7/17/03	8:13	4	60	31	
WU-4 09	5855	6178	5864	1	69	7/17/03	8:16	2	60	15	
WU-4 10	5855	6178	5864	1	70	7/17/03	8:19	3	60	23	
WU-4 11	5855	6178	5864	1	71	7/17/03	8:22	2	60	15	
WU-4 12	5855	6178	5864	1	72	7/17/03	8:25	1	60	8	
WU-4 13	5855	6178	5864	1	73	7/17/03	8:28	3	60	23	
WU-4 14	5855	6178	5864	1	74	7/17/03	8:31	1	60	8	
WU-4 15	5855	6178	5864	1	75	7/17/03	8:34	2	60	15	
WU-4 16	5855	6178	5864	1	76	7/17/03	8:37	0	60	0	
WU-4 17	5855	6178	5864	1	77	7/17/03	8:40	0	60	0	
WU-4 18	5855	6178	5864	1	78	7/17/03	8:43	2	60	15	
WU-4 19	5855	6178	5864	1	79	7/17/03	8:46	2	60	15	
WU-4 20	5855	6178	5864	1	80	7/17/03	8:49	4	60	31	
QC 01	5855	5214	5864	1		7/17/03	8:52	1	60	8	
QC 05	5855	5214	5864	1		7/17/03	8:56	0	60	0	
QC 09	5855	5214	5864	1		7/17/03	8:59	3	60	23	

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OSW BUILDING CHARACTERIZATION BETA SURVEY UNIT 4

RSDS# 03-TF-0165 RCT: [illegible] RCT: [illegible]

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/17/03	6:50	511	300	960	
SRC CHECK	5855	6178	5864	2		7/17/03	6:53	1964	60	18447	
SRC CHECK	5855	6178	5864	2		7/17/03	6:55	1935	60	18174	
SRC CHECK	5855	6178	5864	2		7/17/03	6:56	2124	60	19949	
SRC CHECK	5855	6178	5864	2		7/17/03	6:58	2218	60	20832	
WU-4 01	5855	6178	5864	2	61	7/17/03	7:52	92	60	864	
WU-4 02	5855	6178	5864	2	62	7/17/03	7:57	87	60	817	
WU-4 03	5855	6178	5864	2	63	7/17/03	8:00	72	60	676	
WU-4 04	5855	6178	5864	2	64	7/17/03	8:03	75	60	704	
WU-4 05	5855	6178	5864	2	65	7/17/03	8:06	107	60	1005	
WU-4 06	5855	6178	5864	2	66	7/17/03	8:09	87	60	817	
WU-4 07	5855	6178	5864	2	67	7/17/03	8:12	81	60	761	
WU-4 08	5855	6178	5864	2	68	7/17/03	8:14	77	60	723	
WU-4 09	5855	6178	5864	2	69	7/17/03	8:17	66	60	620	
WU-4 10	5855	6178	5864	2	70	7/17/03	8:20	88	60	827	
WU-4 11	5855	6178	5864	2	71	7/17/03	8:23	93	60	873	
WU-4 12	5855	6178	5864	2	72	7/17/03	8:26	98	60	920	
WU-4 13	5855	6178	5864	2	73	7/17/03	8:29	89	60	836	
WU-4 14	5855	6178	5864	2	74	7/17/03	8:32	85	60	798	
WU-4 15	5855	6178	5864	2	75	7/17/03	8:35	114	60	1071	
WU-4 16	5855	6178	5864	2	76	7/17/03	8:38	86	60	808	
WU-4 17	5855	6178	5864	2	77	7/17/03	8:41	91	60	855	
WU-4 18	5855	6178	5864	2	78	7/17/03	8:44	84	60	789	
WU-4 19	5855	6178	5864	2	79	7/17/03	8:47	93	60	873	
WU-4 20	5855	6178	5864	2	80	7/17/03	8:50	219	60	2057	
QC 01	5855	5214	5864	2		7/17/03	8:53	86	60	808	
QC 05	5855	5214	5864	2		7/17/03	8:57	97	60	911	
QC 09	5855	5214	5864	2		7/17/03	9:00	80	60	751	

OSW BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 5

RSDS# 03-TF-0165 RCT: RJH RCT: SR

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	1		7/15/03	6:51	2	300	3	
SRCCHECK	5855	6178	5864	1		7/15/03	6:53	1949	60	14909	
SRCCHECK	5855	6178	5864	1		7/15/03	6:55	2084	60	15942	
SRCCHECK	5855	6178	5864	1		7/15/03	6:58	1971	60	15077	
SRCCHECK	5855	6178	5864	1		7/15/03	7:00	2047	60	15659	
WU-5 01	5855	6178	5864	1	81	7/15/03	9:42	5	60	38	
WU-5 02	5855	6178	5864	1	82	7/15/03	9:45	9	60	69	
WU-5 03	5855	6178	5864	1	83	7/15/03	9:49	9	60	69	
WU-5 04	5855	6178	5864	1	84	7/15/03	9:58	1	60	8	
WU-5 05	5855	6178	5864	1	85	7/15/03	10:01	9	60	69	
WU-5 06	5855	6178	5864	1	86	7/15/03	10:04	16	60	122	
WU-5 07	5855	6178	5864	1	87	7/15/03	10:07	9	60	69	
WU-5 08	5855	6178	5864	1	88	7/15/03	10:10	7	60	54	
WU-5 09	5855	6178	5864	1	89	7/15/03	10:13	6	60	46	
WU-5 10	5855	6178	5864	1	90	7/15/03	10:16	7	60	54	
WU-5 11	5855	6178	5864	1	91	7/15/03	10:29	0	60	0	
WU-5 12	5855	6178	5864	1	92	7/15/03	10:32	2	60	15	
WU-5 13	5855	6178	5864	1	93	7/15/03	10:35	1	60	8	
WU-5 14	5855	6178	5864	1	94	7/15/03	10:38	3	60	23	
WU-5 15	5855	6178	5864	1	95	7/15/03	12:10	15	60	115	
WU-5 16	5855	6178	5864	1	96	7/15/03	12:13	10	60	76	
WU-5 17	5855	6178	5864	1	97	7/15/03	12:16	12	60	92	
WU-5 18	5855	6178	5864	1	98	7/15/03	12:19	7	60	54	
WU-5 19	5855	6178	5864	1	99	7/15/03	12:22	11	60	84	
WU-5 20	5855	6178	5864	1	100	7/15/03	12:25	13	60	99	
WU-5 21	5855	6178	5864	1	101	7/15/03	12:29	10	60	76	
WU-5 22	5855	6178	5864	1	102	7/15/03	12:32	8	60	61	
WU-5 23	5855	6178	5864	1	103	7/15/03	12:36	10	60	76	
WU-5 24	5855	6178	5864	1	104	7/15/03	12:39	11	60	84	
QC 11	5855	5214	5864	1		7/15/03	12:44	3	60	23	
QC 06	5855	5214	5864	1		7/15/03	12:48	13	60	99	
QC 10	5855	5214	5864	1		7/15/03	12:51	7	60	54	

OSW BUILDING CHARACTERIZATION BETA SURVEY UNIT 5

RSDS# 03-TF-0165 RCT: DJH RCT: SR

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/15/03	7:05	521	300	979	
SRCCHECK	5855	6178	5864	2		7/15/03	7:08	2049	60	19245	
SRCCHECK	5855	6178	5864	2		7/15/03	7:09	1944	60	18259	
SRCCHECK	5855	6178	5864	2		7/15/03	7:11	2299	60	21593	
SRCCHECK	5855	6178	5864	2		7/15/03	7:12	2295	60	21555	
WU-5 01	5855	6178	5864	2	81	7/15/03	9:43	305	60	2865	
WU-5 02	5855	6178	5864	2	82	7/15/03	9:47	325	60	3053	
WU-5 03	5855	6178	5864	2	83	7/15/03	9:50	346	60	3250	
WU-5 04	5855	6178	5864	2	84	7/15/03	9:59	335	60	3146	
WU-5 05	5855	6178	5864	2	85	7/15/03	10:02	319	60	2996	
WU-5 06	5855	6178	5864	2	86	7/15/03	10:05	359	60	3372	
WU-5 07	5855	6178	5864	2	87	7/15/03	10:08	327	60	3071	
WU-5 08	5855	6178	5864	2	88	7/15/03	10:11	356	60	3344	
WU-5 09	5855	6178	5864	2	89	7/15/03	10:14	320	60	3006	
WU-5 10	5855	6178	5864	2	90	7/15/03	10:17	344	60	3231	
WU-5 11	5855	6178	5864	2	91	7/15/03	10:30	132	60	1240	
WU-5 12	5855	6178	5864	2	92	7/15/03	10:33	182	60	1709	
WU-5 13	5855	6178	5864	2	93	7/15/03	10:36	147	60	1381	
WU-5 14	5855	6178	5864	2	94	7/15/03	10:39	136	60	1277	
WU-5 15	5855	6178	5864	2	95	7/15/03	12:11	230	60	2160	
WU-5 16	5855	6178	5864	2	96	7/15/03	12:14	197	60	1850	
WU-5 17	5855	6178	5864	2	97	7/15/03	12:17	145	60	1362	
WU-5 18	5855	6178	5864	2	98	7/15/03	12:20	127	60	1193	
WU-5 19	5855	6178	5864	2	99	7/15/03	12:23	107	60	1005	
WU-5 20	5855	6178	5864	2	100	7/15/03	12:26	160	60	1503	
WU-5 21	5855	6178	5864	2	101	7/15/03	12:30	116	60	1090	
WU-5 22	5855	6178	5864	2	102	7/15/03	12:33	173	60	1625	
WU-5 23	5855	6178	5864	2	103	7/15/03	12:37	137	60	1287	
WU-5 24	5855	6178	5864	2	104	7/15/03	12:40	159	60	1493	
QC 11	5855	5214	5864	2		7/15/03	12:45	90	60	845	
QC 06	5855	5214	5864	2		7/15/03	12:49	288	60	2705	
QC 10	5855	5214	5864	2		7/15/03	12:52	275	60	2583	

OSW BUILDING CHARACTERIZATION ALPHA SURVEY UNIT 5

RECOUNT

RSDS# 03-TF-0165 RCT: DJH RCT: KA

43-68 BKG:	0	EFF:	0.2075	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # : 1
43-37 BKG:	0	EFF:	0.187	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # : 3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRC BKG	5855	6178	5864	1		7/16/03	6:19	8	300	12
SRC CHECK	5855	6178	5864	1		7/16/03	6:23	1888	60	14443
SRC CHECK	5855	6178	5864	1		7/16/03	6:25	1897	60	14511
SRC CHECK	5855	6178	5864	1		7/16/03	6:26	2085	60	15950
SRC CHECK	5855	6178	5864	1		7/16/03	6:28	2059	60	15751
RCU-5 15	5855	6178	5864	1		7/16/03	15:07	9	60	69
RCU-5 20	5855	6178	5864	1		7/16/03	15:12	10	60	76
RCU-5 06	5855	6178	5864	1		7/16/03	15:18	10	60	76

OSW BUILDING CHARACTERIZATION BETA SURVEY UNIT 5 RECOUNT

RSDS# 03-TF-0165 RCT: Dgt RCT: KA

43-68 BKG:	0	EFF:	0.169	PROBE AREA:	126	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.2008	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRC BKG	5855	6178	5864	2		7/16/03	6:34	531	300	997	
SRC CHECK	5855	6178	5864	2		7/16/03	6:38	2003	60	18813	
SRC CHECK	5855	6178	5864	2		7/16/03	6:40	1955	60	18362	
SRC CHECK	5855	6178	5864	2		7/16/03	6:44	2301	60	21612	
SRC CHECK	5855	6178	5864	2		7/16/03	6:45	2118	60	19893	
RCU-5 15	5855	6178	5864	2		7/16/03	15:08	296	60	2780	
RCU-5 20	5855	6178	5864	2		7/16/03	15:13	293	60	2752	
RCU-5 06	5855	6178	5864	2		7/16/03	15:19	247	60	2320	

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200307171236	**Count Date:**	7/17/2003
Group:	J	**Count Minutes:**	1.5
Serial Number:	~~78218-1~~	**Count Mode:**	Simultaneous
Batch ID:	03-TF-0165 HARVEY ~~104~~ BSB 1-40 of 104 7/17/03	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	6/19/2004

	Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13		**Alpha to Beta:**	11.39	±	0.00
Beta:	46.13	±	0.13		**Beta to Alpha:**	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	75	2.18	1.92	6.69	3.24
2	92	2.18	1.92	3.95	2.51
3	96	0.00	0.00	4.11	2.50
4	83	0.00	0.00	2.74	2.04
5	70	0.00	0.00	0.00	0.00
6	22	0.00	0.00	4.11	2.50
7	16	0.00	0.00	2.74	2.04
8	26	4.37	2.72	3.80	2.51
9	48	0.00	0.00	0.00	0.00
10	14	2.19	1.92	0.00	0.16
11	32	0.00	0.00	1.37	1.45
12	38	0.00	0.00	2.74	2.04
13	60	2.19	1.92	0.00	0.16
14	95	2.18	1.92	2.58	2.05
15	7	4.37	2.72	2.43	2.06
16	23	0.00	0.00	4.11	2.50
17	99	0.00	0.00	2.74	2.04
18	59	0.00	0.00	0.00	0.00
19	65	2.18	1.92	5.32	2.90
20	78	0.00	0.00	0.00	0.00
21	84	0.00	0.00	4.11	2.50
22	24	0.00	0.00	5.48	2.89
23	68	0.00	0.00	1.37	1.45
24	45	0.00	0.00	2.74	2.04
25	97	4.37	2.72	2.43	2.06
26	44	0.00	0.00	4.11	2.50
27	57	0.00	0.00	4.11	2.50
28	49	0.00	0.00	1.37	1.45
29	76	0.00	0.00	5.48	2.89
30	81	0.00	0.00	6.85	3.23
31	34	0.00	0.00	4.11	2.50
32	43	6.56	3.33	0.90	1.47
33	23	0.00	0.00	1.37	1.45
34	77	2.18	1.92	2.58	2.05
35	93	2.19	1.92	1.21	1.45
36	2	2.18	1.92	6.69	3.24
37	81	0.00	0.00	1.37	1.45

LS Brown

DJH DJH

Alpha/Beta Analysis

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
38	62	0.00	0.00	2.74	2.04
39	87	0.00	0.00	1.37	1.45
40	20	4.37	2.72	2.43	2.06

DGH DGH

Batch ID: 03-TF-0165 HARVEY-104 BSB

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200307171350	**Count Date:**	7/17/2003
Group:	J	**Count Minutes:**	1.5
Serial Number:	~~78218-1~~	**Count Mode:**	Simultaneous
Batch ID:	~~03-TF-0165 HARVEY 41-104 BSB~~	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	6/19/2004

	Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13		Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13		Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	75	2.18	1.92	6.69	3.24
2	92	0.00	0.00	0.00	0.00
3	96	2.18	1.92	3.95	2.51
4	83	0.00	0.00	2.74	2.04
5	70	0.00	0.00	1.37	1.45
6	22	2.19	1.92	1.21	1.45
7	16	0.00	0.00	1.37	1.45
8	26	0.00	0.00	1.37	1.45
9	48	0.00	0.00	1.37	1.45
10	40	0.00	0.00	0.00	0.00
11	58	2.18	1.92	3.95	2.51
12	84	2.19	1.92	1.21	1.45
13	48	0.00	0.00	1.37	1.45
14	85	2.18	1.92	2.58	2.05
15	85	4.37	2.72	2.43	2.06
16	89	0.00	0.00	2.74	2.04
17	51	0.00	0.00	4.11	2.50
18	27	0.00	0.00	1.37	1.45
19	5	0.00	0.00	1.37	1.45
20	21	0.00	0.00	4.11	2.50
21	23	6.56	3.33	3.64	2.52
22	36	2.18	1.92	2.58	2.05
23	35	0.00	0.00	4.11	2.50
24	100	0.00	0.00	1.37	1.45
25	40	0.00	0.00	2.74	2.04
26	98	0.00	0.00	2.74	2.04
27	74	2.19	1.92	1.21	1.45
28	55	0.00	0.00	0.00	0.00
29	61	0.00	0.00	4.11	2.50
30	37	0.00	0.00	1.37	1.45
31	59	0.00	0.00	5.48	2.89
32	42	0.00	0.00	1.37	1.45
33	12	4.37	2.72	3.80	2.51
34	56	2.19	1.92	1.21	1.45
35	25	0.00	0.00	1.37	1.45
36	51	0.00	0.00	0.00	0.00
37	73	0.00	0.00	2.74	2.04

DJH

Alpha/Beta Analysis

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
38	63	0.00	0.00	0.00	0.00
39	8	0.00	0.00	1.37	1.45
40	72	0.00	0.00	0.00	0.00
41	64	0.00	0.00	0.00	0.00
42	44	2.19	1.92	0.00	0.16
43	30	0.00	0.00	1.37	1.45
44	65	2.18	1.92	5.32	2.90
45	13	0.00	0.00	1.37	1.45
46	29	0.00	0.00	1.37	1.45
47	52	0.00	0.00	1.37	1.45
48	9	0.00	0.00	2.74	2.04
49	72	0.00	0.00	0.00	0.00
50	18	0.00	0.00	0.00	0.00
51	69	4.37	2.72	1.06	1.46
52	67	2.19	1.92	1.21	1.45
53	54	0.00	0.00	0.00	0.00
54	1	0.00	0.00	4.11	2.50
55	55	2.18	1.92	2.58	2.05
56	83	0.00	0.00	4.11	2.50
57	64	0.00	0.00	1.37	1.45
58	31	0.00	0.00	2.74	2.04
59	37	0.00	0.00	0.00	0.00
60	53	0.00	0.00	1.37	1.45
61	62	0.00	0.00	1.37	1.45
62	41	4.37	2.72	3.80	2.51
63	90	2.19	1.92	1.21	1.45
64	20	2.19	1.92	1.21	1.45
		DJH		DJH	

Batch ID: 03-TF-0165 HARVEY 41-104 BSB

17 Jul 2003 15:42 ALPHA/BETA - 1.09
Protocol #: 1 PW H3 405828 User : 5268

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5	18.6	0	0.0	6.52
Region B:	2.0	18.6	0	0.0	6.37
Region C:	40.0	2000	0	0.0	11.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
03-TF-0165 HARVEY-104 BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT1.DAT
Count Data Filename: c:\data\SDATA1.DAT
Spectrum Data Drive & Path: c:\data

BJBrown

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.52	6.37	0	B	591.36		0.00	11.50
0	2.00	193.08	185.34	0		461.73	442.24	56.90	3.03
1	2.00	0.48	0.00	0		643.73	0.92	7.85	0.00
2	2.00	2.48	1.78	0		643.73	4.77	8.75	0.00
3	2.00	3.65	3.44	0		648.66	7.00	9.21	0.00
4	2.00	1.03	0.34	0		641.63	1.99	8.12	0.00
5	2.00	1.98	1.29	0		638.62	3.83	8.57	0.50
6	2.00	1.98	1.63	0		654.50	3.78	8.46	0.00
7	2.00	0.48	0.63	0		624.69	0.93	7.97	0.00
8	2.00	0.00	0.00	0		621.08	0.00	0.00	0.00
9	2.00	0.98	1.13	0		601.90	1.95	8.37	0.00
10	2.00	0.00	0.00	0		647.98	0.00	0.00	0.00
11	2.00	1.98	1.80	0		632.21	3.85	8.61	1.50
12	2.00	2.78	2.93	0		656.21	5.30	8.79	0.00
13	2.00	3.65	3.44	0		648.50	7.00	9.21	0.00
14	2.00	2.48	2.27	0		651.21	4.74	8.70	0.50
15	2.00	0.00	0.00	0		606.61	0.00	0.00	0.00
16	2.00	3.22	3.38	0		660.49	6.12	8.94	0.00
17	2.00	0.98	0.63	0		637.88	1.89	8.12	1.00
18	2.00	2.98	3.13	0		600.61	5.94	9.29	0.00
19	2.00	4.48	4.63	0		619.84	8.79	9.77	0.00
20	2.00	5.03	5.18	0		641.53	9.70	9.81	1.00
21	2.00	0.00	0.00	0		644.70	0.00	0.00	0.00
22	2.00	0.68	0.34	0		531.61	1.44	8.74	0.00
23	2.00	3.47	2.75	0		536.02	7.31	10.04	0.00
24	2.00	0.00	0.00	0		499.35	0.00	0.00	2.00
25	2.00	1.06	1.21	0		596.56	2.12	8.44	0.00
26	2.00	5.98	5.35	0		602.97	11.91	10.51	0.50
27	2.00	0.00	0.00	0		557.57	0.00	0.00	0.00
28	2.00	4.46	4.18	0		568.87	9.14	10.19	0.00
29	2.00	3.48	2.85	0		602.24	6.93	9.49	0.00
30	2.00	0.00	0.00	0		525.87	0.00	0.00	0.00
31	2.00	0.34	0.50	0		660.09	0.65	7.68	0.00
32	2.00	2.98	2.78	0		642.04	5.74	8.98	0.00
33	2.00	0.29	0.45	0		598.08	0.59	8.06	0.00
34	2.00	0.00	0.00	0		628.48	0.00	0.00	0.00

DJH

7 Jul 2003 17:22 ALPHA/BETA - 1.09 03-TF-0165 ~~Page #2~~
rotocol #: 1 PW H3 405828 User : 5268

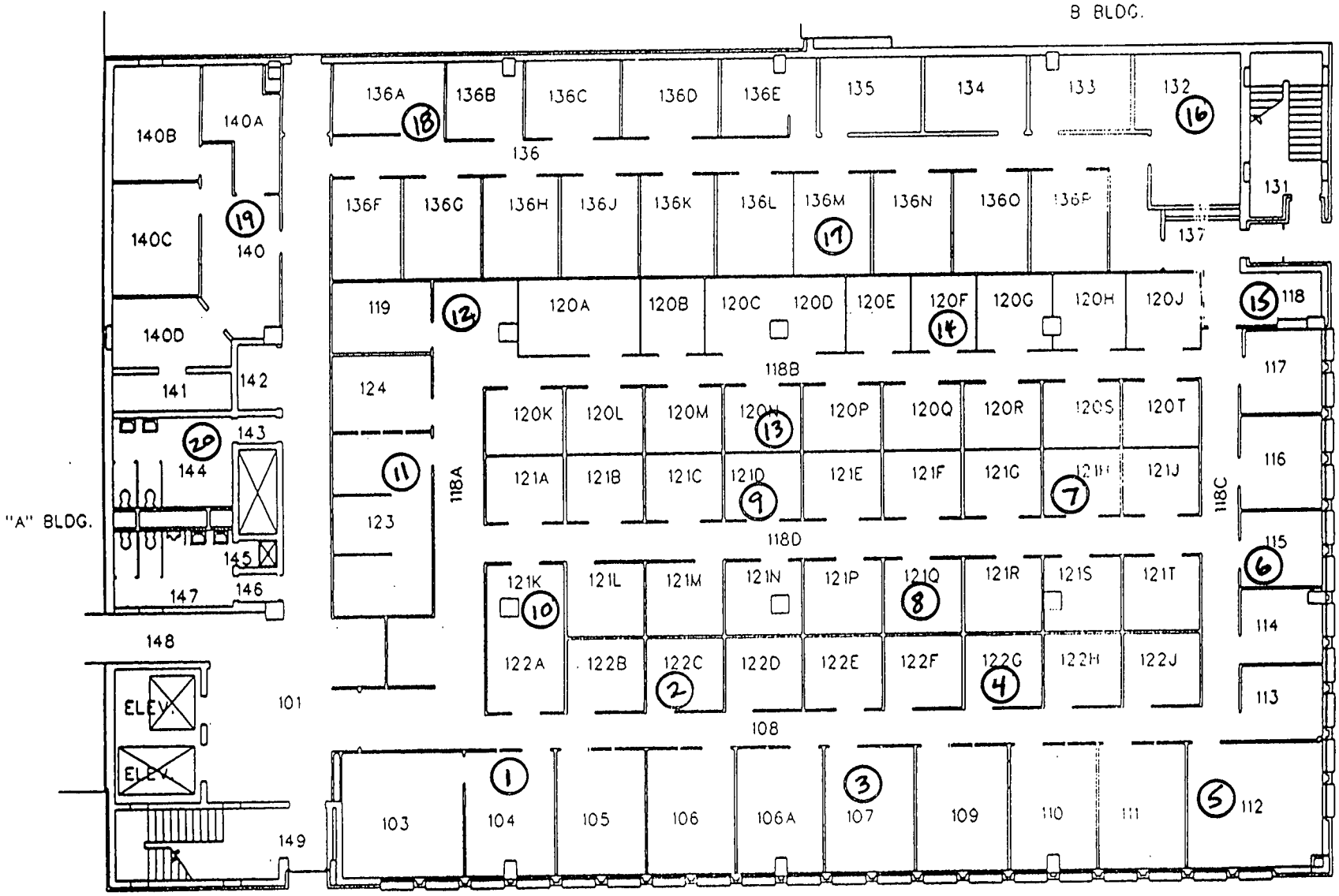
S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.84	0.99	0	511.11	1.81	8.98	0.00
36	2.00	0.00	0.00	0	585.19	0.00	0.00	0.00
37	2.00	0.98	1.13	0	561.53	2.02	8.66	0.50
38	2.00	0.98	1.13	0	557.22	2.03	8.69	1.00
39	2.00	0.98	1.13	0	574.86	1.99	8.56	0.00
40	2.00	1.96	1.77	0	637.44	3.79	8.57	0.50
41	2.00	0.98	0.00	0	526.83	2.08	8.93	0.00
42	2.00	0.00	0.00	0	565.42	0.00	0.00	7.00
43	2.00	0.00	0.00	0	597.37	0.00	0.00	0.50
44	2.00	6.48	6.63	0	542.29	13.59	11.27	1.50
45	2.00	5.48	4.63	0	586.76	11.06	10.45	3.50
46	2.00	0.48	0.47	0	539.24	1.01	8.58	0.00
47	2.00	0.98	0.00	0	662.88	1.86	7.96	1.00
48	2.00	6.98	6.13	0	623.64	13.66	10.70	3.66
49	2.00	2.48	2.63	0	640.87	4.78	8.77	0.00
50	2.00	0.00	0.00	0	614.44	0.00	0.00	0.00
51	2.00	1.48	1.43	0	560.45	3.05	8.91	2.50
52	2.00	0.00	0.13	0	610.06	0.00	0.00	0.00
53	2.00	1.98	2.13	0	616.09	3.90	8.73	0.50
54	2.00	3.98	3.76	0	654.07	7.60	9.30	0.05
55	2.00	2.58	1.88	0	644.55	4.97	8.79	0.00
56	2.00	0.00	0.00	0	662.46	0.00	0.00	0.00
57	2.00	0.32	0.00	0	599.71	0.64	8.06	0.00
58	2.00	0.00	0.00	0	651.93	0.00	0.00	0.00
59	2.00	1.16	0.81	0	554.70	2.40	8.80	0.00
60	2.00	0.99	0.11	0	639.16	1.91	8.12	0.00
61	2.00	0.00	0.00	0	655.73	0.00	0.00	0.00
62	2.00	0.00	0.13	0	637.09	0.00	0.00	0.00
63	2.00	0.00	0.00	0	655.18	0.00	0.00	0.00
64	2.00	0.00	0.00	0	653.45	0.00	0.00	0.00
65	2.00	0.00	0.00	0	641.66	0.00	0.00	0.00
66	2.00	0.00	0.00	0	641.37	0.00	0.00	1.00
67	2.00	0.00	0.00	0	609.12	0.00	0.00	0.00
68	2.00	1.48	0.53	0	652.18	2.83	8.25	0.00
69	2.00	0.98	0.54	0	612.44	1.93	8.29	0.00
70	2.00	0.00	0.00	0	600.92	0.00	0.00	0.00
71	2.00	2.48	2.63	0	651.45	4.74	8.70	0.00
72	2.00	2.48	2.13	0	615.94	4.88	8.95	0.00
73	2.00	0.00	0.00	0	658.47	0.00	0.00	0.00
74	2.00	0.00	0.00	0	594.25	0.00	0.00	0.00
75	2.00	0.00	0.00	0	651.91	0.00	0.00	0.00
76	2.00	0.98	1.13	0	633.42	1.90	8.15	0.00
77	2.00	3.98	3.13	0	644.46	7.66	9.37	0.50
78	2.00	0.00	0.00	0	619.80	0.00	0.00	0.00
79	2.00	0.00	0.00	0	675.94	0.00	0.00	0.00
80	2.00	1.48	1.63	0	644.10	2.85	8.31	0.00
81	2.00	0.00	0.00	0	645.40	0.00	0.00	0.00
82	2.00	0.00	0.00	0	637.19	0.00	0.00	0.00
83	2.00	1.22	1.38	0	631.04	2.38	8.28	0.00
84	2.00	1.07	0.72	0	643.66	2.05	8.12	0.00
85	2.00	2.60	2.25	0	616.17	5.12	9.00	0.00
86	2.00	3.61	3.77	0	646.37	6.94	9.21	0.00
87	2.00	6.67	5.91	0	573.25	13.63	11.05	0.00
88	2.00	0.00	0.00	0	634.00	0.00	0.00	0.00
89	2.00	1.98	1.82	0	622.17	3.88	8.69	0.00
90	2.00	4.98	5.13	0	629.83	9.70	9.89	0.00

DJH

17 Jul 2003 19:59 ALPHA/BETA - 1.09 03-TF-0165 ~~Page #3~~
Protocol #: 1 PW H3 405828 User : 5268

S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
91	2.00	1.98	0.96	0	633.88	3.84	8.60	0.00
92	2.00	0.00	0.00	0	599.96	0.00	0.00	1.00
93	2.00	0.00	0.00	0	552.38	0.00	0.00	0.00
94	2.00	0.98	0.83	0	613.43	1.93	8.29	0.00
95	2.00	0.98	0.31	0	626.00	1.91	8.20	0.00
96	2.00	0.00	0.00	0	611.96	0.00	0.00	0.00
97	2.00	3.48	3.29	0	635.81	6.74	9.23	0.00
98	2.00	0.92	1.07	0	634.95	1.78	8.11	2.00
99	2.00	2.48	2.63	0	650.82	4.75	8.70	0.00
100	2.00	0.00	0.13	0	625.09	0.00	0.00	0.00
101	2.00	0.00	0.00	0	601.38	0.00	0.00	0.00
102	2.00	2.12	1.42	0	647.06	4.08	8.57	0.00
103	2.00	3.95	3.87	0	577.47	8.04	9.90	0.00
104	2.00	0.29	0.00	0	573.56	0.59	8.23	0.00

DJH



03-TF-0165 Agt

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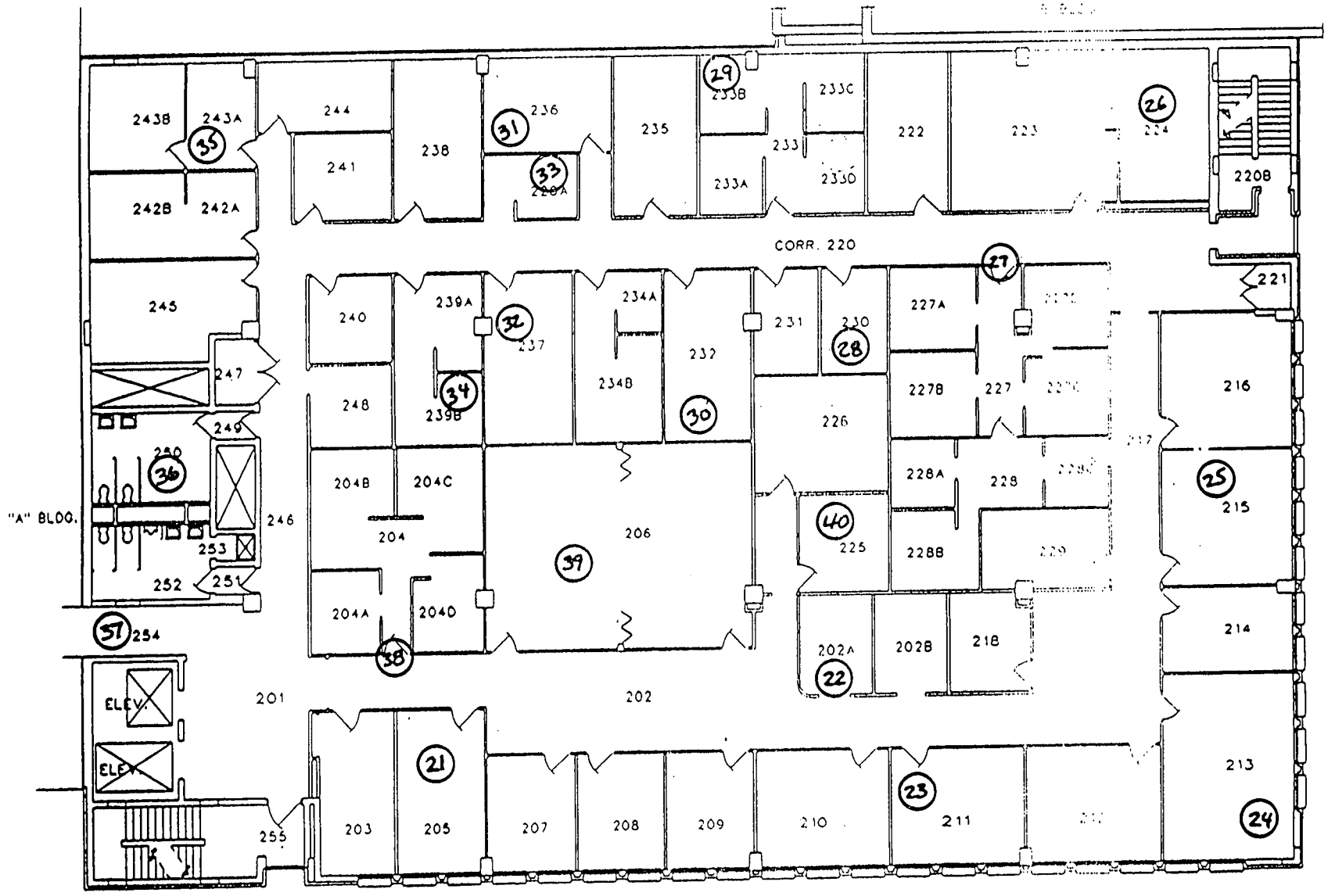
OSW BLDG
FIRST FLOOR
CLASS: UNCL

651473



03-TF-0165 AJH

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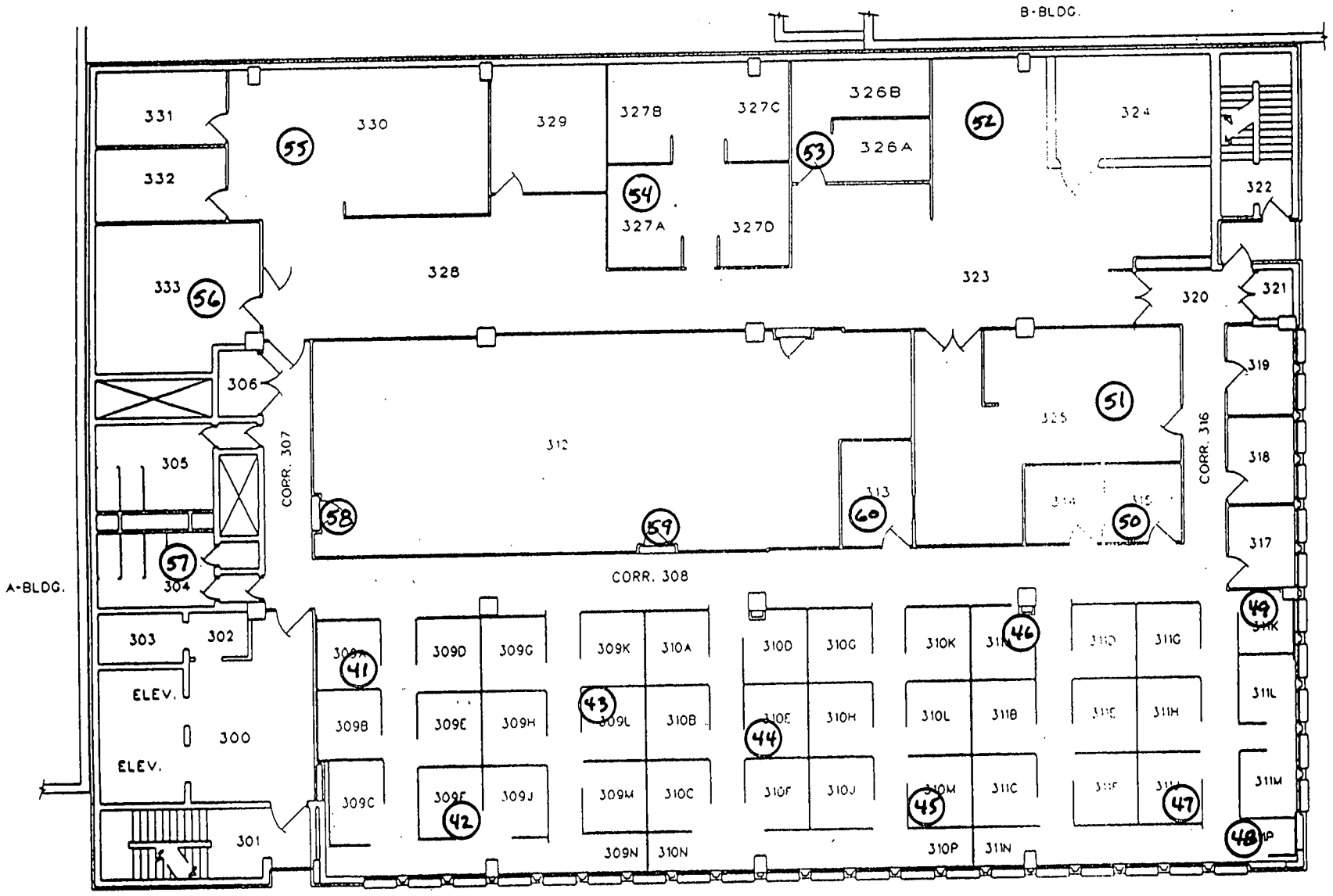
OSW BLDG
SECOND FLOOR
CLASS: UNCL

552 of 73



03-TF-0165 DGH

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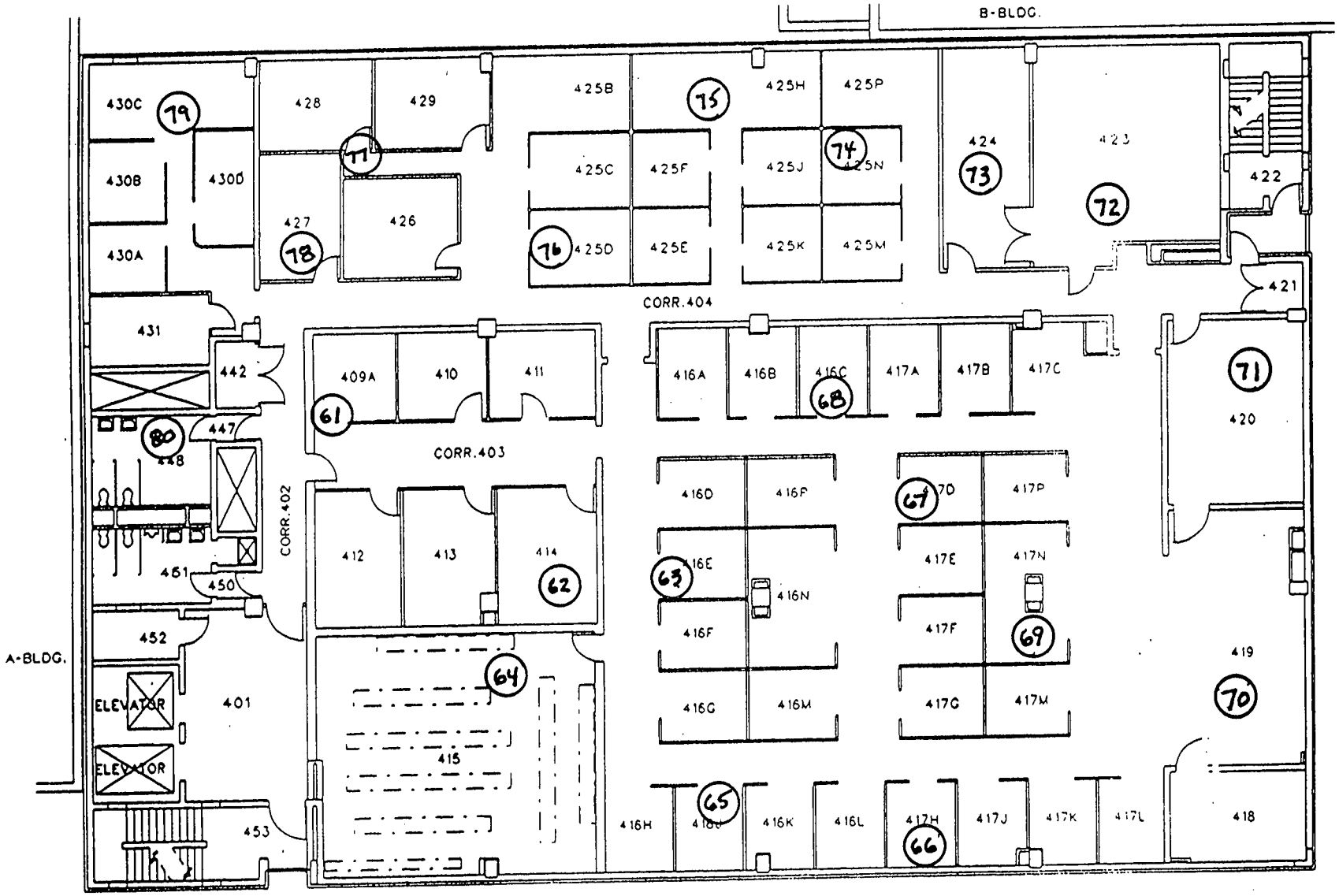
OSW BLDG
THIRD FLOOR
CLASS: UCNI

G5347 73



03-TF-0165 2of4

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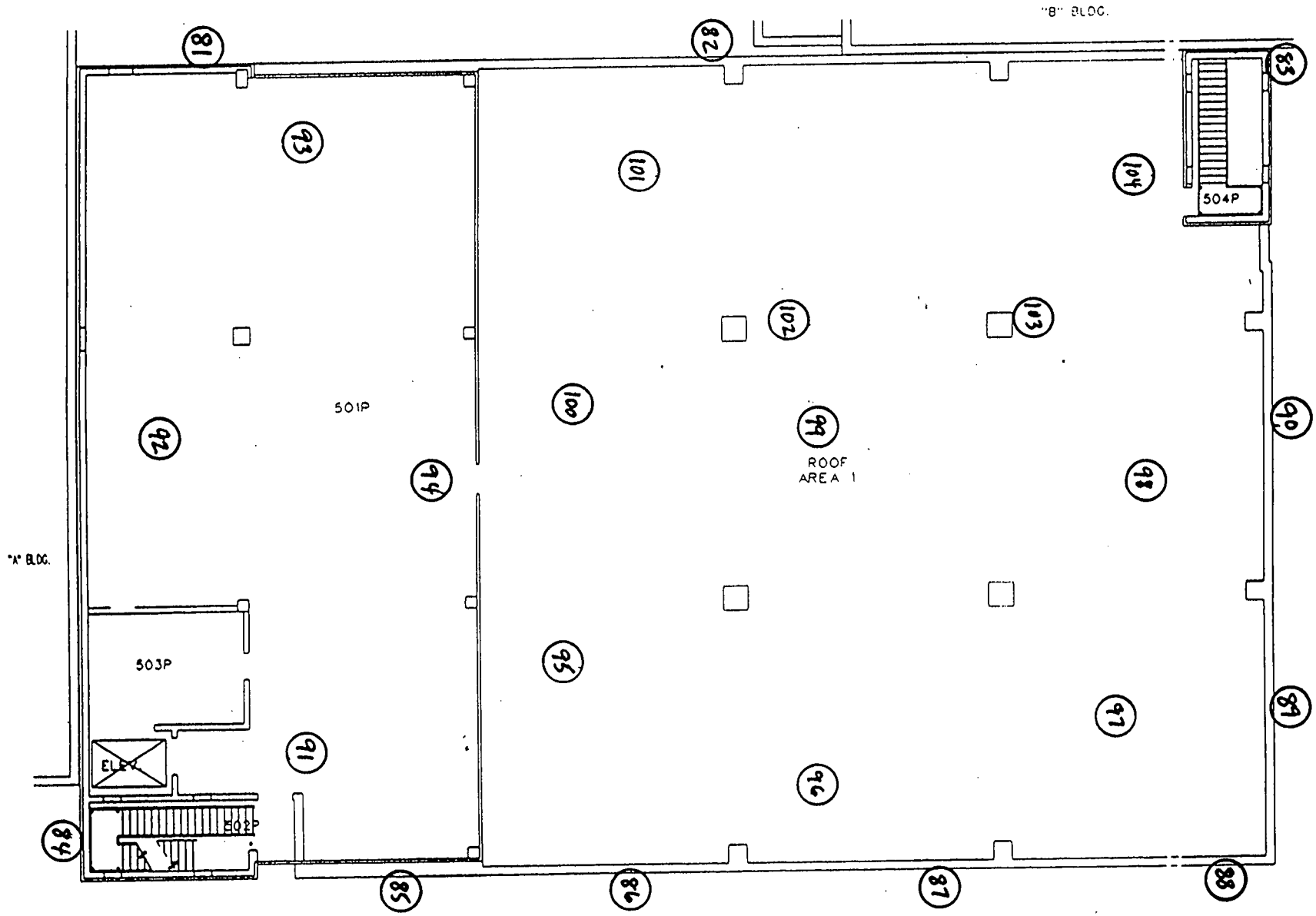
OSW BLDG
FOURTH FLOOR
CLASS: UNCL

G5474 73



03-TF-0165 AQH

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OSW BLDG
PENTHOUSE
CLASS: UNCL

65478

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSW	SURVEY NO. 03-TF-0167
PURPOSE: MARISSM SURVEY PLAN OSW-01 FLOOR DRAINS AND VENTILATION SYSTEM	RWP NO. N/A
	DATE: 7-17-03
	TIME: 1530

MAP/DRAWING

COPY

SEE ATTACHED

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
2360	5833/5847	3-13-04
	N/A	

[redacted]

	HP # 7474	Date: 7-21-03
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) [redacted]CHED		
Review [redacted]	HP # 5214	Date: 07-21-03
Review [redacted]		

ML-9620 (2-98)

656473

Survey No. 03-TF-0167

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-15	SEE			FLOOR DRAINS
16-35		ATTACHED		VENTS
		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-9620A (4-98)

OSW-BLDG CHARACTERIZATION ALPHA and BETA SURVEY of FLOOR DRAINS and VENTILATION SYSTEM

RSDS# 03-TF-0167 RCT: KA RCT: NA

						BETA			ALPHA		
LOCATION	2360	RCT ID	PROBE	ITEM #	DATE	gross count	CT TIME	dpm/100cm2	gross count	CT TIME	dpm/100cm2
1	5833	7474	5847	1	7/17/03	190	60	405	1	60	0
2	5833	7474	5847	2	7/17/03	184	60	375	0	60	-10
3	5833	7474	5847	3	7/17/03	182	60	365	1	60	0
4	5833	7474	5847	4	7/17/03	184	60	375	2	60	10
5	5833	7474	5847	5	7/17/03	215	60	530	8	60	70
6	5833	7474	5847	6	7/17/03	210	60	505	5	60	40
7	5833	7474	5847	7	7/17/03	122	60	65	2	60	10
8	5833	7474	5847	8	7/17/03	150	60	205	1	60	0
9	5833	7474	5847	9	7/17/03	147	60	190	3	60	20
10	5833	7474	5847	10	7/17/03	204	60	475	1	60	0
11	5833	7474	5847	11	7/17/03	178	60	345	3	60	20
12	5833	7474	5847	12	7/17/03	156	60	235	6	60	50
13	5833	7474	5847	13	7/17/03	168	60	295	2	60	10
14	5833	7474	5847	14	7/17/03	154	60	225	1	60	0
15	5833	7474	5847	15	7/17/03	146	60	185	2	60	10
16	5833	7474	5847	16	7/17/03	131	60	110	4	60	30
17	5833	7474	5847	17	7/17/03	102	60	-35	3	60	20
18	5833	7474	5847	18	7/17/03	112	60	15	2	60	10
19	5833	7474	5847	19	7/17/03	122	60	65	6	60	50
20	5833	7474	5847	20	7/17/03	128	60	95	6	60	50
BETA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								109			
ALPHA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								1			

5584173

OSW-BLDG CHARACTERIZATION ALPHA and BETA SURVEY of FLOOR DRAINS and VENTILATION SYSTEM

RSDS# 03-TF-0167 RCT: KA RCT: NA

						BETA			ALPHA		
LOCATION	2360	RCT ID	PROBE	ITEM #	DATE	gross count	CT TIME	dpm/100cm2	gross count	CT TIME	dpm/100cm2
21	5833	7474	5847	21	7/17/03	136	60	135	7	60	60
22	5833	7474	5847	22	7/17/03	144	60	175	6	60	50
23	5833	7474	5847	23	7/17/03	137	60	140	5	60	40
24	5833	7474	5847	24	7/17/03	137	60	140	9	60	80
25	5833	7474	5847	25	7/17/03	141	60	160	7	60	60
26	5833	7474	5847	26	7/17/03	127	60	90	6	60	50
27	5833	7474	5847	27	7/17/03	145	60	180	5	60	40
28	5833	7474	5847	28	7/17/03	152	60	215	7	60	60
29	5833	7474	5847	29	7/17/03	129	60	100	4	60	30
30	5833	7474	5847	30	7/17/03	138	60	145	6	60	50
31	5833	7474	5847	31	7/17/03	144	60	175	8	60	70
32	5833	7474	5847	32	7/17/03	151	60	210	7	60	60
33	5833	7474	5847	33	7/17/03	139	60	150	5	60	40
34	5833	7474	5847	34	7/17/03	145	60	180	9	60	80
35	5833	7474	5847	35	7/17/03	141	60	160	5	60	40
BETA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								109			
ALPHA BACKGROUND (CPM) FOR 7-17-2003 WAS---------->								1			

G 59173

Alpha/Beta Analysis

Batch ID:	Smear Unit 2 - 200307171052	**Count Date:**	7/17/2003
Group:	G	**Count Minutes:**	1:5
Serial Number:	78218-2	**Count Mode:**	Simultaneous
Batch ID:	03-TF-0167 HARVEY-35 BSB	**Operating Volts:**	1380
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	35.30	±	0.11	Alpha to Beta:	9.38	±	0.00
Beta:	44.94	±	0.12	Beta to Alpha:	0.85	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	14	2.01	1.89	1.16	1.49
2	2	2.01	1.89	1.16	1.49
3	40	2.01	1.89	1.16	1.49
4	58	0.00	0.02	1.28	1.48
5	84	3.96	2.67	6.16	3.33
6	48	2.01	1.89	1.16	1.49
7	85	4.01	2.67	2.32	2.11
8	85	0.00	0.03	3.84	2.57
9	89	0.00	0.02	1.28	1.48
10	51	6.04	3.27	2.20	2.11
11	27	4.01	2.67	2.32	2.11
12	5	1.97	1.89	3.72	2.58
13	21	0.00	0.03	3.84	2.57
14	23	0.00	0.03	5.12	2.97
15	36	0.00	0.02	1.28	1.48
16	35	2.01	1.89	1.16	1.49
17	100	1.99	1.89	2.44	2.10
18	40	0.00	0.02	1.28	1.48
19	98	0.00	0.03	5.12	2.97
20	74	1.99	1.89	2.44	2.10
21	55	0.00	0.02	1.28	1.48
22	61	2.01	1.89	1.16	1.49
23	37	0.00	0.02	2.56	2.10
24	59	1.96	1.89	5.00	2.97
25	42	0.00	0.03	3.84	2.57
26	12	1.94	1.89	6.28	3.32
27	56	4.00	2.67	3.60	2.58
28	25	0.00	0.03	5.12	2.97
29	51	2.02	1.89	0.00	0.14
30	73	4.00	2.67	3.60	2.58
31	63	0.00	0.03	5.12	2.97
32	8	0.00	0.03	3.84	2.57
33	72	4.01	2.67	2.32	2.11
34	64	0.00	0.04	6.40	3.32
35	44	0.00	0.02	1.28	1.48

KA

.7 Jul 2003 13:05 TRI-CARB - 1.09
'rotocol #: 1 PW H3 #407906 User : 5268

'ime: 2.00
)ata Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
)ackground Subtract: 1st Vial

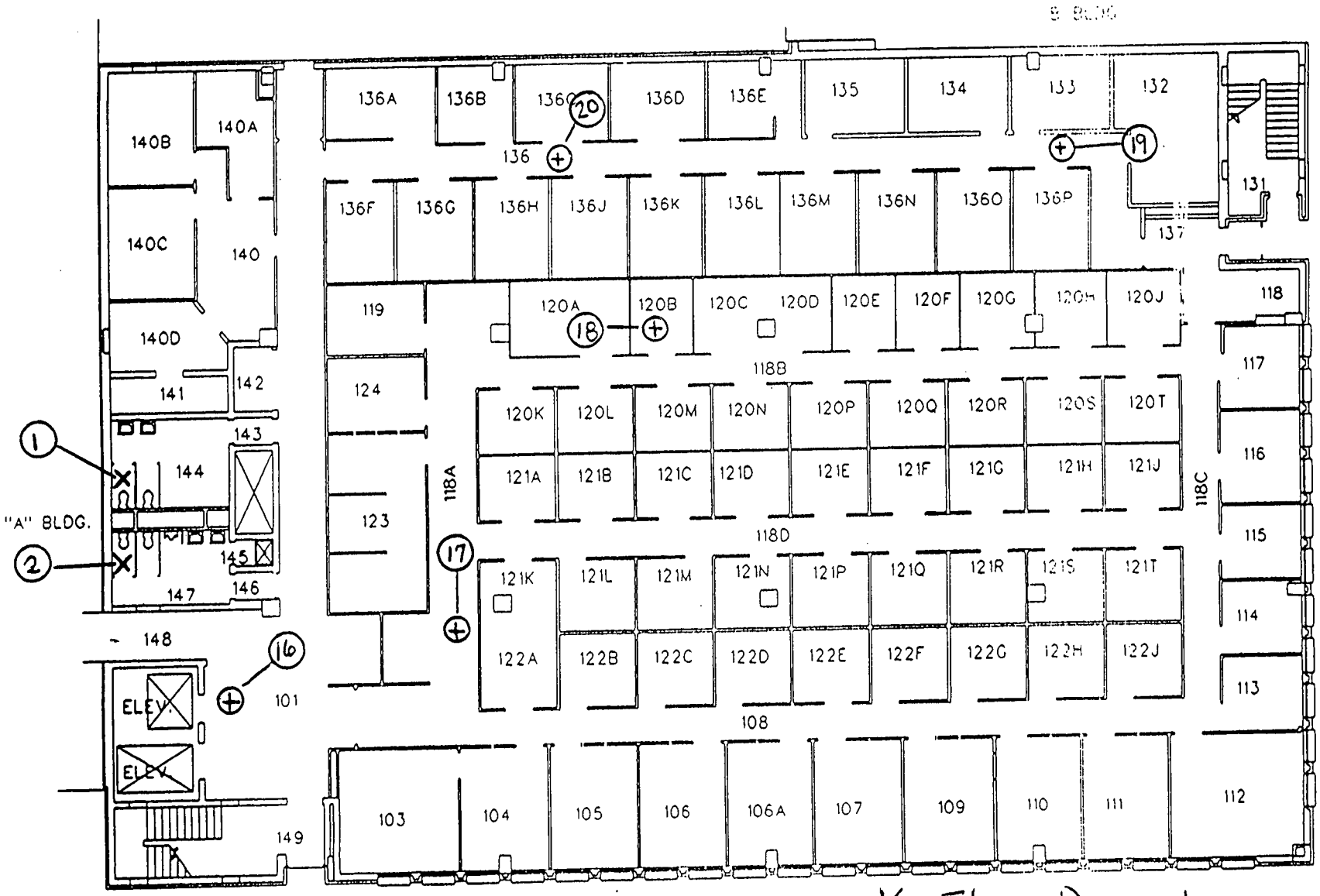
	LL	UL	LCR	2S%	BKG
)egion A:	0.5	- 18.6	0	0.0	8.65
)egion B:	2.0	- 18.6	0	0.0	8.10
)egion C:	40.0	- 2000	0	0.0	10.10

)uench Indicator: tSIE/AEC
Ext Std Terminator: Count
)3-TF-0167 HARVEY-35 BSB
;oincidence Time(ns): 18
)elay Before Burst(ns): Normal
'rotocol Data Filename: C:\DATA\PROT1.DAT
;ount Data Filename: C:\DATA\SDATA1.DAT
;pectrum Data Drive & Path: C:\DATA

B A Brown

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
-1	10.00	8.65	8.10	1	B	614.29		0.000	10.10
0	2.00	196.67	185.61	0		471.03	412.20	47.734	1.40
1	2.00	12.15	11.27	0		586.13	22.92	12.720	13.44
2	2.00	26.15	23.32	0		656.38	46.79	15.489	27.37
3	2.00	30.70	28.57	0		634.19	55.84	16.743	67.95
4	2.00	28.48	27.01	0		636.70	51.71	16.232	39.27
5	2.00	17.99	17.24	0		617.63	33.14	13.981	14.28
6	2.00	0.85	0.67	0		649.56	1.52	8.524	10.62
7	2.00	4.90	5.45	0		639.96	8.87	10.023	0.40
8	2.00	16.58	15.40	0		583.86	31.33	13.973	17.90
9	2.00	1.48	0.39	0		667.12	2.63	8.651	7.40
10	2.00	7.79	7.01	0		636.92	14.15	10.970	19.08
11	2.00	0.00	0.00	0		621.47	0.00	0.000	0.40
12	2.00	4.01	3.07	0		630.31	7.32	9.797	4.90
13	2.00	0.00	0.00	0		553.77	0.00	0.000	5.40
14	2.00	4.57	5.13	0		481.59	9.45	11.317	8.98
15	2.00	6.52	5.38	0		639.01	11.82	10.556	5.90
16	2.00	5.55	4.38	0		544.14	10.83	11.021	10.90
17	2.00	0.00	0.00	0		349.46	0.00	0.000	6.40
18	2.00	0.74	0.80	0		661.82	1.32	8.408	0.00
19	2.00	9.08	6.64	0		484.49	18.70	12.887	8.40
20	2.00	3.37	3.16	0		313.66	9.30	14.496	13.40
21	2.00	0.00	0.00	0		518.20	0.00	0.000	0.00
22	2.00	1.85	0.68	0		582.37	3.49	9.359	8.40
23	2.00	0.00	0.00	0		613.25	0.00	0.000	0.00
24	2.00	10.35	10.79	0		467.95	21.77	13.598	6.69
25	2.00	13.44	13.19	0		614.40	24.81	12.808	15.90
26	2.00	8.85	9.26	0		487.57	18.15	12.757	28.40
27	2.00	0.00	0.00	0		581.82	0.00	0.000	0.40
28	2.00	3.88	4.41	0		461.94	8.22	11.337	15.90
29	2.00	0.00	0.00	0		653.51	0.00	0.000	3.54
30	2.00	1.35	0.85	0		593.78	2.53	9.085	0.00
31	2.00	0.85	0.00	0		601.11	1.58	8.839	0.00
32	2.00	0.00	0.21	0		626.92	0.00	0.000	0.90
33	2.00	1.85	1.67	0		574.12	3.52	9.419	15.40
34	2.00	3.85	3.87	0		506.55	7.73	10.729	0.00
35	2.00	7.76	6.54	0		604.04	14.45	11.235	2.90

G 61 of 73 KA

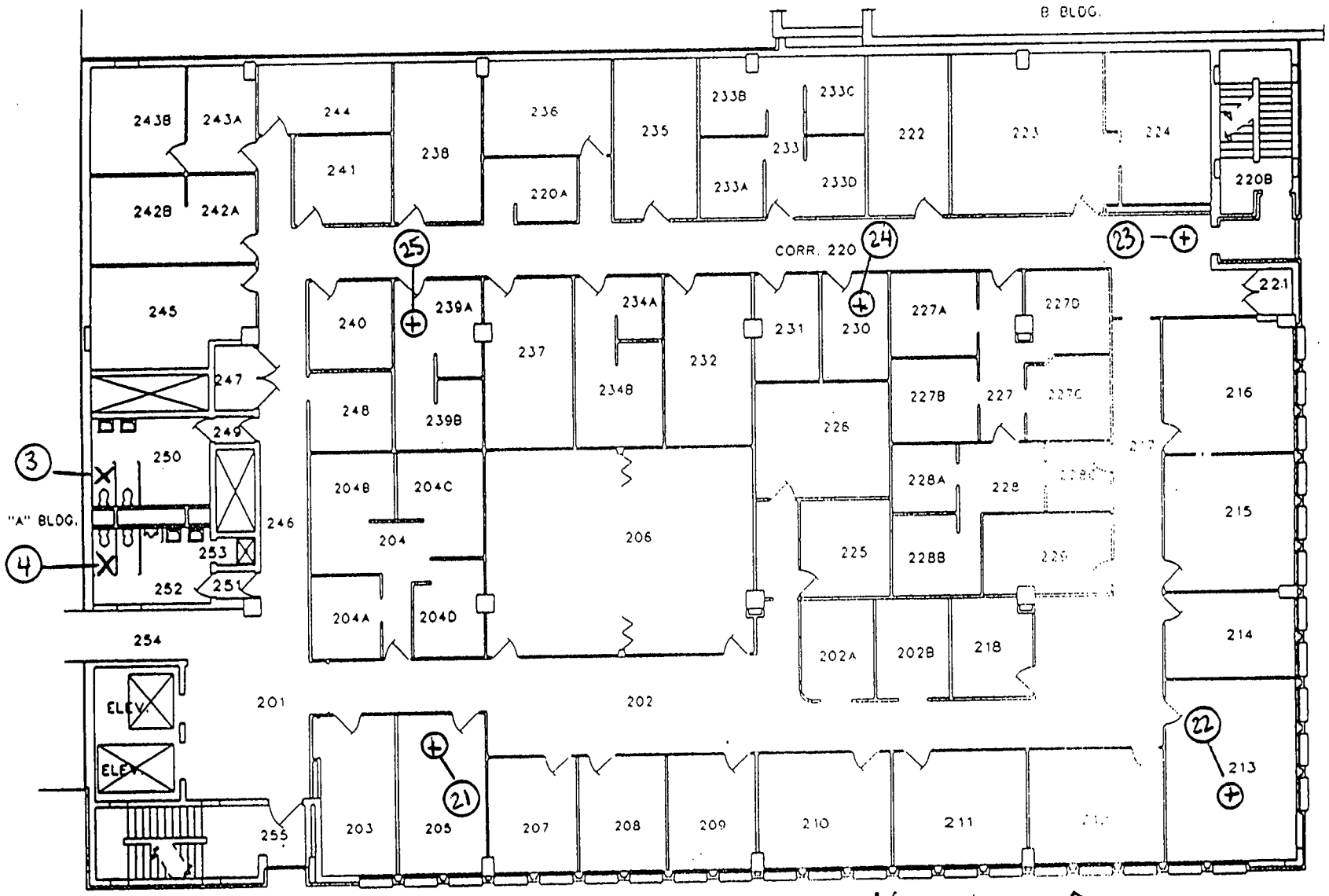


X: Floor Drain

⊕: Ventilation

03-TF-0167

OSW BLDG
FIRST FLOOR
CLASS: UNCL



X = Floor DRAIN

⊕ = VENTILATION

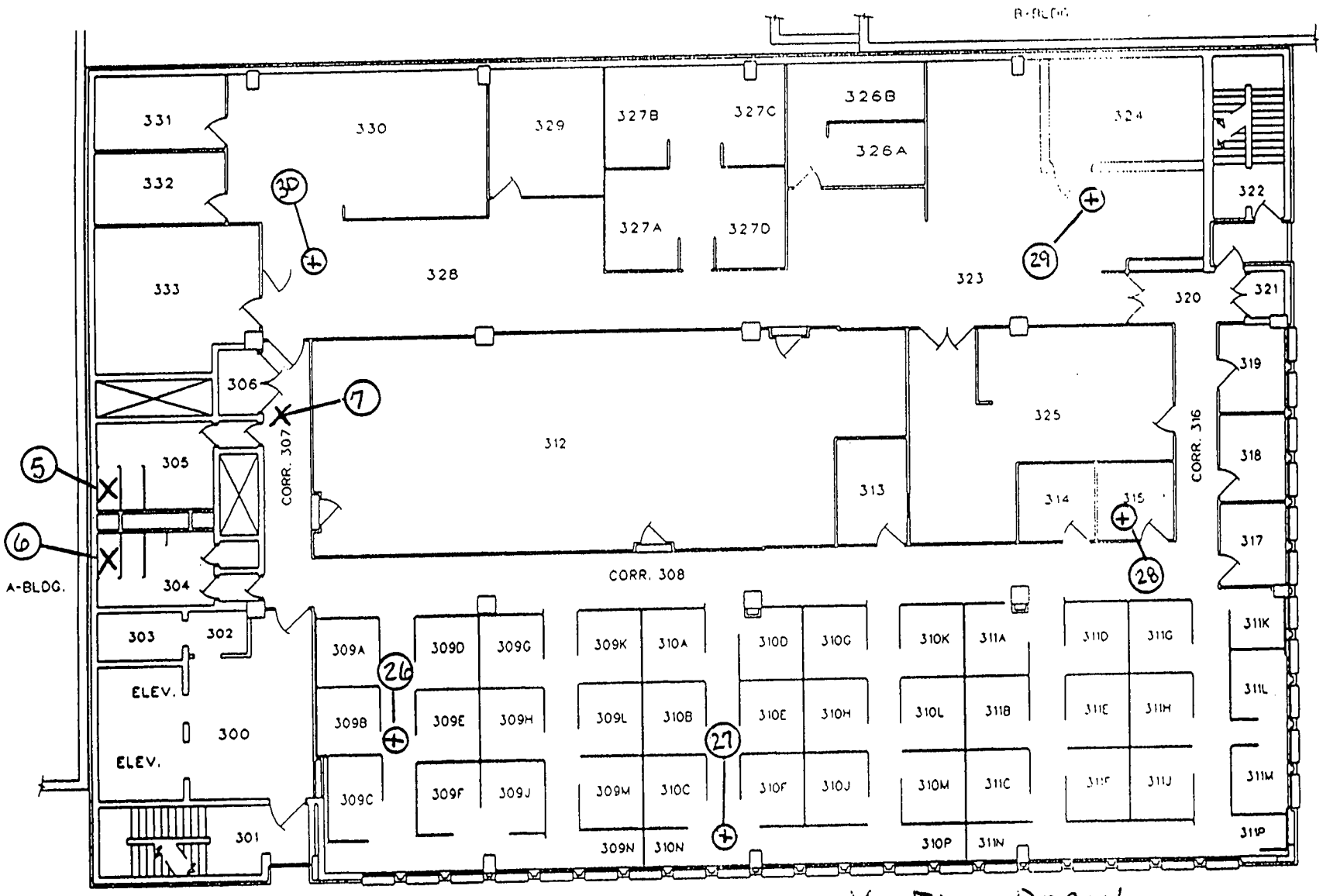
03-TF-0167

OSW BLDG
SECOND FLOOR
CLASS: UNCL

8 of 11

KA

66304 73



X = Floor Drain

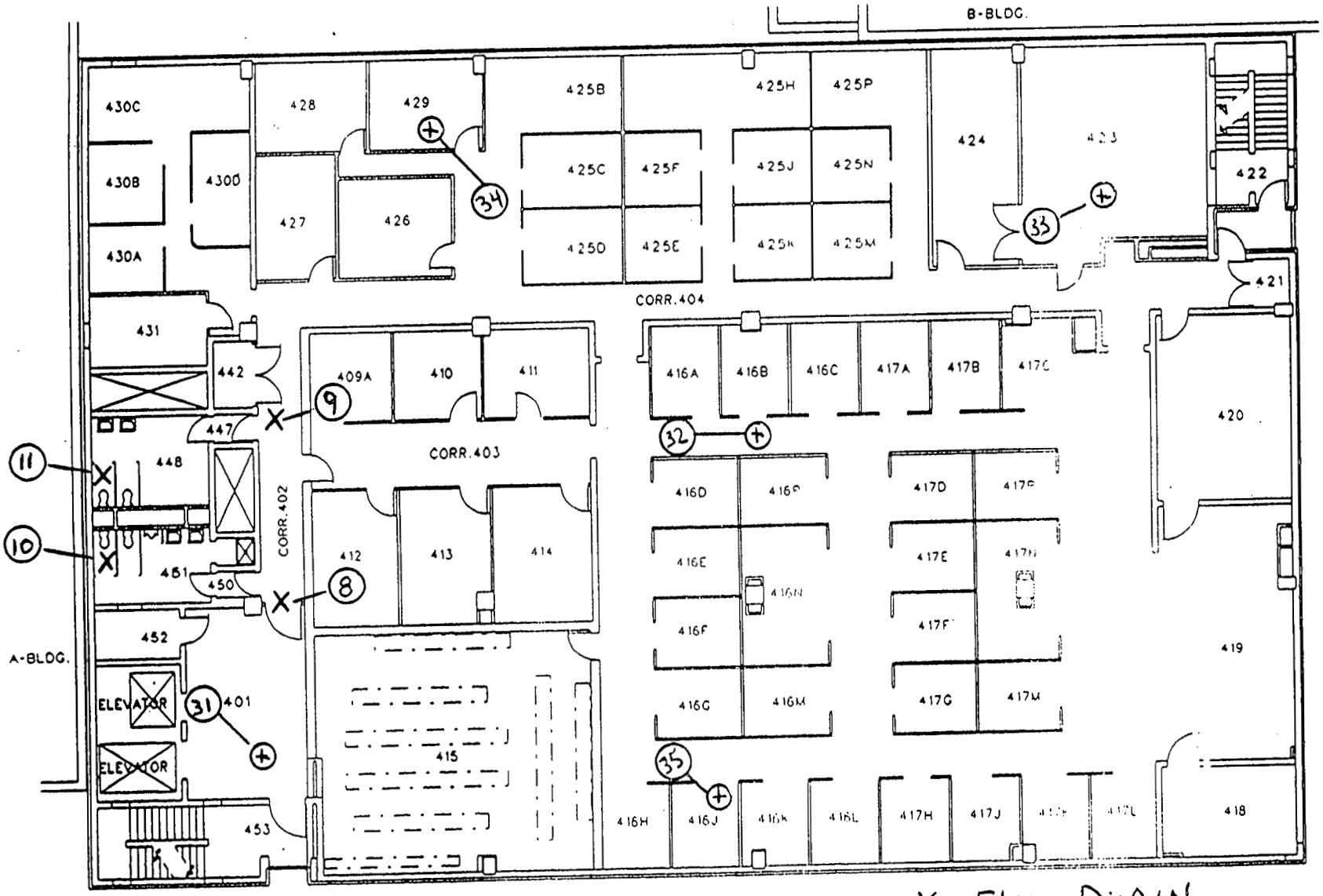
⊕ = Ventilation

03-TF-0167

9 of 11

OSW BLDG
THIRD FLOOR
CLASS: UCNI

27 4 7 6 5



X: Floor DrAIN

⊕: VenTiLATION

03-TF-0167

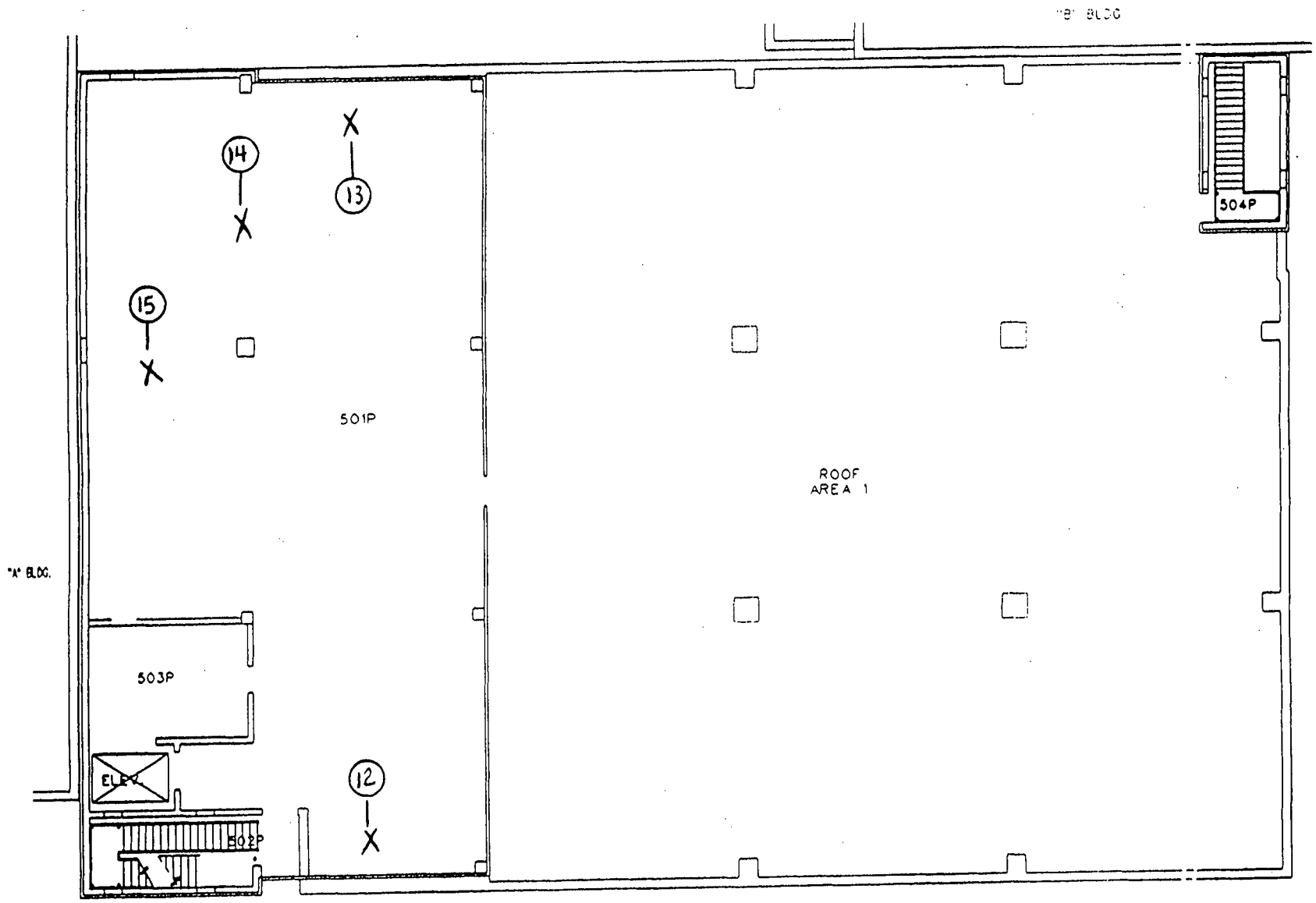
OSW BLDG
FOURTH FLOOR
CLASS: UNCL

10 of 11

KA

5654 73

X = FLOOR DRAIN



03-TF-0167

11 of 11

OSW BLDG
PENTHOUSE
CLASS: UNCL

KA

5664 73

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) OSW	SURVEY NO. 03-TF-0174
PURPOSE: MARISSM Survey PLAN OSW-01 Dose RAte Survey	RWP NO. NA
	DATE: 7-24-03
	TIME: 1000

MAP/DRAWING

see ATTAched

All ReAding ON Surveys ARe IN MicRO Rem/HR

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
MicRO RemM	3945	7-8-04
	NA	

C[redacted]	HP# 7474	Date: 7-24-03
C[redacted]		
Counted by: (Signature) N/A	HP#	Date:
Counted by: (Print Name)		
[redacted]	HP# 6128	Date: 7-24-03
[redacted]		

ML-9620 (2-98)

GG7 of 73

Survey No. 03-TF-0174

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COPY

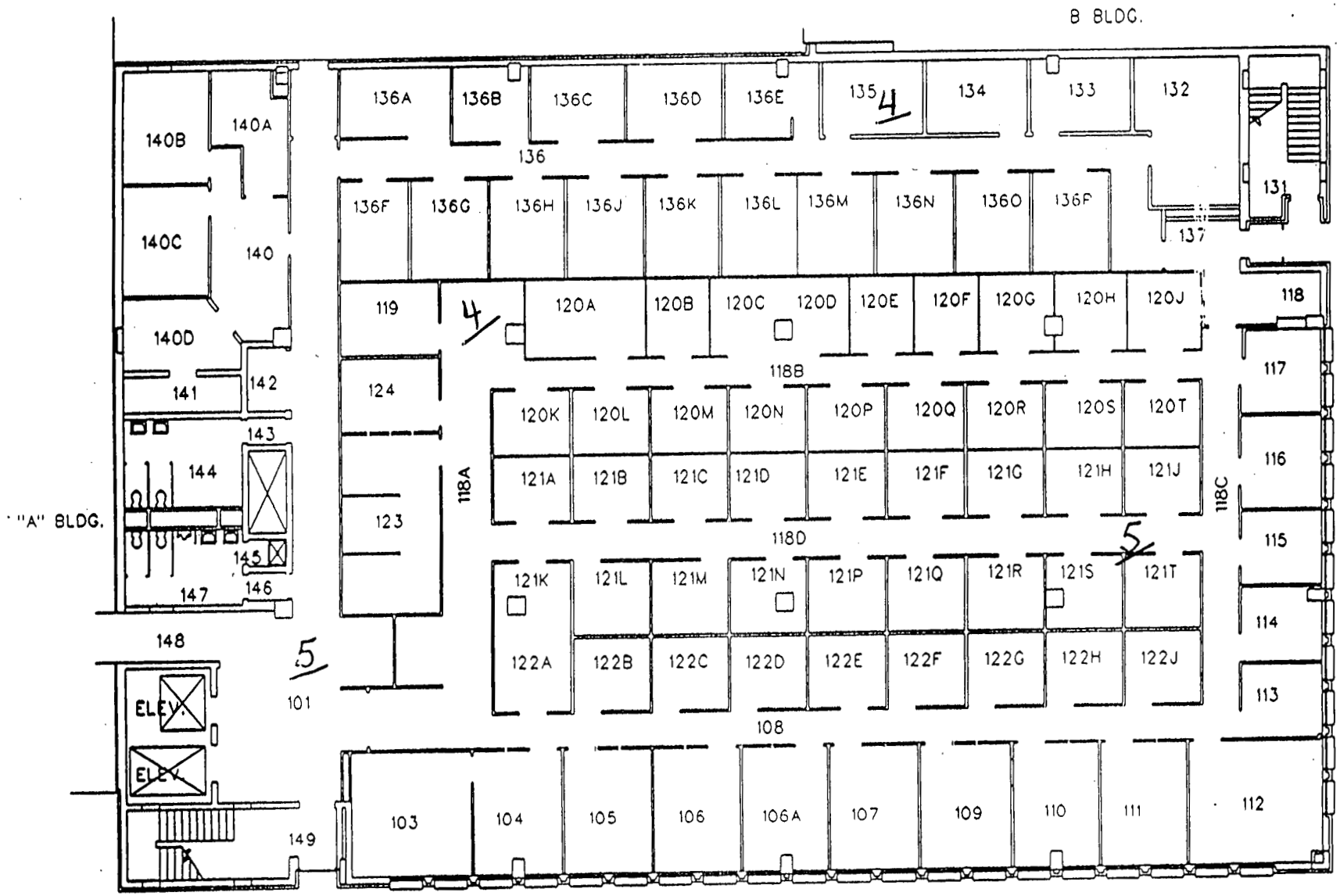
COMMENTS: N/A

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)

G 63673



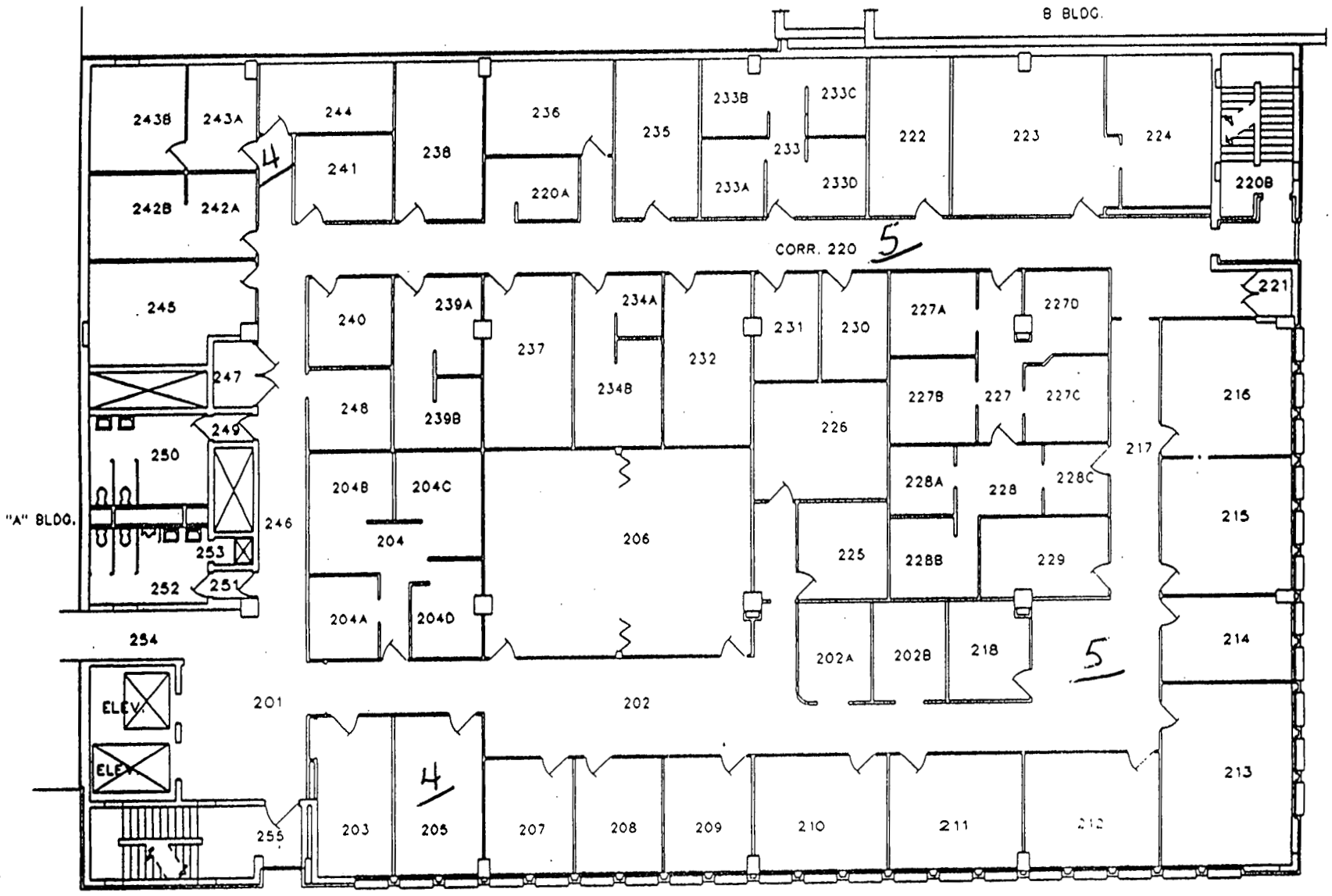
03-TF-0174

KA

OSW BLDG
FIRST FLOOR
CLASS: UNCL

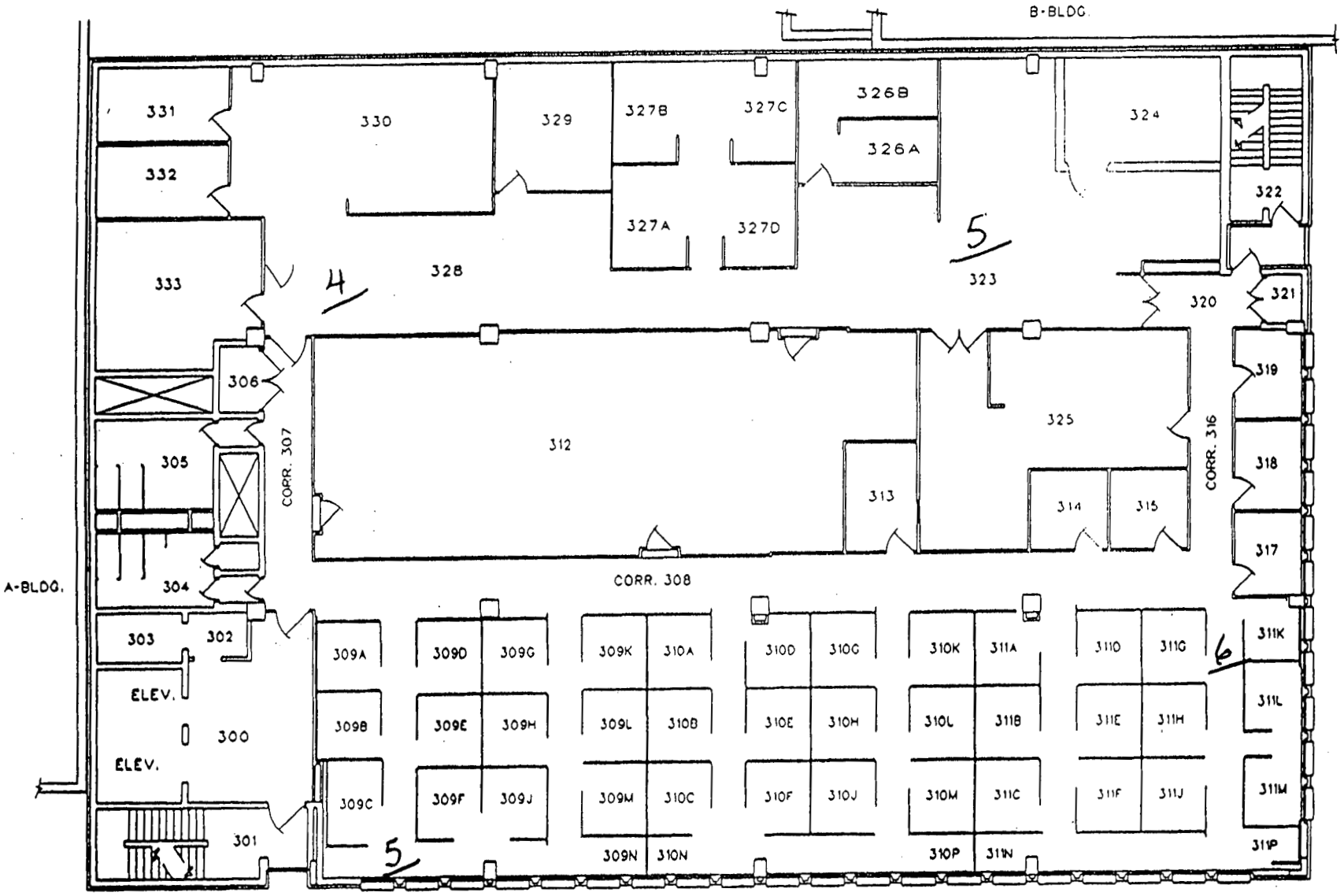
3 of 7

6984173



OSW BLDG
SECOND FLOOR
CLASS: UNCL

03-TF-0174 KA



G71473

5 of 7

03-TF-0174

KA

OSW BLDG
THIRD FLOOR
CLASS: UCNI

OSW BLDG
FOURTH FLOOR
CLASS: UNCL

03-TF-0174

KA

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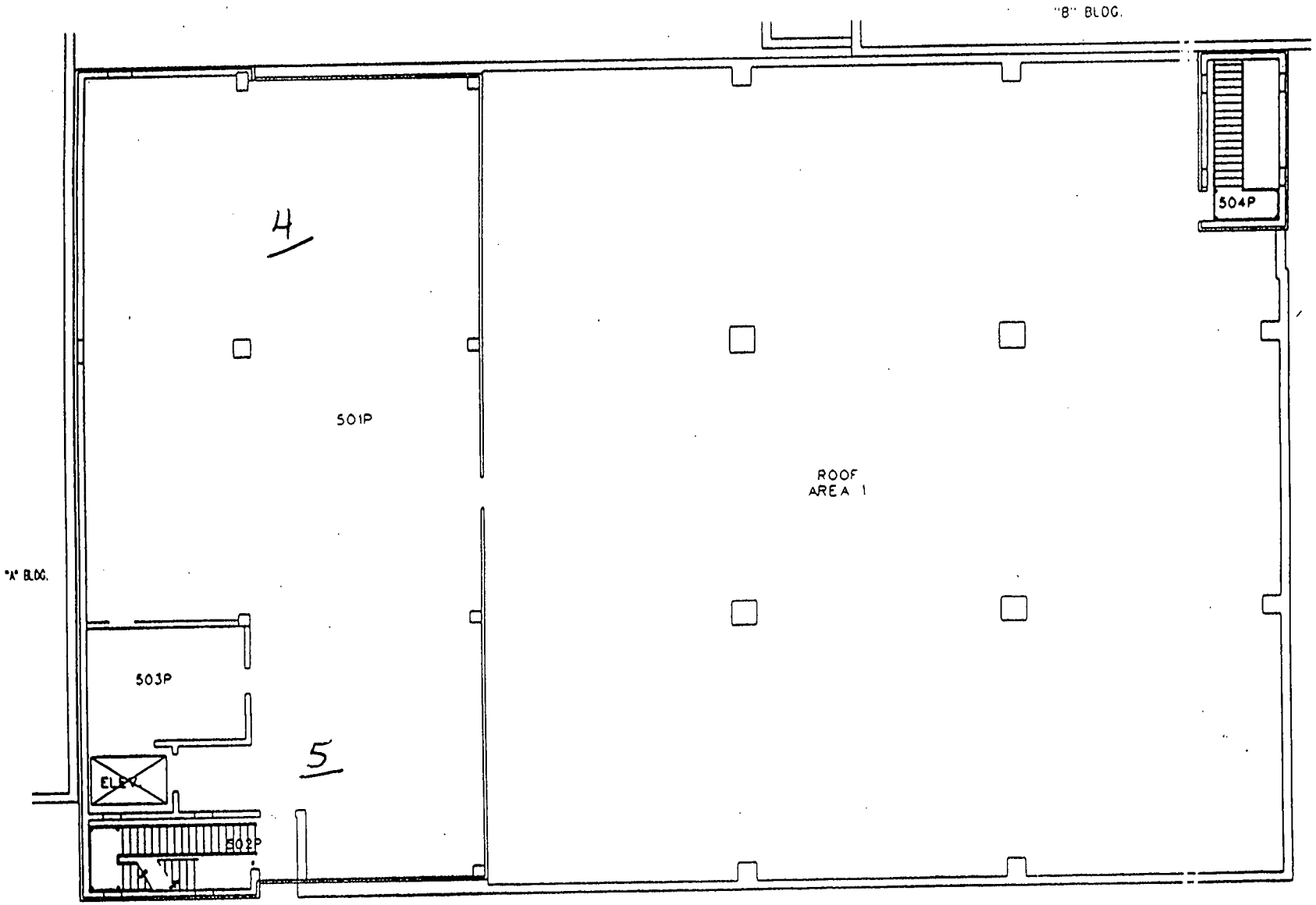
G7241 73



OSW BLDG
PENTHOUSE
CLASS: UNCL

03-TF-0174 KA

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6 73 & 73

Appendix H

Radon Information

In the 1990 Indoor Radon Study (copy attached), the results for OSW Building ranged from 0.5 pCi/L to 0.6 pCi/L.

The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

Results are within acceptable limits.

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

Bldg	Bldg Description	Room	pCi/l	pCi/l	Nonid	Dupid	Date	Date	Comments
21		ABOVE AIR SAMPLER	161.1	125.8	1678055	1666782	12/14/89	2/16/90	MET - OLD THORIUM STORAGE
21		ABOVE AIR SAMPLERS	116.7		1668508		12/14/89	2/16/90	MET - OLD THORIUM STORAGE
	SM	19 MID EAST WALL	4.8		1661547		12/12/89	2/19/90	HISTORY OF ELEVATED READING
40		114 B CLOSET ON SPRINKLER PIPE	3.2		1671292		12/12/89	2/19/90	
19		ROOM 1	2.6		1678051		12/13/89	2/19/90	
	OLD SO BLDG	BASEMENT RIGHT CABINET	2.4		1661595		12/14/89	2/19/90	
55		1 BELOW THERMOSTAT ON E WALL	2.1		1661515		12/18/89	2/19/90	
57		ROOM 1	1.9		1661565		12/12/89	2/19/90	
87		143	1.5		1661563		12/13/89	2/19/90	
998	FIRE STATION	ROOM 002 EQUIPMENT ROOM WITH SUMP	1.4		1654468		12/12/89	2/19/90	
24		ROOM 1 PLANT NORTH WALL	1.3		1672087		12/12/89	2/19/90	
	PAINT SHOP	PS 4	1.2		1661516		12/12/89	2/16/90	
30		ROOM 3 EAST	1.1		1671262		12/12/89	2/16/90	
100		103 MIDDLE OF NORTH WALL	1.0		1678060		12/12/89	2/19/90	
37		6 NORTH WALL	1.0		1678040		12/12/89	2/19/90	
34		34 A WEST WALL	.9	.6	1672062	1672042	12/12/89	2/19/90	MET
102		123	.9		1661577		12/14/89	2/19/90	
61		RM 221 MIDDLE OF NORTH WALL	.9		1661585		12/13/89	2/19/90	
67		101 N	.9		1678029		12/12/89	2/19/90	
G-13	LOG	G-516 WEST WALL	.8		1661544		12/12/89	2/16/90	
	T	CORRIDOR 28	.8		1678039		1/15/90	2/19/90	
	T	153	.8		1678067		1/15/90	2/19/90	
	T	78	.8		1678077		1/15/90	2/19/90	
	T	38	.8		1661586		1/15/90	2/19/90	
105	PARTS MACHINING BUILDING	STAIRWELL NEXT TO ROOM 127	.8		1661564		12/12/89	2/19/90	
25	ARAC	3 ON BOOK CASE MIDDLE	.8		1671314		12/15/89	2/19/90	
60		1 ON DOOR TO ROOM 2	.8		1678049		12/12/89	2/19/90	
	A	153C CENTER CUBICLE WEST WALL	.8		1672056		12/14/89	2/16/90	
	C BUILDING OLD CAFETERIA	NORTHEAST SECTION INTERNAL WALL RM2	.8		1672052		12/12/89	2/16/90	
	R BUILDING	68 NORTH WALL	.8		1678068		12/12/89	2/16/90	
	SM	8 WEST WALL AT OLD RECOVERY	.8		1672057		12/11/89	2/16/90	
	WO BLDG	WO 8	.8		1678045		12/18/89	2/16/90	
97		124	.8		1678032		12/12/89	2/19/90	
88		ROOM 116 ON NORHT WALL RIGHT OF CEN	.7	.6	1661524	1661635	12/12/89	2/19/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.6	1666783	1666532	12/15/89	2/19/90	
22		RM 1 EAST CORRIDOR ON STORAGE RACK	.7		1678070		12/13/89	2/19/90	
56	FIRE PUMP HOUSE	ROOM 1 THERE IS ONLY 1 ROOM	.7		1678066		12/12/89	2/19/90	
	E ANNEX	E 225 EAST WALL	.7		1661552		12/18/89	2/16/90	
	POWER HOUSE PH-1	REPAIR SHOP NORTH EAST CORNER	.7		1678040		12/12/89	2/19/90	
	W BLDG	W-135	.7		1661553		12/12/89	2/16/90	
26		ROOM 84 SOUTH WEST WALL	.6	.8	1672048	1667158	12/13/89	2/16/90	
69		RM 1 ON NORTH WALL	.6	.4	1672044	1672077	12/12/89	2/19/90	
26		ROOM 84 SOUTH WEST WALL	.6		1671279		12/13/89	2/16/90	
35		RM 7	.6		1654459		12/14/89	2/19/90	
38	PP BLDG	PP CORR 136	.6		1678016		12/14/89	2/19/90	
72		ON OVERHEAD DOOR BEAM	.6		1672069		1/03/90	2/19/90	
93		HALLWAY 107 (WIDWAY)	.6		1661628		12/13/89	2/20/90	
98	FIRE STATION	ROOM 114 DORM	.6		1661507		12/12/89	2/19/90	
	OSW	120 C	.6		1661573		12/12/89	2/16/90	
	A	34 EAST WALL	.5	.7	1672075	1672051	12/14/89	2/16/90	
41		102 MIDDLE OF EAST WALL	.5	.5	1658110	1666819	12/12/89	2/16/90	

H 2 of 4

/14/90 Radon Monitor Results for 88 Round Facility

Area	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	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		1678078		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	SH/PP	95- BLD-ROOM41	.4		1661531		12/12/89	2/20/90	
		QS BUILDING	CORRIDOR 2 - 6 FT. ABOVE FLOOR	.4		1678071		12/13/89	2/19/90	
		I	I HALLWAY	.4		1667184		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

Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	R BUILDING	163 NEXT TO NORTH WALL	.5	.5	1666533	1666816	12/13/89	2/16/90	
101		ROOM 5 ON SOUTH WEST WALL IN OFFSET	.5		1671288		12/12/89	2/19/90	
	"B" 175	175 WEST WALL	.5		1678040		12/12/89	2/16/90	
6		ELECTRICAL PANEL RM IN ELECTRONICS	.5		1678062		12/12/89	2/18/90	
40		100	.5		1654480		12/13/89	2/16/90	
43		1 EAST WALL OVER WATER DISPENSER	.5		1678076		12/12/89	2/20/90	
44		ON BULLETIN BOARD	.5		1678047		12/12/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5		1678050		12/12/89	2/16/90	
50		CELL 113	.5		1681582		12/13/89	2/19/90	
79		CENTRAL HALLWAY WEST OF DOOR TO RM7	.5		1681605		12/18/90	2/16/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.5		1678078		12/15/89	2/19/90	
91		1ST FLOOR	.5		1661525		12/15/89	2/16/90	
91		2ND FLOOR OUTSIDE RM215	.5		1681593		12/15/89	2/16/90	
92		HALLWAY RIGHT OFF ROOM 6	.5		1661509		12/12/89	2/19/90	
94		BAY 2 NORTH WALL	.5		1654477		12/12/89	2/19/90	
	A	215 WEST WALL	.5		1681572		12/14/89	2/16/90	
	A	1080 WEST WALL	.5		1681580		12/14/89	2/16/90	
	COS	119 N WALL NEAR PUNCH PRESS	.5		1654456		12/12/89	2/19/90	
	COS	319 WALL CABINET TO RIGHT OF SINK	.5		1681590		12/12/89	2/19/90	
	E BUILDING	158 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		1681587		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	2/19/90	
	H BLDG	ROOM 127	.5		1681571		12/12/89	2/16/90	
	MH	MH-8	.5		1671268		12/18/89	2/19/90	
	E BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/19/90	
	N BUILDING	N 106	.5		1678056		12/15/89	2/19/90	
	OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/90	
	OSN	4HT FLOOR	.5		1678028		12/12/89	2/16/90	
	OSN	319	.5		1678069		12/13/89	2/16/90	
	OSN	2ND FLOOR	.5		1681611		12/12/89	2/16/90	
	R BUILDING	145 WEST WALL ABOVE BALANCE	.5		1654538		12/14/89	2/16/90	
	SN/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		1661514		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	2/19/90	
27		CELL 8 - WALL	.4		1681583		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

From: Christopher Ahlquist
To: Darnell, Val; Kramer, Donald
Date: 8/13/03 6:39PM
Subject: OSW Asbestos & Lead Revised

Don & Val -

For OSW Building asbestos and lead paint concerns, the following is provided for your use:

Asbestos

Previous asbestos surveys were completed in 1989 and 1992. These surveys were intended to identify all reasonably accessible asbestos-containing materials within the building for the purposes of identifying damaged material and managing asbestos in place. Asbestos pipe insulation was identified in the Penthouse (Rooms 501P and 502P) of the building as well as in Room 404. Asbestos ceiling panel (Transite-type) was located in Room 141 (10 square feet). Floor tiles and associated mastic located throughout the building were assumed to contain asbestos. All materials were identified as being either nonfriable or in an undamaged condition.

On June 3, 2003 Mr. Christopher Ahlquist, an Industrial Hygienist with CH2M Hill Mound, Inc., performed a walk-through survey of the readily accessible areas of OSW Building in order to verify the presence of previously identified asbestos-containing materials and identify any asbestos materials not previously noted. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulations for individuals assessing asbestos-containing materials. Most of the pipe insulation previously identified appeared to have been removed during (a) previous asbestos removal effort(s), although a significant amount remains in the Penthouse and is labeled as such. In addition, asbestos cement wall panels (Transite-type) were noted in the Penthouse, and an asbestos cement board table top (Transite-type) was located in Room 327C (6 square feet). Floor tiles assumed to contain asbestos remain in numerous areas throughout the building. No damaged asbestos-containing materials were seen during the survey. Any remaining asbestos-containing materials should be monitored periodically and managed to ensure that they remain undamaged. No other actions would be required unless the building is scheduled for renovation or demolition; such activities would require the removal of affected regulated asbestos.

Lead

No previous lead surveys or sampling data could be found for OSW Building. Observed paint coatings were largely intact, although significant peeling paint coatings were observed in the Penthouse and in the stairwell on the north side of the building. The peeling paint coatings were tested (7 representative samples) on August 13, 2003 for lead content in the field using a Niton XL 309 XRF lead paint analyzer. The tested coatings did not contain lead within the instrument's limit of detection. Paint coatings which were intact throughout the building were not tested.

Although untested paint coatings must be assumed to contain lead, the observed condition of these paint coatings indicates that there are currently no lead paint hazards within the building. No further action would be necessary to protect occupant or worker health unless any coatings were to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.) or became deteriorated at some future time. If these types of activities are planned or if the coatings deteriorate, the affected paint coatings should be tested to verify the absence of lead.

These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health

Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

CC: Ransbottom, Robert

I20639

ACM inventory (June 2003) and excerpts from previous asbestos surveys and management plans

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From: Christopher Ahlquist
To: Darnell, Val; Kramer, Donald
Date: 12/10/03 9:22AM
Subject: OSW Asbestos Info

Val -

Regarding the walk-through asbestos survey that I performed in **OSW Building** during June of 2003, the survey was intended only to identify any existing asbestos hazards which would require action to abate. The survey was limited to those areas that were readily accessible at the time of the inspection; those areas which would not normally be occupied (above suspended ceilings, pipe chases, crawlspaces) were not surveyed. No hazards were identified at that time.

I did inventory those asbestos-containing and assumed asbestos-containing materials which I saw at that time. That inventory is summarized below:

Room 141: Transite ceiling panels (assumed), nonfriable - 10 sq ft

Room 325: Black laboratory counter top (assumed), nonfriable - 10 sq ft

Room 327C: Transite table top, nonfriable - 5 sq ft

5th Floor N. Stairwell: Transite window panel (assumed), nonfriable - 20 sq ft

Penthouse: Transite window panels, good condition - 250 sq ft

Penthouse: Pipe insulation, good condition - 425 linear ft

Throughout Building: Floor tiles (assumed)

I hope that this information is helpful.

Chris Ahlquist

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PEI 1987

4.20 Building OSW

The following types of asbestos-containing material were found in Building OSW:

- Preformed-block insulation
- Floor tile

Pipe insulation on steam lines in the building is composed of asbestos-containing preformed-block material. Analysis of a sample of this insulation shows that it contains 20 percent chrysotile asbestos. This type of material was found only in Penthouse 501P. The material is in good condition and should present no exposure hazard if left undisturbed.

Floor tiles throughout the building are in good condition and are non-friable.

TABLE 1. HOMOGENEOUS AREAS OF SUSPECT ASBESTOS-CONTAINING MATERIALS IN BUILDING OSW, EG&G MOUND APPLIED TECHNOLOGIES, INC.
(Inspected August 3, 1988)

Homogeneous area No.	Type of material	Description of homogeneous area	Does homogeneous material contain asbestos? (assumed/sampled)
1	Thermal system insulation	Preformed-block insulation on steam lines and condensate lines in Penthouse P501	Yes/sampled
2	Thermal system insulation	Preformed-block insulation on domestic hot-water tank in Penthouse P501	No/sampled
3	Miscellaneous	1-ft by 1-ft wall tile, white gas, located in Room 440 and throughout the building	No/sampled
4	Miscellaneous	2-ft by 4-ft small-dot-and-gash ceiling tile located in Room 401 and throughout the building	No/sampled
5	Thermal system insulation	Cementitious insulation on fittings between sections of fibrous-glass pipe insulation	No/sampled
6	Miscellaneous	Floor tiles located throughout the building	Yes/assumed

TABLE 2. DATA SUMMARY FOR BULK SAMPLES OF SUSPECT ASBESTOS-CONTAINING MATERIALS IN BUILDING OSW, EG&G MOUND APPLIED TECHNOLOGIES, INC.

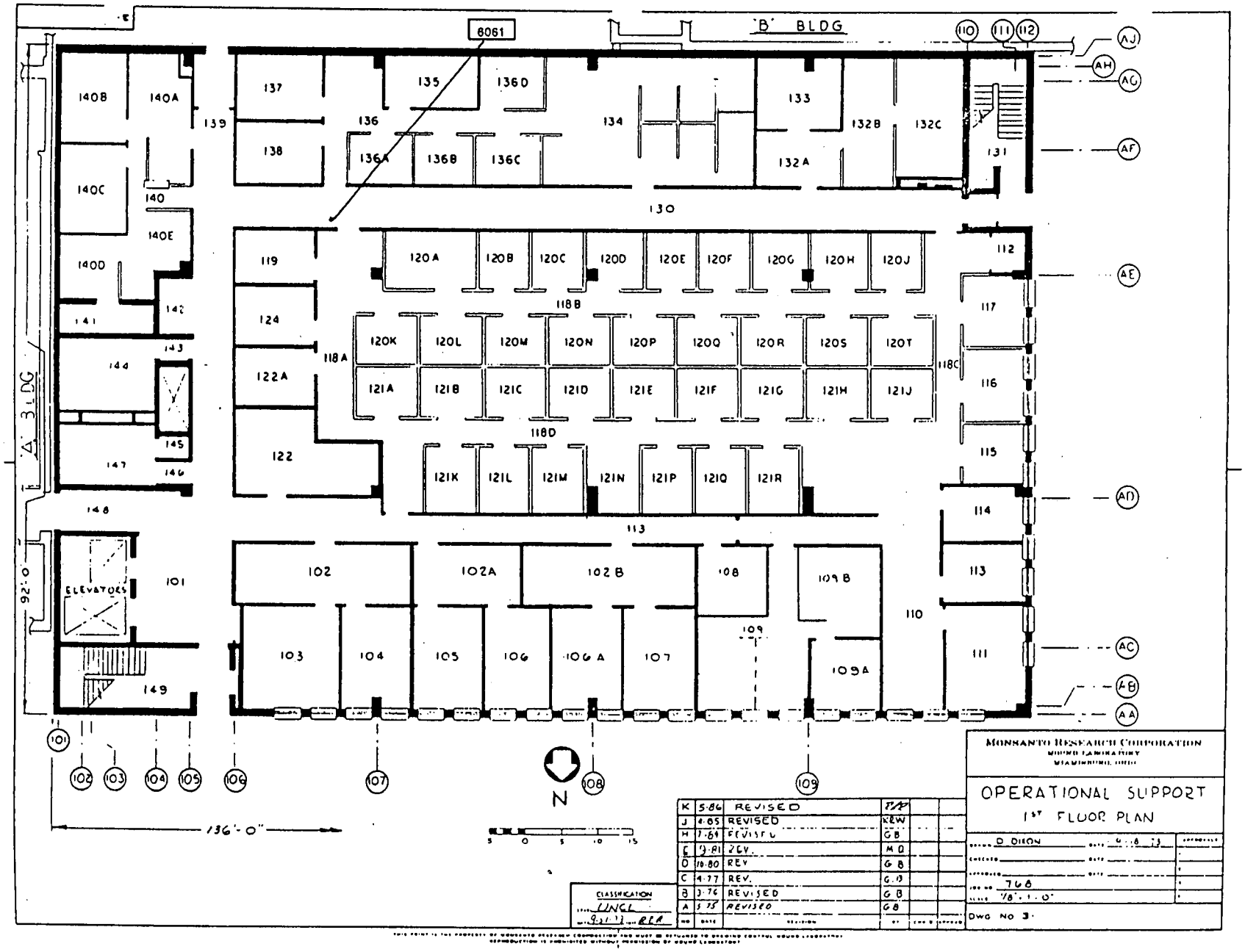
Homo-geneous area No.	Field sample No.	Sample date (1988)	PEI Laboratory requisition No.	Floor/room No.	Sample location	Asbestos fiber content
1	MRC-6052	8/3	T8-08-044-01A	Roof/P501	Southwest corner of pent-house on 3-in. condensate line	20% chrysotile
2	MRC-6053	8/3	T8-08-044-02A	Roof/P501	South side of tank in southeast corner of room	None detected
	MRC-6318	9/14	T8-09-105-17	Roof/P501	Northeast corner of room, on water tank	None detected
	MRC-6319	9/14	T8-09-105-18	Roof/P501	Northeast corner of room, on water tank	None detected
	MRC-6415	9/23	T8-09-168-08A	Roof/P501	Northeast corner of room, on east side of tank	None detected
3	MRC-6054	8/3	T8-08-044-03A	Fourth/440	Southwest corner of room below cabinet	None detected
	MRC-6055	8/3	T8-08-044-04A	Fourth/409	North side of hallway next to pillar	None detected
	MRC-6056	8/3	T8-08-044-05A	Fourth/413	South wall of room	None detected
4	MRC-6057	8/3	T8-08-044-06A	Fourth/401	West side of room across from elevators	None detected
	MRC-6058	8/3	T8-08-044-07A	Third/301	Southeast corner of room	None detected

(continued)

I Pg 36

TABLE 2 (continued)

Homo-geneous area No.	Field sample No.	Sample date (1988)	PEI Laboratory requisition No.	Floor/room No.	Sample location	Asbestos fiber content
	MRC-6059	8/3	T8-08-044-08A	Third/301	Duplicate of Sample MRC-6058	None detected
	MRC-6060	8/3	T8-08-044-09A	Second/207	North side of room	None detected
	MRC-6061	8/3	T8-08-044-10A	First/Corri-dor 130	South side of hallway by entrance to Room 136	None detected
5	MRC-6320	9/14	T8-09-105-19	Roof/P501	On north wall behind Power Unit 2	None detected
	MRC-6321	9/14	T8-09-105-20	Roof/P501	On cold-water line in northwest corner	None detected
	MRC-6322	9/14	T8-09-105-21	Roof/P501	East side of room, hot-water Valve 51	None detected


'B' BLDG
'A' BLDG
6061
ELEVATORS
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92'-0
N
MONSANTO RESEARCH CORPORATION
MIAMISBURG LABORATORY
MIAMISBURG, OHIO
OPERATIONAL SUPPORT
1ST FLOOR PLAN
D. DIXON
768
1/8" = 1'-0"
DWG NO 3
K 5-86 REVISED
J 4-85 REVISED
H 7-84 REVISED
G 9-81 REV.
D 10-80 REV
C 4-77 REV.
B 3-76 REVISED
A 5-75 REVISED
CLASSIFICATION
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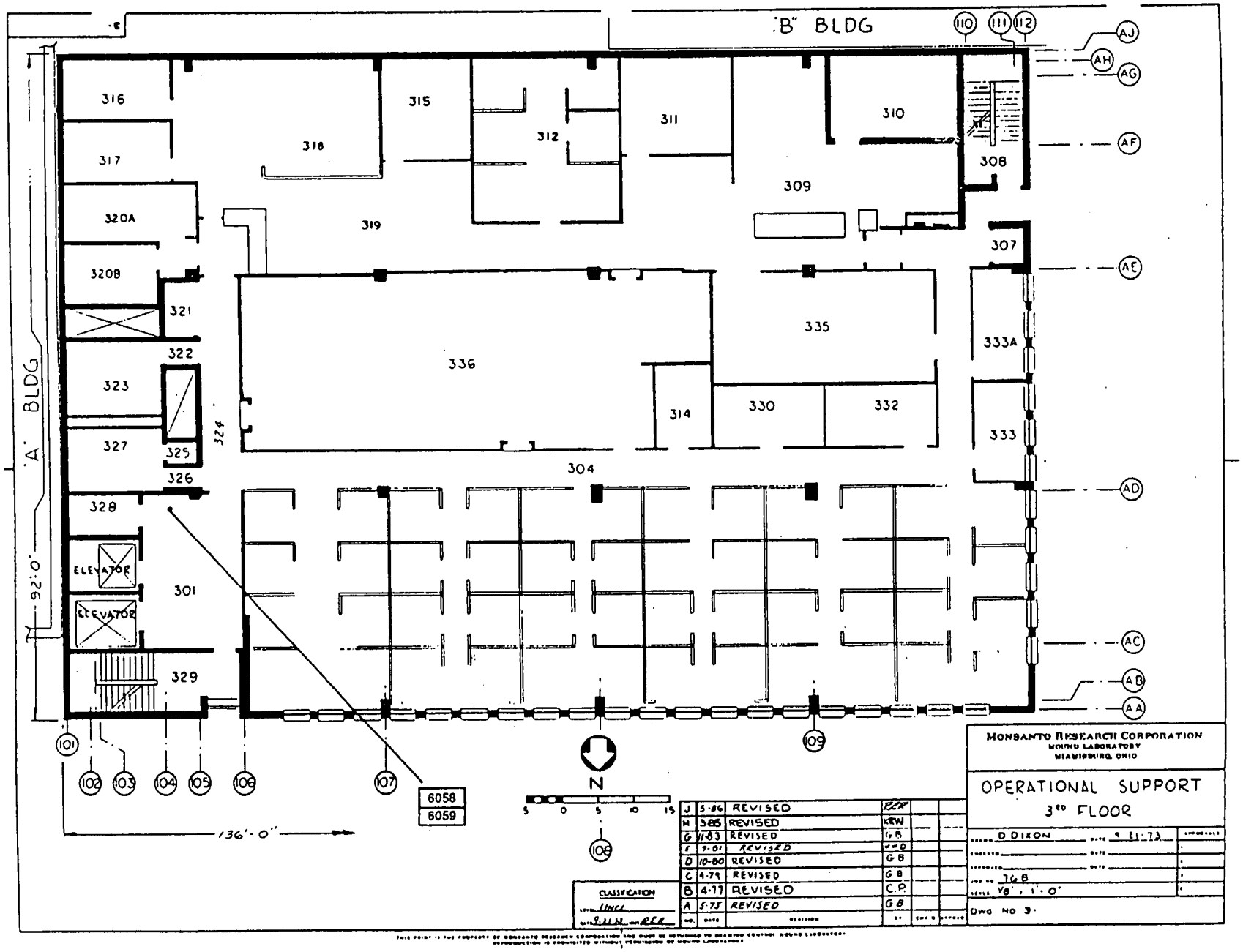
"B" BLDG
"A" BLDG
316
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320A
320B
321
322
323
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326
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301
ELEVATOR
ELEVATOR
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319
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308
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333A
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G 11-83 REVISED GB
F 9-81 REVISED WWD
D 10-80 REVISED GB
C 4-79 REVISED GB
B 4-77 REVISED C.P.
A 5-75 REVISED GB
MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO
OPERATIONAL SUPPORT
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1/8" = 1'-0"
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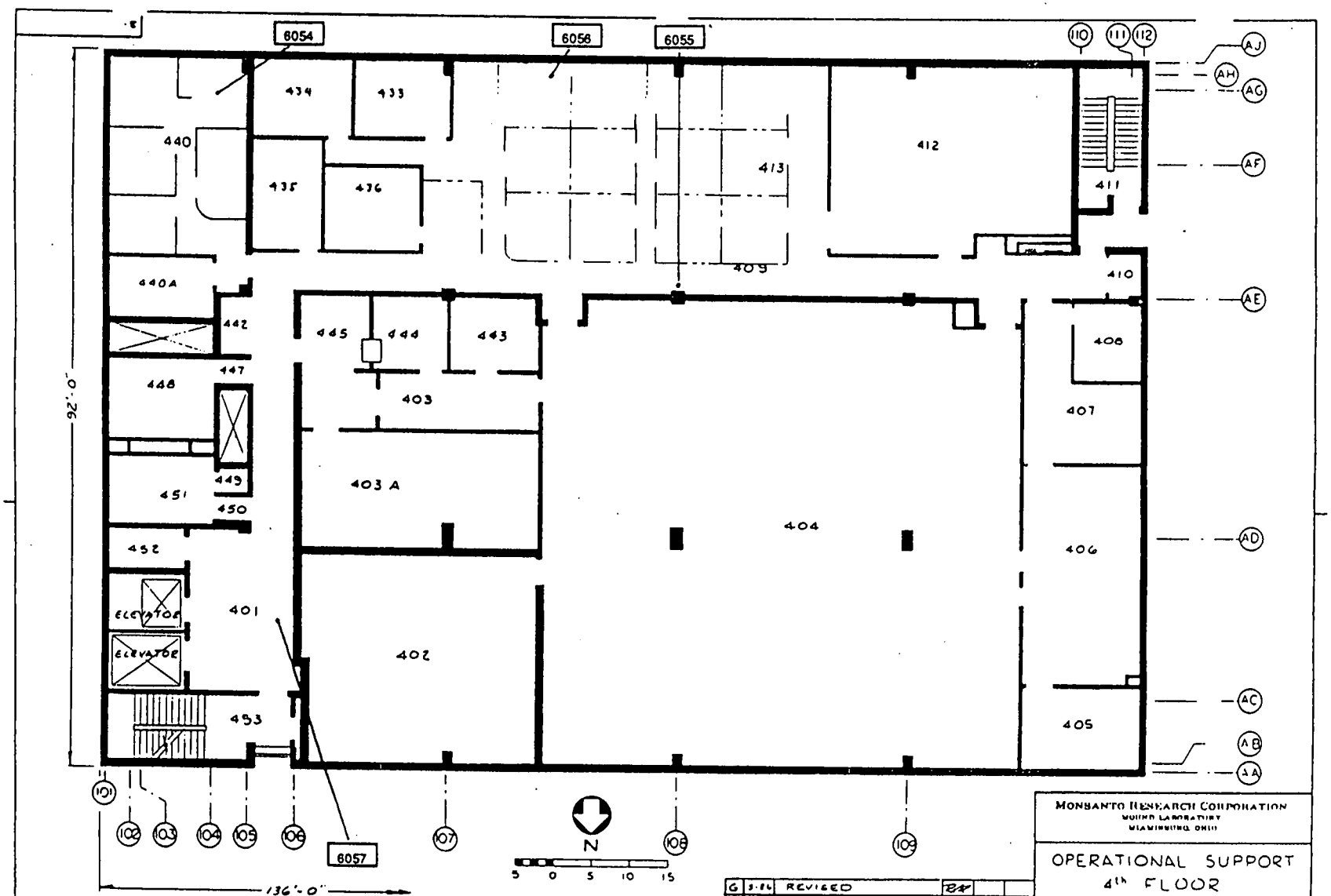
FIG 26 35



G	3-86	REVISED	BA		
F	4-85	REVISED	KRW		
E	9-82	REVISED	GB		
D	9-81	REV.	MR		
C	10-80	REV.	GB		
B	4-77	REV.	GB		
A	5-75	REVISED	G.B.		
NO.	DATE	REVISION	BY	CHK'D	APPROVED

CLASSIFICATION
UNCL
9-21-73 RCR

MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

OPERATIONAL SUPPORT
4th FLOOR

DRAWN D. DIXON DATE 9-21-73
CHECKED DATE
APPROVED DATE
JOB NO. 7 6 8
SCALE 1/8" = 1'-0"
DWG NO. 3

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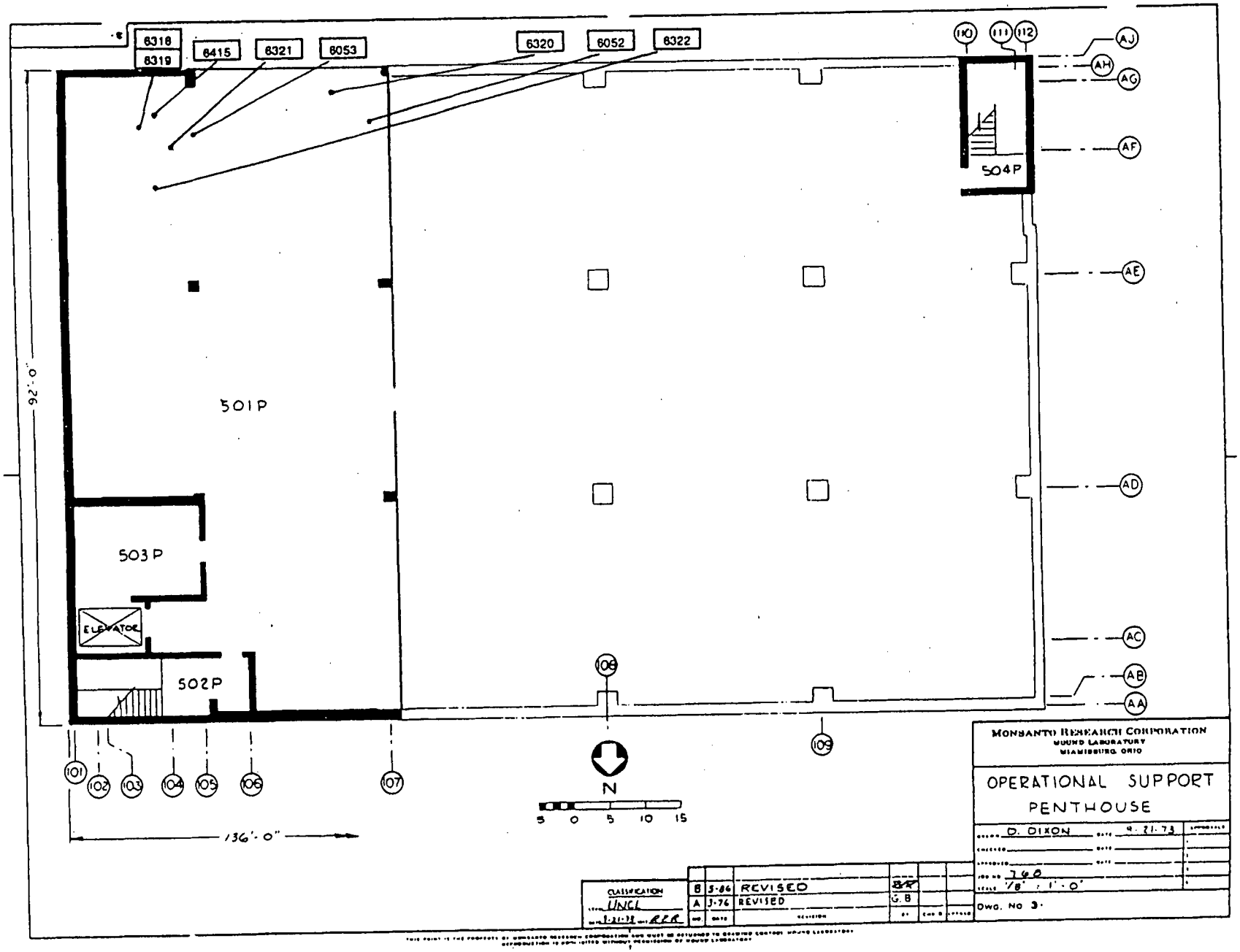
6318
6319
6415
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501P
503P
502P
504P
ELEVATOR
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MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO
OPERATIONAL SUPPORT
PENTHOUSE
D. DIXON
9-21-73
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1/8" = 1'-0"
DWG. NO 3
CLASSIFICATION
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B 3-86 REVISED
A 3-76 REVISED
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I 149 35

Barge Waggoner Sumner & Cannon
Management Plan 1993

Building OSW

Inspection Date 10/15/91

Inspector..... Sean Fisher

Sample Numbers..... 0.043 - 0.437

Data Review

The visual inspection and sampling/analysis of "OSW" Building identified only 3 materials as positively asbestos-containing, and 3 additional as assumed to contain asbestos. ACM pipe insulation is limited to condensate tape in one area of the 4th Floor, and to two rooms of the rooftop penthouse. In addition there was a Transite™ work table top present in Room 114, and floor tile, and tile and carpet mastics throughout the building. The response areas as follows:

A) Transite™ Table Top - Room 141
B) Condensate Tape - Room 404
C) Pipe Insulation - Room 501P
D) Pipe Insulation = Room 502P
E) Flooring

Total Abatement Cost..... $NONE

Total O&M Cost/Year..... $420.00

BUILDING OSW

RESPONSE AREA DESIGNATION..... A

Rooms Included:

141

Materials Included:

Transite™

Response Area Description

Transite™ Table Top - Room 141

Recommended Response O&M

Priority Level..... Planned

Hazard Rank..... 1

Response Justification

This material is currently in good condition and is non-friable. It presents a low potential for future damage and the area has low and infrequent occupancy. Since the material is currently in good condition, the appropriate response is to place the material on the O&M list and re-inspect it on a regular basis.

Annual O&M Cost..... $60.00

Abatement Cost..... $Not Considered

BUILDING OSW

RESPONSE AREA DESIGNATION..... B

Rooms Included:

404

Materials Included:

Condensate Tape

Response Area Description

Condensate Tape - Room 404

Recommended Response O&M

Priority Level..... Planned

Hazard Rank..... 1

Response Justification

This material is non-friable and currently in good condition. The assessment is "potential for damage." Based on the current condition and a low potential for future damage, a Hazard Rank #1 is assigned.

The recommended response action is to place the material on the O&M list for continued surveillance.

Annual O&M Cost..... $60.00

Abatement Cost..... $Not Considered

BUILDING OSW

RESPONSE AREA DESIGNATION..... C

Rooms Included:

501P

Materials Included:

Pipe Insulation - Hard
Pipe Joint Insulation - Hard
Response Area Description

Pipe Insulation - Room 501P

Recommended Response O&M

Priority Level..... Planned

Hazard Rank..... 2

Response Justification

The pipe insulation in the Penthouse of "OSW" Building presents a special case. Of 3 samples taken from the "hard" lagging in the area, 2 were found to contain no asbestos, However, the presence of asbestos in the third sample requires us to consider all of that material to be asbestos-containing. Secondly, the 3 samples from the fitting insulation on the same lines were all found to be non-asbestos. Because it is almost unheard of to find asbestos-free fittings on the same lines with asbestos lagging, and because of the mixed results from the lagging; it is this planner's opinion that limited abatement has taken place in the area, with replacement materials being non-asbestos. It is probable that the samples taken from the fittings were not representative of all the material present, and that there is fitting insulation in the room that does contain asbestos. It is recommended that all of the lagging and fitting insulation in the room be treated as asbestos-containing.

This pipe insulation is listed in the Survey Report as having a "potential for significant damage." However, no factors that would constitute a "major or continuing disturbance" are identified and none are apparent. Therefore the physical assessment is modified to "potential for damage," and a Hazard

Rank #2 is assigned. The recommended response is to include the area in the plant O&M program and re-inspect on a scheduled basis.

Annual O&M Cost..... $60.00
Abatement Cost..... $Not Considered

BUILDING OSW

RESPONSE AREA DESIGNATION..... D

Rooms Included:

502P

Materials Included:

Pipe Insulation - Hard
Pipe Joint Insulation - Hard

Response Area Description

Pipe Insulation - Room 502P

Recommended Response O&M

Priority Level..... Planned

Hazard Rank..... 2

Response Justification

The pipe insulation in the Penthouses of "OSW" Building presents a special case. Of 3 samples taken from the "hard" lagging in the area, 2 were found to contain no asbestos, However, the presence of asbestos in the third sample requires us to consider all of that material to be asbestos-containing. Secondly, the 3 samples from the fitting insulation on the same lines were all found to be non-asbestos. Because it is almost unheard of to find asbestos-free fittings on the same lines with asbestos lagging, and because of the mixed results from the lagging; it is this planner's opinion that limited abatement has taken place in the area, with replacement materials being non-asbestos. It is probable that the samples taken from the fittings were not representative of all the material present, and that there is fitting insulation in the room that does contain asbestos. It is recommended that all of the lagging and fitting insulation in the room be treated as asbestos-containing.

This pipe insulation is listed in the Survey Report as having a "potential for significant damage." However, no factors that would constitute a "major or continuing disturbance" are identified and none are apparent. Therefore the physical

assessment is modified to "potential for damage," and a Hazard Rank #2 is assigned. The recommended response is to include the area in the plant O&M program and re-inspect on a scheduled basis.

Annual O&M Cost..... $60.00
Abatement Cost..... $Not Considered

BUILDING OSW

RESPONSE AREA DESIGNATION.....E

Rooms Included:

101; 102; 102A; 102B; 103; 104; 105; 106; 106A; 107; 108; 109; 109A; 109B; 110; 111; 112; 113; CORR 113; 114; 115; 116; 117; 118A; 118C; 119; 120A; 120C; 120D; 120E; 120F; 120G; 120H; 120K; 120L; 120M; 120N; 120P; 120Q; 120R; 120S; 120T; 121A; 121B; 121C; 121D; 121E; 121F; 121G; 121H; 121J; 121K; 121L; 121M; 121N; 121P; 121Q; 121R; 122; 122A; 124; 132; 133; 134; 135; 136A; 136B; 136C; 136D; 137; 138; 139; 140; 140A; 140B; 140C; 140D; 140E; 141; 142; 143; 146; 148; 149;

201; 202; 203; 204; 205; 206; 207; 208; 209; 210; 211; 212; 213; 214; 215; 216; 216A; 217; 218; 219; CORR 220; 222; 223; 224; 225; 226; 227; 228; 232; 233; 234; 235; 236; 237; 238; 239; 240; 241; 242; 243; 243A; 244; 245; 245A; 246; 247; 249; 251; 254; 255

301; CORR 302; 303A; 303B; 303C; 303D; 303E; 303G; 303H; 303I; 303J; 303K; 303L; 303M; 303N; 303P; 303Q; 304A; 304B; 304C; 304D; 304E; 304F; 304G; 304H; 304I; 304J; 304K; 304L; 304M; 304N; 304P; 304Q; 306; 309; 310; 311; 312A; 312B; 312C; 312D; 314; 315; 316; 317; 318; 319; 320A; 320B; 320C; 321; 322; CORR 324; 326; 328; 329; 330; 331; 332; 333; 334; 335; 336

401; 403A; 407; CORR 409; 413A; 413B; 413C; 413D; 413E; 413F; 413G; 413H; 413I; 413J; 413K; 413L; 433; 434; 435; 436; 440A; 440B; 440C; 440D; 440E; 440F; 442; 447; 452; 453; 502P

Materials Included:

Floor Tile
Mastic
Carpet Mastic

Response Area Description

Flooring

Recommended Response O&M

Priority Level.....Planned

Hazard Rank.....1

Response Justification

This material has not been positively identified as asbestos-containing and is currently in good condition with little potential for damage. Therefore, a Hazard Rank #1 is assigned and the material should be included in the O&M program.

An alternative is to sample and analyze the material possibly enabling it to be removed from surveillance with a resultant long-term cost savings.

Sampling and analysis is recommended prior to any activity that might disturb the material or cause it to become friable.

Annual O&M Cost..... $180.00

Abatement Cost..... $Not Considered

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arge Waggoner Sumner & Cannon
Inspection Report 1993

MOUND ASBESTOS SURVEY
BUILDING SUMMARY

BUILDING OSW

FLOORS:	Four	PIPE CHASES:	Yes
DATE BUILT:	1974	PENTHOUSE:	Yes
CRAWLSPACE:	None	GROSS AREA, SQ. FT.:	54,280
SUSPENDED CEILING:	Yes	ADDITIONS:	None

Asbestos was found to be present in Thermal System Insulation and/or other material in Building OSW. The homogeneous areas for the suspect Asbestos Containing Materials are shown below. Refer to the Mound Asbestos Survey Sample Data Report for specific information on sample constituents, estimated amounts of the material, assessments, and percentages of each constituent in the sample.

HOMOGENEOUS AREAS
Sample Numbers: 0.403-0.437

No.	Description	Result
1	Pipe Joint Insulation, Type I, Hard Joints w/Fiberglass Runs	Negative
2	Pipe Insulation, Type II, Hard	Positive
3	Pipe Joint Insulation, Type II, Hard	Negative
4	Vessel I Insulation	Negative
5	Vessel II Insulation	Negative
6	Vessel III Insulation	Negative
7	Condensate Tape (White)	Positive
8	Fireproofing (Sprayed)	Negative
9	Ceiling Tile, CT3-B, (2'x4'), Fissured w/Pinholes	Negative
10	Ceiling Tile, CT1-A, (1'x1'), Fissured	Negative
11	Drywall	Negative
12	Drywall Joint Compound	Negative
13	Transite	Positive

Assumed ACM:	Amount	Location
* Floor Tile	N/A	N/A
** Carpet	N/A	N/A

Drawing Reference: P92, P93, P94, P95, P96

* Floor tile quantities not included in scope.
** Carpet quantities not included in scope.

I 250639

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Pipe Joint Insulation, Type I, Hard Joints w/Fiberglass Runs

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: High

Sample No.:	0.403	0.404	0.405
Room:	501P	501P	501P
Floor:	Penthouse	Penthouse	Penthouse
Column/Row:	103/AE	105/AE	105/AE
Lab ID No.:	916954	916955	916956
Friable:	Yes	Yes	Yes
Layered:	Yes	Yes	Yes
Fibrous:	Yes	Yes	Yes
Amosite:	0	0	0
Anthophyllite:	0	0	0
Chrysoltile:	0	0	0
Crocidolite:	0	0	0
TOTAL ASBESTOS:	0	0	0
Adhesive:	0	0	0
Aggregates:	0	0	0
Binder:	55	50	50
Calcite:	0	0	0
Carbonates:	0	0	0
Cellulose:	5	5	5
Cork:	0	0	0
Cotton:	10	8	8
Fibrous Glass:	0	0	0
Foam:	0	0	0
Foil:	0	0	0
Gypsum:	0	0	0
Horsehair:	0	0	0
Lizardite:	0	0	0
Matrix:	0	0	0
Mica:	0	0	0
Mineral Wool:	30	35	35
Opaques:	0	2	2
Paint:	0	0	0
Perlite:	0	0	0
Plaster:	0	0	0
Plastic Film:	0	0	0
Quartz:	0	0	0
Resinous:	0	0	0
Rubber Like:	0	0	0
Rust:	0	0	0
Silicates:	0	0	0
Synthetics:	0	0	0
Tar:	0	0	0
Vermiculite:	0	0	0
Vinyl:	0	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Pipe Insulation, Type II, Hard

Assessment Category: ACBM with Potential for Significant Damage

ACM Amount: 440 lf
Condition: Good
Access: 2-10 Feet
Vibrations: High
Comments:
#406 & #407 negative but local; consider all Type II positive.

Sample No.:	0.406	0.407	0.408
Room:	501P	501P	501P
Floor:	Penthouse	Penthouse	Penthouse
Column/Row:	103/AE	103/AE	103/AF
Lab ID No.:	916957	916958	916959
Friable:	Yes	Yes	Yes
Layered:	Yes	Yes	Yes
Fibrous:	Yes	Yes	Yes
Amosite:	0	0	40
Anthophyllite:	0	0	0
Chrysoltile:	0	0	0
Crocidolite:	0	0	0
TOTAL ASBESTOS:	0	0	40
Adhesive:	0	0	0
Aggregates:	0	0	0
Binder:	20	25	50
Calcite:	0	0	0
Carbonates:	0	0	0
Cellulose:	2	2	2
Cork:	0	0	0
Cotton:	5	8	0
Fibrous Glass:	5	5	3
Foam:	0	0	0
Foil:	0	0	0
Gypsum:	0	0	0
Horsehair:	0	0	0
Lizardite:	0	0	0
Matrix:	0	0	0
Mica:	0	0	0
Mineral Wool:	0	0	0
Opaques:	10	10	5
Paint:	0	0	0
Perlite:	58	50	0
Plaster:	0	0	0
Plastic Film:	0	0	0
Quartz:	0	0	0
Resinous:	0	0	0
Rubber Like:	0	0	0
Rust:	0	0	0
Silicates:	0	0	0
Synthetics:	0	0	0
Tar:	0	0	0
Vermiculite:	0	0	0
Vinyl:	0	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Pipe Joint Insulation, Type II, Hard

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Access: 2-10 Feet
Vibrations: High
Comments:
Abuts positive ACM. Use respiratory protection and dust control methods.

Sample No.:	0.409	0.410	0.411
Room:	501P	501P	501P
Floor:	Penthouse	Penthouse	Penthouse
Column/Row:	103/AE	103/AE	103/AF
Lab ID No.:	916960	916961	916962
Friable:	Yes	Yes	Yes
Layered:	Yes	Yes	Yes
Fibrous:	Yes	Yes	Yes
Amosite:	0	0	0
Anthophyllite:	0	0	0
Chrysoltile:	0	0	0
Crocidolite:	0	0	0
TOTAL ASBESTOS:	0	0	0
Adhesive:	0	0	0
Aggregates:	0	0	0
Binder:	52	47	48
Calcite:	0	0	0
Carbonates:	0	0	0
Cellulose:	3	3	2
Cork:	0	0	0
Cotton:	5	5	5
Fibrous Glass:	0	0	0
Foam:	0	0	0
Foil:	0	0	0
Gypsum:	0	0	0
Horsehair:	0	0	0
Lizardite:	0	0	0
Matrix:	0	0	0
Mica:	0	0	0
Mineral Wool:	35	40	40
Opaques:	5	5	5
Paint:	0	0	0
Perlite:	0	0	0
Plaster:	0	0	0
Plastic Film:	0	0	0
Quartz:	0	0	0
Resinous:	0	0	0
Rubber Like:	0	0	0
Rust:	0	0	0
Silicates:	0	0	0
Synthetics:	0	0	0
Tar:	0	0	0
Vermiculite:	0	0	0
Vinyl:	0	0	0

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MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Vessel I Insulation

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: >10 Feet
Vibrations: High

Sample No.:	0.412	0.413	0.414
Room:	501P	501P	501P
Floor:	Penthouse	Penthouse	Penthouse
Column/Row:	103/AE	103/AE	103/AE
Lab ID No.:	916963	916964	916965
Friable:	Yes	Yes	Yes
Layered:	Yes	Yes	Yes
Fibrous:	Yes	Yes	Yes
Amosite:	0	0	0
Anthophyllite:	0	0	0
Chrysoltile:	0	0	0
Crocidolite:	0	0	0
TOTAL ASBESTOS:	0	0	0
Adhesive:	0	0	0
Aggregates:	0	0	0
Binder:	30	30	50
Calcite:	0	0	0
Carbonates:	0	0	0
Cellulose:	5	5	3
Cork:	0	0	0
Cotton:	0	0	0
Fibrous Glass:	5	8	2
Foam:	0	0	0
Foil:	0	0	0
Gypsum:	0	0	0
Horsehair:	0	0	0
Lizardite:	0	0	0
Matrix:	0	0	0
Mica:	0	0	0
Mineral Wool:	0	0	35
Opaques:	10	10	10
Paint:	0	0	0
Perlite:	50	47	0
Plaster:	0	0	0
Plastic Film:	0	0	0
Quartz:	0	0	0
Resinous:	0	0	0
Rubber Like:	0	0	0
Rust:	0	0	0
Silicates:	0	0	0
Synthetics:	0	0	0
Tar:	0	0	0
Vermiculite:	0	0	0
Vinyl:	0	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Vessel II Insulation

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: High

Sample No.:	0.415	0.416	0.417
Room:	501P	501P	501P
Floor:	Penthouse	Penthouse	Penthouse
Column/Row:	103/AE	105/AE	103/AE
Lab ID No.:	916966	916967	916968
Friable:	Yes	Yes	Yes
Layered:	Yes	Yes	Yes
Fibrous:	Yes	Yes	Yes
Amosite:	0	0	0
Anthophyllite:	0	0	0
Chrysoltile:	0	0	0
Crocidolite:	0	0	0
TOTAL ASBESTOS:	0	0	0
Adhesive:	0	0	0
Aggregates:	0	0	0
Binder:	48	48	48
Calcite:	0	0	0
Carbonates:	0	0	0
Cellulose:	2	2	2
Cork:	0	0	0
Cotton:	0	0	0
Fibrous Glass:	5	5	5
Foam:	0	0	0
Foil:	0	0	0
Gypsum:	0	0	0
Horsehair:	0	0	0
Lizardite:	0	0	0
Matrix:	0	0	0
Mica:	0	0	0
Mineral Wool:	35	35	35
Opaques:	10	5	5
Paint:	0	0	0
Perlite:	0	5	5
Plaster:	0	0	0
Plastic Film:	0	0	0
Quartz:	0	0	0
Resinous:	0	0	0
Rubber Like:	0	0	0
Rust:	0	0	0
Silicates:	0	0	0
Synthetics:	0	0	0
Tar:	0	0	0
Vermiculite:	0	0	0
Vinyl:	0	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Vessel III Insulation

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: High

Sample No.:	0.418	0.419	0.420
Room:	501P	501P	501P
Floor:	Penthouse	Penthouse	Penthouse
Column/Row:	105/AE	105/AE	105/AE
Lab ID No.:	916969	916970	916971
Friable:	Yes	Yes	Yes
Layered:	Yes	Yes	Yes
Fibrous:	Yes	Yes	Yes
Amosite:	0	0	0
Anthophyllite:	0	0	0
Chrysoltile:	0	0	0
Crocidolite:	0	0	0
TOTAL ASBESTOS:	0	0	0
Adhesive:	0	0	0
Aggregates:	0	0	0
Binder:	42	40	45
Calcite:	0	0	0
Carbonates:	0	0	0
Cellulose:	3	5	3
Cork:	0	0	0
Cotton:	0	0	0
Fibrous Glass:	5	5	5
Foam:	0	0	0
Foil:	0	0	0
Gypsum:	0	0	0
Horsehair:	0	0	0
Lizardite:	0	0	0
Matrix:	0	0	0
Mica:	0	0	0
Mineral Wool:	30	35	35
Opaques:	5	5	5
Paint:	0	0	0
Perlite:	15	10	7
Plaster:	0	0	0
Plastic Film:	0	0	0
Quartz:	0	0	0
Resinous:	0	0	0
Rubber Like:	0	0	0
Rust:	0	0	0
Silicates:	0	0	0
Synthetics:	0	0	0
Tar:	0	0	0
Vermiculite:	0	0	0
Vinyl:	0	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Condensate Tape (White)

Assessment Category: ACBM with Potential for Significant Damage

ACM Amount: 55 lf
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: Medium

Sample No.:	0.421	0.422
Room:	501P	501P
Floor:	Penthouse	Penthouse
Column/Row:	105/AE	105/AE
Lab ID No.:	916972	916973
Friable:	No	No
Layered:	No	No
Fibrous:	Yes	Yes
Amosite:	0	0
Anthophyllite:	0	0
Chrysoltile:	20	20
Crocidolite:	0	0
TOTAL ASBESTOS:	20	20
Adhesive:	0	0
Aggregates:	0	0
Binder:	8	8
Calcite:	0	0
Carbonates:	0	0
Cellulose:	2	2
Cork:	0	0
Cotton:	0	0
Fibrous Glass:	0	0
Foam:	25	25
Foil:	0	0
Gypsum:	0	0
Horsehair:	0	0
Lizardite:	0	0
Matrix:	0	0
Mica:	0	0
Mineral Wool:	0	0
Opaques:	0	0
Paint:	0	0
Perlite:	0	0
Plaster:	0	0
Plastic Film:	0	0
Quartz:	0	0
Resinous:	45	45
Rubber Like:	0	0
Rust:	0	0
Silicates:	0	0
Synthetics:	0	0
Tar:	0	0
Vermiculite:	0	0
Vinyl:	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Fireproofing (Sprayed)

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: >10 Feet
Vibrations: Medium

Sample No.:	0.423	0.424	0.425	0.426
Room:	403	443	413D	413C
Floor:	4	4	4	4
Column/Row:	107/AD	107/AE	107/AF	107/AF
Lab ID No.:	916974	916975	916976	916977
Friable:	Yes	Yes	Yes	Yes
Layered:	No	Yes	Yes	Yes
Fibrous:	Yes	Yes	Yes	Yes
Amosite:	0	0	0	0
Anthophyllite:	0	0	0	0
Chrysoltile:	0	0	0	0
Crocidolite:	0	0	0	0
TOTAL ASBESTOS:	0	0	0	0
Adhesive:	0	0	0	0
Aggregates:	0	0	0	0
Binder:	60	45	45	50
Calcite:	0	0	0	0
Carbonates:	0	0	0	0
Cellulose:	10	10	8	8
Cork:	0	0	0	0
Cotton:	0	0	0	0
Fibrous Glass:	0	0	0	0
Foam:	0	0	0	0
Foil:	0	0	0	0
Gypsum:	0	0	0	0
Horsehair:	0	0	0	0
Lizardite:	0	0	0	0
Matrix:	0	0	0	0
Mica:	0	0	0	0
Mineral Wool:	30	40	45	40
Opaques:	0	2	2	2
Paint:	0	0	0	0
Perlite:	0	3	0	0
Plaster:	0	0	0	0
Plastic Film:	0	0	0	0
Quartz:	0	0	0	0
Resinous:	0	0	0	0
Rubber Like:	0	0	0	0
Rust:	0	0	0	0
Silicates:	0	0	0	0
Synthetics:	0	0	0	0
Tar:	0	0	0	0
Vermiculite:	0	0	0	0
Vinyl:	0	0	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Fireproofing (Sprayed)

Assessment Category: N/A

ACM Amount:	N/A	Access:	>10 Feet
Condition:	Good	Vibrations:	Medium

Comments:
None

Sample No.:	0.427
Room:	413C
Floor:	4
Column/Row:	107/AF
Lab ID No.:	916978

Friable:	Yes
Layered:	Yes
Fibrous:	Yes
Amosite:	0
Anthophyllite:	0
Chrysoltile:	0
Crocidolite:	0

TOTAL ASBESTOS:	0

Adhesive:	0
Aggregates:	0
Binder:	50
Calcite:	0
Carbonates:	0
Cellulose:	5
Cork:	0
Cotton:	0
Fibrous Glass:	0
Foam:	0
Foil:	0
Gypsum:	0
Horsehair:	0
Lizardite:	0
Matrix:	0
Mica:	0
Mineral Wool:	40
Opaques:	5
Paint:	0
Perlite:	0
Plaster:	0
Plastic Film:	0
Quartz:	0
Resinous:	0
Rubber Like:	0
Rust:	0
Silicates:	0
Synthetics:	0
Tar:	0
Vermiculite:	0
Vinyl:	0

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MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Ceiling Tile, CT3-B, (2'x4'), Fissured w/Pinholes

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: Medium

Sample No.:	0.428	0.429
Room:	403	403
Floor:	4	4
Column/Row:	107/AD	107/AD
Lab ID No.:	916979	916980
Friable:	Yes	Yes
Layered:	Yes	Yes
Fibrous:	Yes	Yes
Amosite:	0	0
Anthophyllite:	0	0
Chrysoltile:	0	0
Crocidolite:	0	0
TOTAL ASBESTOS:	0	0
Adhesive:	0	0
Aggregates:	0	0
Binder:	5	5
Calcite:	0	0
Carbonates:	0	0
Cellulose:	40	40
Cork:	0	0
Cotton:	0	0
Fibrous Glass:	0	0
Foam:	0	0
Foil:	0	0
Gypsum:	0	0
Horsehair:	0	0
Lizardite:	0	0
Matrix:	0	0
Mica:	0	0
Mineral Wool:	30	30
Opaques:	5	5
Paint:	0	0
Perlite:	20	20
Plaster:	0	0
Plastic Film:	0	0
Quartz:	0	0
Resinous:	0	0
Rubber Like:	0	0
Rust:	0	0
Silicates:	0	0
Synthetics:	0	0
Tar:	0	0
Vermiculite:	0	0
Vinyl:	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Ceiling Tile, CT1-A, (1'x1'), Fissured

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: Medium

Sample No.:	0.430	0.431
Room:	409	409
Floor:	4	4
Column/Row:	109/AE	109/AE
Lab ID No.:	916981	916982
Friable:	Yes	Yes
Layered:	Yes	Yes
Fibrous:	Yes	Yes
Amosite:	0	0
Anthophyllite:	0	0
Chrysoltile:	0	0
Crocidolite:	0	0
TOTAL ASBESTOS:	0	0
Adhesive:	0	0
Aggregates:	0	0
Binder:	5	5
Calcite:	0	0
Carbonates:	0	0
Cellulose:	15	15
Cork:	0	0
Cotton:	0	0
Fibrous Glass:	0	0
Foam:	0	0
Foil:	0	0
Gypsum:	0	0
Horsehair:	0	0
Lizardite:	0	0
Matrix:	0	0
Mica:	0	0
Mineral Wool:	75	75
Opaques:	5	5
Paint:	0	0
Perlite:	0	0
Plaster:	0	0
Plastic Film:	0	0
Quartz:	0	0
Resinous:	0	0
Rubber Like:	0	0
Rust:	0	0
Silicates:	0	0
Synthetics:	0	0
Tar:	0	0
Vermiculite:	0	0
Vinyl:	0	0

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MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Drywall

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: Low

Sample No.:	0.432	0.433
Room:	412A	412A
Floor:	4	4
Column/Row:	109/AH	109/AE
Lab ID No.:	916983	916984
Friable:	No	No
Layered:	Yes	Yes
Fibrous:	Yes	Yes
Amosite:	0	0
Anthophyllite:	0	0
Chrysoltile:	0	0
Crocidolite:	0	0
TOTAL ASBESTOS:	0	0
Adhesive:	0	0
Aggregates:	0	0
Binder:	20	15
Calcite:	0	0
Carbonates:	0	0
Cellulose:	10	15
Cork:	0	0
Cotton:	0	0
Fibrous Glass:	3	3
Foam:	0	0
Foil:	0	0
Gypsum:	60	60
Horsehair:	0	0
Lizardite:	0	0
Matrix:	0	0
Mica:	0	0
Mineral Wool:	0	0
Opaques:	5	5
Paint:	0	0
Perlite:	0	0
Plaster:	0	0
Plastic Film:	0	0
Quartz:	2	2
Resinous:	0	0
Rubber Like:	0	0
Rust:	0	0
Silicates:	0	0
Synthetics:	0	0
Tar:	0	0
Vermiculite:	0	0
Vinyl:	0	0

MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Drywall Joint Compound

Assessment Category: N/A

ACM Amount: N/A
Condition: Good
Comments:
None

Access: 2-10 Feet
Vibrations: Low

Sample No.:	0.434	0.435
Room:	412A	412A
Floor:	4	4
Column/Row:	109/AF	109/AF
Lab ID No.:	916985	916986
Friable:	No	No
Layered:	Yes	Yes
Fibrous:	Yes	Yes
Amosite:	0	0
Anthophyllite:	0	0
Chrysoltile:	0	0
Crocidolite:	0	0
TOTAL ASBESTOS:	0	0
Adhesive:	0	0
Aggregates:	0	0
Binder:	15	15
Calcite:	0	0
Carbonates:	0	0
Cellulose:	48	43
Cork:	0	0
Cotton:	0	0
Fibrous Glass:	2	2
Foam:	0	0
Foil:	0	0
Gypsum:	30	35
Horsehair:	0	0
Lizardite:	0	0
Matrix:	0	0
Mica:	0	0
Mineral Wool:	0	0
Opaques:	5	5
Paint:	0	0
Perlite:	0	0
Plaster:	0	0
Plastic Film:	0	0
Quartz:	0	0
Resinous:	0	0
Rubber Like:	0	0
Rust:	0	0
Silicates:	0	0
Synthetics:	0	0
Tar:	0	0
Vermiculite:	0	0
Vinyl:	0	0

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MOUND ASBESTOS SURVEY
SAMPLE DATA REPORT

Inspector: [redacted] Date: 10/15/91 Code: 3537 Building: OSW

Homogeneous Area Description:

Transite

Assessment Category: ACBM with Potential for Significant Damage

ACM Amount: 9 sf
Condition: Good
Comments:
None

Access: >10 Feet
Vibrations: Medium

Sample No.:	0.436	0.437
Room:	141	141
Floor:	1	1
Column/Row:	101/AE	101/AE
Lab ID No.:	916987	916988
Friable:	No	No
Layered:	Yes	Yes
Fibrous:	Yes	Yes
Amosite:	0	0
Anthophyllite:	0	0
Chrysoltile:	35	35
Crocidolite:	0	0
TOTAL ASBESTOS:	35	35
Adhesive:	0	0
Aggregates:	0	0
Binder:	55	55
Calcite:	0	0
Carbonates:	0	0
Cellulose:	5	5
Cork:	0	0
Cotton:	0	0
Fibrous Glass:	0	0
Foam:	0	0
Foil:	0	0
Gypsum:	0	0
Horsehair:	0	0
Lizardite:	0	0
Matrix:	0	0
Mica:	0	0
Mineral Wool:	0	0
Opaques:	5	5
Paint:	0	0
Perlite:	0	0
Plaster:	0	0
Plastic Film:	0	0
Quartz:	0	0
Resinous:	0	0
Rubber Like:	0	0
Rust:	0	0
Silicates:	0	0
Synthetics:	0	0
Tar:	0	0
Vermiculite:	0	0
Vinyl:	0	0

Appendix J

Lead Information

From: Christopher Ahlquist
To: Darnell, Val; Kramer, Donald
Date: 8/13/03 6:39PM
Subject: OSW Asbestos & Lead Revised

Don & Val -

For OSW Building asbestos and lead paint concerns, the following is provided for your use:

Asbestos

Previous asbestos surveys were completed in 1989 and 1992. These surveys were intended to identify all reasonably accessible asbestos-containing materials within the building for the purposes of identifying damaged material and managing asbestos in place. Asbestos pipe insulation was identified in the Penthouse (Rooms 501P and 502P) of the building as well as in Room 404. Asbestos ceiling panel (Transite-type) was located in Room 141 (10 square feet). Floor tiles and associated mastic located throughout the building were assumed to contain asbestos. All materials were identified as being either nonfriable or in an undamaged condition.

On June 3, 2003 Mr. Christopher Ahlquist, an Industrial Hygienist with CH2M Hill Mound, Inc., performed a walk-through survey of the readily accessible areas of OSW Building in order to verify the presence of previously identified asbestos-containing materials and identify any asbestos materials not previously noted. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulations for individuals assessing asbestos-containing materials. Most of the pipe insulation previously identified appeared to have been removed during (a) previous asbestos removal effort(s), although a significant amount remains in the Penthouse and is labeled as such. In addition, asbestos cement wall panels (Transite-type) were noted in the Penthouse, and an asbestos cement board table top (Transite-type) was located in Room 327C (6 square feet). Floor tiles assumed to contain asbestos remain in numerous areas throughout the building. No damaged asbestos-containing materials were seen during the survey. Any remaining asbestos-containing materials should be monitored periodically and managed to ensure that they remain undamaged. No other actions would be required unless the building is scheduled for renovation or demolition; such activities would require the removal of affected regulated asbestos.

Lead

No previous lead surveys or sampling data could be found for OSW Building. Observed paint coatings were largely intact, although significant peeling paint coatings were observed in the Penthouse and in the stairwell on the north side of the building. The peeling paint coatings were tested (7 representative samples) on August 13, 2003 for lead content in the field using a Niton XL 309 XRF lead paint analyzer. The tested coatings did not contain lead within the instrument's limit of detection. Paint coatings which were intact throughout the building were not tested.

Although untested paint coatings must be assumed to contain lead, the observed condition of these paint coatings indicates that there are currently no lead paint hazards within the building. No further action would be necessary to protect occupant or worker health unless any coatings were to be disturbed by close worker contact (sanding, grinding, scraping, torch cutting, etc.) or became deteriorated at some future time. If these types of activities are planned or if the coatings deteriorate, the affected paint coatings should be tested to verify the absence of lead.

These determinations were made by Mr. Christopher Ahlquist who is an Ohio Department of Health

Licensed Lead Risk Assessor.

Let me know if I can be of further assistance,

Chris Ahlquist

CC: Ransbottom, Robert

Appendix K

Chemical Information

Chemicals and Products Used or Stored in OSW Building

3M Chempac Fixer
3M Wash Additive
acetic acid
acetic acid, aluminum chloride
Ammonia Absorber
ammonium hydroxide
Aqua Ammonia
Blue Max Spray Buff
Calcomp Toner
chlorodifluoromethane
Clean-N-Dry
CLR Window
Conquest
CRT Screen Cleaner
DD/85 Spray
Developer CD-5
dichlorodifluoromethane
DMQ
Duo-Powder
DuPont Fixer Hardener
DuPont Hardener
Fixer
Fixer Type 028
Floor Finish/Above
Fountain HeadGloss-Extendera
Grease-Be-Gone
Head Start
Insect Spray/Cherry
Insecticide/WAS
isopropyl alcohol
Kindest Care
Kodak Developer Replenisher Part B
Kodak Developer Replenisher Part C
Laser Plotter 8836 Developer
Laser Plotter 8836 Fuser Oil
Lava Hand Soap
Lil Brother Sam
Liquid Plumber
NABC
Neut. Floor Corp.
Nitrogen
Odor Bane
On-Base Sealer
One-Step/Sure Bet
photo waste
Polish/Lemon
potassium hydroxide
Premixer Developer Type 852
Pummel Hand Soap
Recron bleach
Rinse Free/Strip
RoundUp
SBS-61 Lotion Soap
Scrub-Ender
Seal, Con-seal
Sealer/Ironstone
Shineline Base
Silver
Snapout
sodium hypochlorite
Spin-Out
Spot, Pile Driver
Spotter, Pull Out
Spray Adhesive
Stainless Cleaner
Statcide, GP
Stripper, Zip
Surface Gleem
TC Metals
tetrafluoroethane
Toner Mix Black
Toner Mix Blue
Toner Mix Red
Toner Mix Yellow
Toner Replenisher Black
Toner Replenisher Blue
Toner Replenisher Red
Toner Replenisher Yellow
Treatment/Dust
Triple SSS
Vesta Power
Window Shine

Photography Developing Solutions and Components
The following information was obtained from the Material Safety Data Sheets (MSDSs) at the photography laboratory in OSE Building in August 2003. It is believed that the chemicals used in the former OSW Building photography laboratory were likely similar to those listed below.

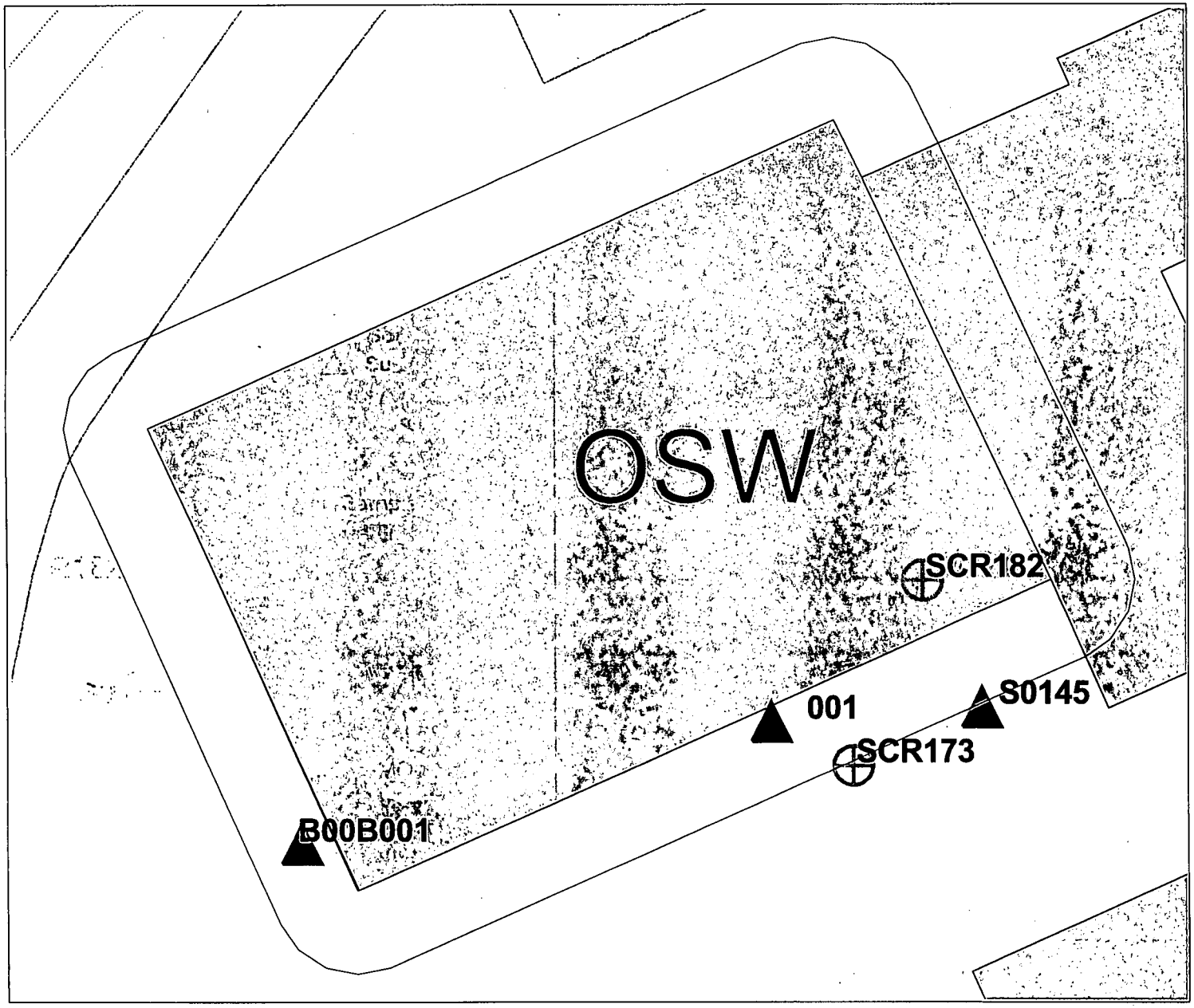
Solution	Components
E-6 Developer	Potassium sulfite Potassium carbonate Diethylene glycol Potassium hydroquinone monosulfonate Sodium carbonate
E-6 Reversal bath	Sodium propionate Substituted phosphonate Stannous chloride Propionic acid
E-6 Developer, Color (part A)	Tripotassium phosphate Potassium hydroxide Substituted phosphonate Sodium sulfite
E-6 Developer, Color (part B)	4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate monohydrate Sodium bisulfite
E-6 Pre-Bleach	Stabilizing agent (proprietary) Potassium sulfite Ethylenediaminetetraacetic acid Methanol 1-thioglycerol
E-6 Bleach (part A)	Ammonium (ethylenedinitrilotetraaceto) ferrate Ammonium bromide Hydrobromic acid Potassium nitrate
E-6 Bleach (part B)	Dipotassium ethylenediaminetetraacetic acid Tripotassium ethylenediaminetetraacetic acid
E-6 Fixer	Ammonium thiosulfate Ammonium sulfite Sodium metabisulfite Ethylenediaminetetraacetic acid
E-6 Final rinse	Nonionic surfactant Substituted thiazolin-3-one
Flexicolor developer (part A)	Potassium carbonate Potassium bicarbonate Sodium sulfite Pentetic acid, Pentasodium salt Potassium sulfite Sodium bromide
Flexicolor developer (part B)	Hydroxylamine sulfate
Flexicolor developer (part C)	4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate sodium bisulfate
Flexicolor developer (working solution)	Potassium carbonate Potassium bicarbonate Potassium sulfite 4-(N-ethyl0B020hydroxyethyl)-2-methylphenylenediamine sulfate
Flexicolor Bleach (part A)	Ammonium bromide Acetic acid

Solution	Components
Flexicolor Bleach (part B)	Ferric ammonium propylenediaminetetraacetic acid Ammonium nitrate Acetic acid Ammonium acetate
Flexicolor fixer and replenisher	Ammonium thiosulfate Ammonium sulfite Sodium bisulfite Ammonium acetate
Flexicolor stabilizer and replenisher	Formaldehyde Methanol Organosilicone
Dektomatic developer and replenisher (AKA Polymax RT)	Sodium sulfite Potassium carbonate Hydroquinone Potassium hydroxide
Hardening fixer	Ammonium thiosulphate Sodium acetate Aluminum sulfate Sodium bisulfite
P-22 developer (part A)	Potassium sulfite Potassium metaborate Sodium sulfite Ascorbic acid Potassium bromide Boric acid
P-22 developer (part B)	Ethoxydiglycol Hydroquinone 4-methyl-1-phenyl-3-pyrazolidone Benzotriazole
P-22 bleach (part A)	Sulfuric acid Sodium nitro benzene sulfonate
P-22 bleach (part B)	Acetic acid Potassium iodide Sodium mercapto propane sulfonate Quinoxaline adduct
P-22 Neutral (part A)	Sulfuric acid Nitro benzene sulfonate
P-22 Neutral (part B)	Acetic acid Potassium iodide Butyric acid adduct
P-22 Bleach neutralizer	Sodium carbonate Silicone-glycol polydimethyl siloxanes Silica
P-22 Fixer (part A)	Ammonium thiosulfate Potassium sulfite Potassium bisulfite NA4-EDTA
P-22 Fixer (part B)	N-methyl-pyrrolidone (NMP)
T-Max Developer	Diethanolamine sulfur dioxide Hydroquinone Sodium bisulfite
Photo-flo 200 solution	Propylene glycol P-tert-octylphenoxy polyethyl alcohol

Appendix L

Soil Sampling, Vicinity

Historic Sample Locations within 15 feet of OSW Building



Borehole
Surface Sample

Sample Detect
Sample Nondetect

N
W
E
S

MOUND
Environmental Restoration Geographic Information System

25 0 25 50 75 100 Feet

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04/30/03

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OSW Building Detects

Location_ name	Sample_id	Collection_ date	Value_name	Measured _value	Value_ units	Detection _limit	Chem_ class	Start_ depth	End_ depth	Lab_	Data_	Project_code	Media	Comments
001	001	20001125	Cesium-137	0.0200	PCI/G	0.0100	RAD	0.0	0.0			GASLINE	Soil	
B00B001	B00B001	20000907	Cesium-137	0.0200	PCI/G	0.0100	RAD	0.0	0.0			B BLDG C	Soil	
001	001	20001125	Lead-210	0.5100	PCI/G	0.1600	RAD	0.0	0.0			GASLINE	Soil	
B00B001	B00B001	20000907	Lead-210	0.5100	PCI/G	0.2600	RAD	0.0	0.0			B BLDG C	Soil	
S0145	6182	19840801	Plutonium-238	0.0200	PCI/G	0.0100	RAD	0.0	0.0			RSS	Soil	
B00B001	B00B001	20000907	Radium-226	0.8300	PCI/G	0.3000	RAD	0.0	0.0			B BLDG C	Soil	1
001	001	20001125	Radium-226	0.7200	PCI/G	0.0600	RAD	0.0	0.0			GASLINE	Soil	1
B00B001	B00B001	20000907	Thorium-232	0.2100	PCI/G	0.0300	RAD	0.0	0.0			B BLDG C	Soil	1
001	001	20001125	Thorium-232	0.1600	PCI/G	0.0200	RAD	0.0	0.0			GASLINE	Soil	1

*Comments

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

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

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OSW Building Non-detects

Location_ name	Sample_id	Collection_date	Value_name	Measured_ value	Value_units	Detection_ limit	Chem_ class	Start_ depth	End_ depth	Lab	Data	Project_code	Media
001	001	20001125	Actinium-227	0.0800	PCI/G	0.0800	RAD	0.0	0.0	U		GASLINE	Soil
B00B001	B00B001	20000907	Actinium-227	0.0800	PCI/G	0.0800	RAD	0.0	0.0	U		B BLDG C	Soil
B00B001	B00B001	20000907	Americium-241	0.0300	PCI/G	0.0300	RAD	0.0	0.0	U		B BLDG C	Soil
001	001	20001125	Americium-241	0.0200	PCI/G	0.0200	RAD	0.0	0.0	U		GASLINE	Soil
001	001	20001125	Cobalt-60	0.0100	PCI/G	0.0100	RAD	0.0	0.0	U		GASLINE	Soil
B00B001	B00B001	20000907	Cobalt-60	0.0100	PCI/G	0.0100	RAD	0.0	0.0	U		B BLDG C	Soil
SCR182	92042811	19920428	Plutonium-238	17.0000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil
001	001	20001125	Plutonium-238	12.8300	PCI/G	12.8300	RAD	0.0	0.0	U		GASLINE	Soil
B00B001	B00B001	20000907	Plutonium-238	8.3000	PCI/G	8.3000	RAD	0.0	0.0	U		B BLDG C	Soil
SCR182	92042810	19920428	Plutonium-238	4.0000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil
SCR173	9010151	19901011	Plutonium-238	0.0000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil
SCR182	92042812	19920428	Plutonium-238	0.0000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil
B00B001	B00B001	20000907	Thorium-230	2.5200	PCI/G	2.5200	RAD	0.0	0.0	U		B BLDG C	Soil
001	001	20001125	Thorium-230	1.6300	PCI/G	1.6300	RAD	0.0	0.0	U		GASLINE	Soil
S0145	6182	19840801	Thorium-232	2.0000	PCI/G	2.0000	RAD	0.0	0.0	U		RSS	Soil
SCR182	92042811	19920428	Thorium-232	0.9000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil
SCR182	92042810	19920428	Thorium-232	0.7000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil
SCR173	9010151	19901011	Thorium-232	0.6000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil
SCR182	92042812	19920428	Thorium-232	0.4000	PCI/G		RAD	0.0	0.0	U		SCRDATA	Soil

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

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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.

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.

Comparisons for Soil Analytical Results			
10^{-6} Risk-Based Guideline Values			
107-06-2	1,2-Dichloroethane	3.20E+00	MG/KG
118-96-7	2,4,6-Trinitrotoluene	1.91E+02	MG/KG
72-55-9	4,4'-DDE	9.00E+00	MG/KG
50-29-3	4,4'-DDT	9.00E+00	MG/KG
309-00-2	Aldrin	1.80E-01	MG/KG
5103-71-9	Alpha Chlordane	8.50E+00	MG/KG
12672-29-6	Aroclor-1248	3.85E-01	MG/KG
11096-82-5	Aroclor-1260	3.85E-01	MG/KG
7440-38-2	Arsenic	1.20E+03	MG/KG
71-43-2	Benzene	8.90E+00	MG/KG
56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
7440-41-7	Beryllium	7.00E-01	MG/KG
319-85-7	Beta-BHC	1.65E+00	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
75-27-4	Bromodichloromethane	4.80E+01	MG/KG
75-25-2	Bromoform	3.75E+02	MG/KG
7440-43-9	Cadmium	1.00E+04	MG/KG
56-23-5	Carbon Tetrachloride	4.60E+00	MG/KG
67-66-3	Chloroform	3.10E+00	MG/KG
7440-47-3	Chromium	1.50E+03	MG/KG
218-01-9	Chrysene	4.10E+02	MG/KG
53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
124-48-1	Dibromochloromethane	3.55E+01	MG/KG
75-09-2	Dichloromethane	3.95E+02	MG/KG
60-57-1	Dieldrin	1.85E-01	MG/KG
5103-74-2	Gamma Chlordane	8.50E+00	MG/KG
58-89-9	Gamma-BHC (Lindane)	2.30E+00	MG/KG
76-44-8	Heptachlor	0.66	MG/KG
1024-57-3	Heptachlor Epoxide	0.33	MG/KG
193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
78-59-1	Isophorone	3.15E+03	MG/KG
86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
87-86-5	Pentachlorophenol	2.50E+01	MG/KG
121-82-4	RDX	2.70E+01	MG/KG
79-01-6	Trichloroethene	5.09E+00	MG/KG
7440-41-7	1,1,1,2-Tetrachloroethane	1.10E-02	MG/L
7440-38-2	1,1,2,2-Tetrachloroethane	1.40E-03	MG/L
14952-40-0	Actinium-227	4.50E-01	PCI/G
14596-10-2	Americium-241	6.30E+00	PCI/G
13982-38-2	Bismuth-207	1.60E-01	PCI/G
10045-97-3	Cesium-137	3.40E-01	PCI/G
10198-40-0	Cobalt-60	7.00E-02	PCI/G

14255-04-0	Lead-210	6.20E-01	PCI/G
13981-16-3	Plutonium-238	6.10E+00	PCI/G
15117-48-3	Plutonium-239	6.00E+00	PCI/G
PU239/240	Plutonium-240	6.00E+00	PCI/G
13966-00-2	Potassium-40	1.42E+00	PCI/G
14331-85-2	Protactinium-231	3.90E-01	PCI/G
13982-63-3	Radium-226	9.00E-02	PCI/G
10098-97-2	Strontium-90	9.40E+00	PCI/G
14274-82-9	Thorium-228	1.10E-01	PCI/G
14269-63-7	Thorium-230	9.00E-02	PCI/G
7440-29-1	Thorium-232	7.00E-02	PCI/G
10028-17-8	Tritium	2.35E+04	PCI/G
13968-55-3	Uranium-233	9.68E-01	PCI/G
13966-29-5	Uranium-234	1.05E+01	PCI/G
15117-96-1	Uranium-235	1.60E+00	PCI/G
7440-61-1	Uranium-238+D	1.00E-01	PCI/G
14596-10-2	Americium-241	4.90E-01	PCI/L
14331-79-4	Bismuth-210	2.20E+01	PCI/L
15262-20-1	Radium-228	3.30E-01	PCI/L
13967-73-2	Strontium-85	1.10E+02	PCI/L
10098-97-2	Strontium-90	3.90E+00	PCI/L
15623-47-9	Thorium-227	4.00E+00	PCI/L
14274-82-9	Thorium-228	6.90E-01	PCI/L
14269-63-7	Thorium-230	1.20E-01	PCI/L
7440-29-1	Thorium-232	3.10E-01	PCI/L
7440-61-1	Uranium-238	1.10E-01	PCI/L
OU9 Soil Background Value			
72-54-8	4,4'-DDD	4.2	MG/KG
72-55-9	4,4'-DDE	4.3	MG/KG
50-29-3	4,4'-DDT	13	MG/KG
309-00-2	Aldrin	ND	MG/KG
5103-71-9	Alpha Chlordane	ND	MG/KG
319-84-6	Alpha-BHC	ND	MG/KG
7429-90-5	Aluminum	19000	MG/KG
14596-10-2	Americium-241	ND	MG/KG
12672-29-6	Aroclor-1248	ND	MG/KG
11097-69-1	Aroclor-1254	58	MG/KG
11096-82-5	Aroclor-1260	ND	MG/KG
7440-38-2	Arsenic	8.6	MG/KG
7440-39-3	Barium	180	MG/KG
7440-41-7	Beryllium	1.3	MG/KG
319-85-7	Beta-BHC	ND	MG/KG
7440-69-9	Bismuth	ND	MG/KG
13982-38-2	Bismuth-207	ND	MG/KG
14331-79-4	Bismuth-210m	ND	MG/KG
7440-43-9	Cadmium	2.1	MG/KG
7440-70-2	Calcium	310000	MG/KG
7440-47-3	Chromium	20	MG/KG

7440-48-4	Cobalt	19	MG/KG
7440-50-8	Copper	26	MG/KG
57-12-5	Cyanide	ND	MG/KG
60-57-1	Dieldrin	ND	MG/KG
959-98-8	Endosulfan I	ND	MG/KG
1031-07-8	Endosulfan Sulfate	ND	MG/KG
72-20-8	Endrin	ND	MG/KG
7421-93-4	Endrin Aldehyde	ND	MG/KG
53494-70-5	Endrin Ketone	ND	MG/KG
5103-74-2	Gamma Chlordane	ND	MG/KG
58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
76-44-8	Heptachlor	ND	MG/KG
1024-57-3	Heptachlor Epoxide	ND	MG/KG
77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
7439-89-6	Iron	35000	MG/KG
7439-92-1	Lead	48	MG/KG
7439-93-2	Lithium	26	MG/KG
7439-95-4	Magnesium	40000	MG/KG
7439-96-5	Manganese	1400	MG/KG
7439-97-6	Mercury	ND	MG/KG
72-43-5	Methoxychlor	30	MG/KG
7439-98-7	Molybdenum	27	MG/KG
7440-02-0	Nickel	32	MG/KG
7440-09-7	Potassium	1900	MG/KG
7782-49-2	Selenium	ND	MG/KG
7440-22-4	Silver	1.7	MG/KG
7440-23-5	Sodium	240	MG/KG
7440-28-0	Thallium	0.46	MG/KG
7440-31-5	Tin	20	MG/KG
7440-62-2	Vanadium	25	MG/KG
7440-66-6	Zinc	140	MG/KG
14952-40-0	Actinium-227	1.10E-01	PCI/G
10045-97-3	Cesium-137	0.42	PCI/G
14255-04-0	Lead-210	1.20E+00	PCI/G
13981-16-3	Plutonium-238	0.13	PCI/G
15117-48-3	Plutonium-239	1.80E-01	PCI/G
PU239/240	Plutonium-240	1.80E-01	PCI/G
13966-00-2	Potassium-40	37	PCI/G
14331-85-2	Protactinium-231	1.10E-01	PCI/G
13982-63-3	Radium-226	2	PCI/G
10098-97-2	Strontium-90	0.72	PCI/G
14274-82-9	Thorium-228	1.5	PCI/G
14269-63-7	Thorium-230	1.9	PCI/G
7440-29-1	Thorium-232	1.4	PCI/G
10028-17-8	Tritium	1.6	PCI/G
13966-29-5	Uranium-234	1.1	PCI/G
15117-96-1	Uranium-235	0.11	PCI/G
7440-61-1	Uranium-238	1.2	PCI/G

Core Team Determined Screening Level			
7439-92-1	Lead	400	MG/KG
14952-40-0	Actinium-227	5.60E-01	PCI/G
14596-10-2	Americium-241	6.3	PCI/G
13982-38-2	Bismuth-207	1.75E-01	PCI/G
10045-97-3	Cesium-137	0.76	PCI/G
10198-40-0	Cobalt-60	7.00E-02	PCI/G
14255-04-0	Lead-210	1.80E+00	PCI/G
13981-16-3	Plutonium-238	55	PCI/G
14331-85-2	Protactinium-231	4.00E+00	PCI/G
13982-63-3	Radium-226	2.1	PCI/G
14274-82-9	Thorium-228	1.61	PCI/G
14269-63-7	Thorium-230	2	PCI/G
7440-29-1	Thorium-232	1.47	PCI/G
15117-96-1	Uranium-235	1.7	PCI/G
7440-61-1	Uranium-238+D	1.3	PCI/G
Maximum Contaminant Level for Drinking Water			
71-55-6	1,1,1-Trichloroethane	0.2	MG/L
79-00-5	1,1,2-Trichloroethane	0.005	MG/L
75-35-4	1,1-Dichloroethene	0.007	MG/L
120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
156-59-2	1,2-cis-Dichloroethene	0.07	MG/L
106-93-4	1,2-Dibromoethane	0.00005	MG/L
95-50-1	1,2-Dichlorobenzene	0.6	MG/L
107-06-2	1,2-Dichloroethane	0.005	MG/L
78-87-5	1,2-Dichloropropane	0.005	MG/L
156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
106-46-7	1,4-Dichlorobenzene	0.075	MG/L
95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
94-75-7	2,4-D	0.07	MG/L
7440-36-0	Antimony	0.0006	MG/L
7440-38-2	Arsenic	0.05	MG/L
7440-39-3	Barium	2	MG/L
71-43-2	Benzene	0.005	MG/L
50-32-8	Benzo(a)pyrene	0.002	MG/L
7440-41-7	Beryllium	0.004	MG/L
117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
75-27-4	Bromodichloromethane	0.008	MG/L
75-25-2	Bromoform	0.008	MG/L
7440-43-9	Cadmium	0.005	MG/L
56-23-5	Carbon Tetrachloride	0.005	MG/L
57-74-9	Chlordane	0.002	MG/L
108-90-7	Chlorobenzene	0.1	MG/L
67-66-3	Chloroform	0.008	MG/L
7440-47-3	Chromium	0.1	MG/L
7440-50-8	Copper	1.3	MG/L
57-12-5	Cyanide	0.2	MG/L
96-12-8	Dibromochloropropane	0.0002	MG/L

75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
88-85-7	Dinoseb	0.007	MG/L
1746-01-6	Dioxin	0.00000003	MG/L
72-20-8	Endrin	0.002	MG/L
100-41-4	Ethylbenzene	0.07	MG/L
16984-48-8	Flouride	4	MG/L
58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
76-44-8	Heptachlor	0.0004	MG/L
1024-57-3	Heptachlor Epoxide	0.0002	MG/L
118-74-1	Hexachlorobenzene	0.001	MG/L
77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
7439-92-1	Lead	0.015	MG/L
7439-97-6	Mercury	0.002	MG/L
72-43-5	Methoxychlor	0.04	MG/L
7440-02-0	Nickel	0.1	MG/L
NO3	Nitrate	10	MG/L
14797-65-0	Nitrite	1	MG/L
87-86-5	Pentachlorophenol	0.001	MG/L
7782-49-2	Selenium	0.05	MG/L
100-42-5	Styrene	0.1	MG/L
127-18-4	Tetrachloroethene	0.005	MG/L
7440-28-0	Thallium	0.002	MG/L
108-88-3	Toluene	1	MG/L
8001-35-2	Toxaphene	0.003	MG/L
79-01-6	Trichloroethene	0.005	MG/L
75-01-4	Vinyl Chloride	0.002	MG/L
1330-20-7	Xylenes, Total	10	MG/L
14952-40-0	Actinium-227	0.4	PCI/L
14596-10-2	Americium-241	1.2	PCI/L
13982-38-2	Bismuth-207	1200	PCI/L
10045-97-3	Cesium-137	120	PCI/L
10198-40-0	Cobalt-60	400	PCI/L
13981-16-3	Plutonium-238	1.6	PCI/L
13982-63-3	Radium-226	4	PCI/L
10098-97-2	Strontium-90	40	PCI/L
14274-82-9	Thorium-228	16	PCI/L
14269-63-7	Thorium-230	12	PCI/L
7440-29-1	Thorium-232	2	PCI/L
10028-17-8	Tritium	20000	PCI/L
13968-55-3	Uranium-233	20	PCI/L
13966-29-5	Uranium-234	20	PCI/L
15117-96-1	Uranium-235	24	PCI/L
7440-61-1	Uranium-238	24	PCI/L
Guideline Values Based on the Hazard Index			
76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	7.00E+04	MG/KG
75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
120-82-1	1,2,4-Trichlorobenzene	2.04E+04	MG/KG
156-59-2	1,2-cis-Dichloroethene	2.13E+03	MG/KG

156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
99-65-0	1,3-Dinitrobenzene	2.00E+02	MG/KG
118-96-7	2,4,6-Trinitrotoluene	1.00E+03	MG/KG
78-93-3	2-Butanone	9.30E+03	MG/KG
95-57-8	2-Chlorophenol	1.06E+03	MG/KG
108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
50-29-3	4,4'-DDT	1.10E+02	MG/KG
106-44-5	4-Methylphenol	1.10E+03	MG/KG
67-64-1	Acetone	2.10E+04	MG/KG
309-00-2	Aldrin	6.4	MG/KG
5103-71-9	Alpha Chlordane	110	MG/KG
7429-90-5	Aluminum	210000	MG/KG
120-12-7	Anthracene	6.40E+04	MG/KG
7440-36-0	Antimony	8.50E+01	MG/KG
11097-69-1	Aroclor-1254	4.30E+00	MG/KG
7440-38-2	Arsenic	6.40E+01	MG/KG
7440-39-3	Barium	1.50E+04	MG/KG
65-85-0	Benzoic Acid	8.50E+05	MG/KG
7440-41-7	Beryllium	1.10E+03	MG/KG
117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
75-27-4	Bromodichloromethane	4.30E+03	MG/KG
75-25-2	Bromoform	4.30E+03	MG/KG
85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
7440-43-9	Cadmium	2.10E+02	MG/KG
75-15-0	Carbon Disulfide	2.80E+02	MG/KG
56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
75-00-3	Chloroethane	1.60E+02	MG/KG
67-66-3	Chloroform	2.10E+03	MG/KG
7440-47-3	Chromium	1.10E+03	MG/KG
18540-29-9	Chromium-VI	6.39E+02	MG/KG
7440-50-8	Copper	7.90E+03	MG/KG
57-12-5	Cyanide	4.30E+03	MG/KG
124-48-1	Dibromochloromethane	4.30E+03	MG/KG
75-09-2	Dichloromethane	1.00E+03	MG/KG
60-57-1	Dieldrin	1.10E+01	MG/KG
84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
959-98-8	Endosulfan I	1300	MG/KG
33213-65-9	Endosulfan II	1300	MG/KG
100-41-4	Ethylbenzene	4.80E-01	MG/KG
86-73-7	Flourene	8.50E+03	MG/KG
206-44-0	Fluoranthene	8.50E+03	MG/KG
5103-74-2	Gamma Chlordane	110	MG/KG
58-89-9	Gamma-BHC (Lindane)	64	MG/KG
76-44-8	Heptachlor	110	MG/KG
1024-57-3	Heptachlor Epoxide	2.8	MG/KG
110-54-3	Hexane	9.10E+01	MG/KG
78-59-1	Isophorone	4.30E+04	MG/KG
7439-96-5	Manganese	2.70E+04	MG/KG

7439-97-6	Mercury	6.40E+01	MG/KG
72-43-5	Methoxychlor	1100	MG/KG
7440-02-0	Nickel	4.30E+03	MG/KG
87-86-5	Pentachlorophenol	6.40E+03	MG/KG
108-95-2	Phenol	1.30E+05	MG/KG
129-00-0	Pyrene	6.40E+03	MG/KG
7782-49-2	Selenium	1100	MG/KG
7440-22-4	Silver	1.10E+03	MG/KG
127-18-4	Tetrachloroethene	2.10E+03	MG/KG
7440-28-0	Thallium	17	MG/KG
7440-31-5	Tin	130000	MG/KG
108-88-3	Toluene	2.50E+02	MG/KG
75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
7440-62-2	Vanadium	1.50E+03	MG/KG
1330-20-7	Xylenes, Total	4.30E+05	MG/KG
7440-66-6	Zinc	6.40E+04	MG/KG
7440-41-7	1,1,1,2-Tetrachloroethane	2.90E-01	MG/L
7440-38-2	1,1,2,2-Tetrachloroethane	2.50E-01	MG/L
71-55-6	1,1,1-Trichloroethane	1.80E+00	MG/L
76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	2.50E+03	MG/L
7429-90-5	Aluminum	100	MG/L
7440-42-8	Boron	9.00E+00	MG/L
18540-29-9	Chromium-VI	3.00E-01	MG/L
7440-48-4	Cobalt	6	MG/L
7440-50-8	Copper	4.00E+00	MG/L
7439-98-7	Molybdenum	0.5	MG/L
7782-49-2	Selenium	0.5	MG/L
7440-28-0	Thallium	0.008	MG/L
7440-31-5	Tin	60	MG/L
2691-41-0	HMX	1.10E+04	UG/KG
121-82-4	RDX	6.40E+04	UG/KG

Appendix M

Occurrence Reports

A search of the occurrence reporting system revealed one report:

- NPDES Permit Violation, Exceedance of Weekly Biological Oxygen Demand Limit at the Waste Water Treatment Plant

OH-MB-EGGM-EGGMAT05-1997-0001 Final Report

Occurrence Report

Utilities Facilities

(Name of Facility)

Balance-of-Plant

(Facility Function)

Mound Plant EG&G Mound Applied Technologies

(Laboratory, Site, or Organization)

Name: Jon Yonko
Title: Maintenance Manager **Telephone No.:** (937) 865-3151

(Facility Manager/Designee)

Name: YONKO, JON D
Title: MANAGER, FACILITIES MAINT. & UTIL. **Telephone No.:** (513) 865-3151

(Originator/Transmitter)

Name: Donald V. Dixon **Date:** 04/17/1997

(Authorized Classifier (AC))

1. **Occurrence Report Number:** OH-MB-EGGM-EGGMAT05-1997-0001

   NPDES Permit Violation, Exceedance of Weekly Biological Oxygen Demand Limit at the Waste Water Treatment Plant

2. **Report Type and Date:** Final

	Date	Time
Notification:	03/04/1997	13:31 (MTZ)
Initial Update:	04/17/1997	15:21 (MTZ)
Latest Update:	04/17/1997	15:21 (MTZ)
Final:	06/05/1997	09:40 (MTZ)

3. **Occurrence Category:** Off-Normal

4. **Number of Occurrences:** 1 **Original OR:**

5. **Division or Project:** E G & G Mound Applied Technologies

6. **Secretarial Office:** EM - Environmental Management

7. **System, Bldg., or Equipment:** Waste Water Treatment Plant

8. **UCNI?:** No

9. **Plant Area:** Test Fire

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10. Date and Time Discovered: 03/03/1997 16:00 (ETZ)

11. Date and Time Categorized: 03/03/1997 16:30 (ETZ)

12. DOE Notification:

13. Other Notifications:

Date	Time	Person Notified	Organization
03/04/1997	08:00 (ETZ)	Fred Holbrook	DOE/MEMP

14. Subject or Title of Occurrence:

NPDES Permit Violation, Exceedance of Weekly Biological Oxygen Demand Limit at the Waste Water Treatment Plant

15. Nature of Occurrence:

02) Environmental
E. Environmental Agreement/Compliance Activities

16. Description of Occurrence:

On Monday, February 24, an electrician responded to a maintenance service request that the OSW-402 area was warm (room temperature). The Liebert (manufacturer) units that cool the area had shut down. The OSW-402 room, originally a vault housing the magnetic tapes for the computer mainframes, is air conditioned by two Liebert units supplied with chilled water from the central system. The craftsman took pressure gage readings and found that the unit had tripped out on high head pressure. After several troubleshooting steps, he found restricted chilled water flow through the cooling unit. Suspecting that the system had a bypass valve which would alleviate the flow problem, he lifted a floorboard to the raised computer flooring to expose the central chilled water piping for the system and associated valves. Upon manipulating what he thought was the bypass valve, the system pressure returned to normal; the craftsman restarted the Liebert cooling system.

What was assumed to be the "bypass" valve was in fact the valve that permitted discharge of single pass cooling water to the sanitary sewer system which was only utilized during plant utility shutdowns. Opening this valve allowed the 30% ethylene glycol cooling water solution (Plant chilled water system) to be discharged to the sanitary sewer. Ethylene glycol was discharged to the waste water treatment plant each time cooling was required for the computer room (OSW-402) vault. The amount of ethylene glycol discharged to the waste water treatment plant was dependent upon how long the Liebert unit in OSW-404 operated.

On Monday, February 24, 1997, at approximately 1930 hours (ETZ), the waste water treatment plant experienced a sharp decrease in the plants dissolved oxygen readings. A notice was sent out to the plant population on February 25, 1997 requesting all personnel to evaluated their processes for any unusual occurrences that may have permitted a chemical

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discharge to the sanitary sewer system. On Wednesday morning, February 26, 1997, the powerhouse operators suspected a glycol leak when the plant cooling water system required 200 gallons of makeup. The powerhouse personnel initiate the "Glycol Spill Procedure" at 0820 hours (ETZ). The leak was difficult to track down by isolating various sections of the main hill distribution system due to the intermittent demand for by the Liebert unit located in OSW-402. On February 26, 1997, at approximately 1600 hours, the incorrect valving was discovered and the Liebert unit was shut down.

The Liebert units in OSW-402 are unique to the Mound site in that they are the only units cooled with the central chilled water system. Since the old magnetic tape vault required cooling at all times, the Liebert units were plumbed with BACKUP single pass domestic water to the sanitary or storm water drain. The piping tie-in to the sanitary drain is no longer needed since OSW-402 computer operations were curtailed in 1995.

A total of 795 gallons of chilled water with concentration of 30% ethylene glycol in solution (2,235 pounds of ethylene glycol) was released to the waste water treatment plant (WWTP). When the WWTP operators learned that ethylene glycol had entered their process stream, they isolated the influent remaining in the equalizer chamber by pumping its contents to a holding tank. The digester was restarted as the new aeration tank and the original aeration tank were shut down due to poor condition of the bacteria. The weekly Biological Oxygen Demand (BOD) samples for outfall 601 tested on March 3 failed the weekly BOD limit of 15 mg/l. Test results revealed 88 mg/l as a weekly average. The 30 day BOD average limitation is 10 mg/l. The 30 day limit was also exceeded.

This report was reviewed by an authorized derivative classifier (Donald V. Dixon, Facilities Management) on 4/17/97 at 1200 hours (ETZ) and does not contain classified or UCNI Information

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17. Operating Conditions of Facility at Time of Occurrence:

Normal Plant Operations

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18. Activity Category:

03 - Normal Operations -

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19. Immediate Actions Taken and Results:

On February 24, 1997, when the waste water treatment plant experience a sharp decrease in the plants dissolved oxygen readings, Maintenance personnel realized that a chemical had likely been discharged to the sanitary sewer. A notice was sent to the DOE plant population to request the plant to evaluate their processes for unplanned discharges.

On February 25, 1997, when powerhouse operators suspected ethylene glycol was being released or leaking (internal to the plant), the Glycol Spill Procedure was initiated. On February 26, 1997, during the implementation of the Glycol Spill Procedure investigation, the incorrect valving in

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OSW-402 was discovered. The Liebert unit was shut down on February 26, 1997.

When the WWTP operators learned that ethylene glycol had entered their process stream, they isolated the influent remaining in the equalizer chamber by pumping its contents to a holding tank. The digester was restarted as the new aeration tank and the original aeration tank were shut down due to poor condition of the bacteria. The glycol in the holding tank was processed at appropriate rates to ensure proper treatment.

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20. Direct Cause:

3) Personnel Error
D. Other Human Error

21. Contributing Cause(s):

22. Root Cause:

6) Management Problem
A. Inadequate Administrative Control

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23. Description of Cause:

The direct cause of this occurrence was due to a personnel error. The craftsman made a mistake in assuming that the valve opened was a bypass valve. The root cause to this incident was the lack of proper administrative controls. The two Liebert air conditioning systems in OSW-402 are unique to Mound Facility in that they are the only units piped to the glycol based central chilled water system with a domestic water single pass backup. Management failed to provide instructions and labeling to these units to make it clear to the tradesman that these Lieberts were not the normal piping configuration.

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24. Evaluation (by Facility Manager/Designee):

The valve connecting the glycol chilled water to the drain should have been removed when the room was converted from the mainframe computer room to an office area. The incident points out the need to adequately identify unique configurations and to use this occurrence as a lessons learned when converting other facilities to a different use.

The incident also showed that the glycol spill procedure was used correctly and everyone responded promptly. The intermitent nature of the glycol release made it difficult to track down.

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25. Is Further Evaluation Required?: No

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26. Corrective Actions
(* = Date added/revised since final report was approved.)

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1.	Modify piping to the Lieberts in OSW-402 so that they are disconnected from the drains to the sanitary and the storm sewers.	
	Target Completion Date: 04/15/1997	**Completion Date:** 04/15/1997
2.	Confirm that no other HVAC systems with glycol have a backup single pass piping layout to a sanitary drain.	
	Target Completion Date: 03/17/1997	**Completion Date:** 03/17/1997
3.	Conduct meeting with HVAC electricians to assess where improved labelling on the HVAC systems is needed and then set schedule for completion.	
	Target Completion Date: 03/31/1997	**Completion Date:** 03/31/1997
4.	Issue lessons learned as per MD10433 pertaining to modifying a facility or area from one functional use to another.	
	Target Completion Date: 05/29/1997	**Completion Date:** 05/29/1997

27. Impact on Environment, Safety and Health:

The ethylene glycol was processed through the waste water treatment plant. The majority of the glycol was contained and isolated within the holding tanks and then slowly fed into the new aeration tank over a period of 3 weeks for consumption by the bacteria. The amount of glycol entering the Great Miami River did not significantly effect the water quality; no long term impact is projected.

The weekly BOD limit at outfall 601 of 15 mg/l was exceeded. The treatment plant was operating, however, within the permit limits by the following week. The water quality of the Great Miami River was not significantly effected.

28. Programmatic Impact:

None.

29. Impact on Codes and Standards:

None

30. Lessons Learned:

See sections 24 and 26.

31. Similar Occurrence Report Numbers:

1. OH-MB-EGGM-EGGMAT03-1996-0003

32. User-defined Field #1:

33. User-defined Field #2: M5 of 6

34. DOE Facility Representative Input:

35. DOE Program Manager Input:

36. Approvals:

Approved by: Jon Yonko, Facility Manager/Designee
Date: 04/17/1997
Telephone No.: (937) 865-3151

Approved by: POWELL, RAYMOND J, Facility Representative/Designee
Date: 04/23/1997
Telephone No.: (513) 865-3041

Approved by: TRACY, TERRANCE, Program Manager/Designee
Date: 06/05/1997
Telephone No.: (301) 903-2173

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Appendix N

PRS Information

MOUND PLANT
PRS 129/130
Former Solvent Storage Sites

RECOMMENDATION:

PRS 129/130 was the B Building solvent storage shed and its adjacent drum storage pad. They were identified as PRSs during the *1993, Soil Gas Survey and Geophysical Investigation* when volatile organic compounds (VOCs) were detected in the soils around PRS129/130. The shed was dismantled in February 1994. An action memorandum was prepared in February 1994 to proceed with the removal of VOCs. The selected remedial method was soil vapor extraction (SVE). The SVE system was implemented in June 1994 and operated through September 1994. Verification soil samples were taken in October 1994. The removal objectives were met and are documented in the On-Scene Coordinator Report.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 129/130.

CONCURRENCE:

DOE/MEMP: Arthur W. Kleinrath, Remedial Project Manager — 5/13/97 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 5/13/97 (date)

OEPA: Brian K. Nickel, Project Manager — 5/14/97 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 6/17/97 to 7/18/97

☐ No comments were received during the comment period.

☒ Comment responses can be found on page 1-2b of this package.

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MOUND PLANT
PRS 244
SOIL CONTAMINATION - B BUILDING

RECOMMENDATION:

Potential Release Site (PRS) 244 was designated as a PRS because of the detection of volatile organic compounds (VOCs) in four sampling locations surrounding the Mound Plant road located west of B Building and OSW Building during the 1992 Soil Gas Survey.

The contaminants of concern detected during the 1992 Soil Gas Survey were toluene and 1,1,1 trichloroethane. Calculations were performed converting the toluene and 1,1,1 trichloroethane 10^{-6} Risk Based Guideline Value (given in mg contaminant per kg soil) to a corresponding 10^{-6} Risk Based Guideline Value for soil gas concentrations (parts contaminant per parts soil gas). The results of the calculation showed that the toluene detection was more than 15,000 times less than its guideline criteria and the 1,1,1 trichloroethane detection was more than 1,000 times less than its guideline criteria. Additionally, in 1983, three surface samples taken in the vicinity of PRS 244 showed plutonium-238 at a maximum concentration of 0.47 pCi/g and thorium-232 at a maximum concentration of less than 2 pCi/g. Both below their respective guideline criteria of 25 pCi/g and 5 pCi/g.

Therefore, since neither the 1992 Soil Gas Survey nor the 1983 Radiological Site Survey found any contaminants above their acceptable guideline criteria and since there is no additional laboratory data or history of evidence of contamination, PRS 244 requires NO FURTHER ASSESSMENT.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath 12/17/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 12/17/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 12/17/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 1/30/97 to 3/6/97

☒ No comments were received during the comment period.

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

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