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Babcock & Wilcox of Ohio, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, Ohio 45343-3030
(937) 865-4020

ESC-194/99
December 6, 1999

99-TC/12-06

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

ATTENTION: Dewain Eckman

SUBJECT: Contract No. DE-AC24-97OH20044
BUILDING 40: DELIVERY OF FINAL BUILDING DATA PACKAGE

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

Dear Mr. Provencher:

In response to public review comments received from the MMCIC, BWO has revised the Building Data Package for Building 40. Frank Schmaltz of MEMP has authorized the release of the revised and "Final" document version to USEPA, OEPA, and ODH. Copies will also be distributed to MMCIC and the Public Reading Room.

Please advise if additional copies are required for distribution within DOE. If you require further information, please contact Dave Rakel at extension 4203.

Sincerely,

JSStapleton

Jeffrey S. Stapleton
Acting Manager, Environmental Safeguards & Compliance

JSS/nmg

Enclosures as stated

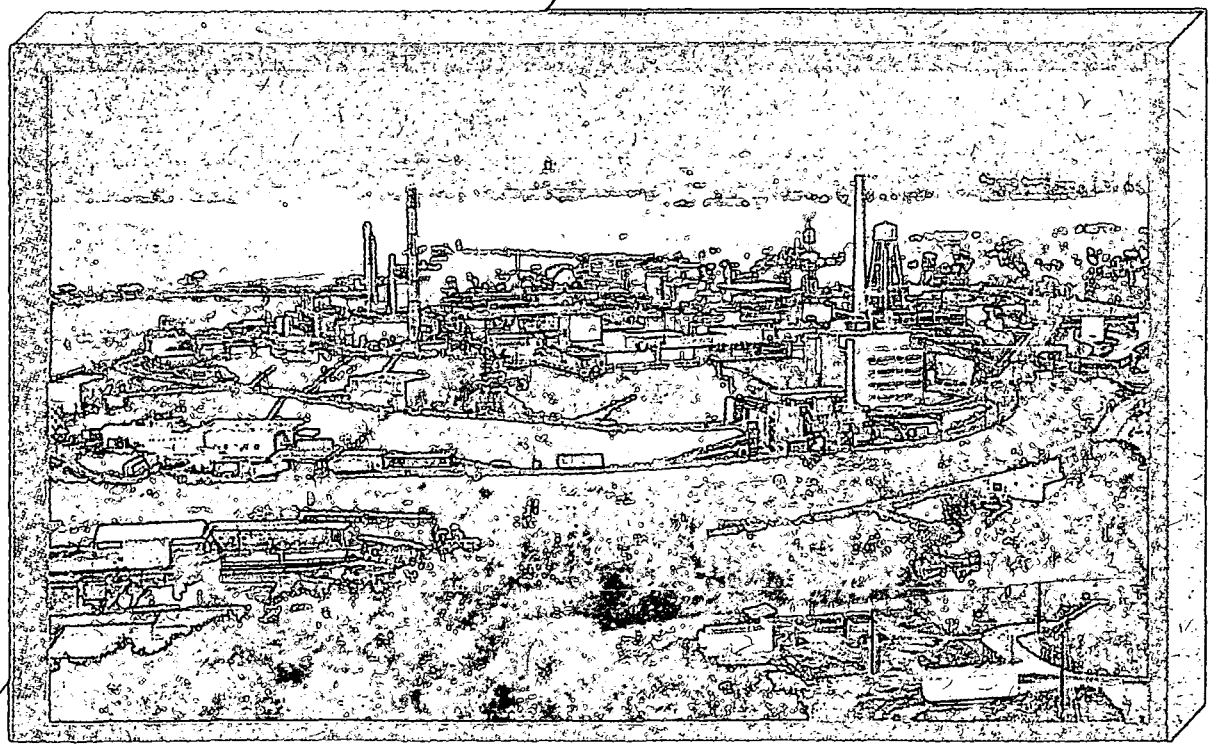
cc: Tim Fischer, USEPA, (1) w/attachment
Brian Nickel, OEPA, (1) w/attachment
Ruth Vandegrift, ODH, (1) w/attachment
Art Kleinrath, MEMP, (1) w/attachment
Terrence Tracy, DOE/HQ, (1) w/attachment
Budd Thompson, BWO, (2) w/attachment
Dann Bird, MMCIC, (1) w/attachment
Public Reading Room, (5) w/attachment
Administrative Record, (2) w/attachment
DCC

3005-9912070003

MOUND

Environmental Restoration Program

MOUND PLANT
Building Data Package
Building 40



BDP Building 40

REV	DESCRIPTION	DATE
WORKING DRAFT		**June 16, 1999**
DRAFT		**June 17, 1999**
DRAFT PROPOSED FINAL	Building binned NFA on 7/28/99. Binning/document adjustments incorporated. Additional radiological and drain survey information included. Recommendation page signed and inserted.	**Aug. 11, 1999**
PUBLIC REVIEW DRAFT	No comments received to Draft Proposed Final version.	**Sept. 15, 1999**
FINAL	Comments received from MMCIC. Core Team Responses to comments are incorporated.	**Nov. 22, 1999**

MOUND

Environmental Restoration Program

MOUND PLANT
BUILDING DATA PACKAGE
Notice of Public Review Period

The following Building Data Package will be available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio beginning September 22, 1999. Public comment will be accepted on this package from September 22, 1999, through October 23, 1999.

BDP Bldg. 40: Print Shop

Written comments may be sent to U.S. Department of Energy, c/o Paul Lucas, P.O. Box 66, Miamisburg, Ohio 45343-0066 or by E-Mail to: *paul.lucas@em.doe.gov*. Questions can be referred to DOE, Paul Lucas at (937) 865-4578

The Mound Core Team
P.O. Box 66
Miamisburg, Ohio 45343-0066

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 Environmental Management Project (DOE-MEMP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on Building Data Package for Building 40. Attached are our responses.

Should the responses to comments require additional detail, please contact Art Kleinrath at (937) 865-3597, and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MEMP: Art Kleinrath, Remedial Project Manager

USEPA: Timothy J. Fischer, Remedial Project Manager

OEPA: Brian K. Nickel, Project Manager

MMCIC Comments

for

Building 40 Data Package

Public Review Draft

September 22, 1999

Substantive Comments

1. The Environmental Appraisal of the Mound Plant for Building 40 (included as Appendix F of this data package) indicated that the sink in the first-floor janitor's closet drains very slowly, and may do so because it drains into an abandoned segment of the sanitary line that runs beneath the building. However, the Corrective Action Report included as Appendix D of the *Building 40 - Drains Report*, Final (BWO, May 1999; included as Appendix P of this Building Data Package) concludes that the foregoing supposition is incorrect, based on building drawings and the fact that the drain worked properly until 1994. The Corrective Action Report states that the Mound pipefitter, who worked with the Roy F. Weston personnel to sample the drains, believed that the drain line to the janitor's sink had collapsed. The Corrective Action Report concludes with the statement that the Main Hill Non-Rad project intends to plug the drain. Section 5.1.4, Drains and Sumps, of this Building Data Package states that "the janitor's sink is blocked." Does this mean that the sink drain is capped or that the drain still drains very slowly because the drain line is collapsed? Would DOE please confirm that the janitor's sink drain has been plugged, or notify MMCIC when this action has taken place?

Response:

An expandable plug is in place in the drain and the drain is labeled "Do Not Use." Based on the behavior of drains that share a common line, there is no evidence that this drain has collapsed.

2. The Environmental Appraisal of the Mound Plant for Building 40 (1996) and the Phase I report on Building 40 (1995) both noted that there is no silver recovery equipment installed on the utility sink drains which have been used for photographic development in the Building 40 darkroom. Both previous documents also indicated that spent photo development chemicals from the darkroom were at the time being collected in 5-gallon containers for off-site disposal. No spent chemicals were being discharged to the Mound Plant sanitary sewer system. The Building 40 Data Package text was not completely clear as to whether this is still the protocol currently in practice for spent photo

development chemicals in Building 40. Would DOE please confirm that this is the protocol? If any spent photo chemicals are being discharged to the sanitary drain, DOE may want to reconsider installing a silver recovery unit on the appropriate drains.

Response:

Photo chemicals are no longer being used in Building 40, therefore, a silver recovery system is not needed.

3. MMCIC requests that parking spaces with the former Building C footprint be made available to future tenants of Building 40. This action would be consistent with the *Comprehensive Reuse Plan*.

Response:

The former C Building parking lot is being used as a staging area for the demolition of M, E, and H Buildings. The Core Team understands that DOE and MMCIC will work to achieve a mutual agreement on parking accommodations.

MOUND PLANT RECOMMENDATION

BUILDING 40

Background:

Building 40 is a three-story, 12,200 square-foot concrete block slab-on-grade structure with brick facing. The roof is asphalt and metal built-up membrane. The building was constructed in 1968 and the annex was added in 1985. On the first floor of the structure (approximately 6,150 square feet) are printing and microfilming shops and a vault for document storage. Offices are located on the second floor (approximately 3,880 square feet). The third floor (approximately 2,170 square feet) houses utility services with interstitial space between the ceiling and roof for duct work. The building has been used for the same purpose since construction. No research, development, or production activities using radioactive or energetic materials have occurred in the building.

Recommendation:

After thorough review of the environmental data and the Building Data Package, the Core Team agrees that all existing environmental issues associated with Building 40 have been resolved. Future use of Building 40 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.

Concurrence:

DOE/MEMP: Art Kleinrath — 7/28/99
Art Kleinrath, Remedial Project Manager (date)

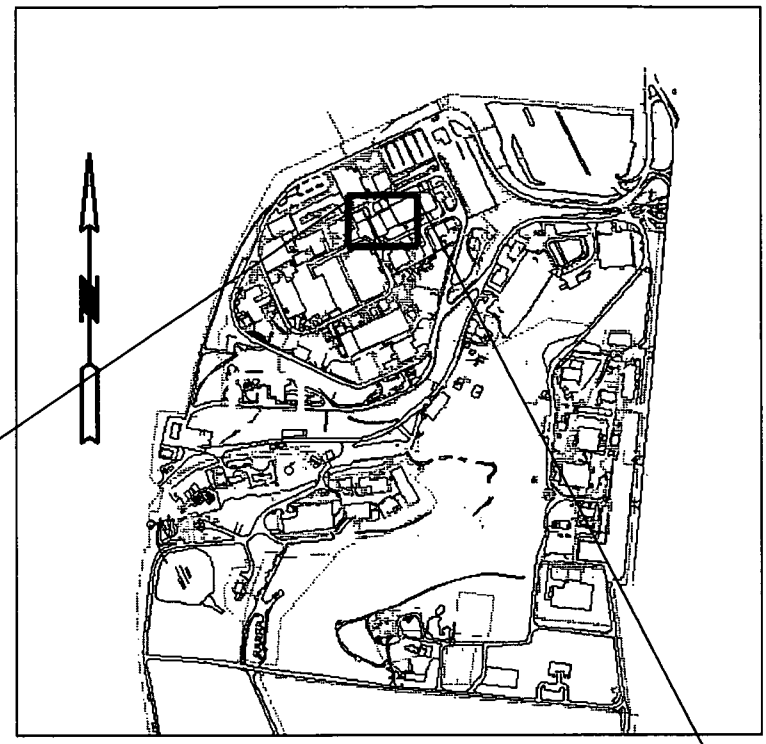
USEPA: Timothy J. Fischer — 7/28/99
Timothy J. Fischer, Remedial Project Manager (date)

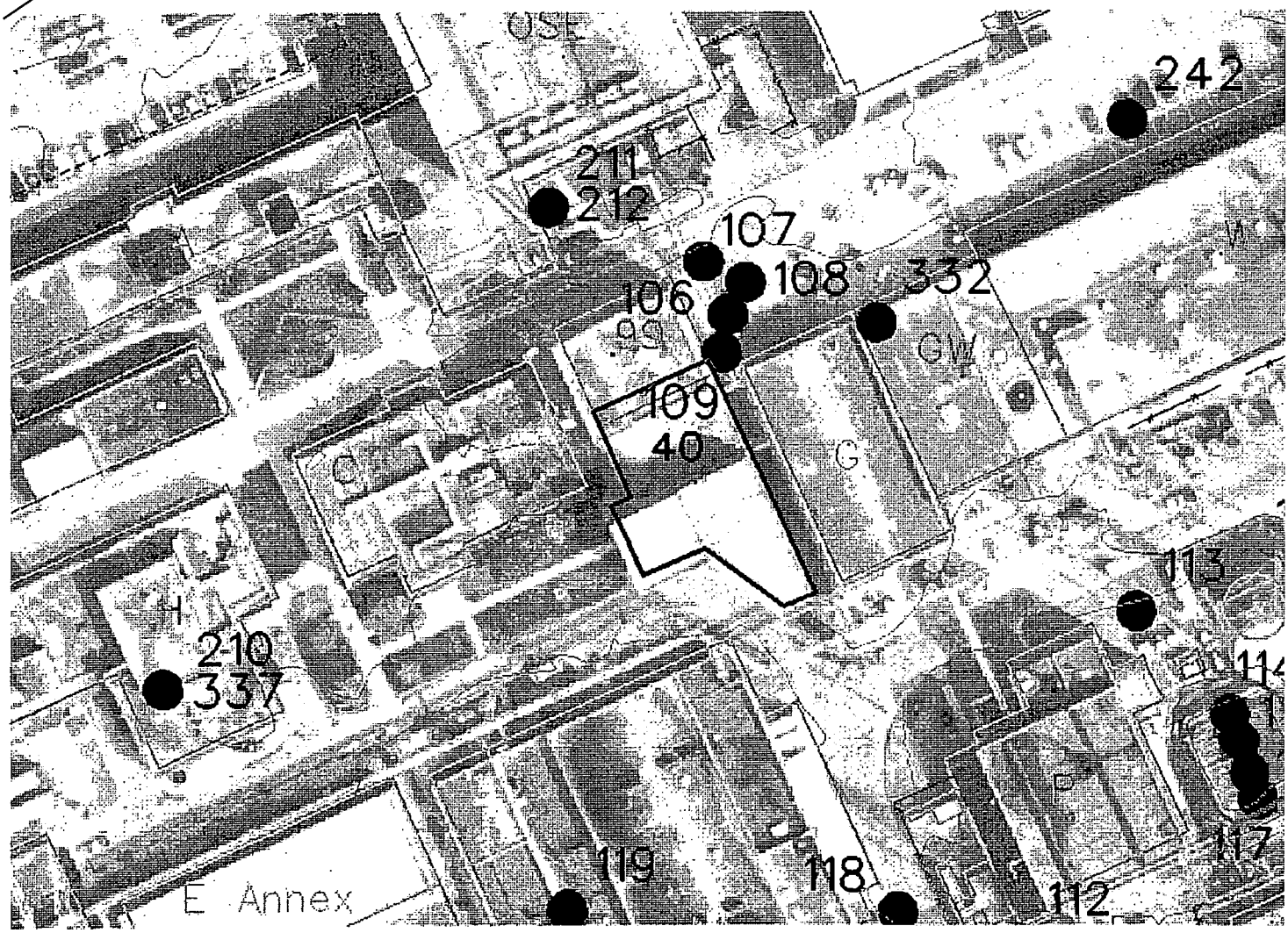
OEPA: Brian K. Nickel — 7/30/99
Brian K. Nickel, Project Manager (date)

Mound Plant
Building Data Package
Building 40

Mound Plant
Building 40
Print Shop

On the map below:
- Other building numbers and locations shown in tan
- PRS numbers and locations shown in blue
- Fencing shown in red
- Elevation contours shown in brown





03/06/96 Bldg. 40 *960622

BUILDING DATA PACKAGE (BDP)

BUILDING 40

DOE MOUND PLANT

MIAMISBURG, OHIO 45343

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Appendix H Radon Survey Summary/Information
Appendix I Asbestos Summary/Information
Appendix J Lead Summary/Information (There is no lead summary/information available.)
Appendix K Chemical Summary/Information
Appendix L Noted Soil Sampling, Vicinity
Appendix M Occurrence Report (There are no occurrence reports.)
Appendix N PRS Information
Appendix O Phase 1 Environmental Site Assessment of DOE Mound Building 40 (Extract)
Appendix P Drain Survey Summary/Information

1.0 General Overview

1.1 Introduction

The purpose of this Building Data Package is to identify, if possible, any recognized environmental conditions (defined below) that may affect the subject property. The intended building disposition is "transfer." Ultimate disposition is a function of building condition and DOE/EPA evaluation.

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, ground water, or surface water near the building.

1.2 Scope

This document has been prepared in accordance with agreements and requirements as specified in the *Work Plan For Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach*. It is a Building Data Package of Building 40 located at the DOE Mound Plant in Miamisburg, Ohio. This investigation was performed to support procedures as 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 the building, the soil beneath, and a 15-foot wide perimeter border around the building. Soil sampling results are noted in Appendix L. This perimeter includes roadways, sidewalks, pavement, and grass covered areas. The investigation of Building 40 included the following.

1) A building and perimeter inspection.
2) An examination of historical aerial photographs and maps.
3) A review of federal and state regulatory agency records.
4) Personnel interviews.
5) A review of Mound Plant records for:

    A) History of spills and releases
    B) Past sampling data
        - Radiological survey
        - Soil Sampling
        - Lead paint
        - Asbestos
        - Radon

The building investigation was conducted by BWO personnel between March 3, 1999 and May 26, 1999.

This report used a variety of previous assessments completed by BWO and/or its subcontractors. The reports used were as follows:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- OU-9 Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Tank Plan, November 1994
- OU-9 Hydrological Investigation Bedrock Report, January 1994
- OU-9 Hydrological Investigation, Buried Valley Aquifer Report, March 1994
- Environmental Appraisal Report of the Mound Plant, March 1996
- Phase 1 Environmental Site Assessment of DOE Mound Building 40
- Title Search
- Lease Information
- EDR Report
- Building Prints
- PRS Information
- Weston - Building 40 - Drains Report May 1999
- Mound Asbestos Survey - Building Summary, October 3, 1991

2.0 Building Specific Overview

Mound Plant is located in the southern portion of the corporation limits of Miamisburg, Ohio. The entire Mound Plant facility is situated on approximately 300 acres of land and contains approximately 130 buildings. The subject property consists of Mound Plant Building 40 footprint and an arbitrary 15-foot wide perimeter around the building. Building 40 contains 12,227 square feet. It was constructed in 1968 with an addition in 1985. No waste was stored in Building 40.

2.1 Current Uses of Building 40

The first floor of the structure houses the Mound Plant's Printing Services facility as it has done since the construction of the building. The second floor is utilized for offices only. The third floor penthouse contains the building's HVAC and electrical equipment.

2.3 Summary of Environmental Concerns and Findings

DESCRIPTION	COMMENT	RESOLUTION	REFERENCE
Lead Paint	Due to the age of the building, it is assumed lead paint is present.	All paint is in good repair	Para. 4.2.2.4 Para. 5.1.8
Asbestos	Asbestos debris above Room 2 ceiling tile.	Has been removed.	Para. 4.2.2.5 Para 5.1.7 Appendix I
Radiological	Manhole covers (2) - Fixed contamination	Covers replaced.	Para. 4.2.2.1 Appendix G
Oil Under Operating Printing Equipment	Normal for operating equipment.	Oil noted, no action.	Para. 5.1.3
Contaminated/ Slow Drain	Only janitorial/non-process drain slow. Other drain contamination deminimus.	Drain survey accomplished.	Para 5.1.4 Appendix P

2.4 Radiological Characterization Summary For Building 40

See Appendix G.

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm²)	Surface Contamination Guideline (dpm/100cm²) (Note 2)	COMMENTS
Highest Alpha Smearable Activity	99-40-02	Penthouse Vent	5.45	20	
Highest Alpha Fixed Activity	Note 1	Note 1	<100	100	
Highest Beta Smearable Activity	99-40-04	Vent Duct	6.65	1,000	
Highest Beta Fixed Activity	Note 1	Note 1	<5,000	5,000	
Highest Tritium Smearable Activity	99-40-06	1st Floor Vent	89.49	10,000	

Note 1: All RSDS' associated with the confirmatory survey were <100 dpm/100 cm² alpha and <5000 dpm/100 cm² beta with exception of two manhole covers. (See Appendix G.) RSDS' associated with Building 40 release include: 99-40-03, 99-40-01, 99-40-04, 99-40-02, 99-40-05, 99-40-07, 99-40-06, 99-40-08, 99-40-09

Note 2: Core Team Determined Values

RSDS: Data Sheet that provides radiological field monitoring survey results.

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm²)	Surface Contamination Guideline (dpm/100cm²) (Note 2)	COMMENTS
Highest Alpha Smearable Activity	99-40-013	Bldg. 40 Roof	7.46	20	
Highest Alpha Fixed Activity	Note 1	Note 1	<100	100	
Highest Beta Smearable Activity	99-40-013	Bldg. 40 Roof	10.48	1,000	
Highest Beta Fixed Activity	Note 1	Note 1	<5,000	5,000	
Highest Tritium Smearable Activity	99-40-013	Bldg. 40 Roof	13.89	10,000	

Note 1: All RSDS' associated with the confirmatory survey were <100 dpm/100 cm² alpha and <5000 dpm/100 cm² beta. (See Appendix G.)

Note 2: Core Team Determined Values

RSDS: Data Sheet that provides radiological field monitoring survey results.

2.5 Associated PRS Table for Building 40

See Para. 4.2.1.3.

PRS #	CERCLA or BLDG. RELATED	BINNING STATUS	COMMENTS
PRS 106	Building G Related	TBD	See Appendix N
PRS 107	CERCLA	NFA	See Appendix N.
PRS 108	CERCLA	NFA	See Appendix N.
PRS 109	CERCLA	NFA	See Appendix N.
PRS 332	CERCLA	NFA	See Appendix N.

3.0 Site Description

3.1 Site/Vicinity Location and Characteristics

Building 40 is located at the U.S. Department of Energy Facility known as Mound Plant. Mound is situated in the city of Miamisburg, Miami Township, Montgomery County, state of Ohio.

The Mound facility is situated on approximately 300 acres of land and contains approximately 130 buildings with a total of approximately 1.4 million square feet of floor space (the number of buildings diminishes as buildings are decommissioned and either sold or demolished). The original 182-acre site, purchased by the Manhattan Engineer District in 1946, consists of two hills and an intervening valley that runs approximately east and west. Building 40 is located on the main hill of the Mound site. The 124-acre tract acquired in 1981 is 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 on-site. See introductory maps and Appendix C.

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

3.2 Description of Structures, Roads, Other Improvements Related to Building 40

Building 40 is a two-story building constructed of brick and masonry on a concrete slab foundation. It was erected in 1968 to be the graphic arts and printing shop for the Mound facility, and it still retains that purpose. An addition was added in 1985.

The site building is attached to Building 99 on the north side. Only a narrow alley lined by a thin grass strip separates Building 40 from the adjacent Building G on the east. The now demolished C Building resided to the West. This area is now open space and is currently used for storage and parking of construction vehicles. An asphalt-paved roadway that runs primarily east-west curves around the southern L-shaped end of Building 40.

The first floor of the site building houses the Mound facility's Printing Services

Department, as it has done since construction of the building. The second floor is utilized for offices only. A third floor penthouse contains the building's HVAC and electrical equipment.

The Printing Services Department on the first floor includes a binding area (Room 1), a printing area (Room 100), a photographic development room (Room 5), and a plate processing room (Room 6). The printing and binding areas include standard office photocopying, collating and binding equipment, as well as two small offset printing presses on the west side of the printing area. The film development room (dark room) contains development sinks and a large lithographic process camera. The plate room equipment consists of a place exposure unit and a plate processor.

The first floor also includes an area formerly utilized as a classified records storage vault, but this area has been cleared and cleaned. Only metal bookshelves and office furniture remain in this area, except for a microfiche machine and a microfilm developer unit used to transfer paper documents to microfiche film.

A small classified documents storage vault (Room 104) is located off of the printing room.

Building 40 is heated by steam and air conditioned by central chiller systems. Potable water and sanitary services at Building 40 are provided by the Mound Plant facility.

3.3 Current and Past Uses of Buildings Adjacent To Building 40

See introductory maps and Appendix C.

Building	Building Area (Sq. Ft.)	Current Use	Direction From Building 40
99	11,412	Security Operations	North
G	7,518	Garage	East
P	15,143	Powerhouse (Steam/Chilled Water/ Compressed Air/Breathing Air)	Southeast
M	56,018	Tooling Fabrication/Ceramics Machining/Electroplating/Electronics	Southwest

4.0 Records Review

4.1 General/Historical CERCLA Information

In compliance with permit requirements under RCRA, the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. Mound Plant is currently operating hazardous waste storage facilities under a RCRA Part B permit dated October 18, 1996. Mound Plant also maintains a NPDES surface water discharge permit with Facility I.D. number OH 009857. Permits for the open burning of wastes involving explosives and other fuels have been issued by the Regional Air Pollution Control Agency (RAPCA). Other operations that produce particulate or vaporous emissions are registered with RAPCA and OEPA. Mound Plant also submits annual Emergency and Hazardous Chemical Inventory forms to the OEPA, pursuant to SARA, Title III, the Emergency Planning and Community Right-to-Know Act. The 1998 version of this report indicated that no chemicals are stored in Building 40 in quantities above the regulatory thresholds.

The Mound Plant site was identified as a contaminated site on the National Priority List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed as a consequence of VOC contamination in the western end of the lower valley area. The clean-up of the Mound Site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize clean-up areas. As the clean-up effort went forward, it became apparent that the Mound Site did not fit the profile for a clean-up strategy based on the operable units. The Department of Energy (DOE), the United States Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA) designed a new decision making process for the clean-up of Mound. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 process." The Mound 2000 process system divided Mound into 19 Release Blocks containing over 400 Potential Release Sites (PRSs) with approximately 200 concerned with potentially contaminated soils, and the balance with potential contamination in buildings or associated primarily with building operations. For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach.*

4.2 Specific Record Sources

4.2.1 History of Occurrences, Spills, and Releases

4.2.1.1 Occurrence Reports

None.

4.2.1.2 Spills and Releases

None.

4.2.1.3 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the FFA/DOE ER program, DOE and BWO have tabulated all the Potential Release Sites (PRSs) identified under the various regulatory programs in effect at the site. A total of 420 PRSs have been identified. None of these 420 PRSs is attributed to Building 40. PRSs 106, 107, 108, 109, and 332 are related by geographic proximity. See Appendix N and paragraph 2.5.

4.2.2 Sampling Data

4.2.2.1 Radiation Surveys

Building 40 radiological surveys were accomplished. Refer to paragraph 2.4 for further information. Fixed radiological contamination was found on two adjacent manhole covers. The manhole covers were replaced. See Appendix G.

4.2.2.2 Soil Sampling Data Summary

See Appendix L.

4.2.2.3 Chemical History/Removal (As Applicable)

As detailed by the current Mound Plant chemical inventory data bases, there are chemicals associated with the on-going printing and photo development operations. Also small amounts of gases associated with RAD training operations and chemicals associated with janitorial housekeeping are present. (See Appendix K.)

4.2.2.4 Lead Paint

Congress established maximum lead concentrations in residential paint in 1978. The original building was constructed in 1968 with an addition in 1985. Therefore, only the original portion of the building is assumed to have lead paint. The paint is in good condition.

4.2.2.5 Asbestos

Mound's technical manual, *Asbestos Program Manual, MD-10391*, indicates (known, assumed, or suspected) asbestos is found in Building 40. The Mound Asbestos Survey Building Summary indicates the presence of asbestos. See Appendix I. Asbestos debris referred to in the summary has been removed (Room 2).

4.2.2.6 Radon

The results of a 1989-90 Mound Indoor Radon study indicated an average radon concentration of .5 picoCuries/liter in Building 40. The EPA recommended standard for radon is 4.0 picoCuries/liter. (See Appendix H.)

4.3 Aerial Photographs

Aerial photographs from 1994, 1983, 1973, 1968, 1965, 1959, and 1949 were reviewed and copies are found in Appendix E.

The 1949 photographs show the completed initial phase of construction on the Mound Plant Main Hill. Approximately fourteen (14) buildings are visible. Roadways on both the Main Hill and the Eastern Hill are present.

The overall Mound Plant facilities, as depicted in subsequent years continue to show change and expansion.

Building 40 is visible in the photograph dated 1968.

5.0 Site Reconnaissance/Inspections: Findings, Observations

See Appendix F. Findings have been addressed and verified with the Building Manager on May 26, 1999.

5.1 Hazardous Substances in Connection with Identified Uses

5.1.1 Space

None.

5.1.2 Heating/Cooling

A HVAC unit provides the building's air conditioning. Central steam and chilled water are also provided. The building has fire sprinkler service. These systems will continue in operation.

5.1.3 Stains or Corrosion

Stains on Room 5 floor from the result of photographic development were cleaned. Oil under printing equipment in Room 100 is noted.

5.1.4 Drains and Sumps

The building is serviced by sanitary and storm drain systems. In the building, many drains are capped and the drain in the janitor's closet sink is blocked. Process drains were sampled and the results are summarized in Appendix P. No drains feed to the abandoned sanitary line depicted in the building drawings. This line was decommissioned prior to Building 40 construction.

5.1.5 Wastewater

Potable water and sanitary service is provided for Building 40. The Mound Plant facility operates an on-site sanitary and storm water sewer treatment plant (Building 57) to manage the plant's storm water and sanitary wastewater pursuant to a National Pollutant Discharge Elimination System (NPDES) permit issued by OEPA.

5.1.6 Septic Systems

There is no evidence of septic systems (such as leaching field or septic tank vent pipes) in the vicinity of Building 40.

5.1.7 Suspected Asbestos Containing Material

ACM in buildings can be found in five forms: sprayed or troweled on ceilings and walls (surfacing materials); insulation around pipes, ducts, boilers and tanks (pipe and boiler insulation); transite (in ground piping); and in roofing materials (shingles and roofing felts); and other products such as ceiling and floor tiles and wall boards (miscellaneous materials).

Records indicate that asbestos is found in the building. All identified asbestos debris has been removed.

5.1.8 Paint

Lead based paint was used in the U.S. prior to 1978, when Congress established the limits on the maximum lead concentration allowable in residential buildings. The risk of a lead based paint hazard exists only when painted surfaces are damaged (cracked, chipped, loosened, or chewed).

Because of the age of the original building, it is likely that lead based paint has been used. However, it is assumed there is no lead paint in the 1985 addition.

5.2 Hazardous Substance Containers and Unidentified Substance Containers

No unidentified substances were found in or near Building 40. See Appendix K for a list of identified substances.

5.3 Storage Tanks

No storage tanks are associated with Building 40.

5.4 Indications of PCBs

Fluorescent lighting is used in this building. It is assumed that the lighting contains PCBs. The lighting will be replaced with normal maintenance. The building transformer does not contain PCBs.

5.5 Indications of Solid Waste Disposal

No solid waste other than office type waste was observed in the building. No evidence of hazardous waste was noted in the immediate vicinity of the building.

5.6 Physical Setting Analysis, If Migrating Hazardous Substances Are an Issue

Migrating hazardous substances are not an issue.

5.7 Other Conditions of Concern

None.

5.8 Recent Interviews

5.8.1 Building Manager Interview

The current Building Manager of Building 40, Mr. Jeff Boston, has been employed at the plant for 19 years and has been Building Manager of Building 40 for the last 4 years.

5.8.2 Personnel Interviews

The current Printing Services supervisor in Building 40, Mr. HowardWoolley, has been employed at Mound Plant for 21 years, and has worked in Printing Services for 16 years.

5.9 Historical Interviews

None.

Appendix A

Acronyms

AEA	Atomic Energy Act of 1954
AEC	Atomic Energy Commission
ACM	Asbestos Containing Materials
AL	Action Level
ASTM	American Society for Testing and Materials
BDP	Building Data Package
BUSTR	Bureau of Underground Storage Tank Regulations
BWO	Babcock and Wilcox of Ohio
CAA	Clean Air Act
CEG	Conditionally Exempt Generator
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
COD	Chemical Oxygen Demand
CWA	Clean Water Act
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
DPM	Disintegrations Per Minute
EMF	Electromagnetic Field
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration (Program)
ERDA	Energy Research and Development Administration
ERNS	Emergency Response Notification System

FFA	Federal Facility Agreement
FINDS	Facility Index System
FS	Feasibility Study
GSA	General Services Administration
HEPA	High Efficiency Particulate Air
LQG	Large Quantity Generator
LUST	Leaking Underground Storage Tank
M&O	Maintenance and Operations
MAT	Mound Applied Technologies
MCC	Monsanto Chemical Company
MEMP	Mound Environmental Management Project
MMCIC	Miamisburg Mound Community Improvement Corporation
MRC	Monsanto Research Corporation
NPDES	National Pollutant Discharge Elimination System
OEPA	Ohio Environmental Protection Agency
ORPS	Occurrence Reporting and Processing System
OU	Operable Unit
PADS	PCB Activity Database
PCB	Polychlorinated Biphenyls
PRS	Potential Release Site

RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
RSDS	Radiological Survey Data Sheet
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SQG	Small Quantity Generator
SWMU	Solid Waste Management Unit
TRIS	Toxic Chemical Release Inventory System
TSD	Treatment, Storage, & Disposal Facility
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

Appendix B

Map of Montgomery County

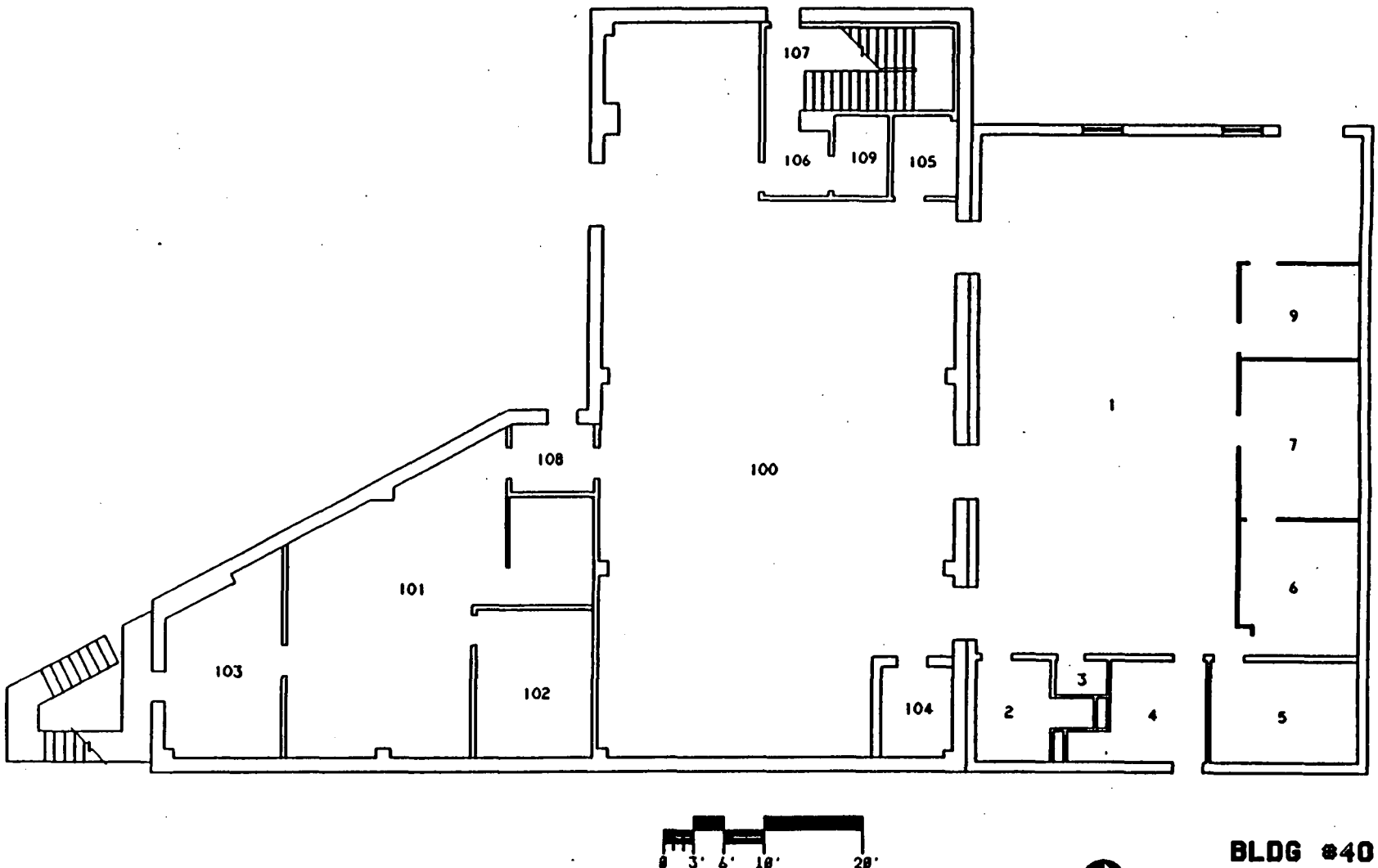
Appendix C

Site Plan

Appendix D

Building Drawings

REV	DATE	REVISION	BY	CHKD	DWN	LPVED	APVD	B
8	12/12/91	ASBUILT ISSUE	DCW				DWD	



BLDG #40
FIRST FLOOR
BLDG CODE:3040

APPROVALS: DATE:
SAFETY COMMITTEE REQUIRED:
___NONE ___SAFEDOC ___TECHDOC ___CHEMDOC
TECH. REP.
GR. MGR.
TECHDOC
TECDOC
CHEMDOC

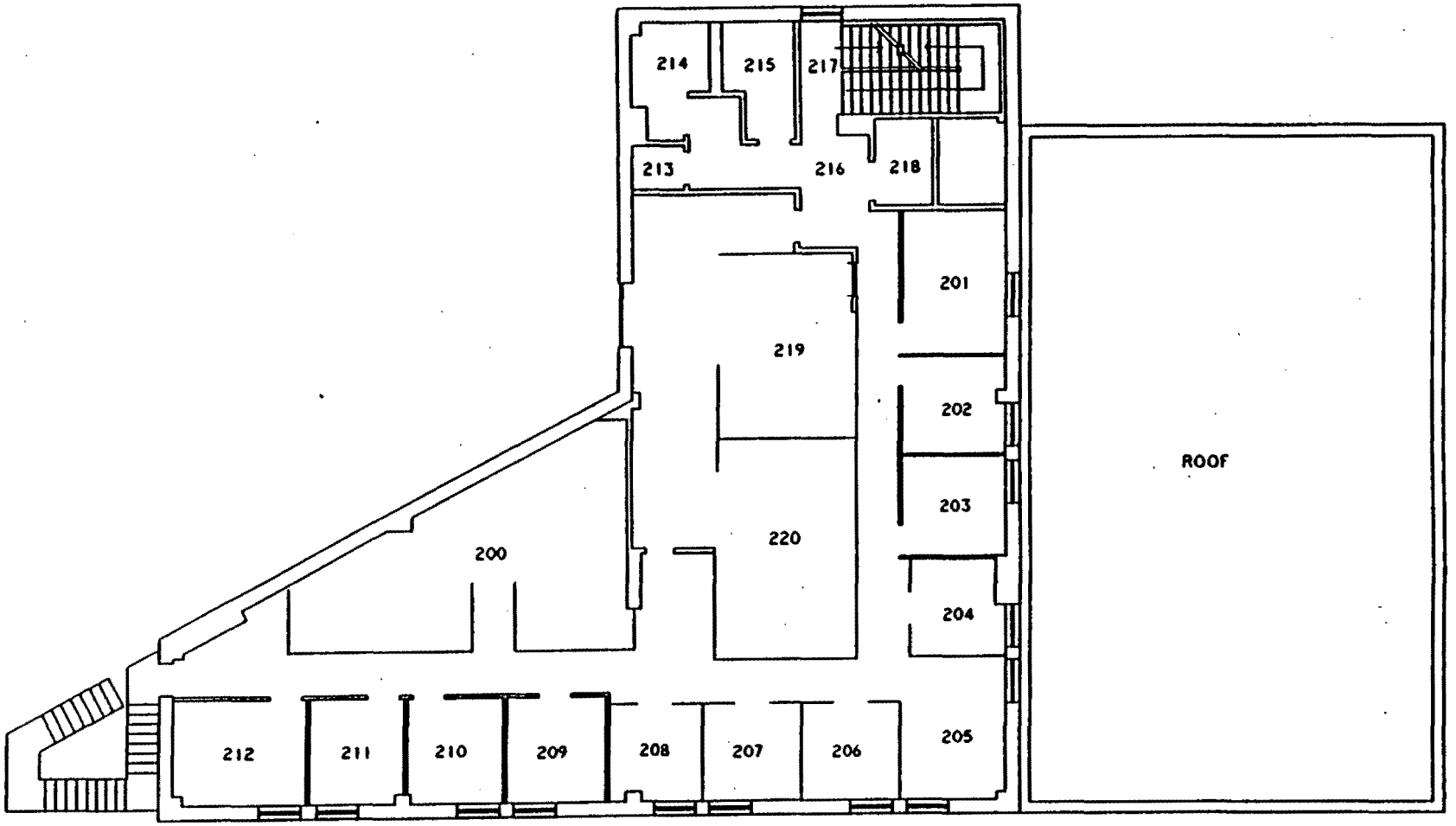
SHEET	1	2	3	4	5	6
SHEET	8	8	8			

TITLE (U) TITLE CLASSIFICATION
BLDG #40
FLOOR PLANS

DRAWING CLASSIFICATION: UNCLASSIFIED
SIZE: C
DRAWING NUMBER: FSC911251
JOB NUMBER: 12335
DWG TYPE: SFP
FROM: BLDG #40
CAMERA: 14845
SCALE: AS NOTED
SHEET 1 OF 3
STATUS: MD-REL-12/12/91
ORIGIN: MD-BRJ-V3.0

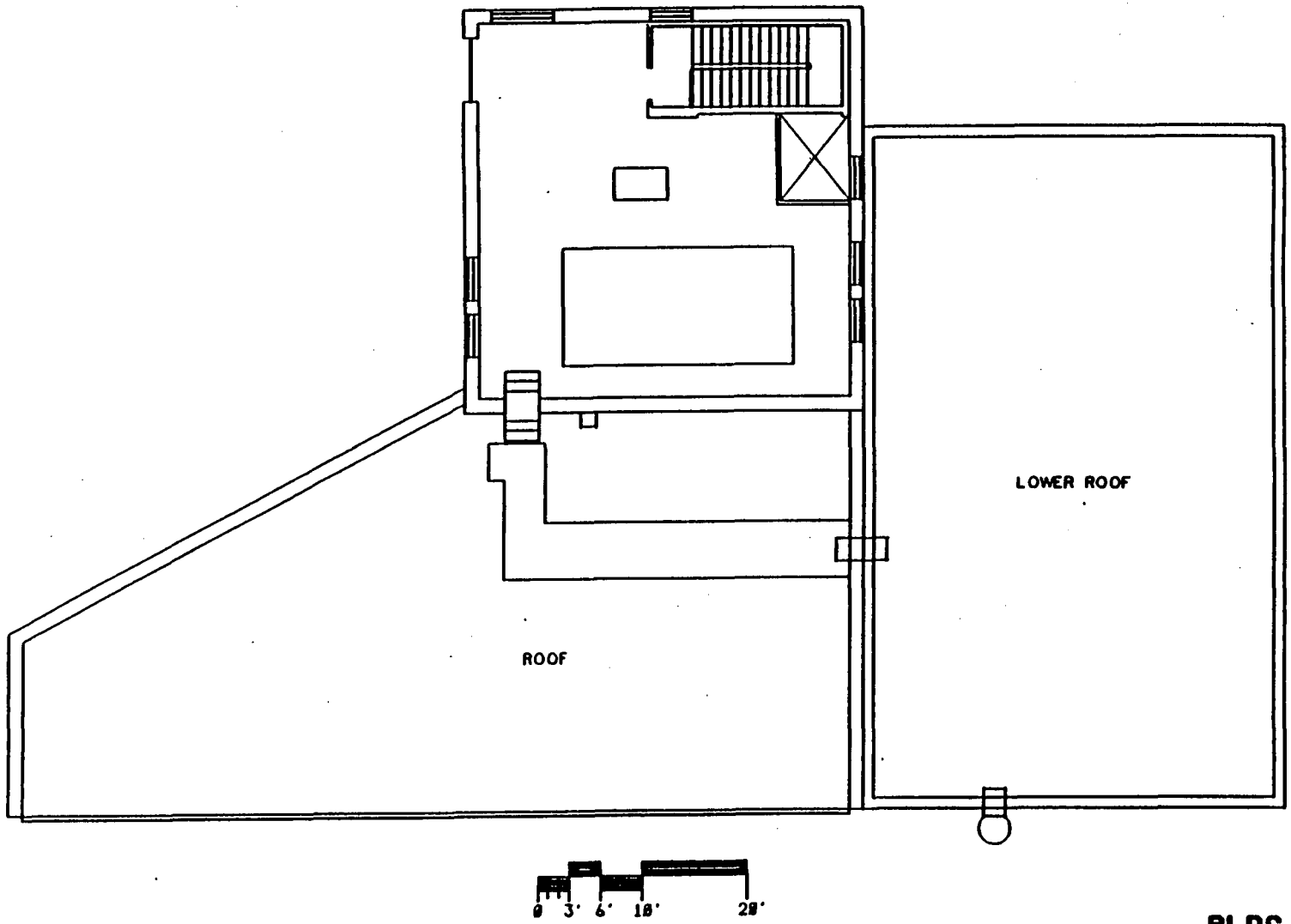
DESIGN ENG
PROJ MGR
SPONS
DWG REV
A/P & QC
FIELD REV
DWG MGR
APVD
DATE

C 62 C



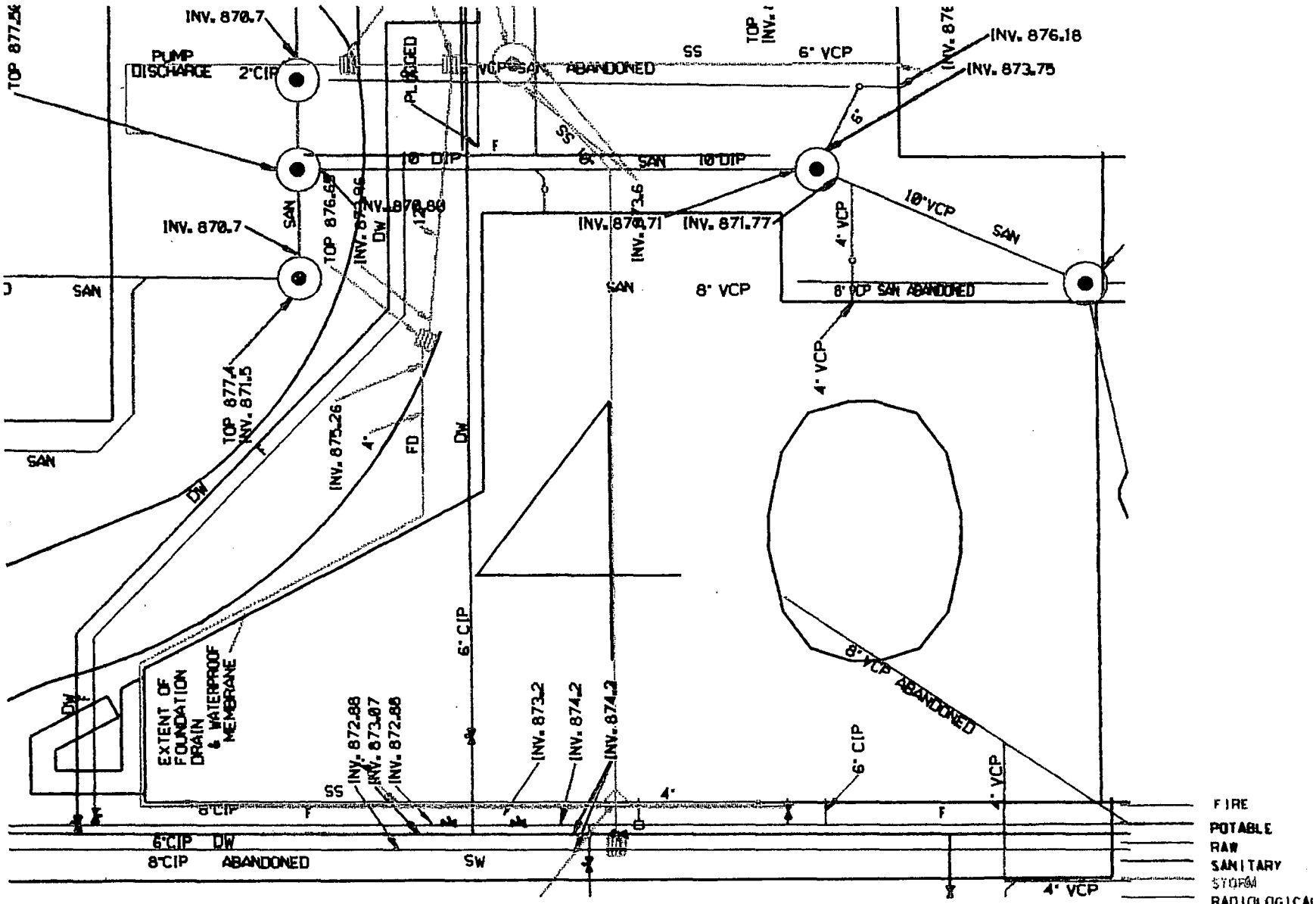
BLDG #40
SECOND FLOOR
BLDG CODE:3040

DRAWING NUMBER FSC911251	JOB NUMBER 12335
DRAWING CLASSIFICATION UNCLASSIFIED	
SIZE C	CODE 14865 / SCALE AS NOTED
	ISSUE 0 / SHEET 2
DRAWN MD-REL-12/12/91	



BLDG #40
PENTHOUSE
BLDG CODE:3040

DRAWING NUMBER FSC911251	JOB NUMBER 12335
DRAWING CLASSIFICATION UNCLASSIFIED	
SIZE C	CODE 14865 / SCALE AS NOTED
	ISSUE 0 / SHEET 3
STATUS MO-REL-12/12/91	


INV. 870.7
PUMP DISCHARGE
2"CIP
PLUGGED
VCP SAN ABANDONED
SS
6" VCP
INV. 876.18
INV. 873.75
10" DIP
SAN
10" DIP
10" VCP
SAN
INV. 870.7
SAN
TOP 876.65
INV. 875.96
INV. 870.80
DW
INV. 870.71
INV. 871.77
4" VCP
SAN
8" VCP
8" VCP SAN ABANDONED
4" VCP
TOP 877.4
INV. 871.5
INV. 875.26
FD
DW
SAN
SAN
DW
EXTENT OF FOUNDATION DRAIN & WATERPROOF MEMBRANE
6" CIP
INV. 872.88
INV. 873.07
INV. 872.88
INV. 873.2
INV. 874.2
INV. 874.2
8" VCP ABANDONED
6" CIP
4" VCP
SS
8" CIP
6" CIP DW
8" CIP ABANDONED
SW
4" VCP
FIRE
POTABLE
RAW
SANITARY
STORM
RADIOLOGICAL
N
UNCLASSIFIED
E.G. & G. - MOUND
UNDERGROUND WATER & WASTE LINES
BLDG. 40
DATE: 3-6-96

Appendix E

Aerial Photographs

Appendix F

Environmental Appraisal Report of the Mound Plant (Extract)

9.63 BUILDING 40

9.63.1 Scope of Building 40 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.

A team of environmental professionals performed a walk-through of Building 40 on November 29, 1995. The Environmental Appraisal Checklist (EAC) was used to record findings. The EAC is present as Attachment 1 (Section 9.63.6.1). Escorting the appraisers was the building manager, and other knowledgeable personnel such as the process manager. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.63.6.2).

9.63.2 Description of Building 40

Building 40 is a three-story, 12,200-square-foot concrete block slab-on-grade structure with brick facing. The building was constructed in 1968, and the annex was added in 1993 (MD-10391, *Asbestos Program Manual*, 9-14-95). The location is shown in Attachment 3 (Section 9.63.6.3). The building is bordered by a sidewalk on all sides. Adjacent buildings are Building 99 to the north, Building M to the south, Building G to the east, and Building C to the west. The roof is asphalt and metal built-up membrane. On the first floor of the structure (approximately 6,150 square feet) are printing and microfilming shops, and a vault for document storage. Offices are located on the second floor (approximately 3,880 square feet). The third floor (approximately 2,170 square feet) houses utility services with interstitial space between the ceiling and roof for duct work. Floor plans are presented as Attachment 4 (Section 9.63.6.4). The building is serviced by central steam for heat and chilled water, and electrical service of 240V (*Mound Facility Physical Characterization*, 12-1-93).

The building has been used for the same purpose since construction. No research, development, or production activities using radioactive or energetic materials have occurred in the building (*Mound Facility Physical Characterization*, 12-1-93).

9.63.3 Summary of Findings

Building 40 houses a print shop on the first floor and offices on the second floor. The third floor is a utility penthouse. The print shop contains processes conventional to printing: presses, developing, microfilming, reproduction, and document assembly. The building is well-maintained. Several issues of environmental concern were identified during the walk-through or during review of reference materials.

9.63.4 Observations

9.63.4.1 Air Emissions

There are three fumehoods. They are included in the Mound Air Emissions Inventory. A determination has been made by the EG&G Environmental Technology and Monitoring Group that sources are *de minimis*. No documentation is available to support the claim. Permit applications have not been filed with the Ohio Environmental Protection Agency. There are no fuel-burning units in the building. There is no evidence of fugitive dust.

9.63.4.2 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.

9.63.4.2.1 Sanitary Wastewater

The building has sanitary services. According to a diagram of underground lines, presented as Attachment 5 (Section 9.63.6.5), the building is serviced by a sanitary line. Confirmation of drainage of sanitary waste into sanitary conveyance lines was not within the scope of this effort, therefore, dye tests or smoke tests were not conducted. It should be noted that, according to drawings, there is an abandoned segment of sanitary line that runs beneath the building. The sink in the first-floor janitor's closet drains very slowly, and has a hand-printed sign over it suggesting that it not be used. It may run slowly because it drains into the abandoned line.

It is assumed that sinks in the film processing area discharge into the sanitary collection system. The process chemicals include heavy metals. There is no heavy metals trap, such as a silver trap, to recover metals. According to the process manager, it was investigated but not considered cost-effective.

Sanitary effluent is conveyed to the on-site tertiary wastewater treatment facility, and subsequently discharged to the Great Miami River. There is no monitoring of building effluent. Based on operations information, supplied by the process owner, effluent from Building 40 does

not deviate from that expected by the sanitary treatment plant manager, however, there is no supporting data.

9.63.4.2.2 Storm Wastewater

The building is also serviced by storm drains as shown in Attachment 5 (Section 9.63.6.5). All visible interior floor drains have been plugged. Exterior 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.

9.63.4.2.3 Chemicals

Many chemicals are stored and used in the print shop. The list is included in the BMQ in Attachment 2 (Section 9.63.6.2). A list of chemicals residing in Building 40 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.

It is not uncommon to find that wastewater lines which drain from photo and print process areas are contaminated by silver and mercury. Evidence of such contamination may be found by analyzing effluent from the building. At Mound facilities, effluent monitoring has been conducted routinely for mercury and there is no evidence of contamination. Routine monitoring is not conducted for silver. However, there has been no monitoring of building effluent; concentrations may be diluted.

9.63.4.3 Potable and Service Water

Potable water is supplied to the building. Backflow prevention devices are installed at all visible points of potential cross connection. The fountains which supply drinking water have not been tested for lead. According to EPA protocol, annual sampling criteria does not require testing of each fountain. There is service water supplied to the building; it is not distributed within the building.

9.63.4.4 Chemical Storage and Hazardous Materials

Chemicals used in the print shop and associated processes are stored in Building 40. There is a flammables storage cabinet which meets standard National Fire Protection Association (NFPA) requirements. Chemicals are stored in the building in accordance with applicable standards. Material Safety Data Sheets (MSDS) are available in the building.

The building is equipped with appropriate emergency response equipment such as a chemical spill containment kit, eyewash, safety shower, and fire extinguisher. Inspection tags were present and current. There is an emergency evacuation plan, and signs were posted in work areas.

There are no aboveground storage tanks in or around the building. There are no sumps, separators, or catch basins, in or around the building. There are no underground storage tanks associated with this building.

The building was tested and does contain asbestos-containing building material (MD-10391, *Asbestos Program Manual*, 9-14-95). There is no evidence of friable asbestos. Ceiling repair work being conducted in the first-floor men's restroom and janitor's closet were properly marked and contained, and signs were posted indicating the presence of asbestos.

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

9.63.4.5 Solid, Hazardous and Radioactive Waste

Solid wastes are removed by janitorial personnel to a site collection point, then shipped offsite to a local landfill by a contractor. Aluminum cans, glass and cardboard are removed by janitorial personnel to specific collection points, then sent offsite to be recycled by a contractor. White paper is collected and sent offsite to be recycled by a service contractor. Scrap metal is collected at a specific site, then sent offsite to be recycled by a contractor. Lead acid batteries are recycled by a contractor. Waste Management maintains the service contracts for the respective contractors. Classified paper is collected at specific collection points, then is transported by Security to the Montgomery County South Incinerator. This service contract is maintained by Security. There is no evidence that hazardous materials or wastes are mixed with solid waste streams, based on observations of trash containers.

Hazardous wastes are generated by the printing and associated procedures. "Blankrola" is a liquid cleaner for the offset presses. Estimated use is 1 gallon per week. Dry ink is used as a toner in copying machines. Cartridges are changed once per month, and are recycled by the warehouse. Photo waste consists of a developer and fixer which is used to develop silver-based film for prints. There is no silver recovery process or silver trap in Building 40. Aluminum plates are used in the printing process (*Characterization of Mound's Hazardous, Radioactive, and Mixed Waste*, 8-16-90").

All hazardous wastes generated by the process, maintenance and cleaning, are stored in a Satellite Accumulation Area located inside the building proximate to and within view of the work area. The procedures and appearance conform to Resource Conservation and Recovery Act (RCRA) requirements. Wastes are collected and transported by a representative of the EG&G Waste Management Group, and are stored in Building 72 for ultimate disposal. There is no onsite treatment of waste. All are disposed of under a contract with Rollins. Waste disposal manifests and Certificates of Disposal are maintained by the EG&G Waste Management Group. Manifests were reviewed; they conform to RCRA requirements.

Solvent-contaminated rags used to clean the presses are stored in a closed can and are sent offsite for cleaning by a contractor. No records were available for review in Building 40. Review of procurement/contract records was not within the scope of this appraisal. Trichloroethane is occasionally used to clean equipment.

9.63.4.6 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. The print shop actively encourages customers to make use of recycled paper stock. Additional opportunities for waste minimization activities include a review of use of printing inks, changing from solvent-based to soy-based inks. The photographic darkroom uses fixer and developer to process materials having a silver base. According to the process manager, a determination was made that the cost of equipment to recover the silver was excessive based on the amount which could be recovered.

9.63.5 Findings and Recommendations

Photographs were taken to document environmental appraisal activities. They are included as Attachment 6 (Section 9.63.6.6). The environmental appraisal of Building 40 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.

40-1. Drainage from the janitor's closet should be investigated to confirm that there is not a connection to the wastewater line which runs beneath the building, shown to be cut and plugged. If there is an improper connection, drainage should be rerouted.

40-2. Building effluent wastewater is not routinely analyzed for mercury or silver. An analysis should be performed. Drainage lines should be investigated to confirm that there is no residual contamination from silver or mercury.

40-3. Solvent-contaminated rags are shipped offsite for cleaning. Treatment records were unavailable for inspection. The process manager should review the contract and confirm proper handling and treatment at the contractor cleaning facility. Use of trichloroethane should be discontinued.

40-4. Opportunities for waste reduction in the print shop should be considered. Review work practices involving solvents to determine the waste generated, and evaluate methods of curtailing solvent evaporation and solvent use replacement. The feasibility of switching to water-based inks should also be considered. Process modification and material substitution should be examined to reduce the uses of those solvents associated with cleaning, cleanup, and degreasing. It was not determined at the time of the inspection if waste photo solutions containing silver have been targeted for waste minimization.

40-5. MSDS sheets should be prominently displayed, clearly labeled, and readily available. A visitor to the area should be able to walk into the room and find them immediately.

9.63.6.1 Environmental Appraisal Checklist

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name 40

Appraisers: Nancy Vyas civil/environmental engineer
Name Discipline

See below
Name Discipline

Name Discipline

Name Discipline

Building Manager: Jeff Boston

Process Manager: Barry Leiter

Date: 11-29-95 pm

Team Review:
Eunice Warmoth
Ron Pawlick
John Hausfeld
John Puckett
Mary Sizemore
Mary Louise Hoagland
Mark Gillett

ENVIRONMENTAL APPRAISAL CHECKLIST

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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

Environmental A[illegible]aisal Checklist

Building Name: 40 Appraisers: Vyas Date: 11-29-95 PKM

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)	some chemicals should be stored in flammable cabinets.
	Is the building in operation? What are the processes and where do they discharge to?	Y / N _____ _____	
	Do the floor drains, sinks & toilets appear to be draining properly?	(Y / N)	yes, except 1st floor janitors closet. All floor drains are plugged.
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)	

Janitor's closet neatly kept.

FIRST Floor Janitor's closet drains v. slowly. Abandoned sanitary line under B-40 may receive ww. Investigate/correct.

9.63-11

Environmental Appraisal Checklist

Building Name: 40 Appraisers: Vyas Date: 11-29-95 PM

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)	No permits, no documentation for deminimus determination
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.	N/A 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)	

- Develop documentation for deminimus sources.
- Update Mound air emission database.

Building Name: 40 Appraisers: Vyas Date: 11-29-95

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
hot glue binder	1	—	Y / (N)	Y / (N) not used for 10 years	—	—	—	—	—
developer	2	002232	Y (N)	(Y) / N					
micro-filming	6	—	Y / (N)	(Y) / N					
solvent cleaning	100	—	Y / (N)	(Y) / N	TCA	≈ 8 oz/mo.	0	Continuous	—
			Y / N	Y / N					

Source: visual observation

9.63-13

9.63-14

Environmental Abpraisal Checklist

Building Name: Appraisers: Date: 11-29-95

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	Segregate chemicals in storage area.
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	Store printer developer in flammables cabinet.
29 CFR 1910.106(d)(7)	Incompatible chemicals are not stored together.	(Y) (N)	Storage area chemicals to be segregated.
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 NA	

- Segregate storage area chemicals (Return 11-29-95 pm) chemical segregated & stored properly)

Building Name: Appraisers: Date: 11-29-95

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 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 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	

9.63-15

Environmental Appraisal Checklist

Building Name: 40 Appraisers: Vyas Date: 11-29-95

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 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
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N

Source: _____

Building Name: Appraisers: Date: 11-29-95

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)	Does actual or potential cross-connections exist between potable (light green) and service water (dark green)?	(Y) N	penthouse mifer-rooms photo lab (backflow preventers are installed)
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)	There is no service water — No Need.
	Does the facility contain any water coolers or fountains that are not lead free? Complete Table C.	(Y) N	Rm 1 2nd floor

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
40	Rm 1	not known	no markings
40	2nd floor	not known	no markings
	corridor		

Source: _____

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Building Name: 40 Appraisers: [illegible] Date: 11-29-95

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	containers of materials are marked by chemical content.
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	[illegible] generates RCRA waste

Building Name: 40 Appraisers: Vyas Date: 11 29-95

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	

- Solvent contaminated cleaning rags are stored in an unmarked container. Container should be marked, Contract for off-site cleaning/recovery should be reviewed to confirm compliance with requirements for CWA, RCRA. Visit contractor facility. (Return visit 11-29-95 pm. Can marked)
- Process manager & haz waste handlers have training records.
- Generator's waste profile sheets on file with process manager.

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Environmental Appraisal Checklist

Building Name: Vygs Appraisers: 40 Date: 1-29-95

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:	NA	
	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: 40 Appraisers: Vyas Date: 1-29-95

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
II. HAZARDOUS WASTE STORE IN TANKS			
OAC 3745-52-32 (B)	Has any chemical waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:	Y / N	
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	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: 40

Appraisers: Vijyas

Date: 1-29-95

RCRA Checklist

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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:

Building Name: 40 Appraisers: VJL Date: 11-29-95

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	Asbestos Survey – shows presence. Men's room 1st floor is under repair – proper signing & procedures
	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	area was surrounded by plastic – no work going on – appears to be appropriate practice
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: 40 Appraisers: Vyas Date: 1-29-95

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

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

TSCA Checklist

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

Building Name: 40 Appraisers: Vyas Date: 1-29-95

TSCA Checklist

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Regulatory Guideline	Question	Response	Comments
40 CFR 761.30 (a) 1,viii	Are all combustible materials (i.e., paints, solvents, plastics, paper, sawn wood, etc.) cleared from areas containing PCB transformers to a distance of five meters?	Y / N	
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	
	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	

Environmental Appraisal Checklist

Building Name: 40 Appraisers: Vyas Date: 1-29-95

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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	
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: 40 Appraisers: Vyas Date: 1·29·95

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	
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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Building Name: 40 Appraisers: Vyas Date: 1-29-95

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Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A Chapter III, 3.d.	Based on field data, is the characterization of the materials in this area sufficient to assure proper segregation to assure proper segregation, treatment, storage, and disposal?	Y / N	
	Based on field data does the characterization as documented at the time of generation of the waste ensure that the actual physical and chemical characteristics, and major radionuclide content of this material are recorded and known at all stages of the waste management process?	Y / N	
	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: 40 Appraisers: Vyas Date: 1-29-95

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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	
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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Building Name: 40 Appraisers: Vyas Date: 1-29-95

Low-Level Waste and Transuranic Waste Checklist

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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	
	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: 40 Appraisers: Vyas Date: 1-29-95

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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	
	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: 40 Appraisers: Vigo Date: 1-29-95

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	from cleaning rags
	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)	silver not recovered
	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	

• Print shop currently recycles paper; 1" 's recycled paper, 5 cans

Building Name: Appraisers: Date:

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
HALOGENATED ORGANIC (NONSOLVENT) WASTES N/A			
	Are halogenated organic wastes used as fuel in cement kilns?	Y / N	
	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 N/A			
	Are any technologies for the recovering of metals from waste rinsewater used?	Y / N	
	Evaporation of waste rinsewater?	Y / N	
	Reverse osmosis?	Y / N	
	Ion exchange?	Y / N	
	Electrolysis?	Y / N	
	Agglomeration?	Y / N	
CORROSIVE WASTES N/A			
	Are acidic or basic cleaning solutions used as treatment for pH adjustment chemicals?	Y / N	

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Building Name: Appraisers: Date:

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	
	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 N/A			
	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 N/A			
	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	

Building Name: 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	
	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 N/A			
	What kind of oils are used?		
	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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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?		
	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	Generator reviewing use of soy-based ink; No solvent needed. Water cleaning. Cleaning rags recycled.
	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	No tanks
	Is a method used to minimize the use of new materials such as a countercurrent process?	(Y) N	

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Building Name: 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	N/A Cleaned off-site
	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?	_____	rags picked up routinely & mixed with other site solvent contaminated materials; Cleaned off-site by contractor. Investigate contract/contractor.

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9.63.6.2 Building Manager's Questionnaire

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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?

4. Provide a physical description of the building.

This is a three-story, concrete block structure with brick facing. Total area is 12,200 ft^2. Roof is of BUM (asphalt and metal), and HVAC systems are central steam and chilled water. Building is not contaminated with any radioactive or energetic materials.

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

5. Provide a drawing of the building.

Attached

6. What is the current building use?

Building contains printing and microfilming shops, a small storage area, a vault for classified documents, and offices.

Source: Mound Buildings, 5-9-95

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

Source: Mound Buildings, 5-9-95

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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: Print shop, word processing

How Wastes Are Generated:

Blankrola is a cleaner for the offset presses. The label on the can reads "Offset Automatic Blanket Cleaner Solution, AB Dick 4-1235." It is automatically pumped from a fresh can, through the press, and into an empty can. Estimated use is 1 gal per week.

Dry ink is the toner used in copying machines. The toner is usually changed once a month.

Photowaste is developer and fixer used to develop silver-based film for prints. Only the negatives are produced in this building. All developer and fixer are collected in waste cans for pickup by Waste Management.

Aluminum waste is in the form of plates used in the printing process.

The lead waste was old lead bricks that were used for doorstops. They were discarded during a site-wide lead cleanup effort. There are no more in the building.

Contact:
Phone #:

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

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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: 40 Building Manager: J.L. Boston 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?

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

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

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

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

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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)
BLACK OPAQUE	L	4 GA
PAK REFILL	L	16 OZ
SILICONE OIL	L	1000 ML
STARTER	S	1 LB
TONER (BLACK)	S	1200 G
TONER (CYAN)	S	1200 G
TONER (MAGENTA)	S	1800 G
TONER (YELLOW)	S	1200 G
ANTI-STATIC FLUID	L	48 OZ
AUTOMATIC BLANKET WASH	L	2 GA
BLANKET FIX	L	12 OZ
CLEAN-N-EASY	S	4 PT
CLEANING SOLVENT	L	2 PT
CYLINDER CLEANER	L	1 PT
DEGLAZING SOLVENT	L	5 PT
DEVELOPER	S	36 LB
DRY INK	S	30 LB
FOUNTAIN CONCENTRATE	L	20 QT
FURNITURE POLISH	G	16 OZ
FUSER AGENT	L	4 L
INK ROLLER CONDITIONER	L	12 PT
INK ROLLER DESENSITIZER	S	3 PT
NON-OXIDIZING INK BLACK	S	45 LB
NON-OXIDIZING INK COLOR	S	80 LB
OFFSET SPRAY POWDER	S	5 LB
OXIDIZING INK BLACK	S	2 LB
OXIDIZING INK COLOR	S	2 LB
PROPANOL	L	1500 ML
TACK REDUCER	S	2 LB
TONER HIGH YIELD	S	908 G
WESTERN A.G.E.	L	3 GA
CRONALAR FIXER PART A	L	11 GA
CRONALAR FIXER PART B	L	9 GA
CRONALITH LIQUID DEVELOPER(A)	L	7 GA
CRONALITH LIQUID DEVELOPER(B)	L	3 GA
DEVELOPER (RA2001)	L	5 GA
PMT ACTIVATOR	L	6 GA
VIKING 2-IN-1 DEVELOPER-GUM	L	5 GA
VIKING NEGATIVE MAKE-UP SOLUTION	L	8 GA

Source: Chemical Inventory 1994

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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?

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

23. Where do excess janitorial supplies go?

Source: _____

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

Chemical	Amount	Chemical	Amount

Source: _____

9.63-46

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

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

NONE

26. Is there a sump or pit or underground tank in or around the building?
Yes No Unknown
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
4-1200 Safety Zone Cleaner	12.3
Bldg 40 Photofixer	22.2
Developer II Concentrate	25.0
Developer II Concentrate	25.1
Dry Ink	41.3
Epoxy Resin	3.6
Fixer II concentrate	47.2
Ink Paste	2.7
Kodak PMT Activator	9.6
Kodak PMT Activator	10.2
Kodak PMT II Activator	20.9
Mercury Thermometer	0.3
Multigraphics Hydrogen Cyanide Ferrocyanide	0.7
Photo Fixer	28.1
Photo Fixer	7.3
Photo Fixer Sample, LP94-875	0.4
Photo Fixer, Sample 94-004	1.0
Photo Waste	138.0
Photo Waste	148.6
Photo Waste	65.5
Photo Waste	84.9
Photo Waste	258.4
Photo Waste	207.2

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

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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: _____

9.63-48

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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 Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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.

Building Manager's Questionnaire

Building Name: 40 Building Manager: J.L. Boston 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.

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

Appendix G

Radiological Summary/Information

RADIOLOGICAL SURVEY PLAN

FOR THE

TRANSITION OF BUILDING 40

June 3, 1999

1.0 Introduction

This document defines the radiological sampling and analysis requirements for the survey plan for the unconditional release of Building 40 and the surrounding area. The final disposition of the building is transition to the Department of Energy (DOE), and then turnover to the MMCIC. The intent is to unconditionally release the building, indicating that the building is free of radiological contamination.

This plan will describe the methodology for obtaining radiological data and the criteria from which to evaluate the radiological data. All structural components will be radiologically evaluated and surveyed as appropriate. Survey methods will include direct and removable contamination surveys and dose rate measurements. The results of the data obtained will be used to determine if the building can be unconditionally released from a radiological standpoint. This survey is considered to be the final radiological survey prior to building transition.

2.0 Scope

The physical boundary of the building consists of the building and a fifteen-foot perimeter surrounding the exterior of the building. Based on existing information, the building is expected to be radiologically "clean", meaning that process history information indicates that no industrial process activities are known to have occurred in the building and no existing data suggests that a spill (or other mode of contamination) occurred in the building. Therefore, a confirmatory survey would demonstrate if unexpected radiological contamination were present.

The survey plan focused on evaluating only those areas, which have a high potential for unexpected contamination. Confirmatory surveys were performed on the interior of the building floors, air vents and floor drains. Exterior building surveys were performed on the building foundation and on the fifteen-foot perimeter surrounding the building. Radiation dose rate measurements were performed as well.

3.0 Building Description

Building 40 was constructed in 1968 and the annex was added in 1993. It is a 3-story, 12,200 square foot concrete block slab-on-grade structure with brick facing. It is physically located on the main hill of the Mound Site, with Building 99 to the north, M Building to the south, G Building to the east, and what was formerly C Building to the west. The building is bordered by a sidewalk on all sides.

The first floor of the building (~6,150 square feet) consists of the printing and microfilming shops, and a vault for document storage. Offices were located on the second floor (~3,880 square feet). The third floor) ~2,170 square feet) is a utility penthouse with interstitial space between the ceiling and roof for ductwork.

The building was used for the same general purpose since it was constructed. No research, development or production activities using radioactive material have occurred in the building.

4.0 Confirmation Survey Requirements

The purpose of the confirmatory survey is to verify that the building is radiologically clean to the surface contamination criteria and dose requirements in DOE Order 5400.5, "Radiation Protection of the Public and the Environment", as specified in the "Generic Process for the Disposition of Buildings That Have Potential or Actual Radiological Contamination". The surveys are non-destructive surveys. The confirmatory survey:

1) Provides a final check that a building does not have unexpected radiological contamination;
2) Identifies anomalies (e.g. elevated readings or readings above background which indicate potential existence of unexpected contamination) which indicate that the building may not be radiologically clean;
3) Fills existing data gaps and focuses on building survey characterization;
4) Provides the level of data preferred by state regulators to support that the building is clean prior to release.

A confirmation survey was planned for those areas with the highest potential for contamination. The areas interior to Building 40 which were surveyed for direct and removable radiological contamination included the floors, air vents and floor drains. The swipes taken were analyzed for gross alpha, beta and tritium radioactivity. Exterior building surveys included direct contamination surveys of the foundation and surrounding concrete only. Radiation dose measurements were taken in the interior and exterior of the building to demonstrate that the levels of gamma radiation did not exceed background radiation by more than 20 uR/hour (0.02 mrem/hr).

Provided no anomalies (e.g. elevated readings) are detected, this survey should be adequate to verify that the building is radiologically clean. If anomalies had been detected, then the Project Manager would assess the significance and determine appropriate action based on input from project members.

5.0 Sampling

The main objectives of this radiological survey plan are to:

1. Verify that any surface contamination values are below the guidelines of Figure IV-1 of DOE 5400.5.
2. Verify that no radiation dose measurements exceed the dose limits specified in DOE 5400.5.

The need for a rigorous sampling assessment in the case of Building 40 and the surrounding area should not be necessary, since no research, development or production involving radioactive material occurred here. Historical reviews of the annual routine surveys performed in the building have detected no contamination. There is no knowledge of accidental spills that occurred in this building or the exterior building perimeter area. These survey results will suffice as the final confirmatory survey, prior to release of Building 40.

The sampling and analysis performed will validate the historical process knowledge and provide data to demonstrate that criteria have been met. If contamination is detected above the established criteria, then the given process knowledge must be reassessed and the level of sampling increased to provide confidence on the level and extent of contamination.

5.1 Interior Sampling

The floor of Building 40 was superimposed into 10 x 10-foot gridded areas. Assuming the building is 12,200 square feet, approximately 122 grid cells would be produced. On the average, 1.5 swipes were taken within each of the 122 grid cells and analyzed for alpha, beta and tritium removable contamination. In addition, direct measurements were performed on 100% of the floor area, using portable NE Electra instrumentation for alpha and beta radioactivity. Biased sampling was performed at all 95 vent ducts and 8 floor drain locations within the building. The swipes taken of the vent ducts and floor drains in the building were included in the total number of 182 swipes taken within the building and were also analyzed for alpha, beta and tritium removable contamination.

5.2 Exterior Sampling

Three soil samples were taken on the east side of Building 40 in between G Building and Building 40. The 15-foot exterior perimeter of the building is surrounded by buildings and concrete. A 100% direct alpha and beta contamination survey was performed on the concrete. The building foundation was also surveyed for direct alpha and beta contamination. In addition, 2 manway covers were surveyed for both removable and direct contamination.

6.0 Discussion of Results

The results of the radiological survey efforts support the "unconditional radiological release" of Building 40. The radiation dose rates are well below the 0.02 mrem/hour criteria specified in DOE 5400.5. The soil sample results are within the acceptable risk levels according to Mound's Risk-Based Guideline Values. All of the direct and removable contamination surveys were below DOE 5400.5 criteria and Mound's Radiological Control Program criteria. Two

manhole covers to the west side of Building 40 have fixed alpha contamination on the surface. The highest level of fixed alpha contamination was 326 dpm/100 cm^2. The manhole covers are believed to contain naturally occurring radioactive material within the metal itself. An isotopic analysis is being attempted. New manhole covers are planned to replace the current ones.

7.0 References

1) DOE Order 5400.5 Radiation Protection of the Public and the Environment, 1/7/93.

2) Generic Process for the Disposition of Buildings that have Potential or Actual Radiological Contamination, March 1997.

3) Mound Plant Risk-Based Guideline Values, March 1997.

4) Sampling and Analysis Plan for the Characterization of E Building and Surrounding Soils, September 22, 1998.

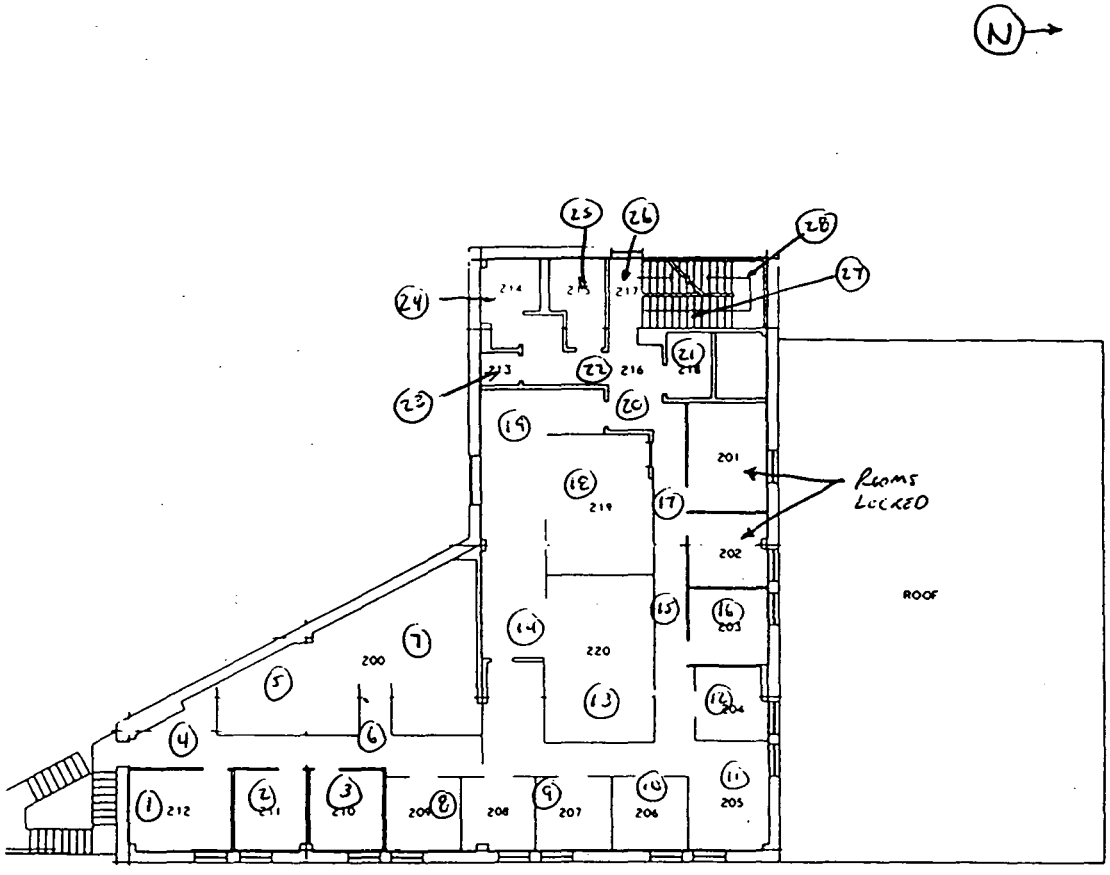
U1/U60

RADIOLOGICAL SURVEY DATA SHEET

MAP/DRAWING Continuation Page

Survey No. 99-40-01

MAP/DRAWING



* DIRECT READINGS ON FLOOR = <100 dpm/100cm² α
<5000 dpm/100cm² β

GENERAL AREA DOSE RATES = <0.02 mR/HR

EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 40
SECOND FLOOR
BLDG. CODE : 3040
REV. DATE 01/17/89
CLASSIFICATION UNCL

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

ML-9620B (2-98)

P-5

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-28	→	→	→	SEE ATTACHED
			N/A	

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

COMMENTS: NONE

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.

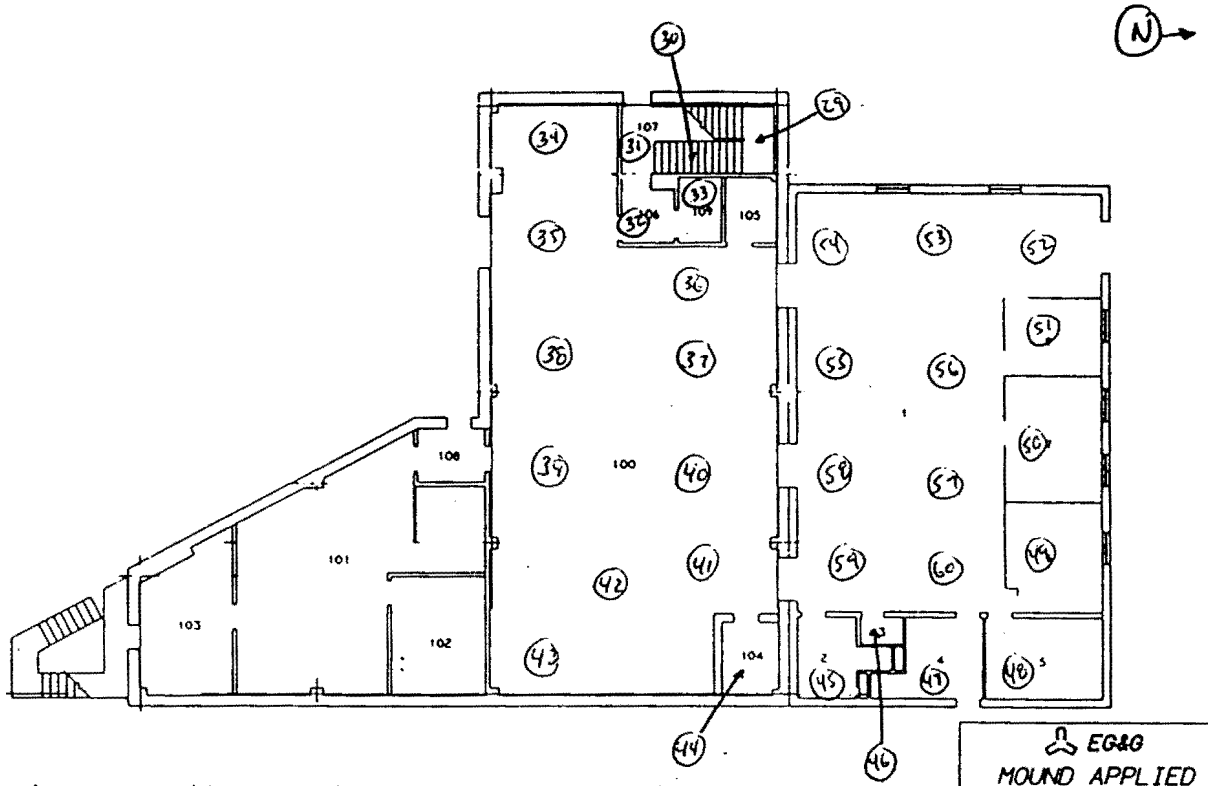
ML-9620 A (4-98)

K216

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 40	SURVEY NO. 99-40-01
PURPOSE: Release Survey	RWP NO. N/A
	DATE: 031699
	TIME: 1500

MAP/DRAWING



EG&G MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 40
FIRST FLOOR
BLDG. CODE : 3040
REV. DATE 01/17/89 CLASSIFICATION UNCL

* DIRECT READINGS TAKEN ON FLOOR: <100 dpm/100cm² α
<5000 dpm/100cm² β

GENERAL AREA DOSE RATES = <0.02 MR/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
NE ELECTRA	5370/5371	080299
↓	5305/5315	060999
BICRON μR	3929	040299

[redacted]

HP# 7872/7873	Date: 031699
HP# 5379	Date: 3-18-99
HP# 5996	Date: 3-29-99

ML-9620 (2-98)

Survey No. 99-40-01

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
29-60				SEE ATTACHED
		N/A		

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

COMMENTS: DONE

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 A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR014
Batch Ended: 3/18/99 12:39

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-01 NEAL / MURPHY [60] 03-18-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.36	1.91	<MDA	0.00	1.25	<MDA
A2	2	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	3	0.00	2.21	<MDA	0.00	2.04	<MDA
A4	4	0.00	1.96	<MDA	0.00	2.29	<MDA
B1	5	0.00	2.05	<MDA	0.00	1.50	<MDA
B2	6	0.00	2.09	<MDA	3.30	2.92	<MDA
B3	7	0.00	1.86	<MDA	0.00	1.51	<MDA
B4	8	0.00	1.92	<MDA	0.00	1.46	<MDA
C1	9	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	10	1.60	2.14	<MDA	1.15	2.54	<MDA
C3	11	0.00	1.99	<MDA	0.00	1.48	<MDA
C4	12	0.00	1.97	<MDA	0.39	2.28	<MDA
D1	13	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	14	0.00	2.83	<MDA	0.00	2.25	<MDA
D3	15	0.00	2.00	<MDA	1.11	2.23	<MDA
D4	16	0.00	2.09	<MDA	0.00	2.28	<MDA
A1	17	0.00	1.95	<MDA	0.86	2.05	<MDA
A2	18	0.00	2.11	<MDA	0.00	1.58	<MDA
A3	19	1.74	2.20	<AL	0.00	1.56	<MDA
A4	20	0.00	1.99	<MDA	1.90	3.09	<MDA
B1	21	0.00	2.10	<MDA	2.10	2.69	<MDA
B2	22	0.00	2.04	<MDA	0.00	1.43	<MDA
B3	23	1.55	1.88	<AL	0.10	2.24	<MDA
B4	24	0.00	1.95	<MDA	1.45	2.76	<MDA
C1	25	0.00	2.16	<MDA	1.57	2.58	<MDA
C2	26	0.00	2.13	<MDA	0.00	1.63	<MDA
C3	27	0.00	2.00	<MDA	0.00	1.95	<MDA
C4	28	0.00	1.96	<MDA	0.00	1.91	<MDA
D1	29	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	30	2.00	2.94	<MDA	3.72	3.42	<MDA
D3	31	0.00	2.00	<MDA	1.11	2.23	<MDA
D4	32	0.00	2.11	<MDA	3.09	3.08	<MDA
A1	33	0.00	1.91	<MDA	0.00	1.25	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR014
Batch Ended: 3/18/99 12:39

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-I

Batch ID: T 99-40-01 NEAL / MURPHY [60] 03-18-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	35	0.00	2.21	<MDA	0.00	2.04	<MDA
A4	36	0.00	1.98	<MDA	0.70	2.85	<MDA
B1	37	0.00	2.07	<MDA	0.00	1.98	<MDA
B2	38	0.00	2.04	<MDA	0.00	1.43	<MDA
B3	39	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	40	0.00	1.96	<MDA	2.62	3.00	<MDA
C1	41	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	42	0.00	2.16	<MDA	4.04	3.21	<AL
C3	43	0.00	2.01	<MDA	2.21	2.66	<MDA
C4	44	1.64	1.96	<AL	0.00	1.44	<MDA
D1	45	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	46	0.00	2.83	<MDA	0.00	2.25	<MDA
D3	47	0.00	1.98	<MDA	0.00	1.39	<MDA
D4	48	0.00	2.08	<MDA	0.00	1.93	<MDA
A1	49	0.00	1.91	<MDA	0.00	1.25	<MDA
A2	50	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	51	0.00	2.21	<MDA	0.00	2.04	<MDA
A4	52	0.00	2.01	<MDA	4.30	3.53	<MDA
B1	53	0.00	2.07	<MDA	0.00	1.98	<MDA
B2	54	0.00	2.09	<MDA	3.30	2.92	<MDA
B3	55	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	56	0.00	1.93	<MDA	0.00	1.87	<MDA
C1	57	0.00	2.16	<MDA	1.57	2.58	<MDA
C2	58	0.00	2.15	<MDA	2.66	2.89	<MDA
C3	59	0.00	2.00	<MDA	0.93	2.33	<MDA
C4	60	3.55	2.75	<AL	0.00	1.91	<MDA

18 Mar 1999 17:17 ALPHA/BETA - 1.09 Page ~~#1~~ 6

Protocol #: 5 PW H3 403728 User : 3950 0%

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.77
Region B:	2.0 -	18.6	0	0.0	7.47
Region C:	40.0 -	2000	0	0.0	10.69

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 99-40-01 MURPHY/NEAL [U1-U60] 03-18-99 JM
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA5.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.77	10	B	590.31		0.00	10.69
0	2.00	1092.33	0		569.89	2253.25	166.35	3.31
1	2.00	0.00	0		646.25	0.00	0.00	0.31
2	2.00	0.00	0		631.50	0.00	0.00	0.00
3	2.00	0.00	0		645.96	0.00	0.00	0.00
4	2.00	0.00	0		637.53	0.00	0.00	0.00
5	2.00	0.00	0		657.22	0.00	0.00	0.00
6	2.00	0.00	0		643.95	0.00	0.00	0.00
7	2.00	0.00	0		641.75	0.00	0.00	2.31
8	2.00	0.00	0		635.88	0.00	0.00	0.00
9	2.00	0.00	0		635.93	0.00	0.00	0.00
10	2.00	0.00	0		630.93	0.00	0.00	0.00
11	2.00	0.00	0		627.19	0.00	0.00	0.00
12	2.00	0.00	0		642.64	0.00	0.00	0.00
13	2.00	0.00	0		639.07	0.00	0.00	0.00
14	2.00	1.20	0		666.43	2.28	8.82	0.00
15	2.00	0.00	0		648.39	0.00	0.00	0.00
16	2.00	0.00	0		647.94	0.00	0.00	0.00
17	2.00	0.00	0		622.61	0.00	0.00	0.00
18	2.00	0.00	0		617.33	0.00	0.00	0.00
19	2.00	0.00	0		640.18	0.00	0.00	0.00
20	2.00	2.38	0		617.90	4.71	9.65	0.31
21	2.00	0.00	0		635.77	0.00	0.00	0.00
22	2.00	0.00	0		606.88	0.00	0.00	0.81
23	2.00	0.00	0		604.16	0.00	0.00	0.00
24	2.00	0.00	0		625.61	0.00	0.00	0.00
25	2.00	0.00	0		617.65	0.00	0.00	0.31
26	2.00	0.00	0		567.29	0.00	0.00	0.00
27	2.00	0.00	0		609.22	0.00	0.00	0.00
28	2.00	1.73	0		628.66	3.39	9.30	0.00
29	2.00	0.00	0		635.94	0.00	0.00	0.00
[illegible]	2.00	2.23	0		581.31	4.55	9.89	0.00
31	2.00	1.55	0		627.89	3.04	9.23	0.00
32	2.00	0.00	0		591.88	0.00	0.00	0.00
33	2.00	0.00	0		578.37	0.00	0.00	0.00
34	2.00	0.00	0		613.24	0.00	0.00	0.00

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.00	0		594.62	0.00	0.00	0.00
36	2.00	0.00	0		586.21	0.00	0.00	0.00
37	2.00	0.00	0		593.62	0.00	0.00	0.00
38	2.00	0.00	0		568.93	0.00	0.00	0.00
39	2.00	0.00	0		568.03	0.00	0.00	0.00
40	2.00	0.00	0		584.11	0.00	0.00	2.81
41	2.00	0.00	0		534.37	0.00	0.00	1.31
42	2.00	0.00	0		536.52	0.00	0.00	0.81
43	2.00	0.00	0		555.67	0.00	0.00	1.81
44	2.00	0.00	0		578.47	0.00	0.00	0.00
45	2.00	0.00	0		602.37	0.00	0.00	0.00
46	2.00	0.00	0		618.61	0.00	0.00	0.00
47	2.00	0.00	0		625.25	0.00	0.00	0.81
48	2.00	0.00	0		612.15	0.00	0.00	0.00
49	2.00	0.00	0		580.89	0.00	0.00	0.00
50	2.00	3.12	0		602.67	6.26	10.08	0.31
51	2.00	0.00	0		591.08	0.00	0.00	0.00
52	2.00	0.00	0		564.64	0.00	0.00	0.00
53	2.00	0.00	0		556.67	0.00	0.00	0.00
54	2.00	0.00	0		613.22	0.00	0.00	0.00
55	2.00	0.00	0		607.72	0.00	0.00	0.00
56	2.00	0.69	0		606.88	1.38	9.02	0.00
57	2.00	0.00	0		572.48	0.00	0.00	0.00
58	2.00	0.00	0		591.32	0.00	0.00	1.31
59	2.00	0.00	0		580.13	0.00	0.00	0.00
0	2.00	0.00	0		612.61	0.00	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 40 PENT HOUSE	SURVEY NO. 99-40-02
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 1500
	TIME: 03/03/99

MAP/DRAWING

* SEE ATTACHED MAP

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
NE ELECTRA	~~5370~~ 5370/5371	080299
↓	5303/5315	060999
BICRON μR	3929	040899
N A	N A	N A

[redacted]	HP# 7873/7872 Date: 030399
	HP# 5662 Date: 3-3-99
	[redacted]
	5996 3-29-99

ML-9620 (2-98)

Survey No. 99-40-02

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	**β/γ**	**Alpha**	**Tritium**	**Comments**
1-13	—	—	→	SEE ATTACHED
		N/A		

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

COMMENTS: NONE

NOTES:

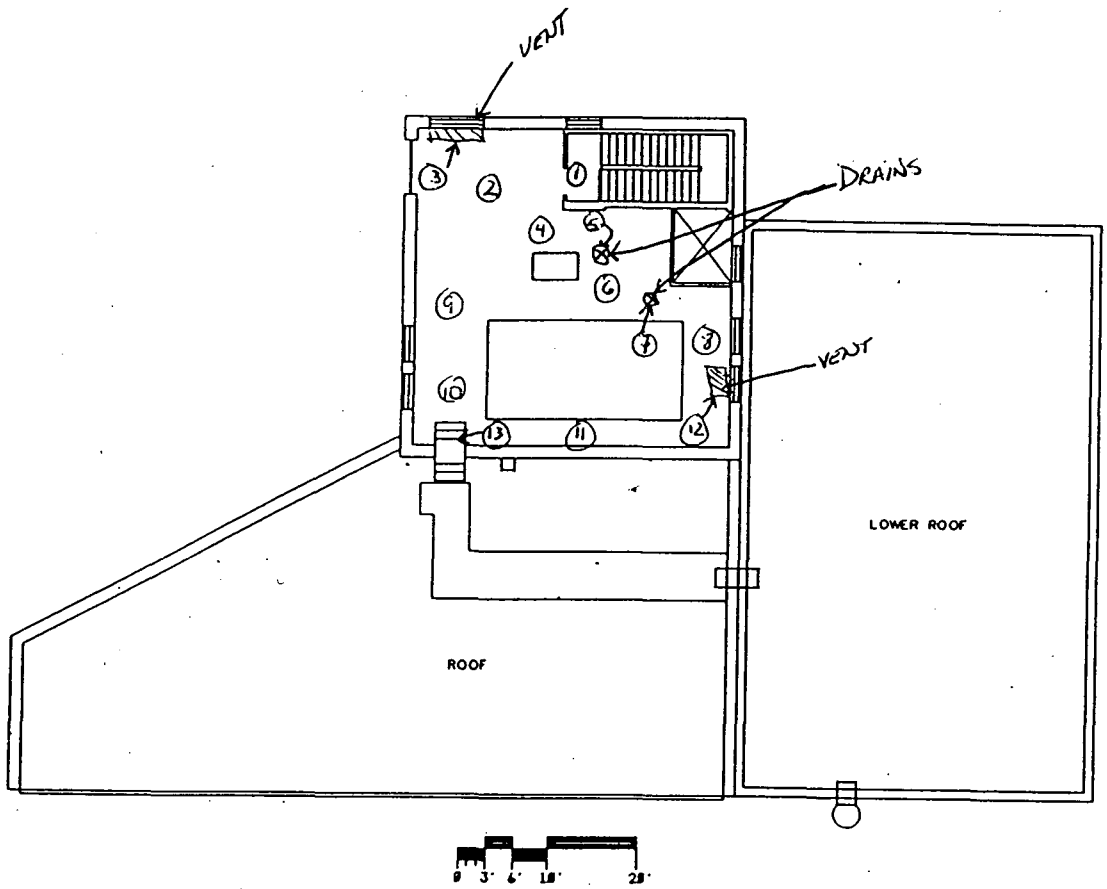
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type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

ML-9620 (4-98)

RADIOLOGICAL SURVEY DATA SHEET
MAP/DRAWING Continuation Page

Survey No. 99-40-02

MAP/DRAWING



* DIRECT READINGS TAKEN ON FLOOR, VENTS AND DRAINS
<100dpm/100 cm2 α
<5000 dpm/100 cm2 β

GENERAL AREA DOSE RATES = <0.02mR/HR

BLDG #40
PENTHOUSE
BLDG CODE:3040

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

ML-9620B (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR004
Batch Ended: 3/3/99 18:36

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-02 MURPHY (13) MB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.95	<MDA	0.86	2.05	<MDA
A2	2	0.00	2.11	<MDA	0.00	1.58	<MDA
A3	3	0.00	2.21	<MDA	0.00	2.04	<MDA
A4	4	0.00	1.96	<MDA	0.00	2.29	<MDA
B1	5	0.00	2.08	<MDA	0.82	2.36	<MDA
B2	6	0.00	2.08	<MDA	2.03	2.63	<MDA
B3	7	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	8	0.00	1.94	<MDA	0.00	2.21	<MDA
C1	9	0.00	2.16	<MDA	2.94	2.92	<MDA
C2	10	1.60	2.14	<MDA	1.15	2.54	<MDA
C3	11	0.00	2.02	<MDA	3.48	2.95	<AL
C4	12	5.45	3.36	<AL	0.09	2.28	<MDA
D1	13	0.00	2.16	<MDA	0.00	1.50	<MDA

Protocol #: 5 Name:PW H3 #401387 04-Mar-1999 18:29
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-40-02 [K1-K13] NEAL/MURPHY 3-4-99 RLH
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	9.38	9.30	12.15	B	7	576.		20.65
0	2.00	1074.72	1026.69	0.00		1	592.	2490.80	4.37
1	2.00	0.00	0.00	0.00		8	528.	0.00	0.00
2	2.00	0.00	0.00	0.00		13	621.	0.00	0.00
3	2.00	0.00	0.00	0.00		0	561.	0.00	0.00
4	2.00	0.00	0.00	0.00		14	586.	0.00	0.00
5	2.00	31.03	24.74	1.78		4	636.	67.91	30.73
6	2.00	0.00	0.00	0.00		0	587.	0.00	0.00
7	2.00	0.00	0.00	0.00		10	585.	0.00	0.00
8	2.00	0.00	0.00	0.00		24	557.	0.00	0.00
9	2.00	0.00	0.00	0.00		6	553.	0.00	0.00
10	2.00	0.00	0.00	0.00		24	628.	0.00	0.00
11	2.00	0.06	0.01	0.00		10	603.	0.14	8494.
12	2.00	0.00	0.00	0.00		6	480.	0.00	0.00
13	2.00	2.12	1.40	0.00		0	618.	4.76	243.6

RADIOLOGICAL SURVEY DATA SHEET

687

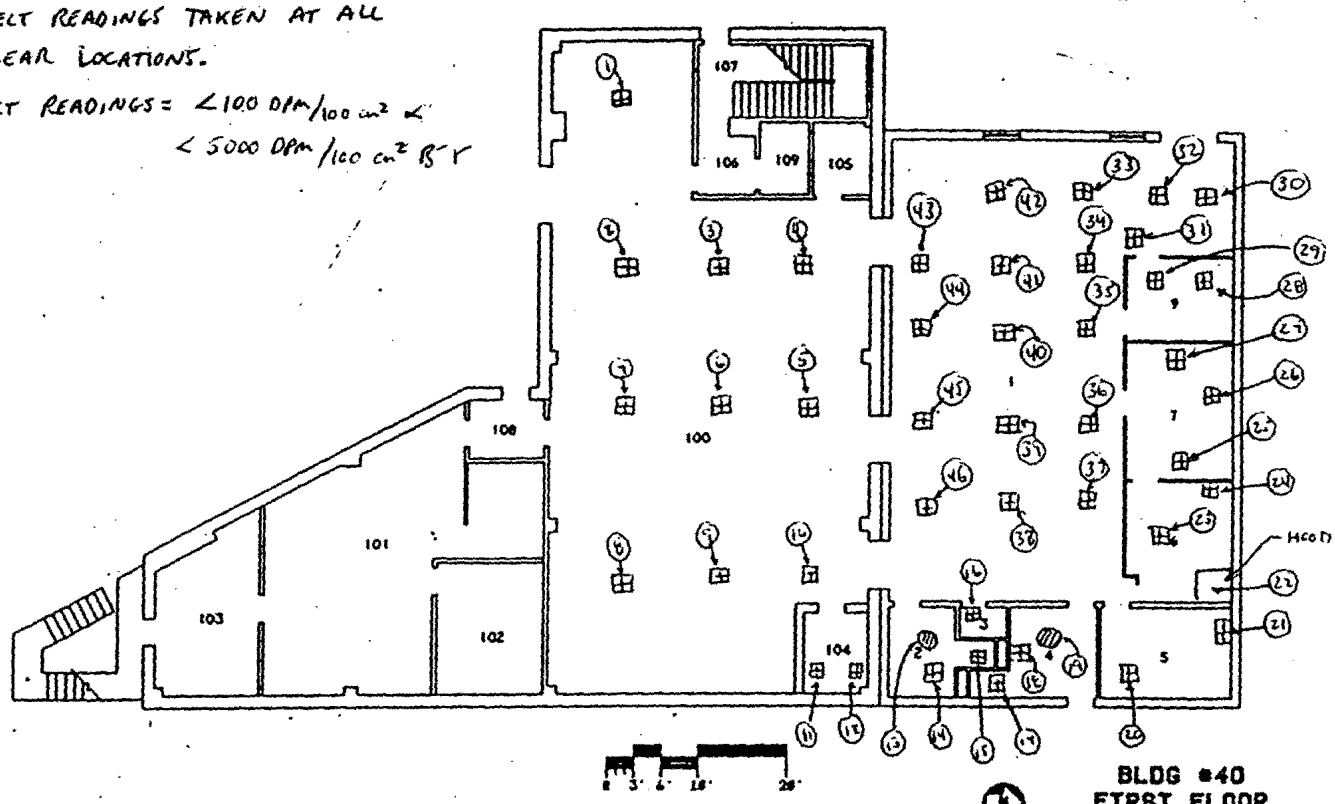
LOCATION: (BLDG)/AREA/ROOM) 40	SURVEY NO. 99-40-03
PURPOSE: RELEASE SURVEY - VENTS AND DRAINS FIRST FLOOR	RWP NO. N/A
	DATE: 030899
	TIME: 1230

MAP/DRAWING

*NOTE: ⊞ = VENT DUCT
◍ = FLOOR DRAIN

DIRECT READINGS TAKEN AT ALL SMEAR LOCATIONS.

DIRECT READINGS = < 100 DPM/100 cm² α
< 5000 DPM/100 cm² β γ



BLDG #40
FIRST FLOOR
BLDG CODE:3040

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5370/5371	080299
↓	5303/5315	060999
N/A	N/A	N/A

	HPs	Date:
[redacted]	7872/7873	030899
[redacted]	3957	[redacted]
[redacted]	3996	3-29-99

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-46	SEE	ATTACHED		
			N/A	

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

COMMENTS: NONE

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 result 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 (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR018
Batch Ended: 3/9/99 10:37

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-03 MURPHY/NEAL [46] 03-08-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.36	1.95	<MDA	0.66	2.05	<MDA
A2	2	1.45	2.13	<MDA	0.00	2.02	<MDA
A3	3	0.00	2.24	<MDA	3.04	3.05	<MDA
A4	4	3.34	2.74	<AL	1.62	3.09	<MDA
B1	5	1.60	2.11	<MDA	3.22	2.98	<MDA
B2	6	0.00	2.06	<MDA	0.00	1.92	<MDA
B3	7	0.00	1.88	<MDA	0.22	2.24	<MDA
B4	8	0.00	1.95	<MDA	1.45	2.76	<MDA
C1	9	0.00	2.16	<MDA	2.94	2.92	<MDA
C2	10	1.60	2.14	<MDA	1.15	2.54	<MDA
C3	11	0.00	2.00	<MDA	0.93	2.33	<MDA
C4	12	1.58	1.97	<AL	1.54	2.60	<MDA
D1	13	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	14	0.00	2.87	<MDA	1.06	2.70	<MDA
D3	15	0.00	1.98	<MDA	0.00	1.39	<MDA
D4	16	0.00	2.08	<MDA	0.00	1.93	<MDA
A1	17	0.00	1.97	<MDA	2.01	2.36	<MDA
A2	18	0.00	2.11	<MDA	0.00	1.58	<MDA
A3	19	0.00	2.22	<MDA	0.42	2.42	<MDA
A4	20	3.34	2.71	<AL	0.00	1.54	<MDA
B1	21	0.00	2.10	<MDA	2.10	2.69	<MDA
B2	22	1.45	2.06	<MDA	0.00	1.92	<MDA
B3	23	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	24	5.24	3.29	<AL	0.00	1.87	<MDA
C1	25	0.00	2.14	<MDA	0.00	1.69	<MDA
C2	26	1.65	2.13	<MDA	0.00	1.63	<MDA
C3	27	0.00	2.00	<MDA	0.93	2.33	<MDA
C4	28	5.41	3.37	<AL	2.59	2.89	<MDA
D1	29	0.00	2.20	<MDA	2.17	2.74	<MDA
D2	30	2.00	2.87	<MDA	0.75	2.70	<MDA
D3	31	0.00	2.00	<MDA	1.11	2.23	<MDA
D4	32	0.00	2.09	<MDA	0.00	2.28	<MDA
A1	33	1.35	2.02	<MDA	5.26	3.09	<AL

mm
03/09/99

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR018
Batch Ended: 3/9/99 10:37

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-03 MURPHY/NEAL [46] 03-08-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	1.45	2.13	<MDA	0.00	2.02	<MDA
A3	35	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	36	0.00	1.96	<MDA	0.00	2.29	<MDA
B1	37	0.00	2.10	<MDA	2.10	2.69	<MDA
B2	38	0.00	2.04	<MDA	0.00	1.43	<MDA
B3	39	0.00	1.88	<MDA	0.22	2.24	<MDA
B4	40	1.47	1.95	<MDA	1.32	2.76	<MDA
C1	41	0.00	2.14	<MDA	0.00	1.69	<MDA
C2	42	0.00	2.13	<MDA	0.00	2.14	<MDA
C3	43	0.00	1.99	<MDA	0.00	1.48	<MDA
C4	44	1.64	1.96	<AL	0.00	1.44	<MDA
D1	45	0.00	2.20	<MDA	2.17	2.74	<MDA
D2	46	2.00	2.79	<MDA	0.00	1.69	<MDA

09 Mar 99 15:50 ALPHA/BETA - 1.01 Page ~~#1~~ 25079

Protocol #: 7 PW H3 403728 User : 1611

T 2.00

L Mode: DPM Nuclide: SM_GLASS Quench Set: SM_GLASS

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	6.80
Region B:	2.0 -	18.6	0	0.0	7.00
Region C:	40.0 -	2000	0	0.0	11.80

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

99-40-03 MURPHY (J1-J46) MB

Luminescence Correction On

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: c:\data\PROT7.DAT

Count Data Filename: c:\data\SDATA7.DAT

Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.80	24	B	590.65		0.00	11.80
0	2.00	1659.20	0		636.85	3236.19	224.48	0.70
1	2.00	0.00	0		477.27	0.00	0.00	0.00
2	2.00	0.70	0		396.92	1.77	10.90	1.70
3	2.00	0.00	0		401.13	0.00	0.00	0.20
4	2.00	0.00	0		452.14	0.00	0.00	0.00
5	2.00	0.00	0		390.24	0.00	0.00	0.00
6	2.00	0.00	0		580.26	0.00	0.00	0.00
7	2.00	0.00	0		580.82	0.00	0.00	0.00
8	2.00	0.00	0		541.29	0.00	0.00	0.00
9	2.00	0.00	0		598.63	0.00	0.00	0.00
10	2.00	0.00	0		461.43	0.00	0.00	0.00
11	2.00	3.20	0		658.42	6.13	9.30	0.00
12	2.00	0.00	0		597.09	0.00	0.00	0.00
13	2.00	0.00	0		646.37	0.00	0.00	0.00
14	2.00	0.00	0		555.25	0.00	0.00	0.20
15	2.00	0.00	0		560.83	0.00	0.00	0.00
16	2.00	1.20	0		590.12	2.43	8.95	0.00
17	2.00	0.00	0		599.05	0.00	0.00	0.00
18	2.00	0.00	0		520.00	0.00	0.00	1.70
19	2.00	0.00	0		647.88	0.00	0.00	0.70
20	2.00	0.00	0		584.03	0.00	0.00	0.00
21	2.00	3.20	0		469.20	7.31	11.08	0.00
22	2.00	0.00	0		634.42	0.00	0.00	0.00
23	2.00	0.00	0		411.00	0.00	0.00	0.00
24	2.00	1.20	0		542.03	2.54	9.33	0.00
25	2.00	0.00	0		414.54	0.00	0.00	0.00
26	2.00	0.00	0		492.91	0.00	0.00	0.00
27	2.00	0.00	0		527.48	0.00	0.00	0.00
28	2.00	1.20	0		407.71	2.99	10.99	0.00
29	2.00	0.00	8		418.23	0.00	0.00	0.00
30	2.00	0.00	0		245.14	0.00	0.00	2.70
31	2.00	0.00	0		488.32	0.00	0.00	0.00
32	2.00	0.00	0		371.49	0.00	0.00	0.20
33	2.00	0.00	0		323.12	0.00	0.00	0.00
34	2.00	0.00	0		519.69	0.00	0.00	0.70

#	TIME	CPMA	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.00	0	529.48	0.00	0.00	0.70
36	2.00	0.00	0	449.29	0.00	0.00	0.00
37	2.00	1.20	0	568.97	2.48	9.11	0.00
38	2.00	0.00	0	561.91	0.00	0.00	0.00
39	2.00	0.00	0	555.00	0.00	0.00	0.00
40	2.00	1.70	0	557.49	3.54	9.44	0.00
41	2.00	0.00	0	556.24	0.00	0.00	0.20
42	2.00	0.00	0	427.93	0.00	0.00	3.70
43	2.00	0.20	0	620.28	0.40	8.27	0.00
44	2.00	0.70	7	605.56	1.40	8.60	0.00
45	2.00	0.00	9	612.13	0.00	0.00	0.00
46	2.00	0.00	0	582.09	0.00	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) 40	SURVEY NO. 99-40-04
PURPOSE: RELEASE SURVEY - VENTS AND DRAINS SECOND FLOOR	RWP NO. N/A
	DATE: 030899
	TIME: 1515

MAP/DRAWING

SEE ATTACHED MAP

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5370/5371	080299
↓	5303/5315	060999
N/A	N/A	N/A

[redacted]

HP#	Date:
7872/7873	030899
3950	03/09/99
[redacted]	
5996	3-29-99

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1 - 36	SEE	ATTACHED	→	→
N/A				

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

COMMENTS: NONE

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 (2-98)

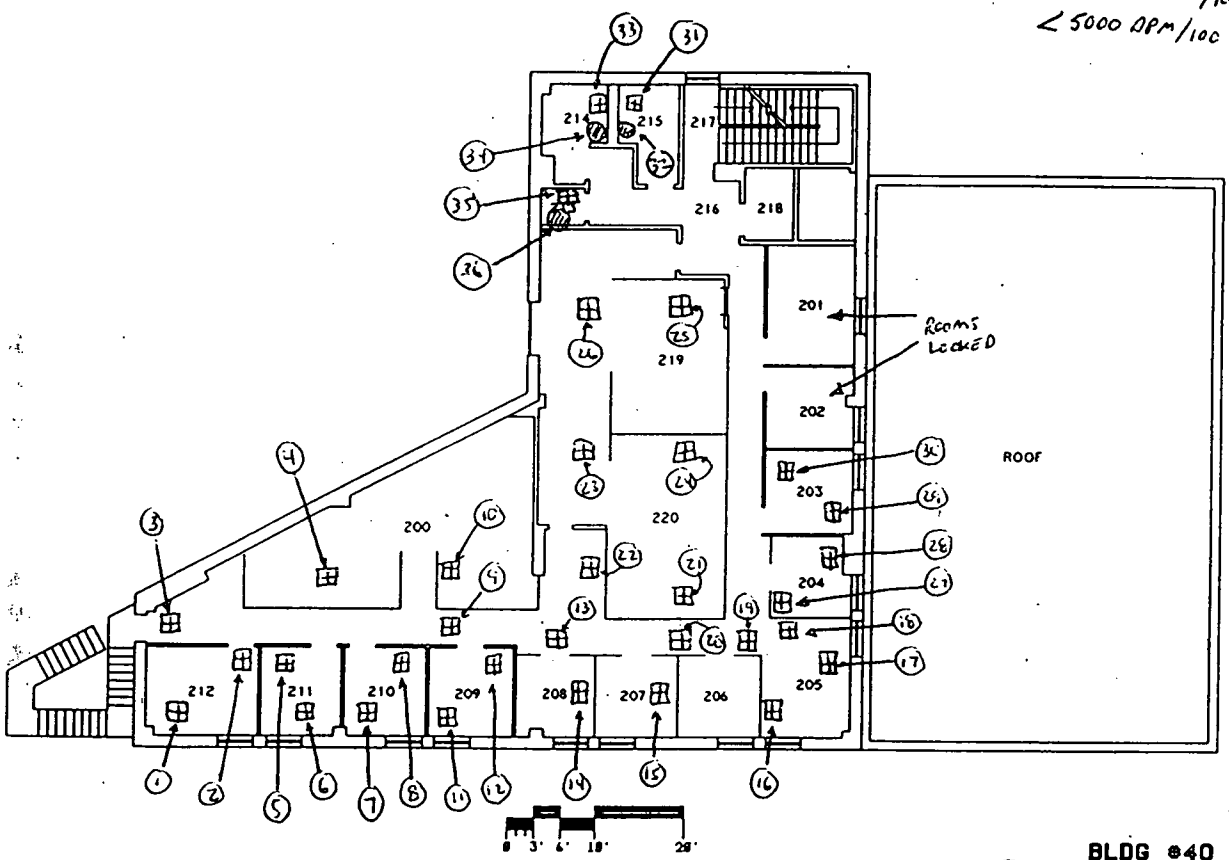
RADIOLOGICAL SURVEY DATA SHEET

MAP/DRAWING Continuation Page

Survey No. 99-40-04

MAP/DRAWING

*NOTE: ⊞ = VENT DUCT
◍ = FLOOR DRAIN
DIRECT READINGS TAKEN AT ALL SMEAR LOCATIONS.
DIRECT READINGS = <100 DPM/100cm² α
<5000 DPM/100 cm² β γ



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

ML-9620B (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR019
Batch Ended: 3/9/99 10:56

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-04 MURPHY/NEAL 03-08-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	3.19	2.66	<AL	0.00	1.70	<MDA
A2	2	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	3	0.00	2.21	<MDA	0.00	2.04	<MDA
A4	4	0.00	1.98	<MDA	0.70	2.85	<MDA
B1	5	1.60	2.11	<MDA	3.22	2.98	<MDA
B2	6	0.00	2.04	<MDA	0.00	1.43	<MDA
B3	7	0.00	1.91	<MDA	4.92	3.25	<AL
B4	8	0.00	1.92	<MDA	0.00	1.46	<MDA
C1	9	1.70	2.16	<MDA	1.42	2.58	<MDA
C2	10	0.00	2.13	<MDA	0.00	2.14	<MDA
C3	11	0.00	2.01	<MDA	2.21	2.66	<MDA
C4	12	0.00	1.96	<MDA	0.00	1.44	<MDA
D1	13	0.00	2.21	<MDA	3.50	3.04	<MDA
D2	14	0.00	2.79	<MDA	0.00	1.69	<MDA
D3	15	0.00	1.98	<MDA	0.00	1.39	<MDA
D4	16	1.61	2.07	<MDA	0.00	1.51	<MDA
A1	17	1.35	2.00	<MDA	4.11	2.86	<AL
A2	18	0.00	2.18	<MDA	3.09	2.97	<MDA
A3	19	0.00	2.24	<MDA	3.04	3.05	<MDA
A4	20	0.00	1.99	<MDA	1.90	3.09	<MDA
B1	21	0.00	2.12	<MDA	4.68	3.25	<AL
B2	22	0.00	2.07	<MDA	0.76	2.30	<MDA
B3	23	0.00	1.88	<MDA	0.22	2.24	<MDA
B4	24	1.47	1.96	<MDA	2.49	3.00	<MDA
C1	25	0.00	2.16	<MDA	2.94	2.92	<MDA
C2	26	0.00	2.13	<MDA	0.00	2.14	<MDA
C3	27	0.00	2.02	<MDA	4.76	3.22	<AL
C4	28	0.00	2.00	<MDA	6.65	3.61	<AL
D1	29	0.00	2.24	<MDA	6.14	3.57	<AL
D2	30	0.00	2.87	<MDA	1.06	2.70	<MDA
D3	31	0.00	1.98	<MDA	0.00	1.39	<MDA
D4	32	0.00	2.08	<MDA	0.00	1.93	<MDA
A1	33	0.00	1.95	<MDA	0.86	2.05	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR019
Batch Ended: 3/9/99 10:56

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-04 MURPHY/NEAL 03-08-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	0.00	2.13	<MDA	0.00	2.02	<MDA
A3	35	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	36	0.00	1.98	<MDA	0.70	2.85	<MDA

MM
031099

Protocol #: 1 Name:PW H3 #401388 09-Mar-1999 14:13
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
T = 2.00 QIP = tSIE/AEC ES Terminator = Count
99-40-04 MURPHY (E1-E36) MB
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	7.74	11.16	8.64	B	81	603.		22.74
0	2.00	1700.05	1618.22	7.36		1	635.	3798.66	3.46
1	2.00	2.19	0.00	0.00		25	523.	5.75	280.4
2	2.00	0.00	0.00	4.04		45	541.	0.00	0.00
3	2.00	0.00	0.00	1.86		60	563.	0.00	0.00
4	2.00	18.61	10.68	1.36		9	581.	44.25	43.80
5	2.00	5.12	1.44	0.00		30	541.	13.14	138.3
6	2.00	6.98	4.38	3.36		25	534.	18.05	103.1
7	2.00	8.63	6.43	2.36		30	504.	22.98	92.36
8	2.00	9.11	3.37	0.78		14	581.	21.67	75.61
9	2.00	18.29	13.12	0.00		24	546.	46.67	51.03
10	2.00	7.75	6.41	2.86		38	586.	18.31	108.2
11	2.00	16.44	11.01	0.00		18	520.	43.18	51.87
12	2.00	5.67	0.37	3.86		11	545.	14.48	106.3
13	2.00	3.95	0.65	0.00		22	443.	10.71	158.8
14	2.00	2.51	0.00	0.86		30	524.	6.56	254.2
15	2.00	15.53	12.00	2.36		14	475.	41.67	51.72
16	2.00	13.01	8.12	0.87		17	515.	34.31	60.35
17	2.00	8.48	5.41	4.19		12	474.	22.74	78.29
18	2.00	7.67	4.07	3.36		10	510.	20.32	82.78
19	2.00	9.50	3.87	0.00		3	502.	25.32	66.33
20	2.00	10.13	5.18	2.51		6	480.	27.14	64.82
21	2.00	21.53	15.14	7.86		10	515.	56.79	40.06
22	2.00	28.81	21.48	2.36		4	473.	77.31	31.54
23	2.00	10.70	5.12	6.41		6	530.	27.82	62.15
24	2.00	13.77	7.40	0.36		5	557.	34.63	51.53
25	2.00	24.47	17.37	1.86		8	514.	64.64	36.13
26	2.00	9.57	5.38	0.00		16	523.	25.05	74.23
27	2.00	3.14	0.00	2.86		9	480.	8.41	172.0
28	2.00	1.60	0.00	0.86		23	466.	4.30	356.0
29	2.00	13.54	7.69	2.86		15	524.	35.41	57.47
30	2.00	11.07	6.74	10.36		15	450.	29.93	66.10
31	2.00	2.61	0.00	0.00		21	613.	5.98	224.8
32	2.00	2.05	0.00	2.86		28	632.	4.60	298.9
33	2.00	14.36	8.31	0.00		13	504.	38.23	53.98
34	2.00	8.64	3.28	1.36		12	612.	19.82	77.07
35	2.00	15.86	9.03	1.86		4	596.	37.07	46.56
36	2.00	3.58	0.00	0.00		22	623.	8.10	173.3

RADIOLOGICAL SURVEY DATA SHEET

LOCATION (BLDG/AREA/ROOM) 40	SURVEY NO. 99-40-05
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 03/09/99
	TIME: 1050

MAP/DRAWING

* SEE PAGE #3.

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
NE ELECTRA	5370/5371	08/02/99
↓	5303/5315	06/09/99
BICRON μR	3929	04/08/99
N A	N A	N A

[redacted]

HP# 7873/7872	Date: 03/09/99
HP# 5379	Date: 3/10/99
HP# 3996	Date: 3-29-99

ML-9620 (2-98)

P-3

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				

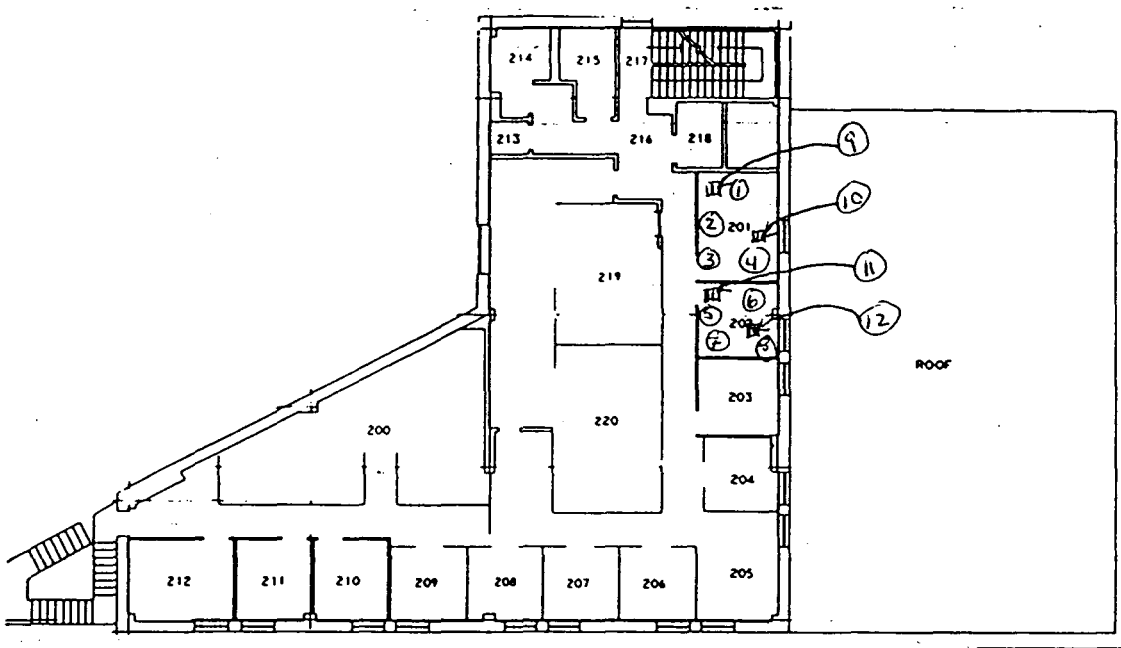
COMMENTS: NONE

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.

RADIOLOGICAL SURVEY DATA SHEET
MAP/DRAWING Continuation Page

Survey No. 99-40-05

MAP/DRAWING



EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 40
SECOND FLOOR
BLDG. CODE : 3040
REV. DATE 01/17/89 CLASSIFICATION UNCL

▥ = VENTS

* DIRECT READINGS ON FLOORS AND VENTS
<100 dpm/100 cm² α
<5000 dpm/100 cm² β

DOSE RATES = <0.02 mR/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

ML-9620B (2-98)

Survey No. 99-40-05

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHMENTS			FLOOR
2				
3				
4				
5				
6				
7				
8				
9				VENTS
10				
11				
12				
		N/A		

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

COMMENTS: NONE

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 A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR038
Batch Ended: 3/10/99 9:27

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-05 NEAL / MURPHY [12] 03-10-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.93	<MDA	0.00	1.70	<MDA
A2	2	0.00	2.13	<MDA	0.00	2.02	<MDA
A3	3	1.74	2.23	<MDA	1.58	2.75	<MDA
A4	4	0.00	1.96	<MDA	0.00	2.29	<MDA
B1	5	0.00	2.07	<MDA	0.00	1.98	<MDA
B2	6	1.44	2.07	<MDA	0.60	2.30	<MDA
B3	7	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	8	1.47	1.95	<MDA	0.15	2.50	<MDA
C1	9	3.79	3.00	<AL	1.28	2.58	<MDA
C2	10	0.00	2.14	<MDA	1.28	2.54	<MDA
C3	11	0.00	2.02	<MDA	3.48	2.95	<AL
C4	12	0.00	1.97	<MDA	1.64	2.60	<MDA

Protocol #: 3 Name:PW H3 #401388 10-Mar-1999 20:49
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
T e = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 9-40-05 NEAL/MURPHY [P1-P12] 03-10-99 JM
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

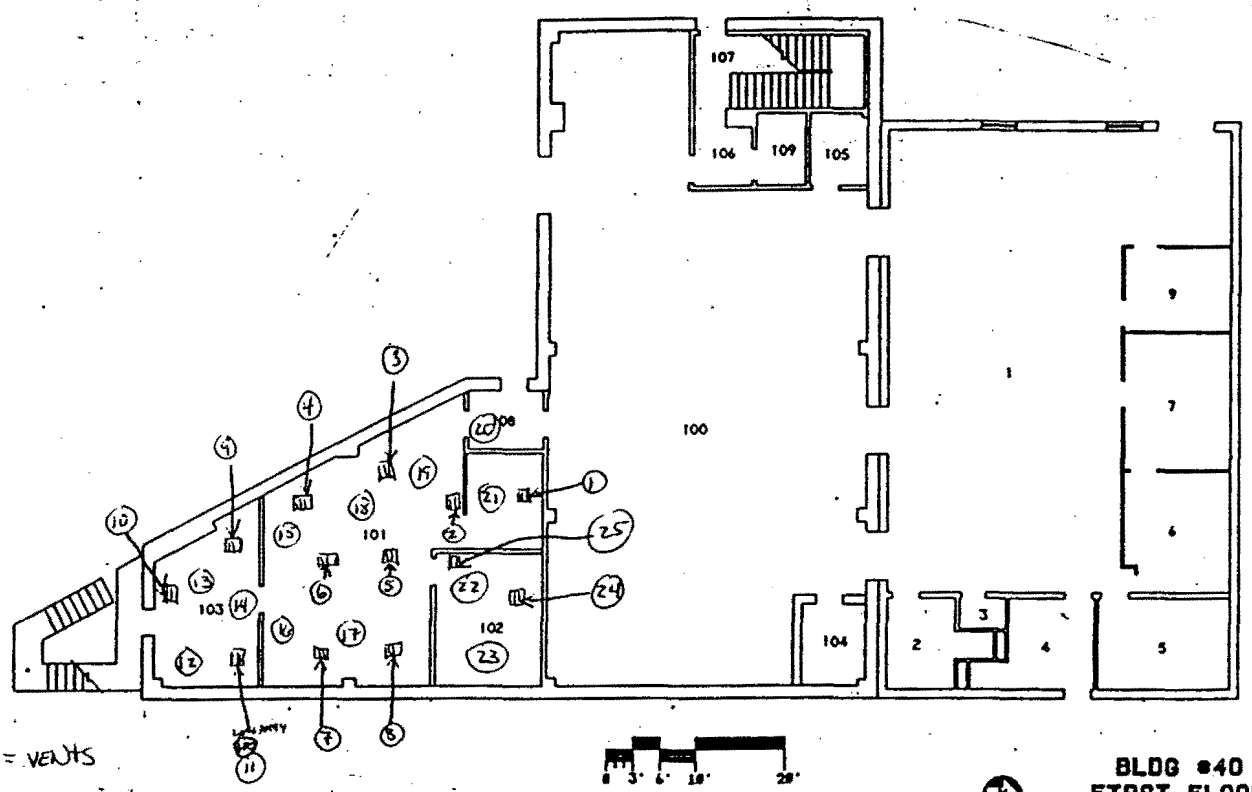
SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	20.00	20.42	13.10	B	49	576.		14.14
0	2.00	1314.97	1244.97	0.90		1	589.	3097.49	3.96
1	2.00	4.85	0.00	0.00		13	648.	10.68	175.7
2	2.00	2.02	0.00	0.00		15	629.	4.55	404.8
3	2.00	5.94	0.00	0.00		4	643.	13.15	134.8
4	2.00	0.00	0.00	0.00		35	635.	0.00	0.00
5	2.00	29.19	20.63	0.00		5	635.	65.22	37.06
6	2.00	0.00	0.00	0.00		51	618.	0.00	0.00
7	2.00	6.82	5.53	0.00		47	621.	15.47	182.7
8	2.00	22.39	23.08	0.00		61	631.	50.25	83.51
9	2.00	0.00	0.00	0.00		90	415.	0.00	0.00
10	2.00	0.00	8.12	0.00		76	482.	0.00	0.00
11	2.00	4.03	4.29	0.40		17	412.	11.39	215.4
12	2.00	1.71	2.13	0.00		31	504.	4.55	554.5

L1/L25

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) 40	SURVEY NO. 99-40-06
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 03/09/99
	TIME: 1525

MAP/DRAWING



▥ = VENTS

* ALL ACCESSIBLE FLOOR AREAS DIRECT FRISKED AND VENTS
< 100 dpm/100cm² α
< 5000 dpm/100cm² β

GENERAL AREA DOSE RATES = < 0.02 mR/HR

BLDG #40
FIRST FLOOR
BLDG CODE:3040

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5370/5371	08/02/99
↓	5303/5315 (CROSAT)	06/09/99
BICRON MR	3929	04/08/99
N A	N A	N A

[redacted]

HPS 7873/7872	Date: 03/09/99
HPS 5374	Date: 3-10-99
HPS 5996	Date: 3-29-99

ML-9620 (2-98)

P-2

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED	→	VENT
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8				
9				
10				
11				↓
12				FLOOR
13				↓
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				↓
24				VENT
25	↓	↓	↓	↓
		N	A	

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

COMMENTS: NONE

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.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR048
Batch Ended: 3/10/99 11:08

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-06 NEAL / MURPHY [25] 03-10-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.93	<MDA	0.00	1.70	<MDA
A2	2	1.45	2.18	<MDA	2.91	2.97	<MDA
A3	3	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	4	3.34	2.75	<AL	2.82	3.32	<MDA
B1	5	0.00	2.08	<MDA	0.82	2.36	<MDA
B2	6	0.00	2.06	<MDA	0.00	1.92	<MDA
B3	7	0.00	1.89	<MDA	1.40	2.53	<MDA
B4	8	0.00	1.95	<MDA	0.28	2.50	<MDA
C1	9	1.69	2.17	<MDA	2.80	2.92	<MDA
C2	10	1.62	2.13	<MDA	0.00	2.14	<MDA
C3	11	1.68	1.99	<AL	0.00	1.48	<MDA
C4	12	0.00	1.96	<MDA	0.00	1.91	<MDA
D1	13	1.79	2.16	<AL	0.00	1.50	<MDA
D2	14	0.00	2.87	<MDA	1.06	2.70	<MDA
D3	15	0.00	2.02	<MDA	3.58	2.83	<AL
D4	16	0.00	2.07	<MDA	0.00	1.51	<MDA
A1	17	0.00	1.93	<MDA	0.00	1.70	<MDA
A2	18	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	19	0.00	2.21	<MDA	0.00	2.04	<MDA
A4	20	0.00	2.02	<MDA	5.50	3.72	<AL
B1	21	0.00	2.07	<MDA	0.00	1.98	<MDA
B2	22	0.00	2.07	<MDA	0.76	2.30	<MDA
B3	23	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	24	0.00	1.93	<MDA	0.00	1.87	<MDA
C1	25	1.72	2.14	<AL	0.00	1.69	<MDA

Cw 031599

Protocol #: 2 Name:PW H3 #401388 11-Mar-1999 11:30
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
T = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-40-06 NEAL/MURPHY [L1-L25] 03-11-99 JM
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

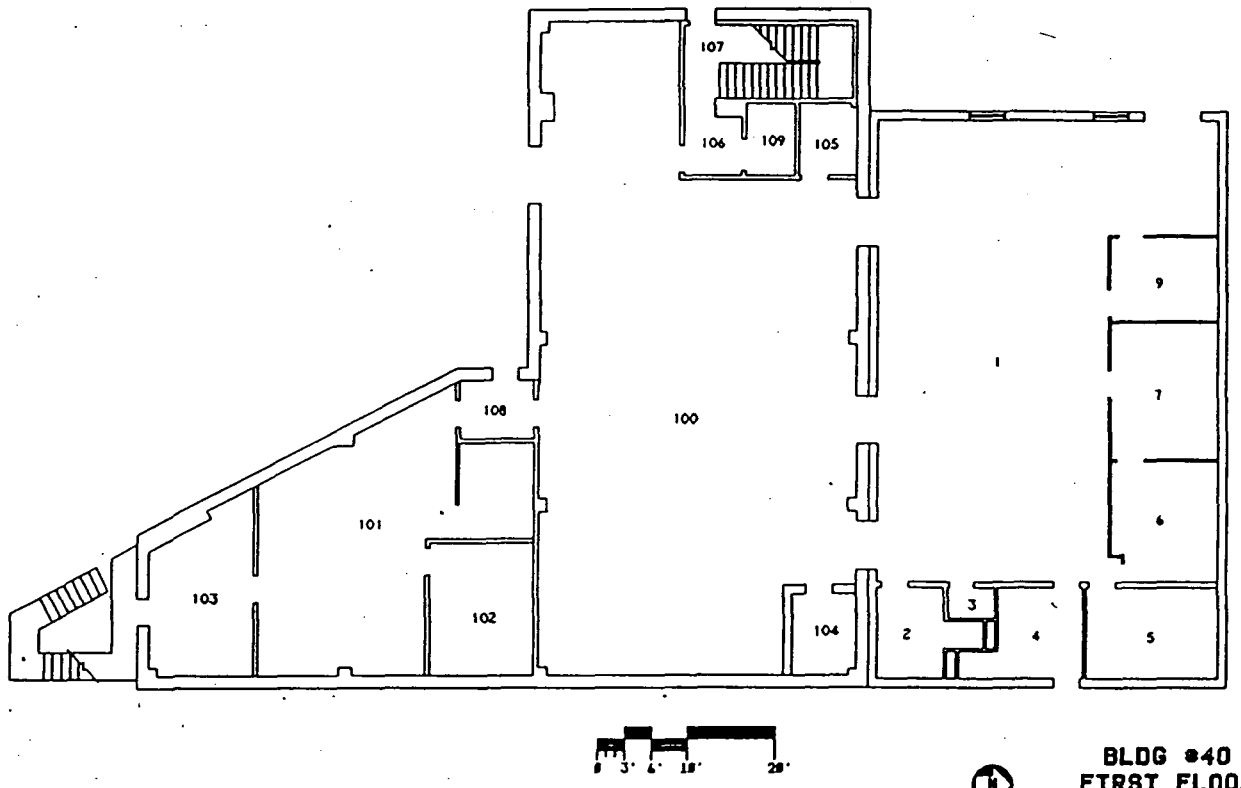
SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	31.73	17.36	10.08	B	19	637.		11.23
0	2.00	1235.56	1191.22	0.00		1	605.	2857.41	4.12
1	2.00	0.00	4.80	3.94		32	562.	0.00	0.00
2	2.00	0.00	0.00	1.92		30	525.	0.00	0.00
3	2.00	0.00	0.84	0.00		22	560.	0.00	0.00
4	2.00	0.00	2.18	2.42		42	600.	0.00	0.00
5	2.00	0.00	0.37	0.00		22	560.	0.00	0.00
6	2.00	0.00	6.41	0.00		12	592.	0.00	0.00
7	2.00	0.00	3.66	0.00		8	589.	0.00	0.00
8	2.00	0.00	0.00	2.42		33	572.	0.00	0.00
9	2.00	0.00	7.18	0.42		11	526.	0.00	0.00
10	2.00	0.00	0.00	4.42		25	410.	0.00	0.00
11	2.00	0.11	5.12	4.92		6	515.	0.29	8388.
12	2.00	9.55	15.47	4.42		10	592.	22.42	112.0
13	2.00	18.90	24.59	0.00		6	634.	42.30	59.56
14	2.00	6.86	17.16	0.00		16	571.	16.66	158.1
15	2.00	0.00	2.66	0.00		32	612.	0.00	0.00
[illegible]	2.00	0.00	9.58	0.00		74	609.	0.00	0.00
[illegible]	2.00	0.00	13.26	0.00		75	612.	0.00	0.00
18	2.00	9.54	15.91	0.42		38	573.	23.02	147.3
19	2.00	0.00	3.41	0.00		47	561.	0.00	0.00
20	2.00	0.07	15.00	2.40		43	563.	0.18	17698
21	2.00	0.00	4.13	2.65		54	615.	0.00	0.00
22	2.00	30.18	37.28	3.95		29	620.	68.57	50.71
23	2.00	34.18	43.03	0.00		36	612.	78.46	49.73
24	2.00	0.00	10.92	0.00		44	522.	0.00	0.00
25	2.00	34.18	38.68	4.42		4	523.	89.49	36.69

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) 40	SURVEY NO. 99-40-07
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 03/10/99
	TIME: 0740

*DOSE RATES TAKEN ~15ft. ALL AROUND OUTSIDE OF BLDG. <0.02mR/HR

MAP/DRAWING



BLDG #40
FIRST FLOOR
BLDG CODE:3040

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
BICRON NL	3929	040899

[redacted]

HP# 7873/7872	Date: 031099
HP# N/A	Date: N/A
HP# 5996	Date: 3/26/99

ML-9620 (2-98)

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: NONE

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.

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

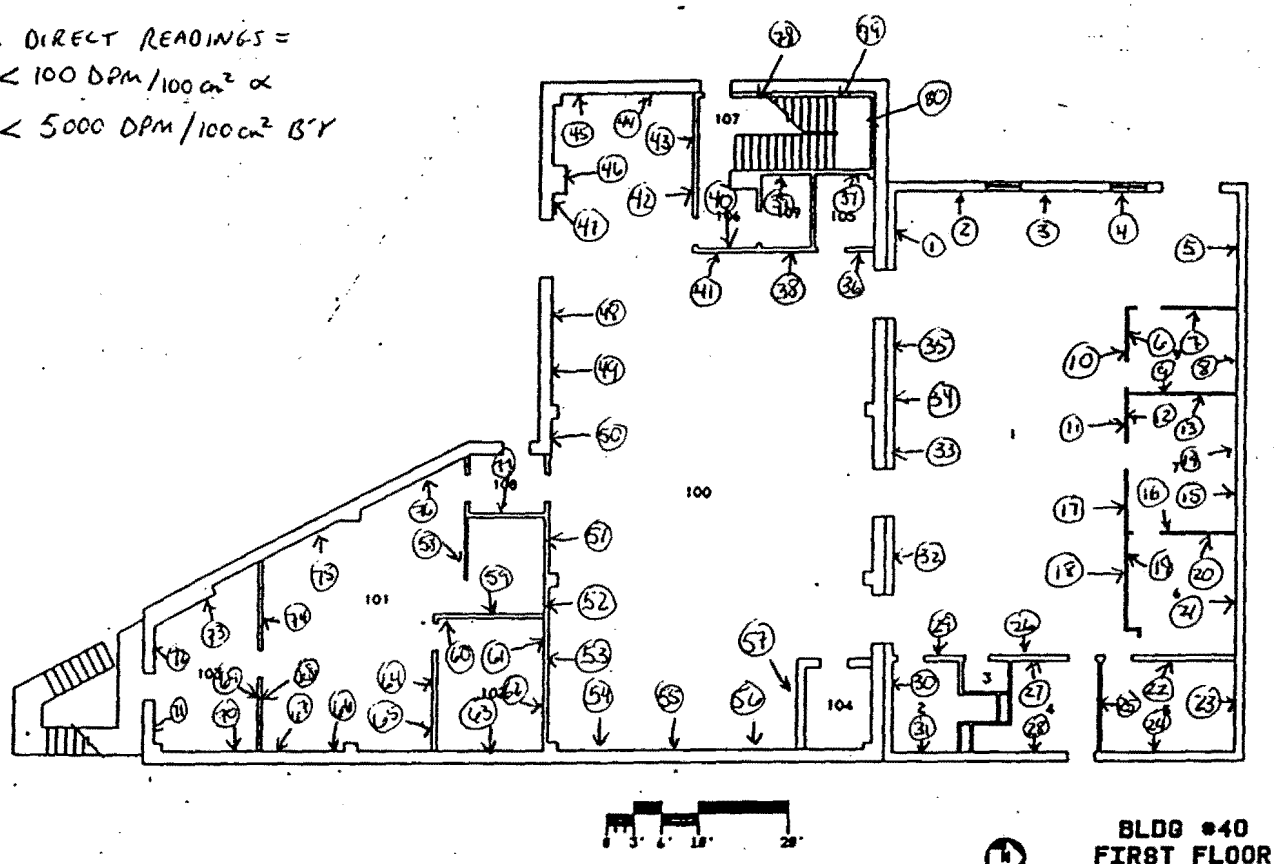
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) 40	SURVEY NO. 99-40-08
PURPOSE: RELEASE SURVEY OF WALLS	RWP NO. N/A
	DATE: 032399
	TIME: 1545

MAP/DRAWING

* DIRECT READINGS ONLY
NO SMEARS

ALL DIRECT READINGS =
< 100 DPM/100 cm² α
< 5000 DPM/100 cm² β γ



BLDG #40
FIRST FLOOR
BLDG CODE:3040

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5370/5371	080299
↓	5303/5315	060999
N/A	N/A	N/A

[redacted]

HP# 7872/7873	Date: 032399
HP# N/A	Date: N/A
HP# 5996	Date: 3/26/99

ML-9620 (2-98)

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: NONE

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.

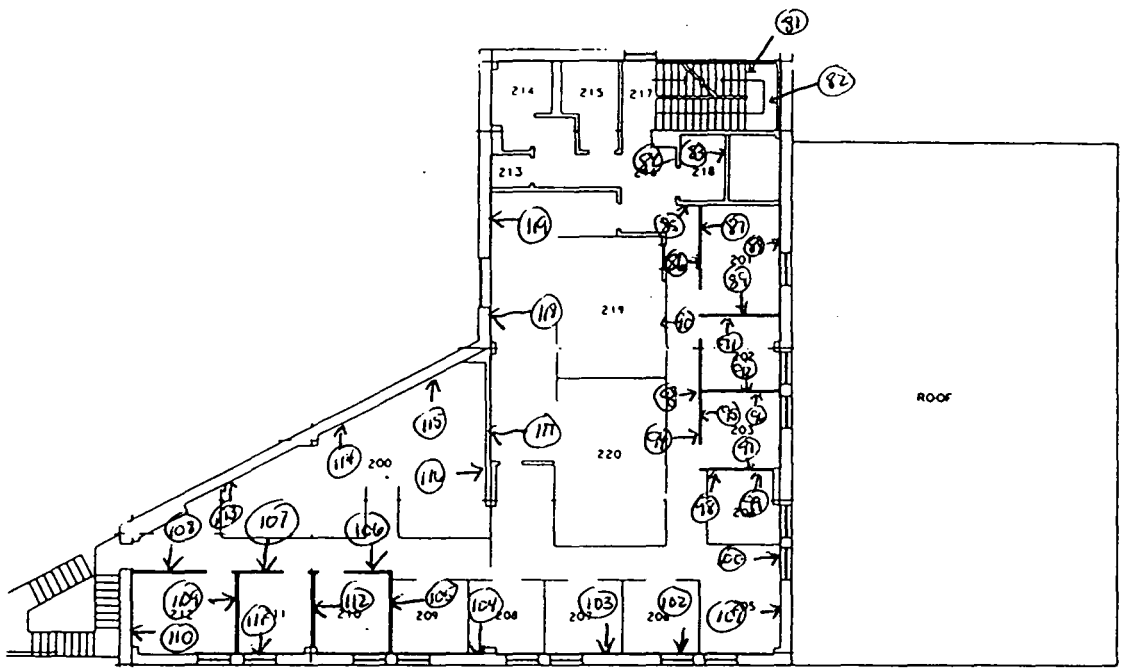
ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

MAP/DRAWING Continuation Page

Survey No. 99-40-08

MAP/DRAWING



EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS

BLDG. 40
SECOND FLOOR

BLDG. CODE : 3848

REV. DATE 01/17/89 | CLASSIFICATION UNCL

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

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: NONE

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.

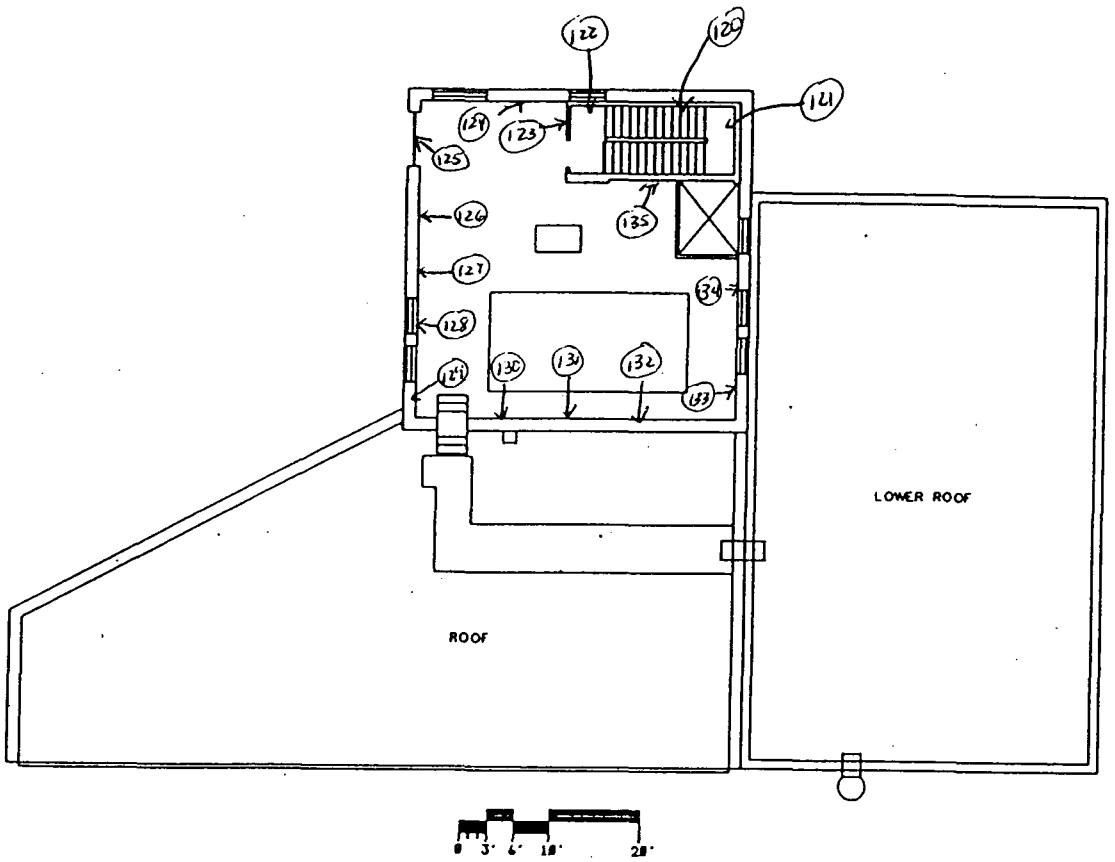
ML-9620 A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

MAP/DRAWING Continuation Page

Survey No. 99-40-08

MAP/DRAWING



BLDG #40
PENTHOUSE
BLDG CODE:3040

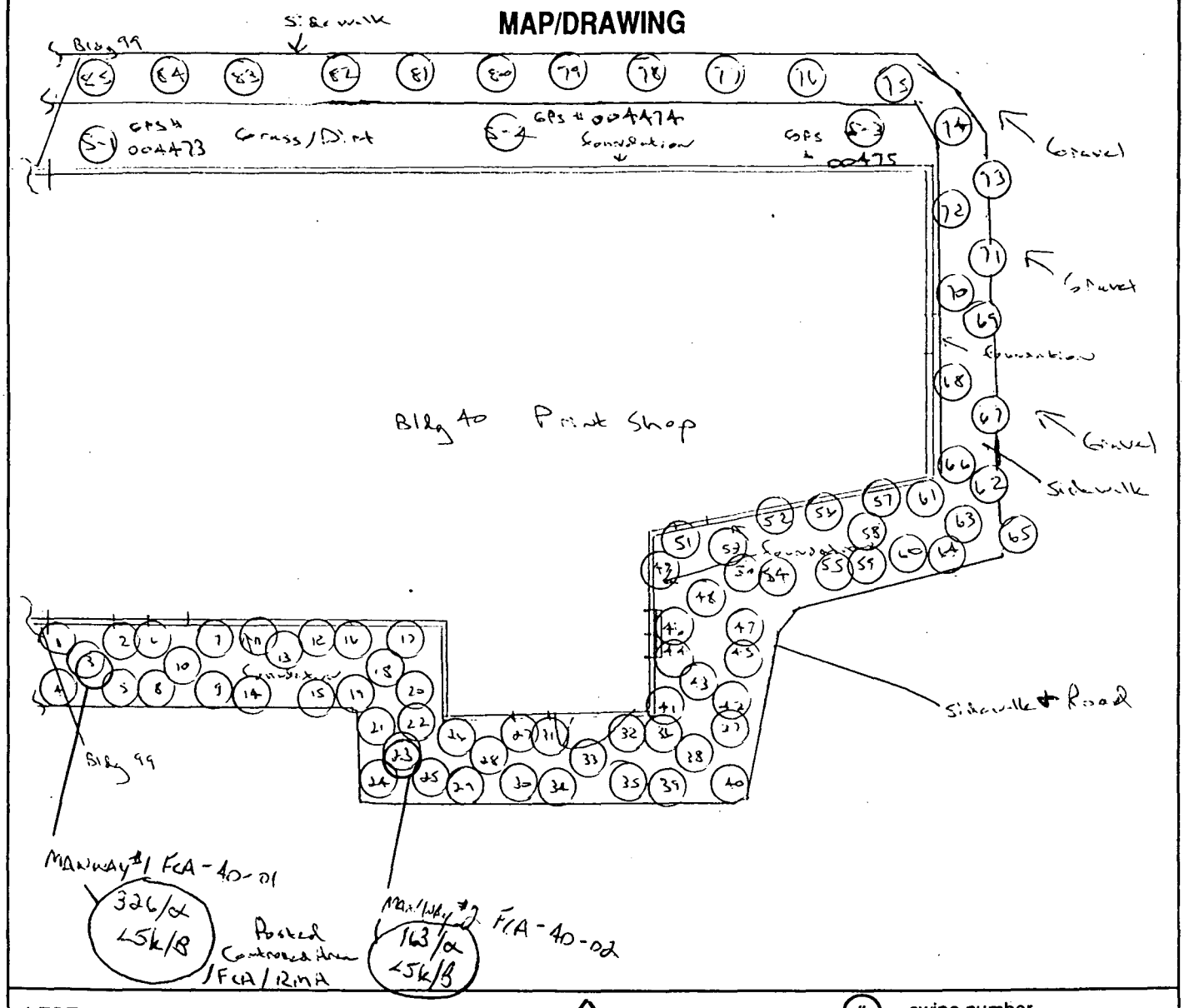
LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm 2

K220 Y1 / Y85

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 40 Bldg o/s Foundation	SURVEY NO. 99-40-09
PURPOSE: Including Soil Samples Print Shop Foundation (15' out) Free-Release	RWP NO. N/A
	DATE: ~~5/26/99~~ 6/2/99
	TIME: 1400

MAP/DRAWING



LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
S* => Soil Sample

△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE Electra	5311 / 5322	10/21/99
NE Electra	5220 / 5290	6/8/99

[redacted]

HP#	Date:
7889	6/2/99 ~~5/26/99~~
[redacted]	
3950	06/02/99
[redacted]	
5996	6/3/99

ML-9620 (2-98)

P-5

Survey No. 99-40-09

RCN 11/12/99 2010

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	**β/γ**	**Alpha**	**Tritium**	**Comments**
1-85	See Attached Sheets			

N/A

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

N/A

COMMENTS: Smear #3 on Manway #1 & Smear #23 on Manway #2.

NOTES:

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

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR021
Batch Ended: 6/2/99 14:25

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-09 HAESE/CHILDERS [85] 06-02-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.95	<MDA	0.86	2.05	<MDA
A2	2	0.00	2.19	<MDA	4.35	3.23	<AL
A3	3	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	4	0.00	2.00	<MDA	3.10	3.32	<MDA
B1	5	0.00	2.10	<MDA	2.10	2.69	<MDA
B2	6	0.00	2.06	<MDA	0.00	1.92	<MDA
B3	7	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	8	0.00	1.94	<MDA	0.00	2.21	<MDA
C1	9	0.00	2.16	<MDA	1.57	2.58	<MDA
C2	10	0.00	2.15	<MDA	2.66	2.89	<MDA
C3	11	0.00	2.00	<MDA	0.00	1.95	<MDA
C4	12	0.00	1.96	<MDA	0.00	1.44	<MDA
D1	13	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	14	0.00	2.79	<MDA	0.00	1.69	<MDA
D3	15	1.63	2.00	<AL	0.98	2.23	<MDA
D4	16	0.00	2.10	<MDA	0.69	2.57	<MDA
A1	17	0.00	1.93	<MDA	0.00	1.70	<MDA
A2	18	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	19	0.00	2.20	<MDA	0.00	1.56	<MDA
A4	20	0.00	2.00	<MDA	3.10	3.32	<MDA
B1	21	0.00	2.07	<MDA	0.00	1.98	<MDA
B2	22	1.46	2.04	<MDA	0.00	1.43	<MDA
B3	23	0.00	1.88	<MDA	0.22	2.24	<MDA
B4	24	0.00	1.95	<MDA	0.28	2.50	<MDA
C1	25	0.00	2.14	<MDA	0.00	1.69	<MDA
C2	26	0.00	2.13	<MDA	0.00	2.14	<MDA
C3	27	0.00	2.00	<MDA	0.93	2.33	<MDA
C4	28	0.00	1.97	<MDA	0.39	2.28	<MDA
D1	29	0.00	2.17	<MDA	0.00	2.00	<MDA
D2	30	0.00	2.90	<MDA	2.55	3.08	<MDA
D3	31	0.00	2.00	<MDA	1.11	2.23	<MDA
D4	32	0.00	2.08	<MDA	0.00	1.93	<MDA
A1	33	0.00	1.93	<MDA	0.00	1.70	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR021
Batch Ended: 6/2/99 14:25

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-09 HAESE/CHILDERS [85] 06-02-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	1.45	2.13	<MDA	0.00	2.02	<MDA
A3	35	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	36	1.45	2.00	<MDA	2.96	3.32	<MDA
B1	37	1.61	2.05	<MDA	0.00	1.50	<MDA
B2	38	0.00	2.06	<MDA	0.00	1.92	<MDA
B3	39	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	40	1.47	1.96	<MDA	2.49	3.00	<MDA
C1	41	0.00	2.14	<MDA	0.00	1.69	<MDA
C2	42	0.00	2.13	<MDA	0.00	1.63	<MDA
C3	43	0.00	1.99	<MDA	0.00	1.48	<MDA
C4	44	0.00	1.97	<MDA	0.39	2.28	<MDA
D1	45	0.00	2.17	<MDA	0.00	2.00	<MDA
D2	46	2.00	2.83	<MDA	0.00	2.25	<MDA
D3	47	0.00	1.99	<MDA	0.00	1.86	<MDA
D4	48	0.00	2.12	<MDA	4.29	3.31	<AL
A1	49	0.00	1.93	<MDA	0.00	1.70	<MDA
A2	50	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	51	0.00	2.20	<MDA	0.00	1.56	<MDA
A4	52	0.00	1.99	<MDA	1.90	3.09	<MDA
B1	53	0.00	2.08	<MDA	0.82	2.36	<MDA
B2	54	0.00	2.09	<MDA	3.30	2.92	<MDA
B3	55	0.00	1.90	<MDA	3.75	3.03	<AL
B4	56	0.00	1.94	<MDA	0.00	2.21	<MDA
C1	57	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	58	0.00	2.13	<MDA	0.00	2.14	<MDA
C3	59	0.00	1.99	<MDA	0.00	1.48	<MDA
C4	60	0.00	1.97	<MDA	0.39	2.28	<MDA
D1	61	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	62	0.00	2.90	<MDA	2.55	3.08	<MDA
D3	63	0.00	2.01	<MDA	2.35	2.55	<MDA
D4	64	0.00	2.09	<MDA	0.00	2.28	<MDA
A1	65	0.00	1.98	<MDA	3.16	2.62	<AL
A2	66	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	67	0.00	2.22	<MDA	0.42	2.42	<MDA
A4	68	0.00	2.00	<MDA	3.10	3.32	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR021
Batch Ended: 6/2/99 14:25

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-09 HAESE/CHILDERS [85] 06-02-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	69	1.61	2.07	<MDA	0.00	1.98	<MDA
B2	70	0.00	2.07	<MDA	0.76	2.30	<MDA
B3	71	0.00	1.86	<MDA	0.00	1.51	<MDA
B4	72	0.00	1.93	<MDA	0.00	1.87	<MDA
C1	73	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	74	1.57	2.15	<MDA	2.53	2.89	<MDA
C3	75	0.00	2.00	<MDA	0.00	1.95	<MDA
C4	76	3.49	2.76	<AL	2.69	2.89	<MDA
D1	77	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	78	0.00	2.83	<MDA	0.00	2.25	<MDA
D3	79	0.00	2.00	<MDA	1.11	2.23	<MDA
D4	80	0.00	2.08	<MDA	0.00	1.93	<MDA
A1	81	0.00	1.95	<MDA	0.86	2.05	<MDA
A2	82	0.00	2.13	<MDA	0.00	2.02	<MDA
A3	83	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	84	0.00	1.95	<MDA	0.00	1.95	<MDA
B1	85	0.00	2.12	<MDA	4.68	3.25	<AL

Protocol #: 5 Name:PW H3 #401388 02-Jun-1999 22:52
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-40-09 HAESE/CHILDERS [Y1-Y85] 06-02-99 JM
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	6.79	6.94	10.40	B	6	576.		24.27
0	2.00	1115.36	1076.86	0.00		0	567.	2522.27	4.27
1	2.00	0.00	0.00	0.10		0	633.	0.00	0.00
2	2.00	0.00	0.00	2.10		0	638.	0.00	0.00
3	2.00	0.58	0.73	0.00		7	579.	1.30	760.9
4	2.00	0.00	0.00	0.00		12	642.	0.00	0.00
5	2.00	0.21	0.00	0.00		0	649.	0.44	1934.
6	2.00	2.18	2.11	0.00		6	573.	4.89	219.0
7	2.00	0.71	0.56	0.00		0	635.	1.49	591.6
8	2.00	2.71	2.56	0.00		0	629.	5.70	171.9
9	2.00	0.00	0.00	1.10		0	635.	0.00	0.00
10	2.00	0.18	0.38	0.00		7	635.	0.38	2398.
11	2.00	0.00	0.00	0.00		0	647.	0.00	0.00
12	2.00	0.71	0.56	0.10		0	643.	1.47	591.6
13	2.00	0.00	0.00	0.00		0	644.	0.00	0.00
14	2.00	0.00	0.00	0.00		18	643.	0.00	0.00
[illegible]	2.00	0.00	0.00	0.00		0	623.	0.00	0.00
[illegible]	2.00	0.18	0.38	0.00		7	637.	0.38	2398.
17	2.00	0.00	0.00	0.00		0	646.	0.00	0.00
18	2.00	0.00	0.00	0.00		0	640.	0.00	0.00
19	2.00	0.00	0.00	0.00		0	652.	0.00	0.00
20	2.00	0.71	0.17	0.60		0	668.	1.44	591.6
21	2.00	0.00	0.00	1.10		14	657.	0.00	0.00
22	2.00	0.00	0.00	0.60		0	645.	0.00	0.00
23	2.00	0.00	0.00	0.00		12	573.	0.00	0.00
24	2.00	0.68	0.89	0.60		7	643.	1.41	653.2
25	2.00	0.00	0.00	0.00		0	632.	0.00	0.00
26	2.00	0.00	0.00	0.00		8	652.	0.00	0.00
27	2.00	0.00	0.00	0.00		0	650.	0.00	0.00
28	2.00	0.71	0.56	0.00		0	641.	1.48	591.6
29	2.00	0.26	0.11	0.00		0	647.	0.54	1554.
30	2.00	0.00	0.00	0.00		14	621.	0.00	0.00
31	2.00	0.00	0.00	0.00		0	649.	0.00	0.00
32	2.00	0.00	0.00	0.00		0	643.	0.00	0.00
33	2.00	3.27	3.12	0.00		0	620.	6.95	146.0
34	2.00	0.00	0.00	0.00		18	639.	0.00	0.00
35	2.00	2.71	2.56	0.00		0	646.	5.60	171.9
36	2.00	0.00	0.00	0.00		0	653.	0.00	0.00
37	2.00	0.00	0.00	0.10		0	626.	0.00	0.00
38	2.00	1.21	0.45	0.00		0	622.	2.56	357.1
39	2.00	0.00	0.00	0.00		11	568.	0.00	0.00
	2.00	1.21	1.06	0.00		0	598.	2.64	357.1
41	2.00	0.71	0.56	0.00		0	641.	1.48	591.6
42	2.00	2.18	2.06	1.10		6	630.	4.58	218.9
43	2.00	0.00	0.00	0.00		0	606.	0.00	0.00

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Pg 6 of 8
4/14

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
44	2.00	0.00	0.00	0.00		0	629.	0.00	0.00
45	2.00	0.00	0.00	0.00		9	624.	0.00	0.00
[illegible]	2.00	0.18	0.00	0.00		7	650.	0.37	2395.
47	2.00	0.00	0.00	0.00		8	620.	0.00	0.00
48	2.00	0.00	0.00	0.00		0	642.	0.00	0.00
49	2.00	0.00	0.00	0.00		0	633.	0.00	0.00
50	2.00	1.21	1.06	0.00		0	624.	2.56	357.1
51	2.00	0.21	0.00	0.00		0	640.	0.44	1934.
52	2.00	0.00	0.00	2.10		0	633.	0.00	0.00
53	2.00	0.00	0.00	0.00		0	642.	0.00	0.00
54	2.00	0.00	0.00	0.00		0	639.	0.00	0.00
55	2.00	0.00	0.00	0.00		0	607.	0.00	0.00
56	2.00	0.00	0.00	0.00		8	651.	0.00	0.00
57	2.00	0.00	0.00	0.00		12	643.	0.00	0.00
58	2.00	0.00	0.00	0.00		0	602.	0.00	0.00
59	2.00	0.00	0.00	0.00		8	625.	0.00	0.00
60	2.00	0.00	0.00	1.17		8	619.	0.00	0.00
61	2.00	0.00	0.00	0.00		0	637.	0.00	0.00
62	2.00	2.02	1.87	0.00		0	634.	4.23	222.9
63	2.00	0.18	0.34	0.00		7	589.	0.40	2407.
64	2.00	0.00	0.00	0.00		0	632.	0.00	0.00
65	2.00	0.00	0.00	0.00		0	633.	0.00	0.00
66	2.00	0.00	0.00	0.00		10	606.	0.00	0.00
67	2.00	0.21	0.00	0.00		0	639.	0.44	1934.
68	2.00	0.00	0.00	1.60		9	556.	0.00	0.00
69	2.00	0.00	0.00	0.00		0	629.	0.00	0.00
70	2.00	1.71	1.56	0.10		0	633.	3.58	259.5
[illegible]	2.00	0.00	0.00	0.00		18	636.	0.00	0.00
[illegible]	2.00	0.00	0.00	0.00		0	645.	0.00	0.00
73	2.00	0.00	0.00	0.00		0	615.	0.00	0.00
74	2.00	0.18	0.33	0.00		7	581.	0.40	2409.
75	2.00	0.00	0.00	0.00		8	635.	0.00	0.00
76	2.00	0.00	0.00	0.00		0	617.	0.00	0.00
77	2.00	0.00	0.00	1.60		0	636.	0.00	0.00
78	2.00	0.00	0.00	0.60		0	638.	0.00	0.00
79	2.00	0.21	0.06	0.10		0	634.	0.44	1934.
80	2.00	0.00	0.00	0.00		0	639.	0.00	0.00
81	2.00	0.00	0.00	0.00		0	636.	0.00	0.00
82	2.00	1.71	1.21	0.00		0	645.	3.54	259.5
[illegible]	2.00	0.00	0.00	0.00		0	652.	0.00	0.00
[illegible]	2.00	0.00	0.00	0.00		0	634.	0.00	0.00
85	2.00	0.00	0.00	0.00		0	637.	0.00	0.00

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ibm
6/8/

pg 9.610

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: ML800393
FILE ID: MG100325.S0
PRIORITY: Y

Description\Location: GRID 99-40-09-5-2

Collector: 7889

Date Received: 6/2/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.02	0.03	45,000
Cs-137	*	0.02	0.03	45,000
Pb-210		1.37	0.38	45,000
Ra-226		1.46	0.38	800
Ac-227 (D)	*	0.06	0.13	40
Th-230		3.66	3.51	800
Th-232 (D)		0.52	0.11	130
Pu-238	*	0.00	9.07	500
Am-241	*	0.02	0.04	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.03

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments: 2 HOUR COUNT, Th-230 ERROR +/- 2.32 pCi/g

Date: 6/3/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 6-3-99

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SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: ML800392
FILE ID: MG100324.S0
PRIORITY: Y

Description\Location: GRID 99-40-09-5-1

Collector: 7889

Date Received: 6/2/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.03	45,000
Cs-137		0.05	0.02	45,000
Pb-210		1.32	0.29	45,000
Ra-226		1.37	0.33	800
Ac-227 (D)	*	0.09	0.09	40
Th-230	*	1.31	2.81	800
Th-232 (D)		0.56	0.07	130
Pu-238	*	0.00	6.75	500
Am-241	*	0.02	0.03	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.01 nCi/g

Σ Respirator 0.03

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments: 4 HOUR COUNT

Date: 6/3/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 6-3-99

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SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: ML800394
FILE ID: MG100326.S0
PRIORITY: Y

Description\Location: GRID 99-40-09-5-3

Collector: 7889

Date Received: 6/2/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.04	45,000
Cs-137		0.04	0.03	45,000
Pb-210		1.40	0.40	45,000
Ra-226		1.25	0.43	800
Ac-227 (D)	*	0.04	0.15	40
Th-230	*	2.21	3.85	800
Th-232 (D)		0.45	0.12	130
Pu-238	*	1.45	9.84	500
Am-241	*	0.00	0.04	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.03

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments: 2 HOUR COUNT

Date: 6/3/99 Counted By: 6086 Analyzed By: 6086 INITIALS [redacted] 6-3-99

R-223

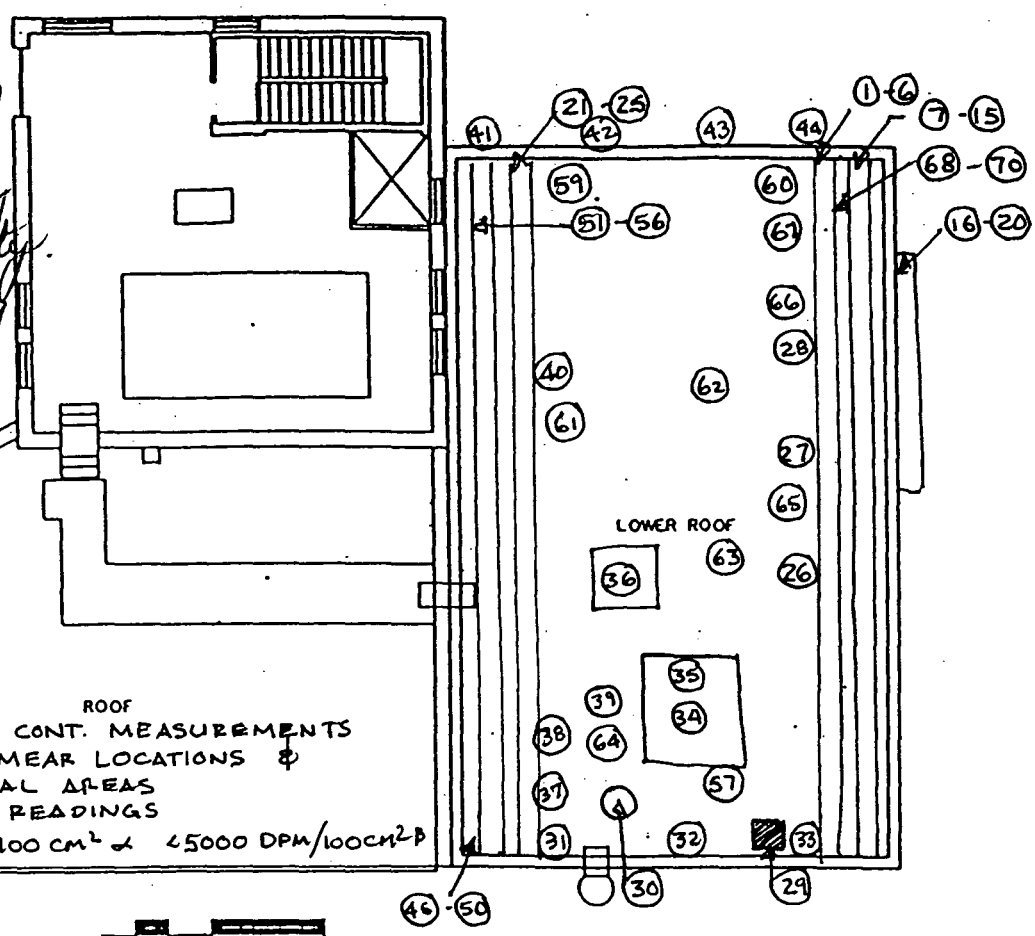
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BUILDING 40 LOWER ROOF	SURVEY NO. 99-40-013
PURPOSE: RELEASE SURVEY	RWP NO. N/A
	DATE: 21 JUL 99
	TIME: 1500

MAP/DRAWING

FOR INFORMATION ONLY

NOTE: Upper roof survey not completed due to questionability of roof integrity. KSK 7-26-99



ROOF
ALL DIRECT CONT. MEASUREMENTS TAKEN AT SMEAR LOCATIONS
ALL GENERAL AREAS
ALL DIRECT READINGS
<100 DPM/100 cm² α <5000 DPM/100cm² β

0 3' 6' 18' 28'

LARGE AREA WIPES TAKEN IN ALL AREAS ON HORIZONTAL SURFACES
LARGE AREA SMEAR SURVEY RESULTS:
<100 DPM/100cm² α <5000 DPM/100cm² β

BLDG #40
PENTHOUSE
BLDG CODE:3040

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5306/5318	11/21/99

[redacted]

HP# 7875/2539	Date: 21 JUL 99
[redacted]	
HP# 5662	Date: 7-23-99
[redacted]	
HP# 8996	Date: 7-26-99

ML-9620 (2-98)

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Survey No. 99-40-013

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1				CONDENSATE/STEAM
2				↓
3				↓
4				↓
5				↓
6				↓
7				↓
8				↓
9				↓
10				↓
11				↓
12				↓
13				↓
14				↓
15				↓
16				CONTROL BOX
17				↓
18				↓
19				↓
20				↓
21				BRINE LINE
22				↓
23				↓
24				↓
25				↓
26				STEAM LINE
27				↓
28				↓
29				DARK ROOM VENT
30				REST ROOM EXHAUST
31				FLASHING
32				↓
33				↓
34				COVER
35				↓

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

COMMENTS:

NOTES:

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

ML-9620 (4-98)

Alpha/Beta Analysis

Batch ID: T 99-40-013 [1-50 OF 70] WOOLEY 7-23-99 RLH
Batch File: Smear Unit 2 - 199907230732

Group: B
Device: Unit 2
Geometry: Swipe/Smear
Serial Number: 15764-2

Acquisition Date: 7/23/99
Count Time (min): 1.5
Recalibration Date: 3/3/2000

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	124	0.00	0.01	6.83	6.11
2	67	2.22	4.43	4.03	4.74
3	97	0.00	0.00	2.73	3.86
4	145	0.00	0.00	1.37	2.73
5	137	0.00	0.01	4.10	4.73
6	44	0.00	0.00	2.73	3.86
7	56	2.21	4.43	6.76	6.11
8	88	0.00	0.01	5.46	5.46
9	93	0.00	0.01	4.10	4.73
10	117	0.00	0.01	4.10	4.73
11	73	0.00	0.01	4.10	4.73
12	39	0.00	0.01	8.20	6.69
13	51	0.00	0.00	1.37	2.73
14	139	0.00	0.00	2.73	3.86
15	114	4.43	6.27	5.33	5.49
16	108	0.00	0.01	8.20	6.69
17	128	0.00	0.01	4.10	4.73
18	34	4.43	6.27	6.69	6.13
19	103	2.21	4.43	8.13	6.70
20	70	0.00	0.01	6.83	6.11
21	37	0.00	0.01	4.10	4.73
22	100	0.00	0.01	4.10	4.73
23	117	0.00	0.01	4.10	4.73
24	63	2.21	4.43	5.40	5.47

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Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
25	60	2.21	4.43	5.40	5.47
26	49	2.22	4.43	4.03	4.74
27	138	0.00	0.01	6.83	6.11
28	145	2.22	4.43	4.03	4.74
29	76	0.00	0.00	2.73	3.86
30	27	0.00	0.01	9.56	7.23
31	123	0.00	0.01	8.20	6.69
32	74	0.00	0.00	2.73	3.86
33	136	2.22	4.43	1.30	2.75
34	61	4.43	6.27	8.06	6.71
35	122	2.21	4.43	10.86	7.73
36	91	0.00	0.01	4.10	4.73
37	60	0.00	0.01	5.46	5.46
38	77	0.00	0.01	4.10	4.73
39	62	0.00	0.01	6.83	6,11
40	114	0.00	0.00	2.73	3.86
41	54	0.00	0.00	0.00	0.00
42	13	0.00	0.01	6.83	6.11
43	32	0.00	0.01	6.83	6.11
44	65	0.00	0.01	5.46	5.46
45	49	0.00	0.00	2.73	3.86
46	65	0.00	0.00	1.37	2.73
47	34	0.00	0.01	8.20	6.69
48	30	0.00	0.01	4.10	4.73
49	43	0.00	0.00	2.73	3.86
50	87	4.43	6.27	6.69	6.13

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Alpha/Beta Analysis

Batch ID: T 99-40-013 [51-70 OF 70] WOOLEY 7-23-99 RLH
Batch File: Smear Unit 3 - 199907230743

Group: C
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 15764-1

Acquisition Date: 7/23/99
Count Time (min): 1.5
Recalibration Date: 3/3/2000

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	53	0.00	0.00	0.00	0.00
2	26	0.00	0.00	1.50	3.00
3	68	0.00	0.01	6.00	6.00
4	33	0.00	0.00	3.00	4.24
5	40	0.00	0.00	3.00	4.24
6	6	0.00	0.01	4.50	5.19
7	21	0.00	0.00	3.00	4.24
8	44	0.00	0.00	1.50	3.00
9	70	0.00	0.01	4.50	5.19
10	54	0.00	0.01	4.50	5.19
11	104	0.00	0.00	0.00	0.00
12	77	0.00	0.01	7.49	6.70
13	129	0.00	0.01	8.99	7.34
14	43	0.00	0.01	4.50	5.19
15	133	0.00	0.01	7.49	6.70
16	138	0.00	0.01	6.00	6.00
17	133	0.00	0.00	1.50	3.00
18	74	7.46	8.61	1.48	3.00
19	64	4.97	7.03	10.48	7.93
20	71	2.49	4.97	2.99	4.24

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Protocol #: 2 Name:PW H3 #401388 23-Jul-1999 13:05
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-40-013 [L1-L70] HAESE / WOOLEY 7-23-99 RLH
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	5.05	4.91	11.18	B	2	610.		28.14
0	2.00	1405.05	1347.23	0.00		1	606.	3030.26	3.80
1	2.00	1.45	1.59	0.00		0	625.	3.05	267.8
2	2.00	0.92	1.07	0.00		8	656.	1.87	437.4
3	2.00	3.92	3.77	0.00		6	633.	8.20	120.0
4	2.00	6.45	5.55	0.00		0	607.	13.89	77.59
5	2.00	0.16	0.00	0.00		0	628.	0.34	2194.
6	2.00	5.56	6.05	0.00		5	624.	11.75	90.61
7	2.00	1.03	0.93	0.00		0	591.	2.25	367.2
8	2.00	1.45	1.24	0.00		0	647.	2.99	267.8
9	2.00	1.20	1.35	0.00		0	602.	2.61	317.0
10	2.00	0.00	0.00	0.00		12	623.	0.00	0.00
11	2.00	1.95	1.59	0.00		0	635.	4.07	205.6
12	2.00	0.00	0.00	0.00		0	622.	0.00	0.00
13	2.00	1.42	1.90	0.00		8	617.	3.01	291.9
14	2.00	0.00	0.00	0.00		0	625.	0.00	0.00
15	2.00	0.95	0.83	0.00		0	604.	2.05	395.3
16	2.00	0.42	0.88	0.00		9	601.	0.90	933.7
17	2.00	0.00	0.00	0.00		0	481.	0.00	0.00
18	2.00	4.45	4.24	0.00		0	512.	10.80	103.1
19	2.00	3.15	3.30	3.82		0	566.	7.15	136.2
20	2.00	2.95	3.09	0.00		0	618.	6.27	144.0
21	2.00	0.00	0.00	1.32		0	531.	0.00	0.00
22	2.00	1.95	2.09	0.00		0	595.	4.25	205.6
23	2.00	7.71	7.36	3.67		0	536.	18.15	68.06
24	2.00	0.00	0.00	0.00		24	630.	0.00	0.00
25	2.00	0.45	0.59	0.00		0	610.	0.96	807.0
26	2.00	4.95	4.86	0.00		0	585.	10.93	94.86
27	2.00	5.31	5.24	0.00		0	576.	11.88	89.80
28	2.00	0.00	0.00	2.82		0	603.	0.00	0.00
29	2.00	0.95	1.09	0.32		0	601.	2.06	395.3
30	2.00	1.45	1.42	0.00		0	547.	3.36	267.8
31	2.00	0.00	0.00	0.00		0	482.	0.00	0.00
32	2.00	1.95	2.02	0.00		0	481.	4.93	205.6
33	2.00	0.45	0.09	0.00		0	465.	1.16	807.0
34	2.00	4.95	4.89	0.00		0	567.	11.19	94.86
35	2.00	2.45	2.59	0.32		0	623.	5.18	168.6
36	2.00	0.45	0.47	0.00		0	513.	1.08	807.0
37	2.00	5.45	5.35	2.32		0	589.	11.98	88.08
38	2.00	2.95	3.09	2.23		0	518.	7.09	144.0
39	2.00	0.00	0.00	0.00		36	350.	0.00	0.00
40	2.00	0.00	0.00	0.00		0	380.	0.00	0.00
41	2.00	0.00	0.00	0.82		0	464.	0.00	0.00
42	2.00	0.54	0.30	0.00		0	370.	1.68	669.4
43	2.00	0.00	0.00	1.82		0	378.	0.00	0.00

page 7 of 7

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
44	2.00	0.00	0.00	0.00		25	398.	0.00	0.00
45	2.00	4.36	4.81	0.00		5	582.	9.69	109.9
46	2.00	0.00	0.00	0.00		0	604.	0.00	0.00
47	2.00	0.00	0.00	0.00		0	588.	0.00	0.00
48	2.00	2.42	2.62	0.00		7	598.	5.26	180.8
49	2.00	0.95	1.09	0.00		0	568.	2.14	395.3
50	2.00	1.45	1.09	0.00		0	563.	3.29	267.8
51	2.00	1.16	1.10	0.00		8	601.	2.51	351.3
52	2.00	1.45	1.59	0.00		0	606.	3.12	267.8
53	2.00	0.00	0.00	0.00		0	540.	0.00	0.00
54	2.00	0.00	0.00	0.00		0	586.	0.00	0.00
55	2.00	3.45	3.59	0.82		0	574.	7.73	126.5
56	2.00	0.00	0.11	0.00		10	607.	0.00	0.00
57	2.00	0.00	0.00	0.00		0	221.	0.00	0.00
58	2.00	0.00	0.00	0.00		0	619.	0.00	0.00
59	2.00	0.00	0.00	0.00		0	356.	0.00	0.00
60	2.00	0.45	0.59	0.00		0	398.	1.30	807.0
61	2.00	0.00	0.00	0.00		0	279.	0.00	0.00
62	2.00	0.00	0.00	0.00		0	461.	0.00	0.00
63	2.00	1.61	1.66	0.00		0	495.	3.99	243.9
64	2.00	0.00	0.00	0.00		11	532.	0.00	0.00
65	2.00	0.66	0.80	0.00		0	331.	2.24	556.9
66	2.00	0.33	0.47	0.00		0	376.	1.00	1090.
67	2.00	0.00	0.00	0.00		16	497.	0.00	0.00
68	2.00	0.00	0.00	0.82		20	542.	0.00	0.00
69	2.00	4.15	4.52	0.00		6	467.	10.74	114.4
70	2.00	0.00	0.00	0.32		0	516.	0.00	0.00

Manhole Cover Information

While performing Building 40 exterior and foundation surveys, two (2) manway covers located North of the building were posted as controlled areas due to elevated, fixed alpha contamination levels detected with N.E. Electra radiological monitoring instrumentation. Survey results indicated levels of 326 dpm/100 cm^2 alpha-direct contamination measurement. (See survey RSDS 9940-009.) The manway covers were removed and transported to the main hill storage adjacent to I Building. The covers were replaced with two (2) new manway covers on 6/15/99. (See RSDS 99-40-012.) The new manway covers were sampled and analyzed at that time. (See RSDS 99-I-001.) Laboratory isotopic analysis indicated natural thorium and uranium.

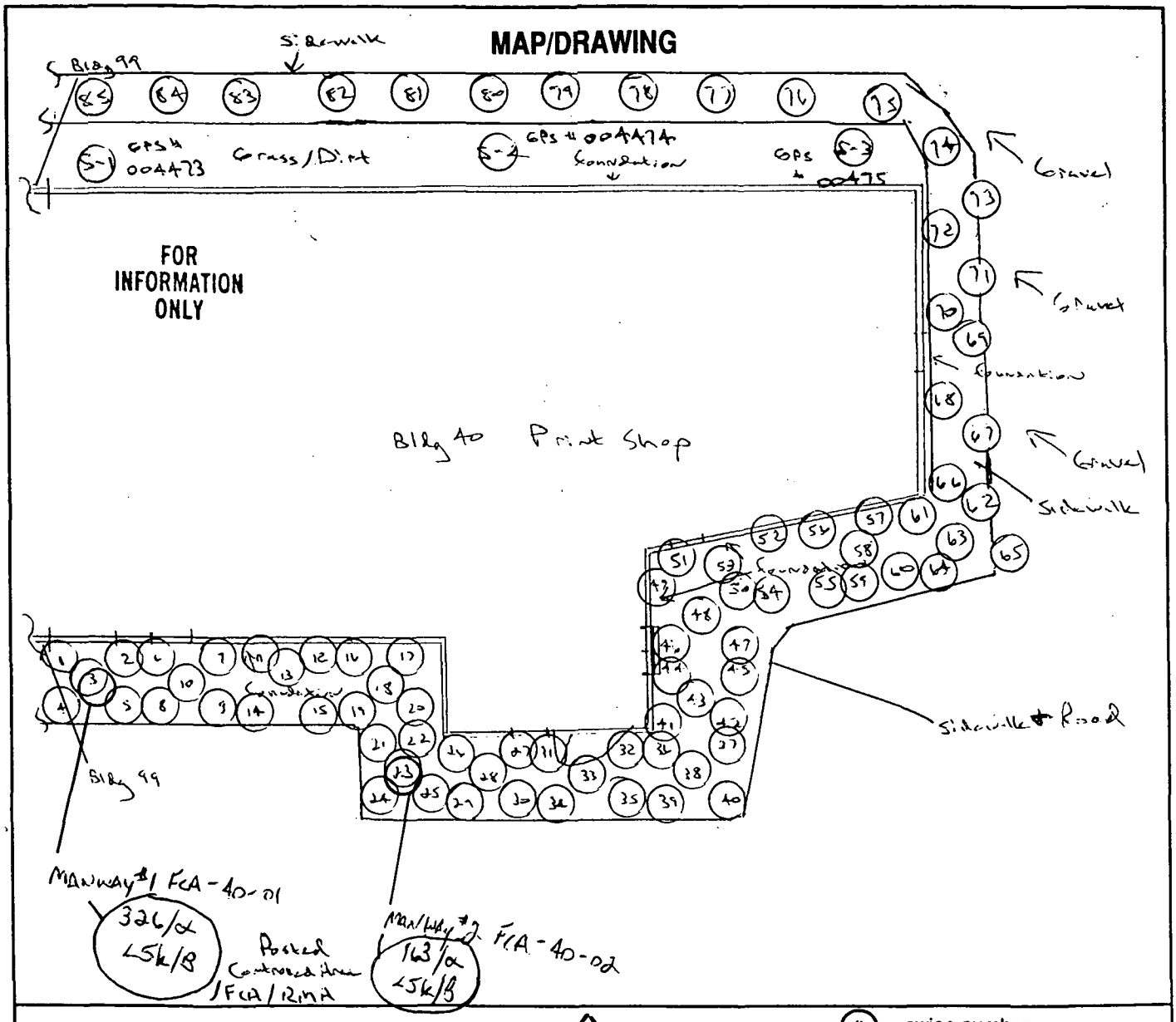
While performing the M Building foundation surveys, two (2) manhole covers were also posted as controlled areas due to elevated, fixed contamination levels. (See RSDS 99-M-293.) The manway covers were sampled and analyzed. Laboratory isotopic analysis indicated the same result - natural thorium and uranium.

R220 Y1 / Y85

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 40 bldg o/s foundation	SURVEY NO. 99-40-09
PURPOSE: Including Soil Samples Print Shop Foundation (15' out) Free-Release	RWP NO. N/A
	DATE: ~~5/26/99~~ 6/2/99
	TIME: 1400

MAP/DRAWING



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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE Electra	5311 / 5322	10/21/99
NE Electra	5220/5290	4/8/99

HP#	Date:
7889	6/2/99 ~~5/26/99~~
[redacted]	
8950	01/02/99
[redacted]	
8996	6/3/99
[redacted]	

ML-9620 (2-98)

P-5

Survey No. 99-40-09

Page 2 of 2

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-85	See Attached Sheets			

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

COMMENTS: Smear #3 on Manway #1 & Smear #23 on Manway #2.

NOTES:

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

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR021
Batch Ended: 6/2/99 14:25

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-09 HAESE/CHILDERS [85] 06-02-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.95	<MDA	0.86	2.05	<MDA
A2	2	0.00	2.19	<MDA	4.35	3.23	<AL
A3	3	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	4	0.00	2.00	<MDA	3.10	3.32	<MDA
B1	5	0.00	2.10	<MDA	2.10	2.69	<MDA
B2	6	0.00	2.06	<MDA	0.00	1.92	<MDA
B3	7	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	8	0.00	1.94	<MDA	0.00	2.21	<MDA
C1	9	0.00	2.16	<MDA	1.57	2.58	<MDA
C2	10	0.00	2.15	<MDA	2.66	2.89	<MDA
C3	11	0.00	2.00	<MDA	0.00	1.95	<MDA
C4	12	0.00	1.96	<MDA	0.00	1.44	<MDA
D1	13	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	14	0.00	2.79	<MDA	0.00	1.69	<MDA
D3	15	1.63	2.00	<AL	0.98	2.23	<MDA
D4	16	0.00	2.10	<MDA	0.69	2.57	<MDA
A1	17	0.00	1.93	<MDA	0.00	1.70	<MDA
A2	18	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	19	0.00	2.20	<MDA	0.00	1.56	<MDA
A4	20	0.00	2.00	<MDA	3.10	3.32	<MDA
B1	21	0.00	2.07	<MDA	0.00	1.98	<MDA
B2	22	1.46	2.04	<MDA	0.00	1.43	<MDA
B3	23	0.00	1.88	<MDA	0.22	2.24	<MDA
B4	24	0.00	1.95	<MDA	0.28	2.50	<MDA
C1	25	0.00	2.14	<MDA	0.00	1.69	<MDA
C2	26	0.00	2.13	<MDA	0.00	2.14	<MDA
C3	27	0.00	2.00	<MDA	0.93	2.33	<MDA
C4	28	0.00	1.97	<MDA	0.39	2.28	<MDA
D1	29	0.00	2.17	<MDA	0.00	2.00	<MDA
D2	30	0.00	2.90	<MDA	2.55	3.08	<MDA
D3	31	0.00	2.00	<MDA	1.11	2.23	<MDA
D4	32	0.00	2.08	<MDA	0.00	1.93	<MDA
A1	33	0.00	1.93	<MDA	0.00	1.70	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR021
Batch Ended: 6/2/99 14:25

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T'99-40-09 HAESE/CHILDERS [85] 06-02-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A2	34	1.45	2.13	<MDA	0.00	2.02	<MDA
A3	35	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	36	1.45	2.00	<MDA	2.96	3.32	<MDA
B1	37	1.61	2.05	<MDA	0.00	1.50	<MDA
B2	38	0.00	2.06	<MDA	0.00	1.92	<MDA
B3	39	0.00	1.87	<MDA	0.00	1.91	<MDA
B4	40	1.47	1.96	<MDA	2.49	3.00	<MDA
C1	41	0.00	2.14	<MDA	0.00	1.69	<MDA
C2	42	0.00	2.13	<MDA	0.00	1.63	<MDA
C3	43	0.00	1.99	<MDA	0.00	1.48	<MDA
C4	44	0.00	1.97	<MDA	0.39	2.28	<MDA
D1	45	0.00	2.17	<MDA	0.00	2.00	<MDA
D2	46	2.00	2.83	<MDA	0.00	2.25	<MDA
D3	47	0.00	1.99	<MDA	0.00	1.86	<MDA
D4	48	0.00	2.12	<MDA	4.29	3.31	<AL
A1	49	0.00	1.93	<MDA	0.00	1.70	<MDA
A2	50	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	51	0.00	2.20	<MDA	0.00	1.56	<MDA
A4	52	0.00	1.99	<MDA	1.90	3.09	<MDA
B1	53	0.00	2.08	<MDA	0.82	2.36	<MDA
B2	54	0.00	2.09	<MDA	3.30	2.92	<MDA
B3	55	0.00	1.90	<MDA	3.75	3.03	<AL
B4	56	0.00	1.94	<MDA	0.00	2.21	<MDA
C1	57	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	58	0.00	2.13	<MDA	0.00	2.14	<MDA
C3	59	0.00	1.99	<MDA	0.00	1.48	<MDA
C4	60	0.00	1.97	<MDA	0.39	2.28	<MDA
D1	61	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	62	0.00	2.90	<MDA	2.55	3.08	<MDA
D3	63	0.00	2.01	<MDA	2.35	2.55	<MDA
D4	64	0.00	2.09	<MDA	0.00	2.28	<MDA
A1	65	0.00	1.98	<MDA	3.16	2.62	<AL
A2	66	0.00	2.14	<MDA	0.57	2.38	<MDA
A3	67	0.00	2.22	<MDA	0.42	2.42	<MDA
A4	68	0.00	2.00	<MDA	3.10	3.32	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR021
Batch Ended: 6/2/99 14:25

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-09 HAESE/CHILDERS [85] 06-02-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	69	1.61	2.07	<MDA	0.00	1.98	<MDA
B2	70	0.00	2.07	<MDA	0.76	2.30	<MDA
B3	71	0.00	1.86	<MDA	0.00	1.51	<MDA
B4	72	0.00	1.93	<MDA	0.00	1.87	<MDA
C1	73	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	74	1.57	2.15	<MDA	2.53	2.89	<MDA
C3	75	0.00	2.00	<MDA	0.00	1.95	<MDA
C4	76	3.49	2.76	<AL	2.69	2.89	<MDA
D1	77	0.00	2.16	<MDA	0.00	1.50	<MDA
D2	78	0.00	2.83	<MDA	0.00	2.25	<MDA
D3	79	0.00	2.00	<MDA	1.11	2.23	<MDA
D4	80	0.00	2.08	<MDA	0.00	1.93	<MDA
A1	81	0.00	1.95	<MDA	0.86	2.05	<MDA
A2	82	0.00	2.13	<MDA	0.00	2.02	<MDA
A3	83	0.00	2.23	<MDA	1.73	2.75	<MDA
A4	84	0.00	1.95	<MDA	0.00	1.95	<MDA
B1	85	0.00	2.12	<MDA	4.68	3.25	<AL

Protocol #: 5 Name:PW H3 #401388 02-Jun-1999 22:52
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-40-09 HAESE/CHILDERS [Y1-Y85] 06-02-99 JM
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	6.79	6.94	10.40	B	6	576.		24.27
0	2.00	1115.36	1076.86	0.00		0	567.	2522.27	4.27
1	2.00	0.00	0.00	0.10		0	633.	0.00	0.00
2	2.00	0.00	0.00	2.10		0	638.	0.00	0.00
3	2.00	0.58	0.73	0.00		7	579.	1.30	760.9
4	2.00	0.00	0.00	0.00		12	642.	0.00	0.00
5	2.00	0.21	0.00	0.00		0	649.	0.44	1934.
6	2.00	2.18	2.11	0.00		6	573.	4.89	219.0
7	2.00	0.71	0.56	0.00		0	635.	1.49	591.6
8	2.00	2.71	2.56	0.00		0	629.	5.70	171.9
9	2.00	0.00	0.00	1.10		0	635.	0.00	0.00
10	2.00	0.18	0.38	0.00		7	635.	0.38	2398.
11	2.00	0.00	0.00	0.00		0	647.	0.00	0.00
12	2.00	0.71	0.56	0.10		0	643.	1.47	591.6
13	2.00	0.00	0.00	0.00		0	644.	0.00	0.00
14	2.00	0.00	0.00	0.00		18	643.	0.00	0.00
15	2.00	0.00	0.00	0.00		0	623.	0.00	0.00
16	2.00	0.18	0.38	0.00		7	637.	0.38	2398.
17	2.00	0.00	0.00	0.00		0	646.	0.00	0.00
18	2.00	0.00	0.00	0.00		0	640.	0.00	0.00
19	2.00	0.00	0.00	0.00		0	652.	0.00	0.00
20	2.00	0.71	0.17	0.60		0	668.	1.44	591.6
21	2.00	0.00	0.00	1.10		14	657.	0.00	0.00
22	2.00	0.00	0.00	0.60		0	645.	0.00	0.00
23	2.00	0.00	0.00	0.00		12	573.	0.00	0.00
24	2.00	0.68	0.89	0.60		7	643.	1.41	653.2
25	2.00	0.00	0.00	0.00		0	632.	0.00	0.00
26	2.00	0.00	0.00	0.00		8	652.	0.00	0.00
27	2.00	0.00	0.00	0.00		0	655.	0.00	0.00
28	2.00	0.71	0.56	0.00		0	641.	1.48	591.6
29	2.00	0.26	0.11	0.00		0	647.	0.54	1554.
30	2.00	0.00	0.00	0.00		14	621.	0.00	0.00
31	2.00	0.00	0.00	0.00		0	649.	0.00	0.00
32	2.00	0.00	0.00	0.00		0	643.	0.00	0.00
33	2.00	3.27	3.12	0.00		0	620.	6.95	146.0
34	2.00	0.00	0.00	0.00		18	639.	0.00	0.00
35	2.00	2.71	2.56	0.00		0	646.	5.60	171.9
36	2.00	0.00	0.00	0.00		0	653.	0.00	0.00
37	2.00	0.00	0.00	0.10		0	626.	0.00	0.00
38	2.00	1.21	0.45	0.00		0	622.	2.56	357.1
39	2.00	0.00	0.00	0.00		11	568.	0.00	0.00
40	2.00	1.21	1.06	0.00		0	598.	2.64	357.1
41	2.00	0.71	0.56	0.00		0	641.	1.48	591.6
42	2.00	2.18	2.06	1.10		6	630.	4.58	218.9
43	2.00	0.00	0.00	0.00		0	606.	0.00	0.00

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Pg 6 of 8

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
44	2.00	0.00	0.00	0.00		0	629.	0.00	0.00
45	2.00	0.00	0.00	0.00		9	624.	0.00	0.00
46	2.00	0.18	0.00	0.00		7	650.	0.37	2395.
47	2.00	0.00	0.00	0.00		8	620.	0.00	0.00
48	2.00	0.00	0.00	0.00		0	642.	0.00	0.00
49	2.00	0.00	0.00	0.00		0	633.	0.00	0.00
50	2.00	1.21	1.06	0.00		0	624.	2.56	357.1
51	2.00	0.21	0.00	0.00		0	640.	0.44	1934.
52	2.00	0.00	0.00	2.10		0	633.	0.00	0.00
53	2.00	0.00	0.00	0.00		0	642.	0.00	0.00
54	2.00	0.00	0.00	0.00		0	639.	0.00	0.00
55	2.00	0.00	0.00	0.00		0	607.	0.00	0.00
56	2.00	0.00	0.00	0.00		8	651.	0.00	0.00
57	2.00	0.00	0.00	0.00		12	643.	0.00	0.00
58	2.00	0.00	0.00	0.00		0	602.	0.00	0.00
59	2.00	0.00	0.00	0.00		8	625.	0.00	0.00
60	2.00	0.00	0.00	1.17		8	619.	0.00	0.00
61	2.00	0.00	0.00	0.00		0	637.	0.00	0.00
62	2.00	2.02	1.87	0.00		0	634.	4.23	222.9
63	2.00	0.18	0.34	0.00		7	589.	0.40	2407.
64	2.00	0.00	0.00	0.00		0	632.	0.00	0.00
65	2.00	0.00	0.00	0.00		0	633.	0.00	0.00
66	2.00	0.00	0.00	0.00		10	606.	0.00	0.00
67	2.00	0.21	0.00	0.00		0	639.	0.44	1934.
68	2.00	0.00	0.00	1.60		9	556.	0.00	0.00
69	2.00	0.00	0.00	0.00		0	629.	0.00	0.00
70	2.00	1.71	1.56	0.10		0	633.	3.58	259.5
71	2.00	0.00	0.00	0.00		18	636.	0.00	0.00
72	2.00	0.00	0.00	0.00		0	645.	0.00	0.00
73	2.00	0.00	0.00	0.00		0	615.	0.00	0.00
74	2.00	0.18	0.33	0.00		7	581.	0.40	2409.
75	2.00	0.00	0.00	0.00		8	635.	0.00	0.00
76	2.00	0.00	0.00	0.00		0	617.	0.00	0.00
77	2.00	0.00	0.00	1.60		0	636.	0.00	0.00
78	2.00	0.00	0.00	0.60		0	638.	0.00	0.00
79	2.00	0.21	0.06	0.10		0	634.	0.44	1934.
80	2.00	0.00	0.00	0.00		0	639.	0.00	0.00
81	2.00	0.00	0.00	0.00		0	636.	0.00	0.00
82	2.00	1.71	1.21	0.00		0	645.	3.54	259.5
83	2.00	0.00	0.00	0.00		0	652.	0.00	0.00
84	2.00	0.00	0.00	0.00		0	634.	0.00	0.00
85	2.00	0.00	0.00	0.00		0	637.	0.00	0.00

Pg 7 of ~~9~~ 10
ibm
6/8/

pg. 8 of 10

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: ML800392
FILE ID: MG100324.S0
PRIORITY: Y

Description\Location:
GRID 99-40-09-5-1

Collector: 7889

Date Received: 6/2/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.03	45,000
Cs-137		0.05	0.02	45,000
Pb-210		1.32	0.29	45,000
Ra-226		1.37	0.33	800
Ac-227 (D)	*	0.09	0.09	40
Th-230	*	1.31	2.81	800
Th-232 (D)		0.56	0.07	130
Pu-238	*	0.00	6.75	500
Am-241	*	0.02	0.03	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.01 nCi/g

Σ Respirator 0.03

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments: 4 HOUR COUNT

Date: 6/3/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 6-3-99

Pg. 9 of 10

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: ML800394
FILE ID: MG100326.S0
PRIORITY: Y

Description\Location: GRID 99-40-09-5-3

Collector: 7889

Date Received: 6/2/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.04	45,000
Cs-137		0.04	0.03	45,000
Pb-210		1.40	0.40	45,000
Ra-226		1.25	0.43	800
Ac-227 (D)	*	0.04	0.15	40
Th-230	*	2.21	3.85	800
Th-232 (D)		0.45	0.12	130
Pu-238	*	1.45	9.84	500
Am-241	*	0.00	0.04	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.03

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments: 2 HOUR COUNT

Date: 6/3/99 Counted By: 6086 Analyzed By: 6086 INITIALS [redacted] 6-3-99

Pg 10.6 10

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: ML800393
FILE ID: MG100325.S0
PRIORITY: Y

Description\Location:
GRID 99-40-09-5-2

Collector: 7889

Date Received: 6/2/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.02	0.03	45,000
Cs-137	*	0.02	0.03	45,000
Pb-210		1.37	0.38	45,000
Ra-226		1.46	0.38	800
Ac-227 (D)	*	0.06	0.13	40
Th-230		3.66	3.51	800
Th-232 (D)		0.52	0.11	130
Pu-238	*	0.00	9.07	500
Am-241	*	0.02	0.04	500

Other Nuclides:

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ DOT 0.02 nCi/g

Σ Respirator 0.03

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

Comments: 2 HOUR COUNT, Th-230 ERROR +/- 2.32 pCi/g

Date: 6/3/99 Counted By: 5890 Analyzed By: 6086 INITIALS [redacted] 6-3-99

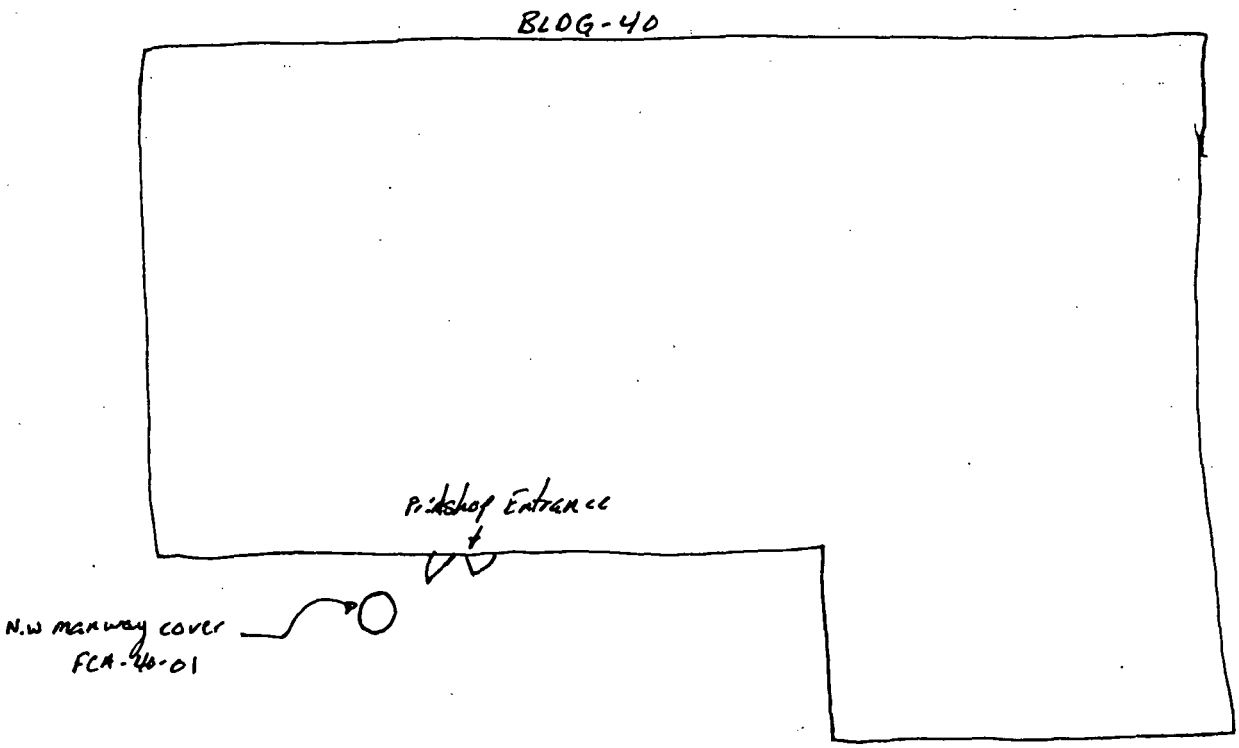
RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 4 A4 V1 P5

LOCATION: (BLDG./AREA/ROOM) BLDG-40 N.W. manway cover	SURVEY NO. 99-40-010
PURPOSE: WEEKLY FCA FCA-40-01	RWP NO. NA
	DATE: 6/10/99
	TIME: 1310

MAP/DRAWING

FOR INFORMATION ONLY



Direct measurements

211 dpm/100cm² α

<5000 dpm/100cm² β/γ

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE Electra	5458/5881	11-21-99
	N/A	

[redacted]

HP#	Date:
7822	6/10/99
5268	6/10/99
8996	6/10/99

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	missing cover
			N/A	

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

COMMENTS: Direct measurements are listed on pg. 1.

NA

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.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR073
Batch Ended: 6/11/99 10:45

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: 99-40-010 TURNER

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A4	1	0.00	1.97	<MDA	0.00	2.59	<MDA

Protocol #: 5 Name:PW H3 #401387 11-Jun-1999 16:31
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
99-40-010 TURNER BLDG.40 NW MANWAY COVER (V1) CYR
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

Pg. 4 of 4

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	8.41	7.87	9.45	B	7	628.		21.81
0	2.00	1137.37	1088.91	3.05		1	592.	2466.38	4.24
1	2.00	0.00	0.00	2.55		16	580.	0.00	0.00

AA1
AA4

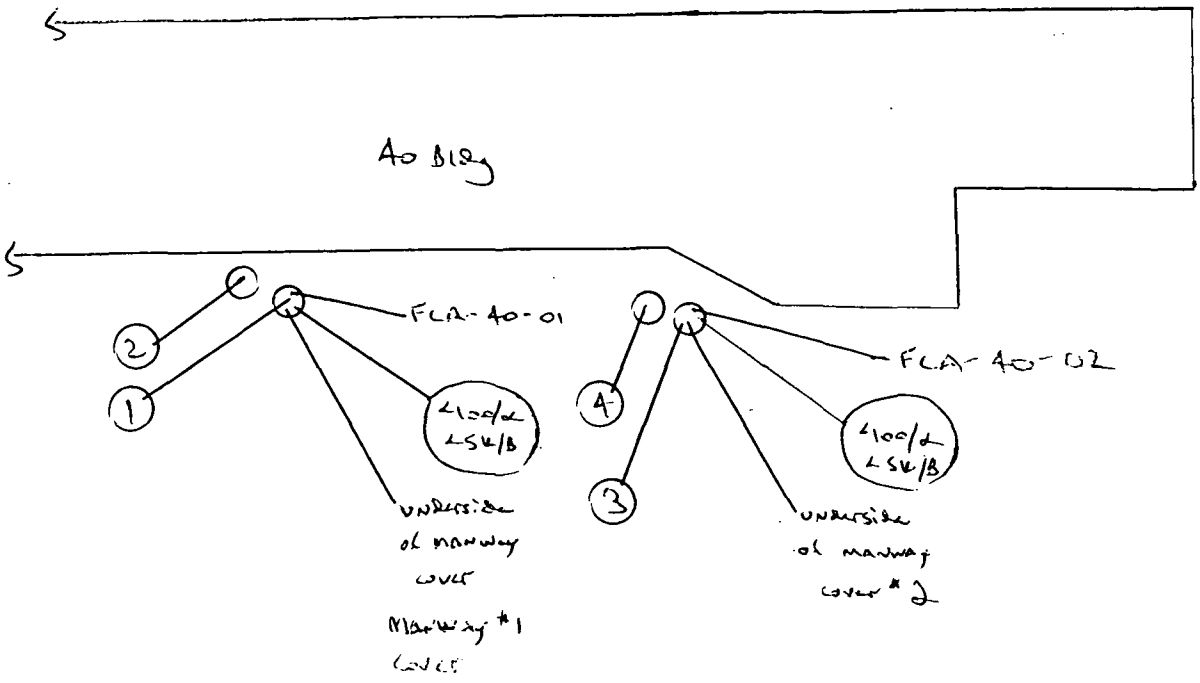
RADIOLOGICAL SURVEY DATA SHEET

P-221

LOCATION: (BLDG./AREA/ROOM) 40 Bldg Outside	SURVEY NO. 99-40-10
PURPOSE: Release Survey	RWP NO. N/A
	DATE: 6/3/99
	TIME: 0940

MAP/DRAWING

FOR INFORMATION ONLY



W.H. Survey interior at later date.

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE. Electronics	5311/5322	10/21/99

[redacted]

HP#	Date:
7883	6/3/99
5379	6-4-99
5996	6-10-99

ML-9620 (2-98)

D#7

Survey No. 99-40-10

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-A	See	Attached	Sheet	

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

COMMENTS: None

NOTES:

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

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR008
Batch Ended: 6/4/99 7:05

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-40-10 CHILDERS [4] 06-04-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
C1	1	0.00	2.15	<MDA	0.20	2.18	<MDA
C2	2	0.00	2.15	<MDA	2.66	2.89	<MDA
C3	3	0.00	2.02	<MDA	3.48	2.95	<AL
C4	4	1.62	1.96	<AL	0.00	1.91	<MDA

otocol #: 7 Name:PW H3 #401388 04-Jun-1999 06:48
gion A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
gion B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
gion C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
ime = 2.00 QIP = tSIE/AEC ES Terminator = Count
HILDERS SUR #99-40-10 (AA1-AA4)/BKS
onventional DPM
uclide 1 = 800
uminescence Correction On
)ata/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	7.51	7.47	11.80	B	30	534.		23.09
0	2.00	308.97	298.04	0.00		1	558.	707.78	8.22
1	2.00	0.00	0.00	0.00		14	483.	0.00	0.00
2	2.00	0.00	0.00	0.00		10	513.	0.00	0.00
3	2.00	2.49	2.53	0.00		0	508.	6.09	192.3
4	2.00	1.49	1.43	0.00		0	468.	3.86	306.6

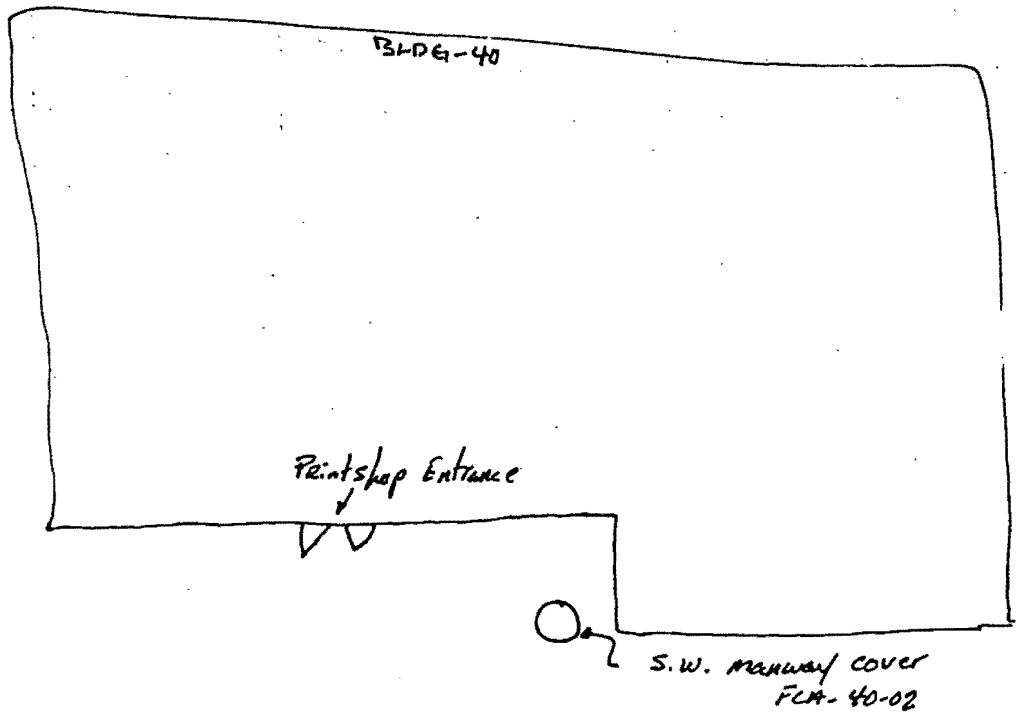
B1 S1 P2

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BLDG-40 S.W. manway cover	SURVEY NO. 99-40-011
PURPOSE: WEEKLY FCA FCA-40-02	RWP NO. NA
	DATE: 6/10/99
	TIME: 1320

FOR INFORMATION ONLY

MAP/DRAWING



direct measurements

272 dpm/100 cm² α

<5000 dpm/100 cm² βγ

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE Electra	5450/6581	11-21-99
	N/A	

[redacted]

HP# 7822	Date: 6/10/99
HP# 5261	Date: 6/11/99
HP# 5996	Date: 6/15/99

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	[illegible] Cover
			N/A	

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

COMMENTS: Direct measurements are listed on pg. 1.

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.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR074
Batch Ended: 6/11/99 10:51

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: 99-40-011 TURNER(BSB)

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	1.60	2.11	<MDA	3.22	2.98	<MDA

Protocol #: 2 Name:PW H3 #401387 11-Jun-1999 15:40
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
99-40-011 TURNER BLDG.40 (S1) CYR
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

Pg. 4 of 4

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	7.26	6.80	10.88	B	8	616.		23.47
0	2.00	1557.07	1497.58	2.12		1	621.	3264.19	3.62
1	2.00	0.00	0.00	0.62		9	556.	0.00	0.00

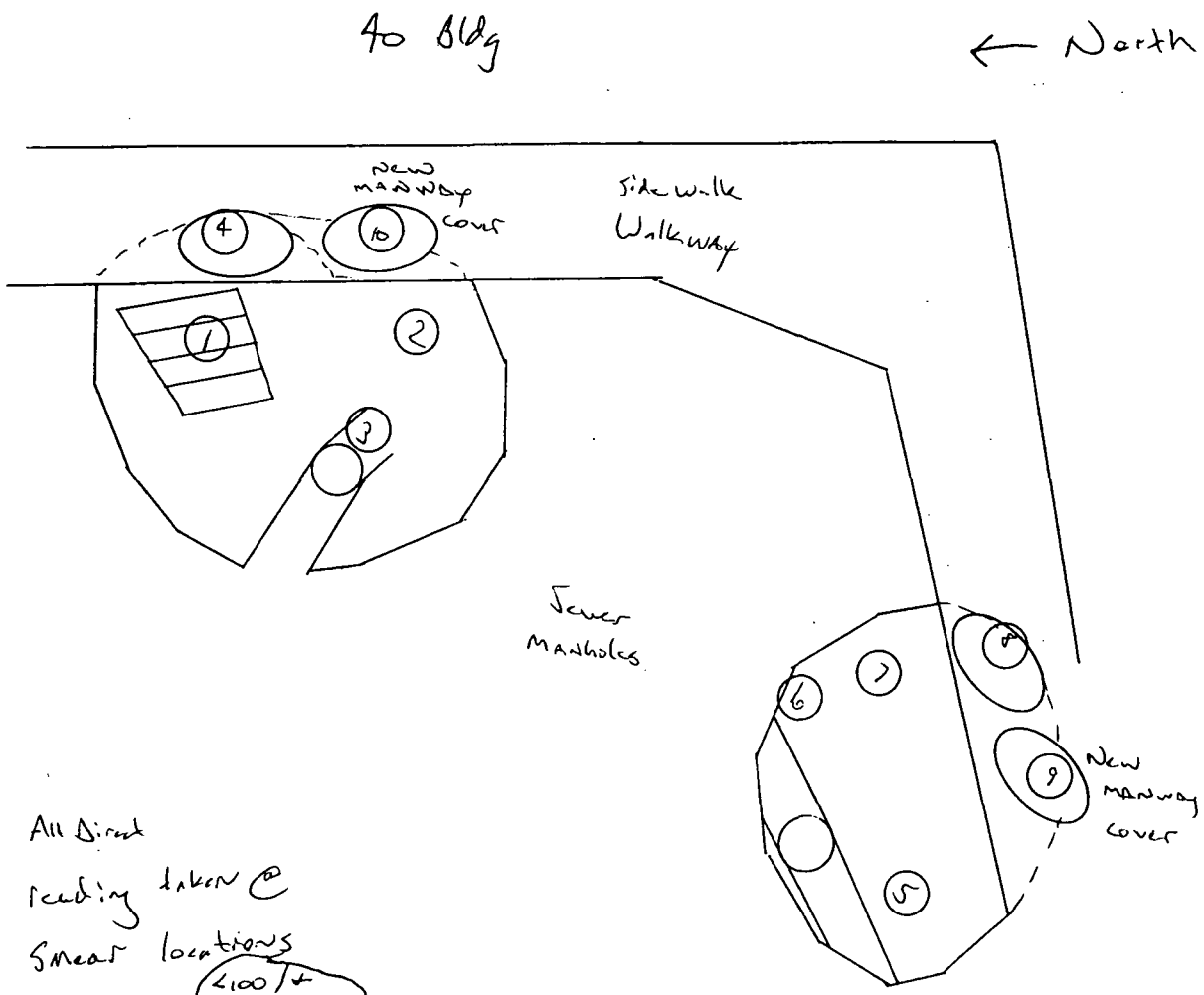
RADIOLOGICAL SURVEY DATA SHEET

R221 C1/C10

LOCATION: (BLDG./AREA/ROOM) 40 Bldg West Side of Building o/s	SURVEY NO. 99-40-12
PURPOSE: Release Survey	RWP NO. N/A
	DATE: 6/15/99
	TIME: 1330

FOR INFORMATION ONLY

MAP/DRAWING



All direct reading taken @ smear locations <100/+ <5K/BB

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE Electra	5311/5322	10/2/99
	N	
	A	

[redacted]

HP#	Date:
7889	6/15/99
3374	6/16/99
[redacted]	
8960	6-21-99

ML-9620 (2-98)

P-3

Survey No. 99-40-12

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

pg 2 of A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-10	See Attached Sheets			

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

COMMENTS:

NOTES:

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

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR010
Batch Ended: 6/16/99 14:07

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Crosstalk correction performed.

Certainty level for MDA and flags: 95.00%
Recalibration Date: 8/13/99
Serial Number: 26966-2

Batch ID: T 99-40-12 CHILDERS [10] 06-16-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	2.1	<MDA	1.6	2.4	<MDA
A2	2	1.8	2.0	<AL	0.1	1.9	<MDA
A3	3	0.0	2.0	<MDA	0.0	1.3	<MDA
A4	4	0.0	1.9	<MDA	0.0	1.3	<MDA
B1	5	0.0	2.1	<MDA	0.4	2.1	<MDA
B2	6	0.0	2.1	<MDA	5.0	3.3	<AL
C1	7	0.0	2.0	<MDA	1.1	2.2	<MDA
C2	8	0.0	2.0	<MDA	0.0	1.3	<MDA
C3	9	0.0	1.9	<MDA	0.0	1.3	<MDA
C4	10	0.0	1.8	<MDA	0.0	1.4	<MDA

6/21/99

Protocol #: 3 Name:PW H3 #401387 17-Jun-1999 11:38 DJAdA

Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-40-12 CHILDERS [G1-G10] 06-17-99 JM
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	7.98	7.69	11.50	B	14	578.		22.39
0	2.00	1228.84	1190.11	3.46		0	595.	2653.60	4.07
1	2.00	0.00	0.00	0.00		7	630.	0.00	0.00
2	2.00	7.52	7.20	0.00		0	564.	16.88	77.75
3	2.00	3.52	3.01	0.00		0	623.	7.36	145.4
4	2.00	0.00	0.00	0.00		13	595.	0.00	0.00
5	2.00	0.00	0.00	0.00		8	605.	0.00	0.00
6	2.00	0.99	1.00	0.00		6	627.	2.06	487.2
7	2.00	0.00	0.00	0.00		20	585.	0.00	0.00
8	2.00	0.00	0.00	0.00		0	499.	0.00	0.00
9	2.00	0.00	0.00	0.00		0	634.	0.00	0.00
10	2.00	1.26	0.00	0.00		0	629.	2.61	370.3

RADIOLOGICAL SURVEY DATA SHEET

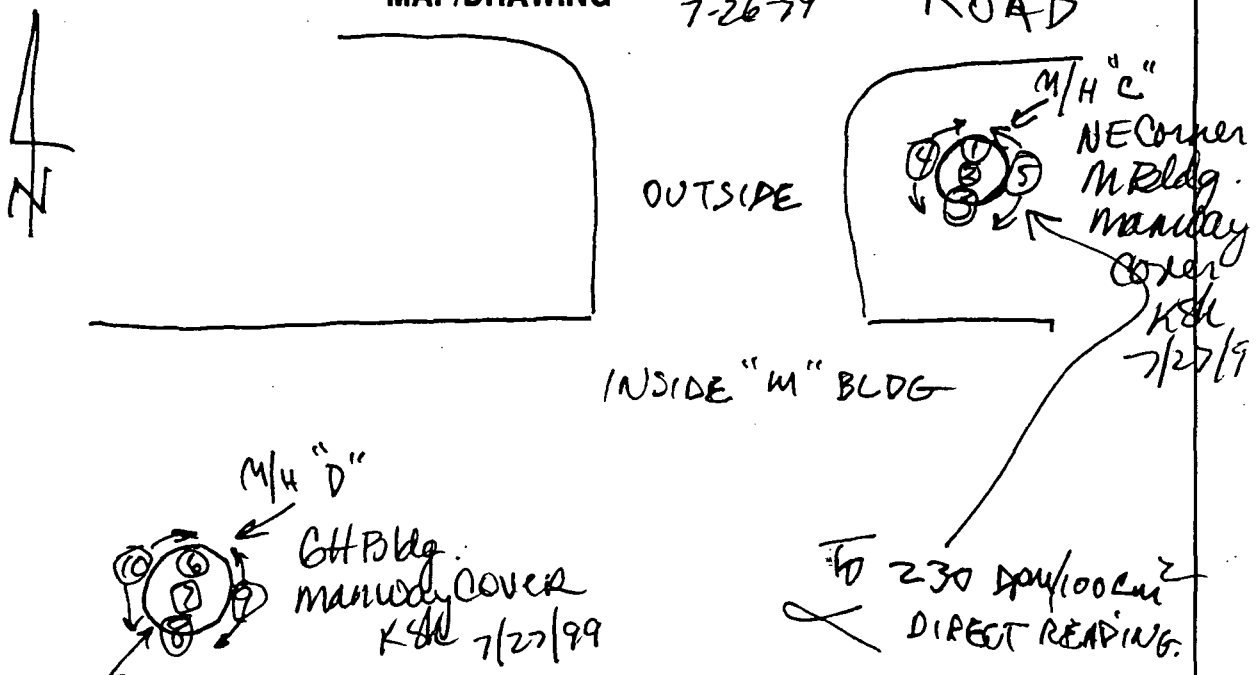
B-1/B-10 Page 1 of ~~4~~ 6 R2B P-2

R-221

LOCATION: (BLDG./AREA/ROOM) "M" BLDG. M/H COVERS (2 EA)	SURVEY NO. 99-M-293
PURPOSE: POST JOB SURVEY (2) MAN HOLE COVERS DRILL OUT SAMPLE MATERIAL	RWP NO. I-001-99
	DATE: 6-17-99
	TIME: 1300

- ~~Obtain elevator OIL Sample~~ KSL 7-26-99

MAP/DRAWING



LARGE AREA WIPES POST JOB SHOW: < 100 DPM/100Cm² α
< 5K DPM/100Cm² β, γ

BOTH COVERS POSTED & 1 SAMPLE EACH TO ANALYTICAL LAB FOR ISOTOPIC.

Note: Page 5 includes analysis of elevator oil from M Bldg. KSL 7/26/99

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5396/5279	11-26-99
	N	
	E	

[redacted]

HP#	Date:
7838	6-17-99
5379	6-18-99
5996	7-26-99

ML-9620 (2-98)

Survey No. 99-M-293

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: SEE ATTACHED SURVEY SHEETS

NOTES:

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

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR015
Batch Ended: 6/18/99 3:39

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-M-293 BILLS [10] 06-18-99 TAS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.35	1.97	<MDA	1.81	2.36	<MDA
A2	2	1.45	2.14	<MDA	0.39	2.38	<MDA
A3	3	1.74	2.23	<MDA	1.58	2.75	<MDA
A4	4	0.00	1.97	<MDA	0.00	2.59	<MDA
B1	5	1.61	2.07	<MDA	0.00	1.98	<MDA
B2	6	1.44	2.08	<MDA	1.88	2.63	<MDA
B3	7	0.00	1.88	<MDA	0.22	2.24	<MDA
B4	8	1.46	1.98	<MDA	4.84	3.43	<AL
C1	9	1.71	2.15	<AL	0.05	2.18	<MDA
C3	10	0.00	2.00	<MDA	0.00	1.95	<MDA

3 of 46

18 Jun 1999 08:23 ALPHA/BETA - 1.09 Page #1
Protocol #: 2 Pw H3 403728 User : 5379

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	13.75
Region B:	2.0 -	18.6	0	0.0	17.20
Region C:	40.0 -	2000	0	0.0	12.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
T 99-M-293 BILLS [B1-B10] 06-18-99 TAS
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT2.DAT
Count Data Filename: c:\data\SDATA2.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	13.75	67	B	420.50		0.00	12.50
0	2.00	54.75	4		583.88	111.59	26.73	1.00
1	2.00	0.00	0		647.35	0.00	0.00	0.00
2	2.00	0.00	0		617.55	0.00	0.00	0.00
3	2.00	0.00	0		536.64	0.00	0.00	0.00
4	2.00	0.00	0		574.77	0.00	0.00	0.00
5	2.00	0.00	0		574.01	0.00	0.00	0.00
6	2.00	0.00	6		522.57	0.00	0.00	0.00
7	2.00	0.00	33		341.34	0.00	0.00	2.00
8	2.00	0.00	31		365.42	0.00	0.00	0.00
9	2.00	0.00	10		316.20	0.00	0.00	0.81
10	2.00	0.00	29		338.40	0.00	0.00	0.00

EG&G MOUND APPLIED TECHNOLOGIES

5 OF 6

ENVIRONMENTAL MONITORING LABORATORY
REQUEST FOR ANALYSIS

DATE: 6-23-99	SAMPLE MATRIX: Oil	COST CENTER:
NUMBER OF SAMPLES: ONE	CHARGE NUMBER: F-01261	SAMPLE LOCATION: M BLDG ELEVATOR
RELINQUISHED BY: K. KENT	VOLUME:	
SEND DATA TO: K. KENT	EXT.: 3429	MAIL STOP:

ANALYSES REQUESTED (check):

☒ ^3H ☒ Gross α ☐ Pu ☐ U ☐ Th

Other Analysis:

LAB I.D. NUMBER	SAMPLE IDENTIFICATION	^3H RESULT
9906395	M-Elevator Oil	< 3.7 mci/l < 6.5 D/m/mL

COMMENTS:

[redacted] 4488 (dropped sample off)

ANALYZED BY: Tamie J. Hahn	DATE: 6/23/99

ML-5222 (2-96)

EG&G MOUND APPLIED TECHNOLOGIES

ENVIRONMENTAL MONITORING LABORATORY
REQUEST FOR ANALYSIS

DATE:	SAMPLE MATRIX:	COST CENTER:
7-8-99	Metal	

NUMBER OF SAMPLES:	CHARGE NUMBER:	SAMPLE LOCATION:
4	F01298	Manhole Covers

RELINQUISHED BY:	VOLUME:
R. Bills	

SEND DATA TO:	EXT.:	MAIL STOP:
R. Bills	3429	

ANALYSES REQUESTED (check):

☐ ^3H ☐ Gross α ☐ Pu ☐ U ☐ Th QUALIFY

Other Analysis:

LAB I.D. NUMBER	SAMPLE IDENTIFICATION	RESULT
9906121	A-99I-01	NATURAL Th and U
9906122	B-99I-01	NATURAL Th and U
9906650	C-99M-293	NATURAL Th and U
9906651	D-99M-293	NATURAL Th and U

COMMENTS:

ANALYZED BY:	DATE:
Lowell C. Hopkins	7-8-99

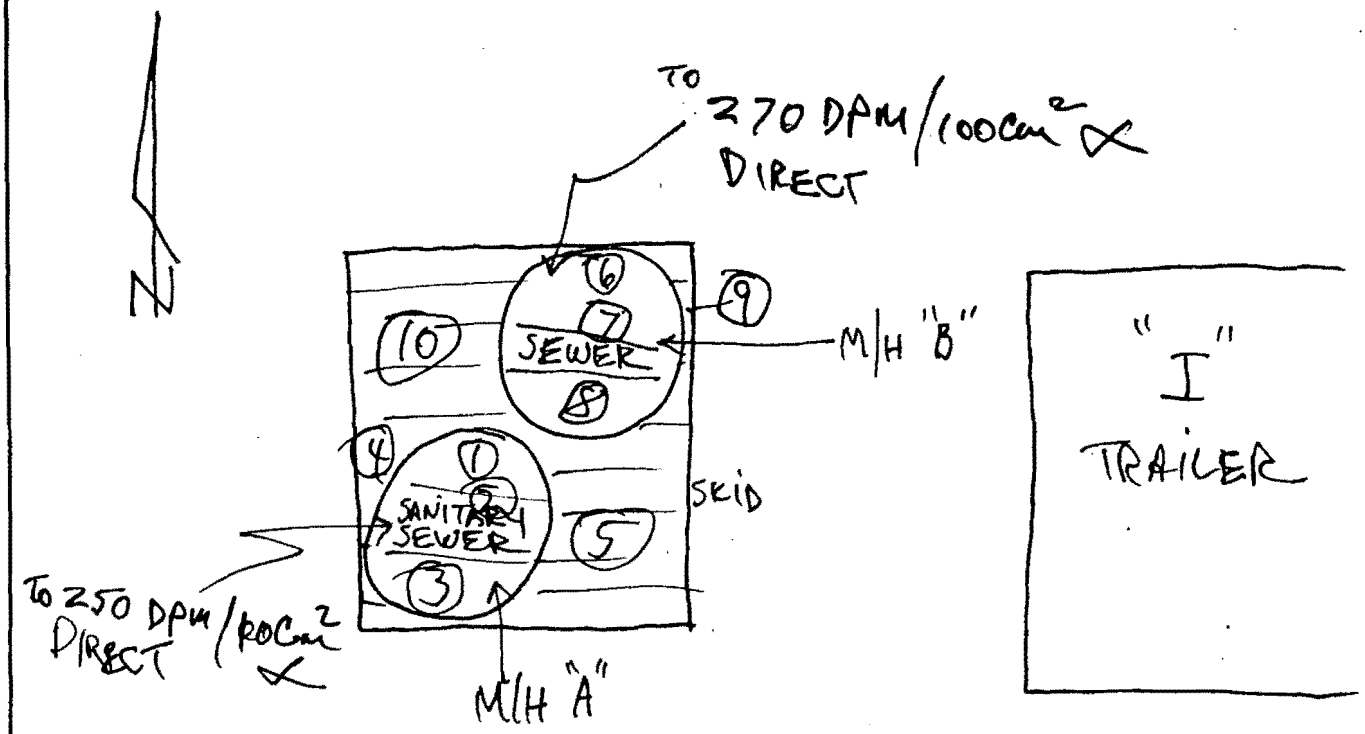
ML-5222 (2-96)

RADIOLOGICAL SURVEY DATA SHEET

R221 G-1 G-10 P-2

LOCATION: (BLDG.) AREA/ROOM) OUTSIDE "I" TRAILER (WEST SIDE)	SURVEY NO. 99-I-01
PURPOSE: POST JOB SURVEY RELEASE AREA DRILL 5 HOLES EACH MANHOLE COVER	RWP NO. I-001-99
	DATE: 6-15-99
	TIME: 1400

MAP/DRAWING



NOTE: DRILL TAILINGS COLLECTED FROM EACH MANHOLE COVER AND SENT FOR ISOTOPIC ANALYSIS AS PER THIS SURVEY #. (SEE ATTACHED COPY).

NOTE: Both of these manway covers were within the 15 ft. perimeter of Bldg. 40 KSH 7/27/99

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE ELECTRA	5368/5369	10-07-99
	N	
	A	

[redacted]

HP# 7838	Date: 6-15-99
HP# 3950	Date: 06/16/99
HP# 2996	Date: 7-26-99

ML-9620 (2-98)

Survey No. 99-I-01

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: SEE ATTACHED SHEETS

NOTES:

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

ML-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR026
Batch Ended: 6/16/99 9:14

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Certainty level for MDA and flags: 95%

Crosstalk correction performed.

Recalibration Date: 2/9/2000
Serial Number: 26966-1

Batch ID: T 99-I-01 BILLS [10] 06-15-99 JM

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	1.91	<MDA	0.00	1.25	<MDA
A2	2	0.00	2.13	<MDA	0.00	2.02	<MDA
A3	3	1.74	2.22	<MDA	0.27	2.42	<MDA
A4	4	0.00	1.97	<MDA	0.00	2.59	<MDA
B1	5	0.00	2.07	<MDA	0.00	1.98	<MDA
B2	6	0.00	2.04	<MDA	0.00	1.43	<MDA
B3	7	0.00	1.88	<MDA	0.22	2.24	<MDA
B4	8	0.00	1.92	<MDA	0.00	1.46	<MDA
C2	9	0.00	2.16	<MDA	4.04	3.21	<AL
C3	10	0.00	1.99	<MDA	0.00	1.48	<MDA

3 of 4/5

4 OF ~~4~~ 5 RSB

Protocol #: 2 Name:PW H3 #401388 16-Jun-1999 09:03
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
T 99-I-01 BILLS [G1-G10] 06-16-99 TAS
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	6.44	7.23	10.70	B	38	560.		24.92
0	2.00	346.15	334.01	0.00		0	558.	792.49	7.72
1	2.00	0.53	0.00	0.00		7	518.	1.27	821.2
2	2.00	0.00	0.00	0.00		12	550.	0.00	0.00
3	2.00	1.56	0.06	0.00		0	564.	3.54	276.6
4	2.00	0.00	0.00	0.13		8	427.	0.00	0.00
5	2.00	2.44	0.75	0.00		0	577.	5.44	185.0
6	2.00	0.67	0.00	0.19		7	624.	1.41	652.7
7	2.00	0.89	0.00	0.00		0	540.	2.08	468.3
8	2.00	3.14	2.42	0.30		10	624.	6.64	162.2
9	2.00	0.00	0.00	0.00		0	524.	0.00	0.00
10	2.00	0.00	0.17	0.00		30	463.	0.00	0.00

EG&G MOUND APPLIED TECHNOLOGIES

5 OF 5

ENVIRONMENTAL MONITORING LABORATORY
REQUEST FOR ANALYSIS

DATE:	SAMPLE MATRIX:	COST CENTER:
7-8-99	Metal	

NUMBER OF SAMPLES:	CHARGE NUMBER:	SAMPLE LOCATION:
4	F01298	Manhole Covers

RELINQUISHED BY:	VOLUME:
R. Bills	

SEND DATA TO:	EXT.:	MAIL STOP:
R. Bills	3429	

ANALYSES REQUESTED (check):

❑ ^3H ❑ Gross α ❑ Pu ❑ U ❑ Th QUALIFY

Other Analysis:

LAB I.D. NUMBER	SAMPLE IDENTIFICATION	RESULT
9906121	A-99I-01	NATURAL Th and U
9906122	B-99I-01	NATURAL Th and U
9906650	C-99M-293	NATURAL Th and U
9906651	D-99M-293	NATURAL Th and U

COMMENTS:

ANALYZED BY:	DATE:
Lowell C. Hopkins	7-8-99

ML-5222 (2-96)

Appendix H

Radon Summary/Information

UNC Geotech

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

April 12, 1990

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

Dear Mr. Murphy:

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

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

Sincerely yours,

Mark D. Pearson

Mark D. Pearson
Project Manager
UNC Geotech

cc: DOE Points of Contact

Bldg	Bldg Description	Room	Any Radon pCi/l	Duplicate Radon pCi/l	Manid	Dupid	Monitor Install Date	Monitor Retrieve 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	115.7		1668508		12/14/89	2/16/90	MET - OLD THORIUM STORAGE
	SW	19 MID EAST WALL	4.8		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		1678051		12/13/89	2/19/90	
	OLD SO BLDG	BASEMENT RIGHT CABINET	2.4		1681595		12/14/89	2/19/90	
55		1 BELOW THEMOSTAT ON E WALL	2.1		1661515		12/18/89	2/19/90	
57		ROOM 1	1.9		1681565		12/12/89	2/19/90	
87		143	1.5		1681563		12/13/89	2/19/90	
998	FIRE STATION	ROOM 002 EQUIPMENT ROOM WITH SUMP	1.4		1654460		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		1678046		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		1681577		12/14/89	2/19/90	
61		RM 221 MIDDLE OF NORTH WALL	.9		1681565		12/13/89	2/19/90	
67		101 H	.9		1678029		12/12/89	2/19/90	
G-13	LOG	G-514 WEST WALL	.9		1661544		12/12/89	2/16/90	
	T	CORRIDOR 26	.9		1678039		1/15/90	2/19/90	
	T	153	.9		1678067		1/15/90	2/19/90	
	T	T6	.9		1678077		1/15/90	2/19/90	
	T	38	.9		1681586		1/15/90	2/19/90	
105	PARTS MACHINING BUILDING	STAIRWELL NEXT TO ROOM 127	.8		1681564		12/12/89	2/19/90	
25	ARAC	3 ON BOOK CASE MIDDLE	.8		1671314		12/16/89	2/19/90	
60		1 ON DOOR TO ROOM 3	.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		12/13/89	2/16/90	
	SW	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	
87		124	.8		1678032		12/12/89	2/19/90	
88		ROOM 116 ON NORHT WALL RIGHT OF CEN	.7	.5	1661524	1681535	12/12/89	2/19/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.5	1666783	1668532	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		1681552		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		1681553		12/12/89	2/16/90	
26		ROOM 84 SOUTH WEST WALL	.6	.8	1672048	1667159	12/13/89	2/16/90	
69		RM 7 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 (MIDWAY)	.6		1681628		12/13/89	2/20/90	
98	FIRE STATION	ROOM 114 DORM	.6		1661507		12/12/89	2/19/90	
	COS	NW STAIRWELL AT BASEMENT LEVEL	.6		1672086		12/14/89	2/19/90	
	OSW	120 C	.6		1681573		12/12/89	2/16/90	
	SW	150 WEST END GAS BOX	.6		1678043		12/11/89	2/16/90	
	A	34 EAST WALL	.5	.7	1672075	1672051	12/14/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5	.5	1658110	1666819	12/12/89	2/16/90	

/14/90 Radon Monitor Results for 08 Mound Facility

rea	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		HALL 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	
	63N		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		17D MEETING ROOM CENTER WALL	.4		1678041		12/12/89	2/19/90	
	88		ROOM 116	.4		1671295		12/12/89	2/19/90	
	95	SM/PP	95- BLD-ROOM81	.4		1661531		12/12/89	2/20/90	
		DS BUILDING	CORRIOOR 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

Radon Monitor Results for 66 Mound Facility

Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	R BUILDING	143 NEXT TO NORTH WALL	.5	.5	1668533	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		1678048		12/12/89	2/16/90	
.6		ELECTRICAL PANEL RM IN ELEC/RONICS	.5		1678062		12/12/89	2/19/90	
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 BULLETTIN BOARD	.5		1678047		12/12/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5		1678058		12/12/89	2/16/90	
50		CELL 113	.5		1681582		12/13/89	2/19/90	
78		CENTRAL HALLWAY WEST OF DOOR TO RM7	.5		1681605		12/18/89	2/16/90	
89		181 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	108D 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	159 WEST WALL	.5		1678033		12/14/89	2/16/90	
	E BUILDING	103 WEST WALL	.5		1678072		12/14/89	2/16/90	
	E ANNEX	E 212 NORTH WALL	.5		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	
	HH	HH-8	.5		1671269		12/18/89	2/19/90	
	I BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/19/90	
	M BUILDING	M 108	.5		1678056		12/15/89	2/19/90	
	OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/90	
	OSE	CORRIDOR 301 ACROSS FROM WATER FOUN	.5		1672084		12/15/89	2/16/90	
	OSW	4HT FLOOR	.5		1678028		12/12/89	2/16/90	
	OSE	CORR 212 SOUTH WALL NEAR 218 DOOR	.5		1678036		12/15/89	2/16/90	
	OSW	319	.5		1678069		12/13/89	2/16/90	
	OSW	2ND FLOOR	.5		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		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	
	HH	HH-24	.4		1667187		12/14/89	2/19/90	
	DS 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		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 Summary/Information

USE CATEGORY	
C	This procedure shall be available to workers, though not necessarily at the work location. This procedure may be performed without referring to the procedure; however, the user is still responsible for adhering to the procedure.
ML-9771A	

TECHNICAL MANUAL

MD-10391, ISSUE 5
ASBESTOS PROGRAM MANUAL

MOUND
ML-5872(1-89)

PAGE	ISSUE	PAGE	ISSUE
1	5	53	3
2	5	54	3
3	3	55	5
4	3	56	5
5	3	57	3
6	3	58	3
7	3	59	5
8	3	60	5
9	4	61	3
10	4	62	3
11	3	63	3
12	3	64	3
13	3	65	3
14	3	66	3
15	5	67	3
16	5	68	3
17	5	69	3
18	5	70	3
19	3	71	3
20	3	72	3
21	3	73	3
22	3	74	3
23	5	75	3
24	5	76	3
25	3	77	5
26	3	78	5
27	3	79	3
28	3	80	3
29	3	81	3
30	3	82	3
31	3	83	3
32	3	84	3
33	3	85	3
34	3	86	3
35	3	87	3
36	3	88	3
37	3	89	3
38	3	90	3
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44	3		
45	3		
46	3		
47	3		
48	3		
49	3		
50	3		
51	3		
52	3		

T. C. Fort, DOE/MEMP

D. B. Armstrong, A-133
L. R. Bauer, A-206
TR- E. Kirk, OSW-3
M. D. Miller, A-270
J. M. Schneider, BD. 61
A. W. Upshaw, W-209
E- G. Witt, OSW-3
Medical, A-127
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Technical Manuals, OSW-327

This issue has been reviewed and approved for publication by TR, Evan Kirk.

2/23/99
Date

CHANGES INCORPORATED

- [x] Replace — Pages 1, 2, 15, 16, 17, 18, 23, 24, 55, 56, 59, 60, 77 and 78
- [ ] Insert (New Pages)
- [ ] Remove
- [ ] Complete Reprint

All appropriate reviews were conducted. This issue is authorized for use by Advance Change Order on file in Technical Manuals.

M. D. Miller, Manager
Industrial Safety & Health
11-12-98

TR - TECHNICAL RESPONSIBILITY E - EDITOR

TABLE 1
BUILDING INFORMATION FOR EG&G MOUND FACILITY

Compiled by: Mound Industrial Hygiene

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
A	1948	55,582	Yes
B	1948	27,735	Yes
C	1948	13,403	Yes
COS	1986	64,654	Suspected[2]
DS	1965	47,810	Yes
E	1948	47,755	Yes
EG1	1973	240	Suspected[2]
EG2	1973	240	Suspected[2]
EG4	1958	148	Suspected[2]
EG6	1975	240	Suspected[2]
EG7	1972	80	Suspected[2]
FH1	1948	400	No
FH2	1948	400	No
G	1948	7,518	Yes
GH	1948	5,347	Yes
GH44	1963	365	Assumed[3]
GIS	1948	166	Yes
GP-1	1949	7,792	Yes
GP44	1971	365	Assumed[3]
GW	1968	9,782	Yes
H	1948	17,334	Yes
HH	1948	15,276	Yes

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
I	1948	25,736	Yes
M	1948	56,018	Yes
OSE	1986	90,072	Assumed[3]
OSW	1974	54,280	Yes
P	1948	15,143	Yes
PH	1948	646	Yes
PS	1963	2,288	Yes
R	1948	55,003	Yes
SD	1948	1,593	Yes
SST	1973	590	Suspected[2]
SW	1951	43,066	Yes
T	1948	172,963	Yes
W	1948	32,484	Yes
WD	1948	16,216	Yes
WDA	1966	5,000	Yes
WH1	1960	374	No
WH2	1960	374	No
WH3	1960	128	No
1	1957	986	Yes
2	1959	6,291	Yes
3	1964	12,391	Yes
5	1948	314	No
6	1948	90	No
7	1986	387	No
8	1986	66	No

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
10	1986	66	No
11	1986	372	No
13	1960	47	Suspected[2]
14	1986	53	Suspected[2]
16	1960	480	Yes
17	1961	1,120	Yes
19	1963	4,480	No
20	1986	303	No
21	1966	4,069	Suspected[2]
22	1966	9,090	No
23	1966	3,422	Yes
24	1966	840	Yes
25	1966	430	Yes
26	1965	800	Assumed[3]
27	1968	5,285	Yes
28	1966	11,329	Yes
29	1964	6,601	Yes
30	1964	740	Yes
31	1966	8,740	Suspected[2]
33	1965	1,344	Yes
34	1965	1,100	No
35	----	2,500	Yes
36	1968	4,255	Yes
37	1968	2,463	Yes
38	1968	44,327	Yes

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
39	1967	3,515	No
40	1968	12,227	Yes
42	1969	2,892	Yes
43	1969	1,516	Yes
44	1969	2,480	Yes
45	1970	2,775	Yes
46	1969	2,439	Yes
47	1969	3,611	Yes
48	1970	7,950	Yes
49	1970	14,929	Yes
50	1971	14,849	Yes
51	1972	3,541	Assumed[3]
52	1973	78	No
53	1986	239	No
54	1986	331	No
55	1973	330	No
56	1973	613	Yes
57	1975	510	Yes
58	1977	6,110	No
59	1978	668	Suspected[2]
60	1980	3,958	Yes
61	1983	45,490	Suspected[2]
62	1980	290	Yes
63	1981	16,461	Assumed[3]
64	----	72	No

BUILDING NAME	YEAR CONSTRUCTED	SQUARE FOOTAGE	ACBM[1] ?
65	1979	2,400	Assumed[3]
66	1979	600	Suspected[2]
67	1982	3,787	Assumed[3]
68	1979	1,990	Suspected[2]
69	1981	1,620	Suspected[2]
70	1982	3,366	Suspected[2]
71	1983	800	Suspected[2]
72	1983	2,400	No
73	1983	2,200	Suspected[2]
74	1986	400	Suspected[2]
79	1983	1,650	Suspected[2]
80	1986	314	No
81	1986	314	No
82	1986	314	No
83	1986	314	No
84	1986	314	No
85	1988	3,160	No
87	1988	38,882	No
88	1983	7,200	Assumed[3]
89	1984	4,830	Assumed[3]
90	1983	656	Suspected[2]
91	1984	8,065	Suspected[2]
92	1984	1,600	Suspected[2]
93	1984	2,936	Suspected[2]
94	1984	1,240	Assumed[3]

BUILDIN G NAME	YEAR CONSTRUCTED	SQUAKE FOOTAGE	ACBM[1] ?
95	1985	2,000	Suspected[2]
96	----	432	Suspected[2]
98	1988	8,517	Suspected[2]
99	1989	11,412	Suspected[2]
100	1989	6,292	Suspected[2]
101	1986	1,815	Suspected[2]
102	1987	10,982	Suspected[2]
104	----	1,800	Suspected[2]
105	----	38,027	Suspected[2]
106	----	180	Suspected[2]
107	----	70	Suspected[2]
112	----	785	Suspected[2]
113	----	547	Suspected[2]
114	----	432	Suspected[2]
119	----	350	Suspected[2]
120	----	350	Suspected[2]

NOTES: (1) ACBM - Asbestos-containing building materials.

(2) Building is noted to contain "suspect" asbestos-containing building materials. Industrial hygiene building files lack building construction or asbestos survey information.

(3) Building is noted to contain "suspect" asbestos-containing flooring tile or sheet goods.

MOUND ASBESTOS SURVEY
BUILDING SUMMARY

BUILDING 40

FLOORS:	Two	PIPE CHASES:	Yes
DATE BUILT:	1968	PENTHOUSE:	Yes
CRAWLSPACE:	None	GROSS AREA, SQ. FT.:	12,227
SUSPENDED CEILING:	Yes	ADDITIONS:	1986

Asbestos was found to be present in Thermal System Insulation and/or other material in Building 40. 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: 0.267-0.272

No.	Description	Result
1	Pipe Joint Insulation, Type I, Hard Joints w/Fiberglass Runs	Negative
2	Pipe Insulation Debris	Positive
3	Ceiling Tile, CT3-F, (2'x4'), Pits w/Pinholes	Negative
4	Drywall	Negative

Assumed ACM:	Amount	Location
* Floor Tile	N/A	N/A

Drawing Reference: P24

* Floor tile quantities not included in scope.

Building 40

Inspection Date 10/3/91

Inspector..... Sean Fisher

Sample Numbers..... 0.267 - 0.272

Data Review

Only 1 material was determined by the visual inspection and sampling/analysis to be asbestos-containing. That was a small piece of debris from pipe insulation that was apparently left behind from a previous abatement project. This material is located on the tops of the ceiling tiles in Room 2. the only material assumed to contain asbestos is the floor tile and mastic in a limited number of rooms.

Total Abatement Cost..... $250.00

Total O&M Cost/Year..... $180.00

Building 40

RESPONSE AREA DESIGNATION..... A

Rooms Included:

2

Materials Included:

Pipe Insulation Debris

Response Area Description

Debris - Room 2

Recommended Response Removal

Priority Level..... Immediately

Hazard Rank..... 7

Response Justification

This material is highly friable and has a high potential for exposure to anyone who might lift the ceiling tiles. These conditions warrant a Hazard Rank #7.

The material's current condition may constitute a violation of the NESHAPS provision prohibiting visible emissions. The recommended response is to immediately remove the debris and clean the tops of the ceiling tiles and grid by use of a H.E.P.A. vacuum and wet-wiping. It is advised that a mist coating of lock-down encapsulant be sprayed on the tops of the ceiling tiles in Room 2 in order to prevent the re-entrainment of any asbestos fibers that may remain after abatement. It should not be necessary to replace the ceiling tiles or grid.

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

Abatement Cost..... $250.00

Building 40

RESPONSE AREA DESIGNATION..... B

Rooms Included:

1; 5; 6; 7; 9

Materials Included:

Floor Tile
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

Appendix J

Lead Summary/Information

(There is no lead summary/information available.)

Appendix K

Chemical Summary/Information

Chemicals I[illegible]ilding:40

Room:001

ID	Material Description	Status	Manufacturer	Rad	RCRAEPA Code	Original Quantity	Current Quantity	Units	Container Description
CI981233	P-10 GAS	PROCESS	AIR PRODUCTS	N	N	1.00	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990070	METHANE-ARGON 10-90	PROCESS	MATHESON, CYL.SZ.1-L	Y	U	1.00	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990071	METHANE-ARGON 10-90	PROCESS	MATHESON, CYL.SZ.1-L	Y	U	1.00	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990468	GAS MIXTURE	PROCESS	MATHESON, P10 1-L SI	Y	U	1.00	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990469	GAS MIXTURE	PROCESS	MATHESON, P10 1-L SI	Y	U	1.00	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990833	GAS MIXTURE	PROCESS	MATHESON, P/10	Y	U	1.00	1.00	EACH	CYLINDER, COMPRESSED GAS

INVENTORY REPORT GROUPED BY BLDG - ID ORDER

LOCATION: 40

CONTAINER ID	CHEMICAL	STATUS	Quantity	Units	Container Description
CI981558	P-10 GAS	CONSUMED-98	1.00	EACH	CYLINDER, COMPRESSED GAS
CI981559	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS

LOCATION: 40-001

CONTAINER ID	CHEMICAL	STATUS	Quantity	Units	Container Description
CI973065	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI973066	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI980238	P-10 GAS	CONSUMED-98	0.00	CUBIC FEET	CYLINDER, COMPRESSED GAS
CI980237	P-10 GAS	CONSUMED-98	0.00	CUBIC FEET	CYLINDER, COMPRESSED GAS
CI981233	P-10 GAS	PROCESS	1.00	EACH	CYLINDER, COMPRESSED GAS
CI981234	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI981300	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI981301	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI981756	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI981757	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI982732	METHANE-ARGON 10-90	CONSUMED	1.00	EACH	CYLINDER, COMPRESSED GAS
CI982733	METHANE-ARGON 10-90	CONSUMED	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990070	METHANE-ARGON 10-90	PROCESS	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990071	METHANE-ARGON 10-90	PROCESS	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990468	GAS MIXTURE	PROCESS	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990469	GAS MIXTURE	PROCESS	1.00	EACH	CYLINDER, COMPRESSED GAS
CI990833	GAS MIXTURE	PROCESS	1.00	EACH	CYLINDER, COMPRESSED GAS

LOCATION: 40-004

CONTAINER ID	CHEMICAL	STATUS	Quantity	Units	Container Description
CI980003	P-10 GAS	CONSUMED-98	1.00	EACH	CYLINDER, COMPRESSED GAS
CI980004	P-10 GAS	CONSUMED-98	1.00	EACH	CYLINDER, COMPRESSED GAS

LOCATION: 40-100

CONTAINER ID	CHEMICAL	STATUS	Quantity	Units	Container Description
CI000719	INK	PROCESS	1.00	POUND	CAN, METAL
CI000720	INK	PROCESS	1.00	POUND	CAN, METAL
CI000721	INK	PROCESS	1.00	POUND	CAN, METAL
CI000722	INK	PROCESS	1.00	POUND	CAN, METAL
CI000724	INK	PROCESS	5.00	POUND	CAN, METAL
CI000725	INK	PROCESS	5.00	POUND	CAN, METAL
CI000734	INK	PROCESS	1.00	POUND	CAN, METAL
CI000735	INK	PROCESS	1.00	POUND	CAN, METAL
CI000814	VARNISH, MULTICOLOR	PROCESS	1.00	POUND	CAN, METAL
CI000815	VARNISH, MULTICOLOR	PROCESS	1.00	POUND	CAN, METAL
CI000816	VARNISH, MULTICOLOR	PROCESS	1.00	POUND	CAN, METAL
CI00479	ADHESIVE, PADDING	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
CI00494	WINDOW SHINE	PROCESS	16.00	OUNCE (LIQ)	BOTTLE, PLASTIC
CI00743	POLISH, FURNITURE	PROCESS	16.00	OUNCE (LIQ)	CAN, AEROSOL
CI00745	CONCENTRATE, FOUNTAIN	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
CI00811	SCRATCH REMOVER	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
CI700729	INK	PROCESS	1.00	POUND	CAN, METAL
CI700730	INK	PROCESS	1.00	POUND	CAN, METAL
CI700731	INK	PROCESS	1.00	POUND	CAN, METAL
NI000004	CLEANER, LENS AND MIRROR	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000005	CLEANER, LENS AND MIRROR	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000006	ANTI-STATIC SOLUTION	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000007	ANTI-STATIC SOLUTION	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000008	ANTI-STATIC SOLUTION	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000009	CLEANER, LENS AND MIRROR	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000010	ANTI-STATIC SOLUTION	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000011	CLEANER, LENS AND MIRROR	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000012	ANTI STATIC FLUID	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000013	ANTI STATIC FLUID	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000018	GREASE GUN	PROCESS	6.00	OUNCE (DRY)	CYLINDER, METAL

NI000019	CONCENTRATE, FOUNTAIN	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000020	CONCENTRATE, FOUNTAIN	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000021	CLEANER, HAND, BIODEGRADEABLE	PROCESS	16.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000022	CLEANER, HAND, BIODEGRADEABLE	PROCESS	16.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000023	KLEEN MASTER	PROCESS	8.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000024	LIQUID PAPER	PROCESS	1.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000025	LIQUID PAPER	PROCESS	1.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000026	CLEANER, FORMULA A	PROCESS	6.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000027	ADHESIVE, PADDING	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000028	COMPOUND, PADDING	PROCESS	24.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000029	COMPOUND, PADDING	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000030	COMPOUND, PADDING	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000031	COMPOUND, PADDING	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000032	COMPOUND, PADDING	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000033	ADHESIVE, PADDING	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000034	ADHESIVE, PADDING	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000035	ADHESIVE, PADDING	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000036	DEVELOPER, LIQUID MASTER	PROCESS	16.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000037	PAINT, ENAMEL	PROCESS	0.25	GALLON	CAN, METAL
NI000038	INK	PROCESS	1.00	POUND	CAN, METAL
NI000039	INK	PROCESS	1.00	POUND	CAN, METAL
NI000040	INK	PROCESS	5.00	POUND	CAN, METAL
NI000041	INK	PROCESS	5.00	POUND	CAN, METAL
NI000042	INK	PROCESS	1.00	POUND	CAN, METAL
NI000043	INK	PROCESS	5.00	POUND	CAN, METAL
NI000044	INK	PROCESS	1.00	POUND	CAN, METAL
NI000045	INK	PROCESS	1.00	POUND	CAN, METAL
NI000046	INK	PROCESS	1.00	POUND	CAN, METAL
NI000047	INK	PROCESS	5.00	POUND	CAN, METAL
NI000048	INK	PROCESS	1.00	POUND	CAN, METAL
NI000049	INK	PROCESS	1.00	POUND	CAN, METAL
NI000050	INK	PROCESS	1.00	POUND	CAN, METAL
NI000051	INK	PROCESS	1.00	POUND	CAN, METAL
NI000052	INK	PROCESS	1.00	POUND	CAN, METAL
NI000053	INK	PROCESS	1.00	POUND	CAN, METAL
NI000054	INK	PROCESS	1.00	POUND	CAN, METAL
NI000055	INK	PROCESS	1.00	POUND	CAN, METAL
NI000056	INK	PROCESS	1.00	POUND	CAN, METAL
NI000057	INK	PROCESS	1.00	POUND	CAN, METAL
NI000058	INK	PROCESS	1.00	POUND	CAN, METAL
NI000059	INK	PROCESS	0.50	POUND	CAN, METAL
NI000060	INK	PROCESS	0.50	POUND	CAN, METAL
NI000061	INK	PROCESS	1.00	POUND	CAN, METAL
NI000062	INK	PROCESS	1.00	POUND	CAN, METAL
NI000063	INK	PROCESS	5.00	POUND	CAN, METAL
NI000064	INK	PROCESS	1.00	POUND	CAN, METAL
NI000065	INK	PROCESS	1.00	POUND	CAN, METAL
NI000066	INK	PROCESS	1.00	POUND	CAN, METAL
NI000068	INK	PROCESS	1.00	POUND	CAN, METAL
NI000069	INK	PROCESS	1.00	POUND	CAN, METAL
NI000070	INK	PROCESS	1.00	POUND	CAN, METAL
NI000071	INK	PROCESS	1.00	POUND	CAN, METAL
NI000072	INK	PROCESS	0.50	POUND	CAN, METAL
NI000073	INK	PROCESS	1.00	POUND	CAN, METAL
NI000074	INK	PROCESS	1.00	POUND	CAN, METAL
NI000075	INK	PROCESS	1.00	POUND	CAN, METAL
NI000076	INK	PROCESS	1.00	POUND	CAN, METAL
NI000077	INK	PROCESS	1.00	POUND	CAN, METAL
NI000078	INK	PROCESS	1.00	POUND	CAN, METAL
NI000079	INK	PROCESS	1.00	POUND	CAN, METAL
NI000080	INK	PROCESS	1.00	POUND	CAN, METAL

NI000081	INK	PROCESS	1.00	POUND	CAN, METAL
NI000082	INK	PROCESS	1.00	POUND	CAN, METAL
NI000083	INK	PROCESS	1.00	POUND	CAN, METAL
NI000084	INK	PROCESS	1.00	POUND	CAN, METAL
NI000085	INK	PROCESS	1.00	POUND	CAN, METAL
NI000086	INK	PROCESS	1.00	POUND	CAN, METAL
NI000087	INK	PROCESS	1.00	POUND	CAN, METAL
NI000088	INK	PROCESS	1.00	POUND	CAN, METAL
NI000089	INK	PROCESS	1.00	POUND	CAN, METAL
NI000090	INK	PROCESS	1.00	POUND	CAN, METAL
NI000091	INK	PROCESS	5.00	POUND	CAN, METAL
NI000092	INK	PROCESS	5.00	POUND	CAN, METAL
NI000093	POWDER, MULTILITH	PROCESS	0.50	POUND	CAN, CARDBOARD
NI000094	POWDER, MULTILITH	PROCESS	0.50	POUND	CAN, CARDBOARD
NI000095	POWDER, MULTILITH	PROCESS	0.50	POUND	CAN, CARDBOARD
NI000099	DISPERSMENT, MULTILITH CLECTROSTATIC	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000101	DISPERSMENT, MULTILITH CLECTROSTATIC	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000102	ANTI STATIC SOLUTION	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000103	PLATE GUM	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000104	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000105	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000106	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000107	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000108	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000109	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000110	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000111	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000112	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000113	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000114	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000115	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000116	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000117	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000118	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000119	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000120	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000121	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000122	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000123	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000124	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000125	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000126	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000127	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000128	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000129	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000130	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000131	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000132	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000133	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000134	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000135	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000136	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000137	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000138	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000139	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000140	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000141	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000142	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000143	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000144	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000145	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD

NI000146	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000147	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000148	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000149	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000150	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000151	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000152	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000153	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000154	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000155	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000156	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000157	INK	PROCESS	12.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000158	WD-40	PROCESS	6.00	OUNCE (LIQ)	CAN, AEROSOL
NI000159	CLEAN PRINT	PROCESS	14.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000160	CLEAN PRINT	PROCESS	12.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000161	INK	PROCESS	10.00	OUNCE (LIQ)	TUBE, CARDBOARD
NI000162	OIL, 3 IN 1	PROCESS	2.00	OUNCE (LIQ)	CAN, METAL
NI000163	POWDER, SCOURING	PROCESS	18.00	OUNCE (DRY)	CAN, CARDBOARD
NI000164	SCRATCH REMOVER	PROCESS	16.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000165	INK	PROCESS	0.25	POUND	CAN, METAL
NI000167	DEVELOPER, LIQUID MASTER	DISPOSED	0.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000168	DEVELOPER, LIQUID MASTER	DISPOSED	0.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000169	DEVELOPER, LIQUID MASTER	DISPOSED	0.75	GALLON	BOTTLE, PLASTIC
NI000170	PAINT, ENAMEL	PROCESS	0.75	GALLON	CAN, METAL
NI000171	PAINT	PROCESS	0.25	GALLON	CAN, METAL
NI000172	BLANKET WASH	PROCESS	1.00	GALLON	CAN, METAL
NI000173	BLANKET WASH	PROCESS	0.12	GALLON	CAN, METAL
NI000174	BLANKET WASH	PROCESS	0.50	GALLON	CAN, METAL
NI000175	BLANKET WASH	PROCESS	0.50	GALLON	CAN, METAL
NI000176	OIL, PUMP	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000177	INK, ANTI SKIN	PROCESS	14.00	OUNCE (LIQ)	CAN, AEROSOL
NI000178	INK, ANTI SKIN	PROCESS	14.00	OUNCE (LIQ)	CAN, AEROSOL
NI000179	THINNER	PROCESS	0.75	OUNCE (LIQ)	BOTTLE, GLASS
NI000180	CLEANER, DEGREASER	PROCESS	28.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000181	DESENSITIZER, OFFSET ROLLER	PROCESS	10.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000182	TONER, HIGH YIELD	PROCESS	150.00	GRAM	BOTTLE, PLASTIC
NI000183	2-PROPANOL	PROCESS	200.00	MILLILITER	BOTTLE, GLASS
NI000184	OIL, 3 IN 1	PROCESS	3.00	OUNCE (LIQ)	CAN, METAL
NI000185	OIL, 3 IN 1	PROCESS	3.00	OUNCE (LIQ)	CAN, METAL
NI000186	OIL, 3 IN 1	PROCESS	3.00	OUNCE (LIQ)	CAN, METAL
NI000187	BLANKET FIX	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000188	BLANKET FIX	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000189	BLANKET FIX	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000190	BLANKET FIX	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000191	BLANKET FIX	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000192	BLANKET FIX	PROCESS	4.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000193	PUMICE, PHOTORECEPTI	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000194	PUMICE, PHOTORECEPTI	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000195	PUMICE, PHOTORECEPT	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000196	PUMICE, PHOTORECEPTI	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000197	PUMICE, PHOTORECEPT	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000198	PUMICE, PHOTORECEPT	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000199	PUMICE, PHOTORECEPT	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000200	WD-40	PROCESS	3.00	OUNCE (LIQ)	CAN, AEROSOL
NI000301	CLEAN PRINT	PROCESS	9.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000302	CLEAN PRINT	PROCESS	9.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000303	SPRAY FIX	PROCESS	12.00	OUNCE (LIQ)	CAN, AEROSOL
NI000304	SPRAY FIX	PROCESS	12.00	OUNCE (LIQ)	CAN, AEROSOL
NI000305	SPRAY FIX	PROCESS	12.00	OUNCE (LIQ)	CAN, AEROSOL
NI000306	LENS AND MIRROR CLE	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
NI000307	ANTINEWTON SPRAY	PROCESS	10.00	OUNCE (LIQ)	CAN, AEROSOL

NI000308	ANTINEWTON SPRAY	PROCESS	10.00	OUNCE (LIQ)	CAN, AEROSOL
NI000309	OIL, HYVAC	PROCESS	6.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000310	HYGENOIL	PROCESS	28.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000311	RITE OFF	PROCESS	12.00	OUNCE (LIQ)	CAN, AEROSOL
NI000312	REMOVER, OFFSET GLAZE	PROCESS	8.00	OUNCE (LIQ)	CAN, METAL
NI000313	SOLVENT, CLEANING	PROCESS	12.00	OUNCE (LIQ)	CAN, METAL
NI000316	FIXER AND REPLENISHER	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000318	CLEANER, HAND, MULTILITH	PROCESS	2.00	OUNCE (DRY)	BOTTLE, PLASTIC
NI000319	SOLUTION, ELECTROSTATIC	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI000320	CONCENTRATE, FOUNTAIN	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000321	CONCENTRATE, FOUNTAIN	PROCESS	32.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000327	OPAQUE BLACK	PROCESS	0.50	OUNCE (LIQ)	BOTTLE, GLASS
NI000328	WD-40	PROCESS	6.00	OUNCE (LIQ)	CAN, AEROSOL
NI000329	OPAQUE RED	PROCESS	1.00	OUNCE (LIQ)	BOTTLE, GLASS
NI000330	LIQUID PAPER	PROCESS	1.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000331	LIQUID PAPER	PROCESS	1.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000332	LENS AND MIRROR CLEANER	PROCESS	2.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000333	ANTI STATIC SOLUTION	PROCESS	2.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000334	LIQUID PAPER	PROCESS	1.00	OUNCE (LIQ)	BOTTLE, PLASTIC
NI000614	DEVELOPER AND REPLENISHER	PROCESS	5.00	GALLON	BOTTLE, PLASTIC
NI000615	DEVELOPER AND REPLENISHER	PROCESS	5.00	GALLON	BOTTLE, PLASTIC
NI000818	DESENSITIZER, OFFSET INK ROLLER	PROCESS	10.00	OUNCE (LIQ)	BOTTLE, GLASS
NI300322	SOLUTION, NEGATIVE PLATES	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI300323	SOLUTION, NEGATIVE PLATES	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI300324	SOLUTION, NEGATIVE PLATES	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI300325	SOLUTION, NEGATIVE PLATES	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
NI300326	SOLUTION, NEGATIVE PLATES	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
VI980690	INK	PROCESS	1.00	POUND	CAN, METAL
VI980692	INK	PROCESS	1.00	POUND	CAN, METAL
VI980693	INK	PROCESS	1.00	POUND	CAN, METAL
VI980694	INK	PROCESS	1.00	POUND	CAN, METAL
VI980695	INK	PROCESS	1.00	POUND	CAN, METAL
VI980696	INK	PROCESS	1.00	POUND	CAN, METAL
VI980697	INK	PROCESS	1.00	POUND	CAN, METAL
VI980698	INK	PROCESS	1.00	POUND	CAN, METAL
VI980699	INK	PROCESS	1.00	POUND	CAN, METAL
VI981014	ANTI STATIC FLUID	PROCESS	4.00	GALLON	BOTTLE, PLASTIC
VI981015	WESTERN A.G.E.	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
VI981016	WESTERN A.G.E.	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
VI981017	WESTERN A.G.E.	PROCESS	1.00	GALLON	BOTTLE, PLASTIC
VI981020	ACTIVATOR	PROCESS	3.00	GALLON	BOTTLE, PLASTIC
VI981021	ACTIVATOR	PROCESS	5.00	GALLON	BOTTLE, PLASTIC
VI981025	FIXER	PROCESS	2.00	OUNCE (LIQ)	BOTTLE, PLASTIC
VI981026	CLEANER, LENS AND MIRROR	PROCESS	4.00	OUNCE (LIQ)	CAN, AEROSOL
VI981027	INK	PROCESS	5.00	POUND	CAN, METAL
VI981028	INK	PROCESS	5.00	POUND	CAN, METAL
VI981029	INK	PROCESS	5.00	POUND	CAN, METAL
VI981146	SOLVENT, DEGLAZING	PROCESS	16.00	OUNCE (LIQ)	CAN, METAL
VI991013	CLEANER, FORMULA A	PROCESS	0.25	GALLON	BOTTLE, PLASTIC

LOCATION: 40-A-DOCK 3

CONTAINER ID	CHEMICAL	STATUS	Quantity	Units	Container Description
RA05947	UNKNOWN, 8 VIALS 4 LIQ\ 4 CRYSTAL	CONSUMED-98	0.00		

LOCATION: 40-DOCK 1

CONTAINER ID	CHEMICAL	STATUS	Quantity	Units	Container Description
CI980423	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI980424	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS

LOCATION: 40-TRAIN

CONTAINER ID	CHEMICAL	STATUS	Quantity	Units	Container Description
CI980641	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS
CI980642	P-10 GAS	CONSUMED-98	0.00	EACH	CYLINDER, COMPRESSED GAS

Appendix L

Noted Soil Sampling, Vicinity

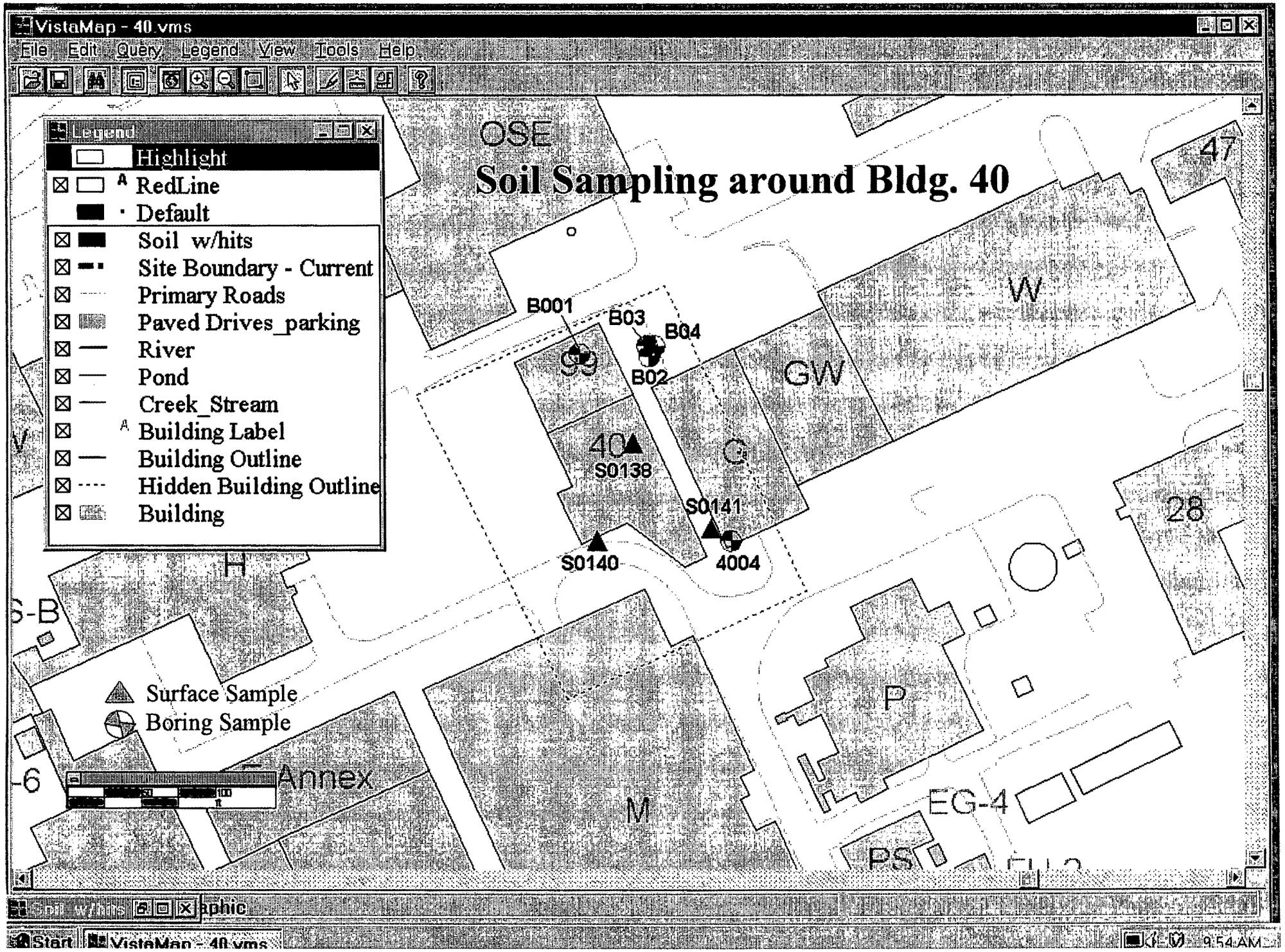
This Appendix L consists of three elements.

Element One is a graphic depiction of soil sampling in and around the subject property. Triangles signify surface sampling and circles denote boring (at depth) samples. The magenta color denotes a detection. A gray colored triangle or circle indicates a non-detection. Sampling detections are assigned a location alpha-numeric identifier.

Element Two is a spreadsheet detailing the element one detections. Detections (magenta colored symbols) identified in element one are listed. The first or left-most column entries of the element two spreadsheet can be matched to the element one identifiers. Sample detections that exceed comparison values are highlighted by bold text in the "Measured Value" column of the spreadsheet. Additionally, these comparison values are also identified in the "Comments" column of element two.

Element three is a table of comparison values. The constituent of concern can be found in the center column of this table; identified as "parameter name." Comparison values are located to the immediate right of these constituents. The first or left-most column of the element three table contains a single digit number identifying the basis of the comparison value. Basis identification is found on the last page of the element three table, and is again listed here.

Comparison Value Basis Number	Comparison Value Basis Definition
1	$10E^{-6}$ Risk-Based Guideline Value
2	Soil Background Value (OU9)
3	Other Criteria, such as Mound Plant Plutonium/Thorium Protocol
5	MCL Value
6	Guideline Value Based on Hazardous Index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File Edit Query Legend View Tools Help
Legend
Highlight
RedLine
Default
Soil w/hits
Site Boundary - Current
Primary Roads
Paved Drives_parking
River
Pond
Creek_Stream
Building Label
Building Outline
Hidden Building Outline
Building
Soil Sampling around Bldg. 40
OSE
47
W
B001
B03
B04
B02
99
GW
40
S0138
C
S0141
28
S0140
4004
H
S-B
Surface Sample
Boring Sample
P
Annex
M
EG-4
PS
Start
VistaMap - 40.vms
9:54 AM

Location_	Sample_id	Location_t	Collection_	Media	Value_name	Measured_	Value_un	Detection	Chem_class	Start_	End_depth	Dep	Cas_number	Lab_	Project_co	Data	Comments
4004	4004-0002.0	Borehole	19940418	Other	1,1,1-Trichloroethane	2982.50	PPB		ORVOA	2	2	FT	71-55-6		SVROU2		
4004	4004-0002.0	Borehole	19940418	Other	Total VOC's	2982.50	PPB		ORVOA	2	2	FT	TVOC		SVROU2		
B001	19870605B001	Borehole	19870605	Groundwater	Tritium	1870.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870609B001	Borehole	19870609	Groundwater	Tritium	7740.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870611B001	Borehole	19870611	Groundwater	Tritium	8990.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870612B001	Borehole	19870612	Groundwater	Tritium	10000.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870617B001	Borehole	19870617	Groundwater	Tritium	11640.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870619B001	Borehole	19870619	Groundwater	Tritium	5650.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870623B001	Borehole	19870623	Groundwater	Tritium	7880.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870625B001	Borehole	19870625	Groundwater	Tritium	8400.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870629B001	Borehole	19870629	Groundwater	Tritium	3720.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870701B001	Borehole	19870701	Groundwater	Tritium	8567.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870703B001	Borehole	19870703	Groundwater	Tritium	3878.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870705B001	Borehole	19870705	Groundwater	Tritium	2194.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870709B001	Borehole	19870709	Groundwater	Tritium	11217.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870715B001	Borehole	19870715	Groundwater	Tritium	8420.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870717B001	Borehole	19870717	Groundwater	Tritium	11084.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870721B001	Borehole	19870721	Groundwater	Tritium	9076.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870723B001	Borehole	19870723	Groundwater	Tritium	8517.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870727B001	Borehole	19870727	Groundwater	Tritium	6085.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870729B001	Borehole	19870729	Groundwater	Tritium	9567.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870731B001	Borehole	19870731	Groundwater	Tritium	8635.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870804B001	Borehole	19870804	Groundwater	Tritium	9018.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870810B001	Borehole	19870810	Groundwater	Tritium	8607.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870812B001	Borehole	19870812	Groundwater	Tritium	8831.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870814B001	Borehole	19870814	Groundwater	Tritium	6735.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870818B001	Borehole	19870818	Groundwater	Tritium	4110.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870820B001	Borehole	19870820	Groundwater	Tritium	7792.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870824B001	Borehole	19870824	Groundwater	Tritium	8749.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870826B001	Borehole	19870826	Groundwater	Tritium	9743.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870828B001	Borehole	19870828	Groundwater	Tritium	10157.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870901B001	Borehole	19870901	Groundwater	Tritium	10797.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870903B001	Borehole	19870903	Groundwater	Tritium	9577.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870907B001	Borehole	19870907	Groundwater	Tritium	10111.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870909B001	Borehole	19870909	Groundwater	Tritium	10983.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B001	19870911B001	Borehole	19870911	Groundwater	Tritium	10563.00	PCI/L		RAD	0	0		10028-17-8		SPRFLG		
B02	000003	Borehole	19961003	Soil	Gasoline	0.05	MG/KG	0.04	ORGRO	5	7		8006-61-9		PRS107		
B02	000003	Borehole	19961003	Soil	Lead	8.30	MG/KG	0.18	INORG	5	7		7439-92-1		PRS107		
B02	000003	Borehole	19961003	Soil	Percent Soilds	90.90	%	0.10	GENERA	5	7		%SOLIDS		PRS107		
B02	000004	Borehole	19961003	Soil	Gasoline	43.00	MG/KG	4.40	ORGRO	7	9		8006-61-9		PRS107		
B02	000004	Borehole	19961003	Soil	Lead	8.80	MG/KG	0.18	INORG	7	9		7439-92-1		PRS107		
B02	000004	Borehole	19961003	Soil	Percent Soilds	90.70	%	0.10	GENERA	7	9		%SOLIDS		PRS107		
B03	000009	Borehole	19961004	Soil	Lead	7.90	MG/KG	0.17	INORG	4	6		7439-92-1		PRS107		
B03	000009	Borehole	19961004	Soil	Percent Soilds	92.20	%	0.10	GENERA	4	6		%SOLIDS		PRS107		
B03	000010	Borehole	19961004	Soil	Ethylbenzene	9.20	UG/KG	1.10	ORVOA	6	8		100-41-4		PRS107		
B03	000010	Borehole	19961004	Soil	Ethylbenzene	6.50	UG/KG	1.10	ORVOA	6	8		100-41-4		PRS107		
B03	000010	Borehole	19961004	Soil	Gasoline	1.10	MG/KG	0.04	ORGRO	6	8		8006-61-9		PRS107		
B03	000010	Borehole	19961004	Soil	Lead	8.30	MG/KG	0.17	INORG	6	8		7439-92-1		PRS107		
B03	000010	Borehole	19961004	Soil	Percent Soilds	91.80	%	0.10	GENERA	6	8		%SOLIDS		PRS107		
B03	000010	Borehole	19961004	Soil	Toluene	4.60	UG/KG	1.10	ORVOA	6	8		108-88-3		PRS107		
B03	000010	Borehole	19961004	Soil	Toluene	4.90	UG/KG	1.10	ORVOA	6	8		108-88-3		PRS107		
B03	000010	Borehole	19961004	Soil	Xylenes, Total	61.00	UG/KG	1.10	ORVOA	6	8		1330-20-7		PRS107		
B03	000010	Borehole	19961004	Soil	Xylenes, Total	59.00	UG/KG	1.10	ORVOA	6	8		1330-20-7		PRS107		
B04	000007	Borehole	19961004	Soil	Gasoline	19.00	MG/KG	4.40	ORGRO	0	2		8006-61-9		PRS107		
B04	000007	Borehole	19961004	Soil	Lead	15.80	MG/KG	0.55	INORG	0	2		7439-92-1		PRS107		
B04	000007	Borehole	19961004	Soil	Percent Soilds	87.90	%	0.10	GENERA	0	2		%SOLIDS		PRS107		
S0138	6178	Surface loc	19840801	Soil	Plutonium-238	0.12	PCI/G	0.01	RAD	0	0	FT	13981-16-3		RSS		
S0140	3037	Surface loc	19831001	Soil	Plutonium-238	0.36	PCI/G	0.01	RAD	0	0	FT	13981-16-3		RSS		Exceeds background value.

S0141	6179	Surface loc	19840801	Soil	Plutonium-238	**0.68**	PCI/G	0.01	RAD	0	0	FT	13981-16-3		RSS		Exceeds background value.

comp_no	par_code	parameter name	comparison value	units
1	7440-41-7	Beryllium	7.00E-01	MG/KG
1	7440-43-9	Cadmium	5.00E+04	MG/KG
1	7440-47-3	Chromium	7.50E+03	MG/KG
1	121-82-4	RDX	2.70E+01	UG/KG
1	72-55-9	4,4'-DDE	9.00E+00	MG/KG
1	50-29-3	4,4'-DDT	9.00E+00	MG/KG
1	12672-29-6	Aroclor-1248	3.85E-01	MG/KG
1	11096-82-5	Aroclor-1260	3.85E-01	MG/KG
1	319-85-7	Beta-BHC	1.65E+00	MG/KG
1	60-57-1	Dieldrin	1.85E-01	MG/KG
1	56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
1	50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
1	205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
1	207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
1	117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
1	218-01-9	Chrysene	4.10E+02	MG/KG
1	53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
1	193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
1	78-59-1	Isophorone	3.15E+03	MG/KG
1	86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
1	87-86-5	Pentachlorophenol	2.50E+01	MG/KG
1	107-06-2	1,2-Dichloroethane	1.10E+01	MG/KG
1	71-43-2	Benzene	3.20E+01	MG/KG
1	75-27-4	Bromodichloromethane	4.80E+01	MG/KG
1	75-25-2	Bromoform	3.75E+02	MG/KG
1	56-23-5	Carbon Tetrachloride	1.20E+01	MG/KG
1	67-66-3	Chloroform	1.55E+01	MG/KG
1	124-48-1	Dibromochloromethane	3.55E+01	MG/KG
1	75-09-2	Dichloromethane	3.95E+02	MG/KG
1	79-01-6	Trichloroethene	1.25E+02	MG/KG
1	AC-227	Actinium-227	1.00E+00	PCI/G
1	14596-10-2	Americium-241	4.95E+00	PCI/G
1	13982-38-2	Bismuth-207	1.75E-01	PCI/G
1	BI-207	Bismuth-207	1.75E-01	PCI/G
1	10045-97-3	Cesium-137	4.60E-01	PCI/G
1	10198-40-0	Cobalt-60	1.00E-01	PCI/G
1	13981-16-3	Plutonium-238	5.50E+00	PCI/G
1	15117-48-3	Plutonium-239	5.50E+00	PCI/G
1	PU239/240	Plutonium-240	5.50E+00	PCI/G
1	13982-63-3	Radium-226	1.40E-01	PCI/G
1	10098-97-2	Strontium-90	3.00E+00	PCI/G
1	14274-82-9	Thorium-228	8.50E-01	PCI/G
1	14269-63-7	Thorium-230	4.40E+01	PCI/G
1	7440-29-1	Thorium-232	5.00E+01	PCI/G
1	10028-17-8	Tritium	2.35E+04	PCI/G
1	U-233	Uranium-233	3.70E+01	PCI/G
1	13966-29-5	Uranium-234	3.75E+01	PCI/G
1	15117-96-1	Uranium-235	3.35E+00	PCI/G
1	24678-82-8	Uranium-238	1.10E+01	PCI/G
2	7429-90-5	Aluminum	19000	MG/KG

comp_no	par_code	parameter name	comparison value	units
2	7440-38-2	Arsenic	8.6	MG/KG
2	7440-39-3	Barium	180	MG/KG
2	7440-69-9	Bismuth	ND	MG/KG
2	7440-41-7	Beryllium	1.3	MG/KG
2	7440-43-9	Cadmium	2.1	MG/KG
2	7440-70-2	Calcium	310000	MG/KG
2	7440-47-3	Chromium	20	MG/KG
2	7440-48-4	Cobalt	19	MG/KG
2	7440-50-8	Copper	26	MG/KG
2	57-12-5	Cyanide	ND	MG/KG
2	7439-89-6	Iron	35000	MG/KG
2	7439-92-1	Lead	48	MG/KG
2	7439-93-2	Lithium	26	MG/KG
2	7439-95-4	Magnesium	40000	MG/KG
2	7439-96-5	Manganese	1400	MG/KG
2	7439-97-6	Mercury	ND	MG/KG
2	7439-98-7	Molybdenum	27	MG/KG
2	7440-02-0	Nickel	32	MG/KG
2	7440-09-7	Potassium	1900	MG/KG
2	7440-22-4	Silver	1.7	MG/KG
2	7782-49-2	Selenium	ND	MG/KG
2	7440-23-5	Sodium	240	MG/KG
2	7440-28-0	Thallium	0.46	MG/KG
2	7440-31-5	Tin	20	MG/KG
2	7440-62-2	Vanadium	25	MG/KG
2	7440-66-6	Zinc	140	MG/KG
2	72-54-8	4,4'-DDD	4.2	MG/KG
2	72-55-9	4,4'-DDE	4.3	MG/KG
2	50-29-3	4,4'-DDT	13	MG/KG
2	309-00-2	Aldrin	ND	MG/KG
2	5103-71-9	Alpha Chlordane	ND	MG/KG
2	319-84-6	Alpha-BHC	ND	MG/KG
2	12672-29-6	Aroclor-1248	ND	MG/KG
2	11097-69-1	Aroclor-1254	58	MG/KG
2	11096-82-5	Aroclor-1260	ND	MG/KG
2	319-85-7	Beta-BHC	ND	MG/KG
2	60-57-1	Dieldrin	ND	MG/KG
2	959-98-8	Endosulfan I	ND	MG/KG
2	1031-07-8	Endosulfan Sulfate	ND	MG/KG
2	72-20-8	Endrin	ND	MG/KG
2	7421-93-4	Endrin Aldehyde	ND	MG/KG
2	53494-70-5	Endrin Ketone	ND	MG/KG
2	5103-74-2	Gamma Chlordane	ND	MG/KG
2	58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
2	76-44-8	Heptachlor	ND	MG/KG
2	1024-57-3	Heptachlor Epoxide	ND	MG/KG
2	72-43-5	Methoxychlor	30	MG/KG
2	77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
2	14596-10-2	Americium-241	ND	MG/KG
2	13982-38-2	Bismuth-207	ND	MG/KG

comp_no	par_code	parameter name	comparison value	units
2	BI-207	Bismuth-207	ND	MG/KG
2	BI-210M	Bismuth-210m	ND	MG/KG
2	10045-97-3	Cesium-137	0.42	PCI/G
2	13981-16-3	Plutonium-238	0.13	PCI/G
2	13966-00-2	Potassium-40	37	PCI/G
2	13982-63-3	Radium-226	2	PCI/G
2	10098-97-2	Strontium-90	0.72	PCI/G
2	14274-82-9	Thorium-228	1.5	PCI/G
2	14269-63-7	Thorium-230	1.9	PCI/G
2	7440-29-1	Thorium-232	1.4	PCI/G
2	10028-17-8	Tritium	1.6	PCI/G
2	13966-29-5	Uranium-234	1.1	PCI/G
2	15117-96-1	Uranium-235	0.11	PCI/G
2	24678-82-8	Uranium-238	1.2	PCI/G
3	7439-92-1	Lead	400	MG/KG
3	13982-63-3	Radium-226	5	PCI/G
3	13981-16-3	Plutonium-238	25	PCI/G
3	7440-29-1	Thorium-232	5	PCI/G
5	7440-36-0	Antimony	0.0006	MG/L
5	7440-38-2	Arsenic	0.05	MG/L
5	7440-39-3	Barium	2	MG/L
5	7440-41-7	Beryllium	0.004	MG/L
5	7440-43-9	Cadmium	0.005	MG/L
5	7440-47-3	Chromium	0.1	MG/L
5	7440-50-8	Copper	1.3	MG/L
5	57-12-5	Cyanide	0.2	MG/L
5	7439-92-1	Lead	0.015	MG/L
5	7439-97-6	Mercury	0.002	MG/L
5	7440-02-0	Nickel	0.1	MG/L
5	7782-49-2	Selenium	0.05	MG/L
5	7440-28-0	Thallium	0.002	MG/L
5	16984-48-8	Flouride	4	MG/L
5	NO3	Nitrate	10	MG/L
5	NO2	Nitrite	1	MG/L
5	57-74-9	Chlordane	0.002	MG/L
5	72-20-8	Endrin	0.002	MG/L
5	76-44-8	Heptachlor	0.0004	MG/L
5	1024-57-3	Heptachlor Epoxide	0.0002	MG/L
5	72-43-5	Methoxychlor	0.04	MG/L
5	8001-35-2	Toxaphene	0.003	MG/L
5	120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
5	95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
5	50-32-8	Benzo(a)pyrene	0.002	MG/L
5	118-74-1	Hexachlorobenzene	0.001	MG/L
5	77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
5	87-86-5	Pentachlorophenol	0.001	MG/L
5	71-55-6	1,1,1-Trichloroethane	0.2	MG/L
5	79-00-5	1,1,2-Trichloroethane	0.005	MG/L
5	75-35-4	1,1-Dichloroethene	0.007	MG/L
5	156-59-2	1,2-cis-Dichloroethene	0.07	MG/L

comp_no	par_code	parameter name	comparison value	units
5	107-06-2	1,2-Dichloroethane	0.005	MG/L
5	78-87-5	1,2-Dichloropropane	0.005	MG/L
5	106-46-7	1,4-Dichlorobenzene	0.075	MG/L
5	108-90-7	Chlorobenzene	0.1	MG/L
5	96-12-8	Dibromochloropropane	0.0002	MG/L
5	106-93-4	1,2-Dibromoethane	0.00005	MG/L
5	95-50-1	1,2-Dichlorobenzene	0.6	MG/L
5	75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
5	88-85-7	Dinoseb	0.007	MG/L
5	1746-01-6	Dioxin	0.00000003	MG/L
5	94-75-7	2,4-D	0.07	MG/L
5	156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
5	71-43-2	Benzene	0.005	MG/L
5	75-27-4	Bromodichloromethane	0.008	MG/L
5	75-25-2	Bromoform	0.008	MG/L
5	56-23-5	Carbon Tetrachloride	0.005	MG/L
5	67-66-3	Chloroform	0.008	MG/L
5	100-41-4	Ethylbenzene	0.07	MG/L
5	58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
5	117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
5	100-42-5	Styrene	0.1	MG/L
5	127-18-4	Tetrachloroethene	0.005	MG/L
5	108-88-3	Toluene	1	MG/L
5	79-01-6	Trichloroethene	0.005	MG/L
5	75-01-4	Vinyl Chloride	0.002	MG/L
5	1330-20-7	Xylenes, Total	10	MG/L
5	AC-227	Actinium-227	0.4	PCI/L
5	14596-10-2	Americium-241	1.2	PCI/L
5	13982-38-2	Bismuth-207	1200	PCI/L
5	10045-97-3	Cesium-137	120	PCI/L
5	10198-40-0	Cobalt-60	400	PCI/L
5	13981-16-3	Plutonium-238	1.6	PCI/L
5	13982-63-3	Radium-226	4	PCI/L
5	10098-97-2	Strontium-90	40	PCI/L
5	14274-82-9	Thorium-228	16	PCI/L
5	14269-63-7	Thorium-230	12	PCI/L
5	7440-29-1	Thorium-232	2	PCI/L
5	10028-17-8	Tritium	20000	PCI/L
5	U-233	Uranium-233	20	PCI/L
5	13966-29-5	Uranium-234	20	PCI/L
5	15117-96-1	Uranium-235	24	PCI/L
5	24678-82-8	Uranium-238	24	PCI/L
6	7440-47-3	Chromium	1.10E+03	MG/KG
6	7440-36-0	Antimony	8.50E+01	MG/KG
6	7440-38-2	Arsenic	6.40E+01	MG/KG
6	7440-39-3	Barium	1.50E+04	MG/KG
6	7440-41-7	Beryllium	1.10E+03	MG/KG
6	7440-43-9	Cadmium	2.10E+02	MG/KG
6	57-12-5	Cyanide	4.30E+03	MG/KG
6	7439-96-5	Manganese	2.70E+04	MG/KG

comp_no	par_code	parameter name	comparison value	units
6	7439-97-6	Mercury	6.40E+01	MG/KG
6	7440-02-0	Nickel	4.30E+03	MG/KG
6	7440-22-4	Silver	1.10E+03	MG/KG
6	7440-62-2	Vanadium	1.50E+03	MG/KG
6	7440-66-6	Zinc	6.40E+04	MG/KG
6	2691-41-0	HMX	1.10E+04	UG/KG
6	121-82-4	RDX	6.40E+04	UG/KG
6	50-29-3	4,4'-DDT	1.10E+02	MG/KG
6	11097-69-1	Aroclor-1254	4.30E+00	MG/KG
6	60-57-1	Dieldrin	1.10E+01	MG/KG
6	106-44-5	4-Methylphenol	1.10E+03	MG/KG
6	120-12-7	Anthracene	6.40E+04	MG/KG
6	65-85-0	Benzoic Acid	8.50E+05	MG/KG
6	117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
6	85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
6	84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
6	117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
6	206-44-0	Fluoranthene	8.50E+03	MG/KG
6	78-59-1	Isophorone	4.30E+04	MG/KG
6	87-86-5	Pentachlorophenol	6.40E+03	MG/KG
6	108-95-2	Phenol	1.30E+05	MG/KG
6	129-00-0	Pyrene	6.40E+03	MG/KG
6	75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
6	156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
6	108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
6	67-64-1	Acetone	2.10E+04	MG/KG
6	75-27-4	Bromodichloromethane	4.30E+03	MG/KG
6	75-25-2	Bromoform	4.30E+03	MG/KG
6	75-15-0	Carbon Disulfide	2.80E+02	MG/KG
6	56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
6	75-00-3	Chloroethane	1.60E+02	MG/KG
6	67-66-3	Chloroform	2.10E+03	MG/KG
6	124-48-1	Dibromochloromethane	4.30E+03	MG/KG
6	75-09-2	Dichloromethane	1.00E+03	MG/KG
6	100-41-4	Ethylbenzene	4.80E-01	MG/KG
6	110-54-3	Hexane	9.10E+01	MG/KG
6	127-18-4	Tetrachloroethene	2.10E+03	MG/KG
6	108-88-3	Toluene	2.50E+02	MG/KG
6	75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
6	1330-20-7	Xylenes, Total	4.30E+05	MG/KG
6	78-93-3	2-Butanone	9.30E+03	MG/KG

1 Value is 10-6 Risk-Based Guide Value
2 Value is OU9 Soil Background Value
3 Value is other criteria, I.e. 5 pCi/g for certain radionuclides
25 pCi/g plutonium
5 Value is MCL
6 Value is the Guide Value based on the hazard index

Appendix M

Occurrence Reports

(There are no occurrence reports for this building.)

Appendix N

PRS Information

MOUND PLANT

PRS 106

G Building Soils

This area is located on the grounds at the northeast corner of Building 40. There is reportedly evidence of release of waste oil, waste antifreeze, automotive battery acid, and asbestos related to garage operations at Building G.

- Phase I Environmental Site Assessment of DOE Mound Building 40, page 17

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ENVIRONMENTAL RESTORATION PROGRAM

OPERABLE UNIT 9
SITE SCOPING REPORT:
VOLUME 12 - SITE SUMMARY REPORT

MOUND PLANT
MIAMISBURG, OHIO

December 1994

U.S. DEPARTMENT OF ENERGY
OHIO FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL

Description of History and Nature of Waste Handling						Hazardous Conditions and Incidents			Environmental Data		
No.	Site Name	Location	Status	Potential Hazardous Substances	Ref	Releases	Media	Ref	Analytes[a]	Results	Ref
102	Cooling Tower Drum Storage Area	E-7 E-8	In service	Contaminants listed under Cooling Tower Basins Ethylene glycol	4, 5				No Data		
103	E Building Soils	E-6 E-7 F-7	Grounds			Indicated by Soil Gas Survey	S	12	1 14	SGS[b] Table B.4 Locations 1046, 1047, 1048, 1066, 1067 Table B.9 RSS[c] Locations S0152, S0153, S0164 (Appendix E in Ref. 6)	12 6
104	Scintillation Vial Storage Area	E-6	In service	Tritium, Trimethylbenzene	4, 5, 18	None suspected (within E Building)			No Data		
105	E Building Solvent Storage Shed	F-6	Historical	Trichloroethene, Ethanol, Methanol	4, 5, 18	Closed before construction of E Building Annex, soil removed	S	4	1	SGS[b] Table B.4 Location 1066	12
106	G Building Soils (AKA Garage Area)	E-7	Grounds	Waste oil, Waste antifreeze, Automotive batteries Asbestos	1, 4, 18	Suspected petroleum products			1 14	SGS[b] Table B.4 Locations 1019 Table B.9 RSS[c] Locations S0137 and S0141 (Appendix E in Ref. 6)	12 6
107	G Building Gasoline Tank (Tank 202)	E-7	Historical	Gasoline	3, 18	Tanks removed 1986, petroleum contaminated soils removed		3, 18	No Data		
108	G Building Gasoline Tank (Tank 203)	E-7	Historical								

1 - Soil Gas Survey - Freon 11, Freon 113, Trans-1,2-Dichloroethylene, Cis-1,2-Dichloroethylene, 1,1,1-Trichloroethane, Perchloroethylene, Trichloroethylene, Toluene
2 - Gamma Spectroscopy - Thorium-228, -230, Cobalt-60, Cesium-137, Radium-224, -226, -228, Americium-241, Actinium-227, Bismuth-207, Bismuth-210m, Potassium-40
3 - Target Analyte List
4 - Target Compound List (VOC)
5 - Target Compound List (SVOC)
6 - Target Compound List (Pesticides/Polychlorinated Biphenyl)
7 - Dioxins/Furans
8 - Extractable Petroleum Hydrocarbons (EPH)/Total Petroleum Hydrocarbons (TPH)
9 - Lithium
10 - Nitrate/Nitrite
11 - Chloride
12 - Explosives
13 - Plutonium-238
14 - Plutonium-238, Thorium-232
15 - Cobalt-60, Cesium-137, Radium-226, Americium-241
16 - Tritium

Reference List

1. DOE 1986 "Phase I: Installation Assessment Mound [DRAFT]."
2. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (Final)."
3. DOE 1992c "Mound Plant Underground Storage Tank Program Plan & Regulatory Status Review (Final)."
4. DOE 1993a "Site Scoping Report: Vol. 7 - Waste Management (FINAL)."
5. EPA 1988a "Preliminary Review/Visual Site Inspection for RCRA Facility Assessment of Mound Plant"
6. DOE 1993d "Operable Unit 9, Site Scping Report: Vol. 3 - Radiological Site Survey (FINAL)."
7. DOE 1993c "Operable Unit 3, Misc. Sites Limited Field Investigation Report."
8. DOE 1992d "Reconnaissance Sampling Report Decontamination & Decommissioning Areas, OU6, (FINAL)."
9. Fentiman 1990 "Characterization of Mound's Hazardous, Radioactive and Mixed Wastes."
10. DOE 1992f "Operable Unit 9, Site Scpoing Report: Vol. 9 - Spills and Response Actions (FINAL)."
11. Styron and Meyer 1981"Potable Water Standards Project: Final Report."
12. DOE 1993b "Reconnaissance Sampling Report - Soil Gas Survey & Geophysical Investigations, Mound Plant Main Hill and SM/PP Hill (FINAL)."
13. DOE 1993d "Operable Unit 9, Site Scoping Report: Vol. 3 - Radiological Site Survey (FINAL)."
14. DOE 1991b "Main Hill Seeps, Operable Unit 2, On-Scene Coordinator Report for CERCLA Section 104 Remedial Action, West Powerhouse PCB Site."
15. Halford 1990 "Results of South Pond Sampling."
16. DOE 1993e "Operable Unit 4, Special Canal Sampling Report, Miami Erie Canal."
17. DOE 1990 "Preliminary Results of Reconnaissance Magnetic Survey of Mound Plant Areas 2, 6, 7, and C."
18. DOE 1992a "Remedial Investigation/Feasibility Study, Operable Unit 9, Site-Wide Work Plan (FINAL)."
19. Rogers 1975 "Mound Laboratory Environmental Plutonium Study, 1974."
20. DOE 1992h "Ground Water and Seep Water Quality Data Report Through First Quarter, FY92."
21. Dames and Moore 1976a, b "Potable Water Standards Project Mound Laboratory" and "Evaluation of the Buried Valley Aquifer Adjacent to Mound Laboratory."
22. DOE 1992l "Closure Report, Building 34 - Aviation Fuel Storage Tank."
23. DOE 1992j "Closure Report, Building 51 - Waste Storage Tank."
24. DOE 1994 "Operable Unit 1, Remedial Investigation Report."
25. EG&G 1994 "Active Underground Storage Tank Plan."

Update 1/29/96
Chapter Appt. Vol. 12

Table V.1. Potential Release Sites Recommended for Inclusion in the ER Program, Listed by Operable Unit

No.	Site Name	Evidence of Release[a]	Further Action Recommended[a]	FFA OU
8	Site Sanitary Landfill	No	Yes	1
9	Area 18, Site Sanitary Landfill Cover	Yes	Yes	1
10	Historic Landfill	Yes	Yes	1
11	Area 2, Thorium and Polonium-Contaminated Wastes (AKA Crushed Drums)	Yes	Yes	1
12	Area B Drum Storage Area	No	Yes	1
13	Trash incinerator	No	No	1
84	Building 56 Diesel Fuel Storage Tank (Tank 223)	No	Yes	2
91	Main Hill Seep 0601	Yes	Yes	2
92	Main Hill Seep 0602	Yes	Yes	2
93	Main Hill Seep 0603	Yes	Yes	2
94	Main Hill Seep 0604	Yes	Yes	2
95	Main Hill Seep 0605	Yes	Yes	2
96	Main Hill Seep 0606	Yes	Yes	2
97	Main Hill Seep 0607	Yes	Yes	2
98	Main Hill Seep 0608	Yes	Yes	2
99	Area 6, WD Building Filter-Cleaning Waste	No	Yes	2
100	Area F, Chromium Trench	No	Yes	2
101	Cooling Tower Basins	Yes	Yes	2
103	E Building Soils	Yes	Yes	2
105	E Building Solvent Storage Shed	Yes	Yes	2
106	G Building Soils (AKA Garage Area)	Yes	Yes	2
107	G Building Gasoline Tank (Tank 202)	Yes	Yes	2
108	G Building Gasoline Tank (Tank 203)	Yes	Yes	2
109	G Building Gasoline Tank (Tank 204)	Yes	Yes	2
110	I Building Soils	Yes	Yes	2
111	Monitor Well 0034	Yes	Yes	2
112	Paint Shop Area	Yes	Yes	2
113	Powerhouse Soils	Yes	Yes	2
114	Powerhouse Fuel Oil Storage Tank (Tank 113)	Yes	Yes	2
115	Powerhouse Fuel Oil Storage Tank (Tank 114)	Yes	Yes	2
116	Powerhouse Fuel Oil Storage Tank (Tank 115)	Yes	Yes	2

ALBUQUERQUE OPERATIONS OFFICE
ENVIRONMENT, SAFETY AND HEALTH DIVISION
ENVIRONMENTAL PROGRAMS BRANCH

COMPREHENSIVE ENVIRONMENTAL ASSESSMENT AND RESPONSE PROGRAM

PHASE I:
INSTALLATION ASSESSMENT
MOUND

NOT FOR PUBLIC DISSEMINATION

May contain unclassified controlled nuclear information subject to Section 148 of the AEA, as amended (42 USC 2168). Approval by the Department of Energy prior to release is required.

April 1986

DRAFT DRAFT DRAFT DRAFT DRAFT

Table V.2 (cont)

Area	Planned Future Actions (PFA)
Bldg. G	Garage work is done at Bldg. G and the local area might be contaminated as a result of these activities. Dumping of waste oil has not been reported in the Bldg. G area and prior to utilizing an offsite vendor the standard operating procedure was to dispose of waste oil in the Mound area B landfill. Additionally, no major spills have been reported in Bldg. G. Therefore, the likelihood of residual oils in concentrations sufficient to pose environmental problems is remote. (Interviews 1985.) CERCLA Finding--Negative for FFSDIF, PA, and PSI; therefore, a HRS Migration Mode Score is not calculated. PFA--No further action is warranted.

ENVIRONMENTAL RESTORATION PROGRAM

OPERABLE UNIT 9
SITE SCOPING REPORT:
VOLUME 7 - WASTE MANAGEMENT

MOUND PLANT
MIAMISBURG, OHIO

February 1993

DEPARTMENT OF ENERGY
ALBUQUERQUE FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

FINAL

rinses and the deionized water spray rinses, was disposed of in the sanitary sewer system. In 1989, the process of disposing of the sodium hydroxide and potassium permanganate solution in the sanitary sewer system was stopped. These solutions are now drummed and picked up by Mound waste management personnel. Currently, only the cascade rinse water drains to the small sump. The old tank is thought to still be connected to the sanitary sewer system as is the new sump. The old tank served as the sampling station for NPDES Outfall 001. The new sump in the production plating shop is currently sampled for that requirement.

Concrete containment pits with curbs are located under the plating shop process equipment to contain any spills or leaks. The pits are segregated so that acid materials do not mix with basic materials. Any material that collects in the pits is removed by pumping it into drums for disposal by Mound waste management. Floor drains within the building are connected to the sanitary sewer system. Administrative and physical controls prevent plating wastes from being disposed of in these drains (Johnson 1991).

When the original plating shop was dismantled in 1962, the plating solutions were neutralized and the solutes precipitated. The resulting wastes included sludges and a supernatant liquid. The liquid was released to the sanitary sewer through the old tank. The sludges were drummed in two 55-gallon steel drums and buried in the small parking lot on the northeast corner of the Main Hill. The old tanks were also buried at this location, as part of the expansion of the parking lot. This burial site is now known as Area F (DOE 1992g).

3.2.3. Vapor Degreaser

The vapor degreaser is in the plating shop in the M Building on the Main Hill (Figure 3.1). Small machined metal parts are cleaned by solvent vapors produced in the chamber of the degreaser. The fully enclosed metal chamber is approximately 3 ft long, 2 ft wide, and 4 ft deep and has a 15-gallon solvent capacity. The wastes produced in this unit are spent solvents. Spent solvents and vapors are retained in the degreaser cleaning chamber. The solvent used in the vapor degreaser is Perclene D. The unit began operating in the late 1970s and is still in use. Spent solvent is transferred to drums and transported to the hazardous waste storage area in Building 72.

3.3. MAINTENANCE SHOP

The Building G garage is used to maintain the automobiles, trucks, buses, and heavy-duty equipment used at Mound (Figure 3.1). The building is approximately 122 ft by 62 ft and is made of structural steel and brick with concrete floors. It has concrete floors and is located in the northwest corner of

the plant. The building contains a new parts storage area, offices, restrooms, and a custodial operations storage area. Maintenance operations include oil changes, antifreeze replacement, vehicle repair, and tire and battery replacement.

New oil is in 55-gallon drums and is pumped into a 65-gallon storage tank. Oil from the storage tank is metered through a discharge line directly into the vehicle crankcase. Used motor oil is drained from the crankcase into a temporary storage container and is then transferred into a 55-gallon drum. Antifreeze is received in 55-gallon drums and is pumped into a 65-gallon storage tank. The antifreeze is metered from the discharge tank directly into the vehicle radiator. Used antifreeze is placed in 55-gallon drums. The empty drums that contained the new oil and antifreeze are used to receive used materials of the same type. Failed vehicle parts are returned for redemption of the core charge. Parts that have no core charge, such as used filters, hoses, and spark plugs, are discarded as non-hazardous trash, which is transported off-plant for disposal.

Brake repair is now performed in confined conditions to prevent worker exposure to asbestos. A containment system with glove ports is placed around the wheel and maintained at a negative pressure. The containment system is connected to two HEPA filters. Asbestos or other dusts generated by the maintenance process are removed from the air by HEPA filters prior to discharge. Loaded HEPA filters are removed and packaged as asbestos waste.

A ventilation system contains the vehicle exhaust emissions inside the building. A hose is placed around the vehicle's tail pipe and when the vehicle is running, fans pull the exhaust fumes from the tailpipe and discharge them outside the building (Deel 1991).

Historically, the waste oils and antifreeze were disposed of in the historic landfill. A few tires and batteries were also dumped in the landfill, but most were sent off-plant for recycling. In the late 1960s, on-plant dumping was stopped, materials were collected for pickup by Industrial Waste Disposal, Inc., and shipped to an approved off-plant waste disposal facility (Vaughters 1991). Briefly, in 1972, waste oil was staged in a 1,000-gallon tank and burned in the incinerator in Building 51. Currently, the waste oil, used antifreeze, old batteries, worn out tires, and filters containing asbestos are placed outside the south side of the building. Mound waste management personnel collect these wastes weekly for proper off-plant disposal or recycling (Deel 1991).

Building G is also used to store janitorial supplies such as floor strippers, floor finishes, cleansers, deodorizers, hand soaps, sponges, and mops that are used throughout Mound. These materials are stored in locked cabinets and caged areas, because they do not generate any hazardous waste streams.

Document Control No. _____

Environmental Restoration Program

REMEDIAL INVESTIGATION/FEASIBILITY STUDY OPERABLE UNIT 9, SITE-WIDE WORK PLAN

MOUND PLANT
MIAMISBURG, OHIO

VOLUME II

May 1992

FINAL

Department of Energy
Albuquerque Field Office

Environmental Restoration Program
Technical Support Office
Los Alamos National Laboratory

2.5. COOLING TOWER BASINS

The cooling tower basins are small, above-ground impoundments located beneath the cooling towers near the powerhouse, Building P (Figure A.2). The basins are still in service and consist of below-ground concrete sumps covered with a concrete top that recycle water from the towers back to the cooling system. Blowdown water is discharged to the plant drainage ditch, which discharges at the NPDES Outfall 002 or recycles it back into the noncontact cooling system. It is not known whether solids accumulate in the basins or if they are ever cleaned out. The cooling water historically contained additives that included rust inhibitors such as zinc chromate, and organics, and algacides including ANCO algacide No. 1 (Anderson Chemical Co.), 2-benzyl-4-chlorophenol, Siltex (Anderson Chemical Co.), ANCO Microbicide 77 (Anderson Chemical Co.), 5-chloro-2-methyl-4-isothiazolin-3-one, 2-methyl-4-isothiazolin-3-one, organo-phosphonate, triazol and polyacrylate (ref. 2). The chemicals added to the cooling water changed as new water treatment chemicals were developed and environmental regulations were revised. Some of the chemicals presently added to the cooling water include ANCO 3310, ANCOSPERSE 3830, ANCOCIDE 4070, and ANCOCIDE 4020 manufactured by Anderson Chemical Company.

2.6. BUILDING E SOLVENT STORAGE SHED

The Building E solvent storage shed was located on the south side of Building E, on the Main Hill in the north-central portion of the Mound Plant (Figure A.2) until taken out of service in April 1988 (RFA 1988). The shed was a metal roofed and walled structure with a concrete floor and a surface area of approximately 100 ft^2. The concrete floor was sloped to a drain that routed spilled material to storm sewers and to the plant drainage ditch (RFA 1988). The shed was used for temporary storage of waste solvents (most likely ethanol, methanol, and trichloroethene) generated in Building E. During dismantling operations conducted by Mound Plant personnel, soil around the building contaminated with trichloroethene was identified, removed, drummed, and shipped offsite for disposal in accordance with 40 CFR 262 and 263.

2.7. BUILDING G GARAGE AREA

Building G is located next to GW Building, on the Main Hill in the north-northwest part of Mound Plant (Figure A.2) and is approximately 3,200 ft^2 in size. Garage work was performed at Building G. Building G had three adjacent underground gasoline tanks that were removed in December 1986. The soil around the tanks was excavated, spread out at a stockpile location to allow volatilization of gasoline, and disposed of at the Mound Plant Spoils Disposal Area (Operable Unit 5). Building G and vicinity may be contaminated with gasoline constituents as a result of these activities (DOE 1986).

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: B. 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.

MOUND PLANT
PRS 332
WASTE OIL TANK - BUILDING G (Used engine oil)

RECOMMENDATION:

Potential Release Site (PRS) 332 was identified because of it being described as the Building G (garage) waste oil tank (tank 261). The tank was installed in 1947 as part of the Building G construction. It was installed approximately two feet below grade and had a capacity of 550 gallons. The purpose of the tank was to contain used oil from routine oil change maintenance of government vehicles. In 1965, the area between Building G and Building W (warehouse) was enclosed. Based on historical accounts, from personnel present during construction, it was indicated the tank was removed.

There is no history of radioactive processes being performed near the tank location or in adjacent buildings and the 1983 Radiological Site Survey resulted in no detections in excess of the guideline criteria for plutonium (25 pCi/g) or thorium (5 pCi/g).

Soil gas sampling was conducted in 1994 with two samples taken to the north of Building G. The maximum concentration of Volatile Organic Compounds (VOCs) detected was 1,1,1 TCA at 2,983 ppb as compared to the calculated guideline criteria of 173,400 ppb.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 332.

CONCURRENCE:

DOE/MB: Arthur W Kleinrath 11/27/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 12/3/96
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.

Appendix O

Phase I Environmental Site Assessment of DOE Mound Building 40 (Extract)

HOK/K

PHASE I

ENVIRONMENTAL SITE ASSESSMENT

OF

DOE MOUND BUILDING 40

DOE MOUND

MIAMISBURG, OHIO 45343-3020

1.0 EXECUTIVE SUMMARY

1.1 At the request of Mr. Sam Cheng of Department of Energy (DOE) Miamisburg Area Office, HOK/K Industrial, Inc. (HOK/K) has performed a Phase I Environmental Site Assessment of DOE Mound Building 40 located at DOE Mound in Miamisburg, Ohio. This work was performed in accordance with proposal H95-284R1, approved on December 11, 1995. HOK/K performed its investigation according to the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (Designation E 1527-94).

Our investigation included an on-site inspection; examination of historical aerial photographs and maps; a review of federal and state regulatory agency records; and personal interviews. The property inspection (site visit) took place on April 11, 1996, and was conducted by Ms. Jennifer Vicarel. She was accompanied by Mr. Barry Leiter, Mr. Howard Walling, and Mr. Dan Gorman, and Mr. Steve Nowka of EG&G Mound Applied Technologies Maintenance and Operations Group (M&O). There were no significant exceptions to, or deletions from, our normal procedures, as are described in Sections 2.3 and 2.4 of this report.

- The subject site is located at the Mound Plant, adjacent to the southern perimeter of Miamisburg, Ohio. The entire Mound facility is situated on 305 acres of land and has comprised more than 132 buildings.

- The subject property consists of the Mound Building 40 footprint and an arbitrarily selected 20-foot wide border of asphalt pavement, concrete sidewalk, and grass border around the perimeter of the building. Building 40 covers 12,227 square feet of space, with offices on the second floor and the Mound printing services facility on the first floor.

This assessment has revealed the following evidence of Recognized Environmental Conditions:

- Although no potential release sites (PRS) were recognized at Building 40 by DOE/EG&G through the FAA/ER combined program, five PRSs were identified related to the adjacent Building G operations. Two of the Building G PRSs are included in our findings as RECs: the Building G soils and the Building G inactive waste oil tank.

- Potentially PCB-containing fluorescent light ballasts and potentially mercury-containing fluorescent lamps are used in Building 40. All fluorescent light ballasts and fluorescent lamps should be properly disposed.

Detailed findings and recommendations are included in Section 7.0.

4.3 Historical Use Information

A history of the site was developed to identify past uses that may have an environmental impact. HOK/K performed a review of title records at the Montgomery County Recorder's Office in Dayton, Ohio, to obtain a history of ownership. HOK/K also relied on previously published Mound documents, principally the OU 9 Site Scoping Report: Volume 7 - Waste Management (February 1993), to provide this history of ownership and operations.

A history of ownership for Building 40 must obviously reflect the ownership history of the Mound Plant. Title records indicate that the government of the United States of America acquired the three parcels representing the original 182-acre tract from individual owners between April and September, 1947. The United States government purchased the four lots representing the 124-acre tract between July and August, 1981. These properties had been owned by one individual and one investment company.

History of ownership and operation for the Mound facility is further detailed in the following information excerpted from Volume 7 - Waste Management:

> "In the summer of 1942, the United States Army organized the Manhattan Engineer District for the purpose of developing an atomic bomb. This undertaking became known as the Manhattan Project. In 1943, the Director of Monsanto Chemical Company's (MCC's, now Monsanto Corporation's) Central Research Department in Dayton, Ohio accepted responsibility for the chemistry and metallurgy of radioactive polonium-210, and the Dayton Project was launched." MCC operated five units of the Dayton Project at various locations around the Dayton area. For Dayton Unit V (more formally the Dayton Engineer Works under the Dayton Engineer District), a 182-acre site on the outskirts of the town of Miamisburg in Montgomery County, Ohio, was selected in 1946 as the location of the permanent research facility in support of the Manhattan Project. "In July of 1946, Monsanto Research Corporation (MRC), a subsidiary of MCC, engaged the firm of Giffels and Vallet of Detroit, Michigan, to design the plant ... Construction of the new facility, consisting of 14 original buildings [including Building M], began in February 1947 by Maxon Construction Co., Dayton, Ohio. The plant was the first permanent facility of the [Atomic Energy Commission] AEC, which had succeeded the wartime Manhattan Engineer District. The Mound Laboratory was occupied by MRC personnel in May 1948, and operations involving radionuclides began in January 1949.

"Mound is a government-owned and contractor-operated facility, originally administered under the Oak Ridge Operations Office of the AEC. The plant was assigned new production and development functions in 1955 when the administrative control was assumed by the AEC's Santa Fe operations office. The Santa Fe Operations Office was changed to the Albuquerque Operations Office in April 1956. In January 1975, the plant formally came under the Energy Research and Development Administration (ERDA) upon dissolution of the AEC. In October 1977, the plant was incorporated into the DOE complex and the facility designation changed from Mound Laboratory to Mound Plant. MRC was the sole operating contractor until October 1988, when EG&G-Mound Applied Technologies took over."

As described previously, Building 40 was constructed in about 1968 and has been utilized for Mound facility printing services and graphic arts since that time.

4.4 Additional Record Sources

4.4.1 Interviews

Interviews with Mr. Leiter and Mr. Walling produced the following information regarding past practices and operations at Building 40:

Former Camera Plate Maker. An Itek camera plate making machine formerly sat in the middle of the binding room (Room 1) adjacent to a sanitary floor drain. The machine processed silver- and polymer-based film (similar to mylar). Rinsewater from the machine was discharged to the sanitary floor drain. The machine was removed 12 to 15 years ago. HOK/K did not discover any additional information regarding this machine or process.

Historic Photographic Waste Discharge. Reportedly, photochemicals utilized in the film development process were formerly discharged to the sanitary sewer system via floor drains. This practice has been discontinued for at least ten years.

4.4.2 Aerial Photographs

Aerial photographs from 1938, 1949, 1962, 1968, 1975, 1980, 1987, and 1995 were reviewed and copies are found in Exhibit F.

The 1938 photograph shows the Mound acreage as agricultural fields and undeveloped wood lots. The historic Miamisburg Indian Mound is visible for location reference.

The 1949 aerial shows the completed initial phase of construction on the Mound Main Hill. Approximately fourteen buildings are visible. Building G is present, but the Building 40 location appears to an open grass yard in this photograph. Roadways on both the Main Hill and the eastern hill are evident.

The 1962 and 1968 photographs show expanding activities at the Mound. In 1962, the Building 40 location is still a grass yard, but by 1968 the original footprint of the site building (corresponding to Rooms 1 through 9 on Figure 2) is evident. North of Building 40, in the current location of Building 99, three narrow structures (apparently construction trailers) are visible in the 1968 photograph. Another small structure is shown immediately south of the site building. Its purpose is not known.

The overall Mound facility, as depicted in the 1975, 1980, 1987, and 1995 photographs, shows continuing change and expansion. Because this report focuses on Building 40 alone, only observations on Building 40 will be described in the following sentences.

In the 1975 photograph, only one construction trailer is visible north of the site building. The open yard on the southern side of the building appears to have been partially paved.

The outline of Building 40 appears unchanged in the 1980 aerial. The area north of the site building (current Building 99 location) is partially paved, but no construction trailers are evident at that location in the photograph. Immediately south of the building, a grass yard with concrete sidewalks is visible.

The southern addition to Building 40, including a partial second story, is evident in the 1987 aerial. A couple of trucks and possibly one trailer appear to be parked in the area immediately north of the site building.

The 1995 aerial reveals the construction of Building 99 adjacent to the north side of Building 40 and depicts Building 40 itself as it is today.

4.4.3 Historic Sanborn Fire Insurance Maps

Sanborn Map coverage was not available for the Mound facility. A copy of the Sanborn Map Request Response is included in Exhibit G.

4.4.4 Building Prints

A series of building prints were made available to HOK/K by Mr. Tom Bruggeman of EG&G Mound Applied Technologies.

The 1967 building prints show the original footprint of the site building (refer to Figure 2). They also show the placement of three existing trailers north of Building 40, which were to remain after construction. The prints stipulate that two existing concrete trailer pads within the proposed Building 40 footprint are scheduled for removal. The prints indicate that two more existing concrete trailer pads are intended to remain on the south side of the site building.

Building prints dated 1985 are for an addition to the southern side of the original Building 40 footprint. These plans show that existing concrete pads and sidewalks crisscrossing a grass yard on the south side of Building 40 were to be removed. The concrete trailer pads located at that time on the north side of the site building were not scheduled for removal. The 1985 prints also reveal the locations of two abandoned underground gasoline storage tanks, a pump and associated piping connected to the northwest corner of Building G (located at the northeast corner of Building 40). A portion of a third tank, with piping also connected to the northwest corner of Building G, is shown on the north side of the existing trailer pads to the north of Building 40. No underground storage tank locations are visible in the building plans in the alleyway between Building G and Building 40.

5.0 INFORMATION FROM SITE RECONNAISSANCE AND INTERVIEWS

5.1 Interior Observations

5.1.1 Heating/Cooling

The heating and cooling system for Mound was described in Section 3.3. HVAC equipment at Building 40 is installed in the penthouse (Photograph 7). Incoming steam and chiller brine supply pipes are suspended along the western exterior wall of Building G; they track along the alleyway between Building G and Building 40 and enter the northeast corner of the site building (see Photograph 6). Steam, condensate, and chiller brine supply pipes are marked where present in rooms throughout the building.

5.1.2 Stains or Corrosion

Ink stains and splatters were observed around the two offset printing presses and the printing worktable in Room 100 (see Figure 2 and Photographs 8 and 9). No floor drains were observed or reported to be in this room.

5.1.3 Drains and Sumps

Floor sinks are located in each of the janitor's closets (Photographs 10 and 11). A floor drain is located in each restroom. The structures all drain to the Mound sanitary sewer system. Floor drains in the binding room, film development room, and plate development room have all been capped (Photograph 12). A large stainless steel utility sink equipped with trays for film development is located along one wall of the dark room (Room 5) (refer to Photograph 13). This sink drains to the sanitary system as well; however, spent photochemicals from the development process are not discharged, but are collected in 5-gallon hazardous waste containers.

5.2 Exterior Observations

5.2.1 Pits, Ponds, or Lagoons

No pits, ponds, or lagoons were observed on the study site.

5.2.2 Stained Soil or Pavement, Stressed Vegetation

No stained soil or pavement or stressed vegetation was evident on the exterior of Building 40 during the site visit.

5.2.3 Wells

There was no evidence of wells (such as a roadbox or pipe stick-up) at Building 40. In addition, our key site managers Mr. Leiter and Mr. Gorman had no knowledge of any wells around Building 40.

5.2.4 Odors

No unusual odors were noted within or around Building 40.

5.2.5 Hazardous Waste

The primary waste streams resulting from operations at Building 40 are waste ink from the printing presses and waste photochemicals from the film development process. Little waste ink is generated as most of the ink is used in the printing process. The presses are cleaned with rags using a petroleum naptha solvent. Spills, splatters, and drips are also wiped up with rags, and the rags are collected in two 5-gallon hazardous waste containers in the printing area. A contract rag laundry service collects the rags on a weekly basis (Photograph 9).

In the film development room (dark room or Room 5 on Figure 2), stainless steel trays suspended in the utility sinks are used for film development. Spent photochemicals are drained from the trays to 5-gallon hazardous waste containers. At the time of the site visit, three 5-gallon hazardous waste containers were stored in Room 5 (Photograph 14). This area is designated a satellite (less than 90-day hazardous waste accumulation) area.

The offset plate processor in the plate processing room (Room 6) uses photochemicals in a self-contained and recirculating system. The photochemicals used are a 3M Make-Up Solution product that, according to Mr. Walling, is primarily alcohol. Mound Waste Management staff are responsible for collecting and replacing the photochemicals when necessary.

5.2.6 Waste Water

Process waste water from the film development process at Building 40 is collected in 5-gallon hazardous waste containers as described above in Section 5.2.5.

Stormwater is directed south and then westward in the vicinity of Building 40. A main trunk stormwater line runs east-west along the asphalt roadway that extends west from the southern end of Building 40 to the southern end of Building B (per Volume 4).

5.2.7 Septic Systems

There was no evidence of septic systems (such as leaching field or septic tank vent pipes) in the vicinity of Building 40. According to Mound documentation, there are no septic systems on the Mound Plant because it is serviced by a sanitary sewage treatment plant.

5.3 Hazardous Substances in Connection with Identified Uses

As with hazardous waste at Building 40, the principal hazardous substances used in printing operations at the site are printing ink and film development photochemicals.

The printer's ink is stored in a wall cabinet in the printing area (Photograph 15). The printing operation uses both rubber-based and resin-based inks, which are delivered as a paste in approximately pint-sized and quart-sized jars.

A work table between the two offset presses is a storage area for a few ink jars, a couple of gallons of cleaning solution (solvent), small oil cans of machine oil, a spray can of WD-40, a grease gun, and several pint-sized plastic bottles of cleaners and printing solutions (Photograph 16).

Printing chemicals are also stored in a flammable cabinet in the printing area (see Figure 2). The chemicals include small containers of machine oil, WD-40, anti-static sprays, cleaning solvents, paint, and working solutions for the presses (Photograph 17).

Kodak photochemicals are stored a corner of the film development room (Room 5). Approximately ten cardboard boxes of chemicals, each box containing two to four 1-gallon plastic jugs each, are located in Room 5 (Photograph 18). The chemicals are Kodak RA-2000 developer & replenisher, Kodak PMT activator, and Kodak rapid fixer with hardener.

Photochemicals for the plate processor in Room 6 are stored in cardboard boxes against the wall of that room (Photograph 19). Each box holds four 1-gallon containers of 3M Make-Up Solution.

An empty flammable cabinet and an empty 10-gallon plastic drum are located adjacent to the microfilm developer unit in Room 102 (Photographs 5 and 20). Since the microfilm process was associated with the former classified records storage vault, the microfilm developer unit, flammable cabinet, and waste drum are now no longer in service.

The janitor's closet on the first floor (Room 3) and another janitor's closet on the second floor each contain 25 to 30, 1-liter and 1-gallon containers of industrial restroom cleaners (Photographs 21 and 22).

5.4 Hazardous Substance Containers and Unidentified Substance Containers

There were no unidentified substance containers noticed during the Building 40 site walkovers. Refer to 5.3 for discussion of hazardous substance containers.

5.5 Storage Tanks

5.5.1 Above-Ground Storage Tanks

No above-ground storage tanks were observed at the Building 40 site during the site walkover.

5.5.2 Underground Storage Tanks (USTs)

No evidence of USTs (such as vent pipes or fill pipes, etc.) was noted at the subject site. Our key site managers Mr. Leiter, Mr. Walling, and Mr. Gorman also reported that they were unaware of any USTs pertaining to Building 40 operations ever having been installed.

5.6 Indications of Polychlorinated Biphenyls (PCB's)

Under the Toxic Substances Control Act (TSCA), the EPA regulates the manufacture, distribution and use of PCBs. PCBs are a known carcinogen and are persistent in the environment. They were formerly widely used in the dialectric fluid of electrical transformers and capacitors, and in the oil of hydraulic systems. PCBs are also present in the ballasts of fluorescent lamps.

No potentially PCB-containing electrical or hydraulic devices were observed at Building 40. However, fluorescent lighting is used throughout Building 40. Fluorescent lamp ballasts contain a small capacitor that may contain high concentrations of PCBs (greater than 900,000 ppm). All lamp ballasts showing a manufacture date through 1979 should be regarded as containing PCBs. If a ballast is not labeled "No PCBs," it should be considered to contain PCBs regardless of the date of manufacture.

Used lamp ballasts that are leaking PCB material are fully regulated under CERCLA and TSCA and must be incinerated at a TSCA approved incinerator. Used, non-leaking PCB-containing lamp ballasts are eligible for disposal as municipal solid waste, although EPA encourages proper disposal of PCB materials in a chemical waste landfill or a high temperature incinerator, which completely destroys the PCB material. However, incineration is costly and landfill disposal carries the potential for future cleanup liability. Lamp ballasts can be successfully recycled, and facilities disposing of waste fluorescent lamp ballasts should consider this disposal alternative.

5.7 Indications of Solid Waste Disposal

Solid waste, except in small waste baskets, was not observed in the site building. One solid waste dumpster is located outside the south entrance of the building. The Mound solid waste contractor services this dumpster. However, several of the second floor office areas are not occupied at the present time. Surplus office equipment and furniture are being accumulated in these offices. The surplus materials will eventually be transferred to the Building 61 warehouse.

5.8 Physical Setting Analysis

5.8.1 Surface Topography

A map of the area is included in Figure 1. This map is based on the U.S.G.S. 1965 (photorevised 1974) 7.5 Minute Topographic Map of the Miamisburg, Ohio Quadrangle. The Mound facility elevation ranges between 720 and 900 feet msl. The Building 40 elevation is approximately 877 to 878 msl. Based on an evaluation of the surface topography, surface water flows in all directions away from the Mound Main Hill. However, in the vicinity of Building 40, surface water is assumed to flow gently southwestward.

5.8.2 Geology

An extensive site-wide (OU 9) hydrogeologic investigation has been completed by EG&G for the Mound Plant. The five technical memoranda written as part of the hydrogeologic investigation were cited in Section 2.5.2. Only a brief summary of geologic highlights for the Mound vicinity are described below.

The bedrock at the Mound Plant is comprised of marine shales and limestones of the Ordovician System within the Cincinnatian Series.

The nature and distribution of natural fractures studied during the referenced investigation indicate that a fracture carapace (zone at the surface) is superimposed on the bedrock beneath Mound Plant. This fracture carapace is believed to consist of a network of interconnected vertical and bedding plane fractures that are water-saturated in the lower parts and unsaturated in the upper parts.

The aquifer system at the Mound Plant consists of two different hydrogeologic environments: groundwater flow through the bedrock beneath the hills and groundwater flow within the unconsolidated glacial deposits and alluvium associated with the Buried Valley Aquifer in the Great Miami River valley. The bedrock flow system is dominated by fracture flow; the Buried Valley Aquifer is dominated by porous flow with interbedded gravel deposits providing the major pathway for water movement. The Buried Valley Aquifer occupies the southwestern quadrant of the Mound site.

Based on the available data, the fracture carapace and underlying, relatively unfractured bedrock have different hydraulic characteristics. The fracture carapace has permeability values ranging from 0.09 to 0.9 ft/dy and the underlying bedrock has permeabilities that range from 1.3×10^{-3} to 2.9×10^{-2} ft/dy. The permeability of the fracture carapace and bedrock that underlie the Mound Plant is at least three orders of magnitude less than the Buried Valley Aquifer, which has an average permeability of 500 to 1,500 ft/dy. Because of this quality, the Buried Valley Aquifer has been designated a sole source aquifer consistent with the Safe Drinking Water Act.

The Mound Plant maintains three drinking water production wells completed in the Buried Valley Aquifer, along the western edge of the facility. Miamisburg Water District production wells are located approximately one-half mile northwest of the Mound facility on the other side of the Great Miami River.

5.9 Other Conditions of Concern

See Section 7.0, Summary of Findings.

5.10 Site Plan

See Figure 2.

6.0 NON-SCOPE CONCERNS

Certain areas are considered beyond the ASTM standard scope of the Phase I Environmental Site Assessment. These areas are provided for informational purposes below.

6.1 Suspected Asbestos-Containing Material

ACM in buildings can be found in three forms: sprayed or troweled on ceilings and walls (surfacing materials); insulation around pipes, ducts, boilers, and tanks (pipe and boiler insulation); other products such as ceiling and floor tiles and wall boards (miscellaneous materials). ACM is of greatest concern when it is friable. Friable material can be crumbled, pulverized, or reduced to powder by hand pressure.

Asbestos surveys were performed for EG&G by PEI Associates in 1988 and Barge, Waggoner, Sumner, and Cannon Inc. in 1993. ACM was detected in Building 40, and in many places the ACM is so marked within the building. Exhibit H presents summary tables of the ACM detected during the Building 40 asbestos surveys.

6.2 Lead Paint

Lead based paint was used almost exclusively in the U.S. prior to the 1970's. Congress established maximum lead concentrations in residential paint in 1978. Due to the age of the building (constructed in 1967) it is possible that lead based paint has been used within the buildings. The risk of a lead based paint hazard exists when the painted surfaces are damaged (cracked, chipped, loosened, chewed). Analysis of the paint would be necessary to determine if there is lead paint and if a lead hazard exists.

6.3 Radon

The results of radon testing of 35 buildings in the same zip code as this site (45342) are on file with the Regional Air Pollution Control Agency in Dayton, Ohio, and were provided in the EDR report in Exhibit C. The average reading for the basement area of tested buildings was 5.963 picocuries/liter as compared to the EPA recommended standard of 4.0 picocuries/liter.

Radon levels are very site specific, depending heavily on location and the building ages and construction. Radon does not normally pose a threat in commercial or industrial buildings for several reasons. The fresh air which enters the structure and the venting provided can reduce the buildup of the radon gas. In addition, human exposure in these facilities is usually limited to eight hours per day. EPA's recommended standard of 4.0 picocuries/liter is based on the assumption of sixteen hours exposure per day.

A simple screening test can be performed to determine actual on-site radon levels.

6.4 Electromagnetic Fields

A high-power electrical transformer substation is located approximately 75 feet southwest of Building 40, at the north end of Building M. Electromagnetic radiation originates from the electromagnetic fields (EMFs) which surround electrical conductors, such as electrical transmission lines and transformers. Epidemiologic studies have linked an increased risk of childhood leukemia for children living in homes which are near high-power transmission lines. Research in this area is ongoing, and, at present, there are no regulations or guidelines for exposure to electromagnetic radiation. One study found that fields of less than 2 milligauss may be acceptable. This research has been conducted for children exposed at there residences. The estimated electrical field is expected to drop to 2 milligauss at approximately 200 feet from the power line. Development plans for this site should consider the possible effects of EMF.

6.5 Fluorescent Lamps

Fluorescent lamps are used for lighting throughout this facility. Fluorescent lamps contain on average between 35 and 75 milligrams of elemental mercury and trace amounts of other hazardous heavy metals (e.g., cadmium and lead). Mercury is highly toxic to humans and animals, causing both immediate and long-term effects.

According to current federal law, used fluorescent lamps are considered a solid waste. Used fluorescent lamps are not listed as a hazardous waste under Code of Federal Regulations, Volume 40, Part 262.11 (40 CFR 262.11), but under RCRA, used fluorescent lamps are subject to evaluation against the RCRA hazardous waste characteristics, including the toxicity characteristic. The Toxicity Characteristic Leaching Procedure (TCLP) is a test to determine if a waste is characteristically hazardous. The regulatory limit for mercury is 0.2 milligram/liter. If TCLP results from fluorescent lamp samples show that mercury concentrations equal or exceed this limit, the waste must be managed as a hazardous waste. Conversely, if TCLP results are below the 0.2 mg/L mercury limit, the waste is not considered hazardous and can be managed as municipal solid waste.

In Ohio, used fluorescent lamps must be initially characterized to determine if they are hazardous via the TCLP test. If used fluorescent lamps are characteristically hazardous and bound for disposal, lamps must be managed in compliance with all of Ohio's applicable hazardous waste requirements. If, however, the characteristically hazardous used lamps are bound for recycling or reclamation, they are not considered a solid waste and are not subject to Ohio's hazardous waste requirements. Facilities using and disposing of fluorescent lamps should evaluate their disposal program and should consider recycling or reclamation as an alternative to other disposal methods.

7.0 FINDINGS AND CONCLUSIONS

7.1 HOK/K Industrial, Inc. has performed a Phase I Environmental Site Assessment of the DOE Mound, Building #40 located at DOE Mound in Miamisburg, Ohio. Any exceptions to, or deletions from, our standard procedures are described in Section 2.3 of this report.

This assessment has revealed the following evidence of Recognized Environmental Conditions:

- Although no potential release sites (PRS) were recognized at Building 40 by DOE/EG&G through the FAA/ER combined program, five PRSs were identified related to the adjacent Building G operations. Two of the Building G PRSs are included in our findings as RECs: the Building G soils and the Building G inactive waste oil tank.

  Evidence presented in the Volume 12 - Site Summary Report indicates that waste oil, waste antifreeze, automotive batteries, and asbestos related to Building G garage operations may have impacted soil quality at the north end of Building G, only approximately 20 feet northeast of Building 40. This PRS is scheduled for further assessment under the FAA/ER program; as an REC for Building 40 we also recommend that shallow soil sampling and laboratory analyses be conducted to confirm or deny the presence of automotive products at the northeast corner of Building 40.

  The Site Summary Report states that the Building G waste oil tank is inactive, in compliance, and that there is no evidence of a release of petroleum products. The location of this tank (Tank 262, PRS 332) is depicted in the Site Summary Report at the southeast corner of Building 40. The site building prints, however, did not indicate the presence of a UST at this location. The tank was installed in 1947. The location of this UST should be confirmed, and the integrity of the tank should be verified by a file search for tank tightness test records or the performance of a new tank tightness test.

  The remaining PRSs relating to Building G (three abandoned gasoline tanks) are not included in this report as RECs because the gasoline tanks were removed in 1986 and associated petroleum contaminated soils were also removed.

- Potentially PCB-containing fluorescent light ballasts and potentially mercury-containing fluorescent lamps are used in Building 40. All fluorescent light ballasts and fluorescent lamps should be properly disposed.

7.2 HOK/K Industrial, Inc. also has the following recommendations for the site:

- The asbestos-containing materials (ACM) present in Building 40 appear to be in relatively good condition and do not represent a significant risk to public health or the environment while left in place. If renovation or demolition of the facility is planned, however, the ACM must be removed in compliance with applicable federal and state regulations.

Appendix P

Drain Survey Summary/Information

Building 40 - Drains Report

Final

Babcock Wilcox of Ohio
Mound Plant
May 1999

1.0 INTRODUCTION

The Sampling and Analysis Plan (SAP) has been prepared as part of the Miamisburg Environmental Management Program for the Release of Building 40 – Print Shop Drains at the U.S. Department of Energy (DOE) Mound Plant, Miamisburg, Ohio. The following section presents a summary of historical information on the Building and drains.

1.1 Historical Information

Building 40 has been used as a Print Shop since it was built in 1968. An addition was made to the building in 1985. Both printing and photo developing processes have been conducted in Building 40. There are drains located in both the original building and in the 1985 addition. The Mound site assessment team determined that the drains in the 1985 addition had never been used for the disposal of process materials and did not require evaluation. The team also determined that restroom drains had not been used for the disposal of process materials and required no further evaluation. The team did determine that the following drains might have been used for the disposal of process materials:

- The slop sink drain in the Janitor's closet (Drain #2);
- The floor drain associated with the ITEK Plate Maker (Drain #5);
- The floor drain in the main print shop area (Drain #4); and
- Two sink drains associated with photo developers (Drains #6 and #7).

The Mound assessment team provided a list of chemicals associated with the Print Shop process. The list of chemicals is presented in the table below:

Table 1.1 – List of Chemicals

Acetic acid	**Ammonium sulfite**	**Ammonium Thiosulfate**
Cupric chloride	Cyclohexane	Dichloromethane
Diethylamine (diethanolamine)	1,4-Dioxane	Formaldehyde
Freon	Hydrochloric acid	Hydroquinone
Methanol	Napthalene	Nickel
Phosphoric acid	Potassium Hydroxide	2-Propanol
Sodium Bisulfite	Sodium Hydroxide	Styrene
Sulfuric acid	Tetrachloroethene	1,1,1-Trichloroethane
Vinyl acetate	Aluminum	Cyanide compounds
Mercury	Silver	

The team assessed that no radiological materials had historically been used inside the building.

1.2 Previous Investigations

No documentation of previous sampling investigations of the drains was provided or is likely to exist.

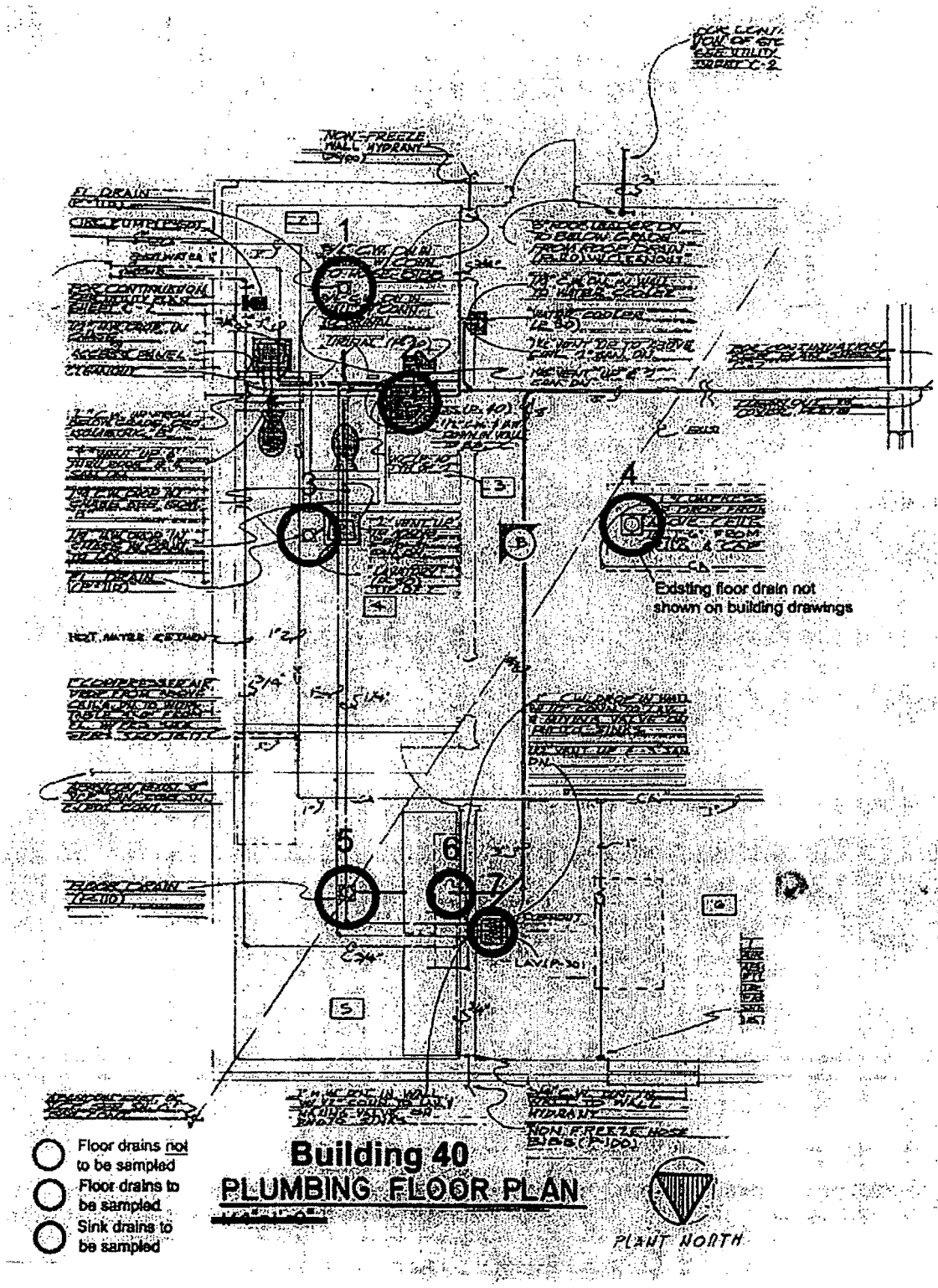

Figure 1-1. Building Diagram

2.0 DATA QUALITY OBJECTIVES

The data quality objective was to assess whether the drains in the Building contain concentrations of hazardous materials that pose a liability to the transfer of the property to the City of Miamisburg. To assess this liability the drains were examined and sediment or sludge extracted from the drain trap was submitted for chemical testing. Table 2.1 lists the chemicals identified by the Mound assessment team and the method of testing that will be employed to assess their presence. In some cases, the test procedure has been marked as *not applicable* (NA). The chemicals, which were very water-soluble and represented little risk of retention in the drains, were classified as not applicable for testing.

Table 2.1 – List of Chemicals and Methods of Analysis

Chemical	Analysis	Comment
Acetic acid	NA	Water soluble
Ammonium sulfite	NA	Water soluble
Ammonium Thiosulfate	NA	Water soluble
Cupric chloride	Metals – SW6010	
Cyclohexane	VOC – SW8260	
Dichloromethane	VOC – SW8260	
Diethylamine (diethanolamine)	VOC – SW8260	
1,4-Dioxane	VOC – SW8260	
Formaldehyde	NA	Water soluble
Freon	VOC – SW8260	
Hydrochloric acid	NA	
Hydroquinone	SVOC – SW 8270	
Methanol	NA	Water soluble
Napthalene	VOC – SW8260/SVOC – SW8270	
Nickel	Metals – 6010	
Phosphoric acid	NA	Water soluble
Potassium Hydroxide	NA	Water soluble
2-Propanol	NA	Water soluble
Sodium Bisulfite	NA	Water soluble
Sodium Hydroxide	NA	Water soluble
Styrene	VOC – SW8260	
Sulfuric acid	NA	Water soluble
Tetrachloroethene	VOC – SW8260	
1,1,1-Trichloroethane	VOC – SW8260	
Vinyl acetate	VOC – SW8260	

Table 2.1 – List of Chemicals and Methods of Analysis

Chemical	Analysis	Comment
Aluminum	Metals – SW6010	
Cyanide compounds	Cyanide – SW9010	
Mercury	Metals – SW6010	
Silver	Metals – SW6010	

3.0 FIELD EFFORT

Five drains in room 100 in Building 40 were investigated and sampled on May 4, 1999 by team members from Roy F. Weston, Inc. The Mound on-site contact was Mr. Ken Scearce and the Mound technical contact assigned to the project was Mr. Bob Ransbottom.

The location of the floor drains is depicted in Figure 1.1. Drains #1 and #3 were eliminated based on a drain usage assessment performed by BWO. The list of drains that were sampled includes:

- Floor drain #2 located in a janitor's closet;
- Floor drain #4 located in the main area;
- Floor drain #5 and sink drain #6 located in a side room associated with photo development; and
- Sink drain #7 on the opposite wall of drain #6.

3.1 Sampling Methodology

3.1.1 Floor Drains

Floor drain sampling was completed by attaching a bent scoopula, to the end of a six-foot steel rod with duct tape. The rod was cleaned with isopropyl alcohol and allowed to thoroughly dry to remove any residual oil or dust. After a Mound plumber removed two outer drain covers an OVM was placed at the drain opening to check for the release of hazardous vapors. The OVM was calibrated on site, functioning appropriately, and indicated the presence of no hazardous organic vapors. Sludge was extracted from the floor drain by plunging the rod with attached scoopula into the drain, scooping sludge from the bottom, and scraping the sides of the drain until all available sludge was removed.

3.1.2 Sink Drains

Sink drain sampling involved the removal of the sink trap by a Mound plumber, checking the drain opening with an OVM, and scooping any trapped sludge with a scoopula. The OVM was calibrated on site, functioning appropriately, and indicated the presence of no hazardous organic vapors.

3.2 Summary of Sample Collection

Only BWO designated drains #5 and #7 contained sufficient retrievable sediment or sludge for partial sample analysis. The other drains lacked sufficient sediment or sludge to sample or there was no access to the drain elbows where the sediment or sludge was likely to accumulate. The inability to collect samples from three (3) of the five (5) drains is documented in WESTON Corrective Action Report #001. Table 3.1 summarizes the results of the sample collection activity.

Table 3.1 - Factors Prohibiting or Limiting Sample Extraction and Analysis

Drain number	Reason sample was not collected	Required analysis	Analyses Performed
Drain #2 floor drain	Drain is bare metal after a depth of 3"	Metals, CN, SVOC, &VOC	None
Drain #4 floor drain	Flood valve prohibited extraction	Metals, CN; SVOC, &VOC	None
Drain #5 floor drain	Insufficient amount of sample	Metals, CN, SVOC, &VOC	Metals, Cyanide, SVOC
Drain #6 sink drain	Drain contents water only.	Metals, CN, SVOC, &VOC	None
Drain #7 sink drain	Insufficient amount of sample	Metals, CN, SVOC, &VOC	Metals, Cyanide, SVOC

In both instances where access to the pipe trap was a problem and WESTON was unable to collect a sample, WESTON conferred with the BWO plumber to confirm no alternatives existed and then reported the technical decision to the BWO technical lead for the project for confirmation. No corrective measure was possible for the trap that contained no sediment or sludge. It should be noted that drain #2, located in the janitor's closet, was believed by the BWO pipefitter to be connected to a collapsed pipe. Future building occupants should take appropriate measures to prevent the use of the drain until it can be determined whether the drain line is collapsed.

For drains #5 and #7, there was sufficient sample for a metals and cyanide analysis and insufficient sample for normal SVOC or VOCs. Because there was insufficient volume to completely fill the VOC container, the field team and WESTON technical lead decided

to ask the laboratory to attempt to perform a limited volume SVOC analysis. A limited volume SVOC analysis requires the laboratory to adapt the extraction procedure to use less sample volume and attempt to compensate for the reduced volume. Because only about 10 grams of the required 30 grams was available for SVOC analysis, the laboratory reporting limits are likely to be elevated.

3.3 Sample Identification

Drain samples were identified in accordance with the Sample Analysis Plan requirements. Table 3.2 shows the assigned field identification and the corresponding drain in Building 40.

Table 3.2 – Sample Identification

Building 40 Drain	Field Identification
Drain #5	Bldg40-0-000001
Drain #7	Bldg40-0-000002

3.4 Sample Screening and Shipping

BWO determined that the samples from the drains were not subject to radiological screening based on the building history and therefore not screened. The decision was communicated to WESTON by the BWO on-site technical contact.

WESTON transported the samples from the Mound Plant to the laboratory.

4.0 ANALYTICAL RESULTS

Test America, Inc. located in Kettering, Ohio performed analytical testing. Test America has performed testing for the Mound facility to support the ongoing monitoring projects.

4.1 Quality Assurance Assessment

The blanks and laboratory control samples associated with the Mound samples appear to be acceptable. Matrix spike analysis data was provided with the laboratory report. Because the reported matrix spike data was batch data, not specific to either of the samples collected from Building 40, the data were not evaluated.

The surrogate recoveries for the SVOC samples were not reported. The laboratory indicated that the sample was significantly diluted and that the surrogate recoveries could not be determined. Based on the field description of the sediment/sludge recovered from the drains, the submitted samples could reasonably be expected to contain non-target hydrocarbons that might interfere with the determination of surrogate recoveries. The laboratory also reported fairly significant concentrations of tentatively identified compounds that support the laboratory's decision to dilute the samples. The data usability should not be impacted by the lack of surrogate data.

4.2 Reporting Limits

The reporting limits for the semi-volatile fraction were very high. The laboratory reported extracting 10 grams of sample, one-third the normal amount. Additionally, the extract was diluted 1:50 prior to analysis. The laboratory case narrative indicates that the sample extracts contained a black sludge-like layer and the 1:50 dilution was performed on the basis of visual inspection. Based on the levels of non-target compounds tentatively identified and reported in the diluted extract by the laboratory, a large dilution of the extract was probably warranted.

5.0 SUMMARY

Copies of the sample results for the Building 40 drain investigation are attached as Appendix A. WESTON has reviewed the quality assurance results provided by the laboratory and does not believe there are any indications of significant quality problems with the data.

The laboratory data indicates that metals, cyanide, and tentatively identified semi-volatile compounds were present in the samples. While the concentrations of the target analytes may exceed some guidelines, further actions on the sample pipes are probably not warranted. The sediment/sludge was likely to accumulate only in traps. WESTON sampled the only traps likely to be between the sinks/drains and the main sewer system. WESTON removed as much of the sediment and sludge as possible during the sampling procedure making the sampled traps relatively clean. The remaining pipes are unlikely to contain significant sediment/sludge and no further remediation is likely to be required.

However, WESTON also observed that the BWO plumber thought that drain #2 was connected to a collapsed pipe. Until the drain line is assessed to determine whether it is collapsed, the drain should be removed from service.

APPENDIX A

Laboratory Results

TestAmerica, Inc., Dayton Division
3601 S. Dixie Drive, Dayton, OH 45439
Phone: (937) 294-6856 *FAX: (937) 294-7816*

TO: Craig Stoll
COMPANY: R. F. WESTON, INC

FROM: Jon C. Sonderman
COMPANY: Dayton Division
PHONE: (513)294-6856

SENT ON: Mon May 10 12:12:34 1999

NUMBER OF PAGES (INCLUDING COVER): 28

COMMENTS:

PLEASE CALL NUMBER ABOVE IF FAX TRANSMISSION IS INCOMPLETE.

ANALYTICAL AND QUALITY CONTROL REPORT

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Enclosed is the Analytical and Quality Control reports for the following samples submitted to the Dayton Division of TestAmerica, Inc. for analysis:

Sample Number	Sample Description	Date Taken	Date Received
533843	BLDG 40-0-000001	05/04/1999	05/04/1999
533844	BLDG 40-0-000002	05/04/1999	05/04/1999

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TestAmerica, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Reproduction of this analytical report is permitted only in its entirety.

ANALYTICAL REPORT

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO. 533843
SAMPLE DESCRIPTION BLDG 40-0-000001
DATE/TIME TAKEN 05/04/1999

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
Cyanide Prep	Complete		05/05/1999	1247		Complete	kkh	SW 9012
Cyanide, Total, Non-aqueous	2.81	mg/Kg	05/05/1999	1247	351	<0.125	kkh	SW 9012
ICP NONAQUEOUS METALS	Complete		05/06/1999		573	Complete	jrw	SW 6010A
Aluminum, ICP	567	mg/Kg	05/06/1999	437	1383	<33	jrw	SW 6010A
Antimony, ICP	150	mg/Kg	05/06/1999	437	1386	<33	jrw	SW 6010A
Arsenic, ICP	<33	mg/Kg	05/06/1999	437	1381	<33	jrw	SW 6010A
Barium, ICP	41.7	mg/Kg	05/06/1999	437	1356	<6.6	jrw	SW 6010A
Beryllium, ICP	<2	mg/Kg	05/06/1999	437	1383	<2	jrw	SW 6010A
Cadmium, ICP	<9.8	mg/Kg	05/06/1999	437	1345	<9.8	jrw	SW 6010A
Calcium, ICP	3,870	mg/Kg	05/06/1999	437	1307	<330	jrw	SW 6010A
Chromium, ICP	61	mg/Kg	05/06/1999	437	1338	<13	jrw	SW 6010A
Cobalt, ICP	<6.6	mg/Kg	05/06/1999	437	1382	<6.6	jrw	SW 6010A
Copper, ICP	850	mg/Kg	05/06/1999	437	1351	<6.6	jrw	SW 6010A
Iron, ICP	164,000	mg/Kg	05/06/1999	437	1377	<33	jrw	SW 6010A
Lead, ICP	257	mg/Kg	05/06/1999	437	1342	<26	jrw	SW 6010A
Magnesium, ICP	561	mg/Kg	05/06/1999	437	1375	<330	jrw	SW 6010A
Manganese, ICP	876	mg/Kg	05/06/1999	437	1300	<3.3	jrw	SW 6010A
Mercury, CVAA	0.611	mg/Kg	05/06/1999	351	359	<0.010	sah	SW 7471A
Nickel, ICP	73.1	mg/Kg	05/06/1999	437	1344	<3.3	jrw	SW 6010A
Potassium, ICP	1,970	mg/Kg	05/06/1999	437	1368	<330	jrw	SW 6010A
Selenium, ICP	<33	mg/Kg	05/06/1999	437	1382	<33	jrw	SW 6010A
Silver, ICP	83	mg/Kg	05/06/1999	437	1359	<13	jrw	SW 6010A
Sodium, ICP	1,720	mg/Kg	05/06/1999	437	1369	<330	jrw	SW 6010A
Thallium, ICP	<160	mg/Kg	05/06/1999	437	1409	<160	jrw	SW 6010A
Vanadium, ICP	<16	mg/Kg	05/06/1999	437	1377	<16	jrw	SW 6010A

ANALYTICAL REPORT

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
SAMPLE NO. 533843	**SAMPLE DESCRIPTION** BLDG 40-0-000001							**DATE/TIME TAKEN** 05/04/1999
Zinc, ICP	1.300	mg/Kg	05/06/1999	437	1332	<16	jrw	SW 6010A
ICP Digestion, NONAQUEOUS	Complete		05/04/1999	437		Complete	jpp	SW 3050A
Mercury Digestion, NONAQUEOUS	Complete		05/04/1999	351		Complete	jpp	SW 7471A
Prep, BNA Non-Aq	Complete		05/04/1999	656		Complete	lgh	EPA 625 ; SW 3540

ANALYTICAL REPORT

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO.	SAMPLE DESCRIPTION	DATE/TIME TAKEN
533843	BLDG 40-0-000001	05/04/1999

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
BASE NEUT. COMPS.-8270 Non-aq								
Acenaphthene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Acenaphthylene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Anthracene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(a)anthracene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(b)fluoranthene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(k)fluoranthene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(a)pyrene	<24.800	ug/Kg	05/05/1999	656	750	<24.800	jwr	SW 8270B
Benzo(ghi)perylene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzyl alcohol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzyl butyl phthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Bis(2-chloroethyl)ether	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Bis(2-chloroethoxy)methane	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Bis(2-ethylhexyl)phthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,2'-oxybis(1-Chloropropane)	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Bromophenyl phenyl ether	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Chloroaniline	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Chloronaphthalene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Chlorophenylphenyl ether	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Chrysene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Dibenzo(a,h)anthracene	<24.800	ug/Kg	05/05/1999	656	750	<24.800	jwr	SW 8270B
Dibenzofuran	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Di-n-butylphthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
1,2-Dichlorobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
1,3-Dichlorobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B

ANALYTICAL REPORT

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R. F. WESTON, INC
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Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO.	SAMPLE DESCRIPTION	DATE/TIME TAKEN
533843	BLDG 40-0-000001	05/04/1999

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
1,4-Dichlorobenzene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
3,3'-Dichlorobenzidine	<99,000	ug/Kg	05/05/1999	656	750	<99,000	jwr	SW 8270B
Diethyl phthalate	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Dimethyl phthalate	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
2,4-Dinitrotoluene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
2,6-Dinitrotoluene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Di-n-octylphthalate	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Fluoranthene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Fluorene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Hexachlorobenzene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Hexachloro-1,3-butadiene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Hexachlorocyclopentadiene	<99,000	ug/Kg	05/05/1999	656	750	<99,000	jwr	SW 8270B
Hexachloroethane	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Indeno(1,2,3-cd)pyrene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Isophorone	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Naphthalene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Nitrobenzene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
N-Nitrosodi-n-propylamine	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Phenanthrene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Pyrene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
1,2,4-Trichlorobenzene	<49,500	ug/Kg	05/05/1999	656	750	<49,500	jwr	SW 8270B
Surrogate: d5-Nitrobenzene	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: 2-Fluorobiphenyl	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: d14-Terphenyl	DL	%	05/05/1999	656	750		jwr	SW 8270B

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05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO.	SAMPLE DESCRIPTION	DATE/TIME TAKEN
533843	BLDG 40-0-000001	05/04/1999

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
ACID COMPOUNDS - 8270 Non-aq								
Benzoic Acid	<247.500	ug/Kg	05/05/1999	656	750	<247.500	jwr	SW 8270B
4-Chloro-3-methylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Chlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4-Dichlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4-Dimethylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4-Dinitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Methyl-4,6-dinitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Methylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
meta & para-Methylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Nitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Nitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Pentachlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Phenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4,5-Trichlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4,6-Trichlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Surrogate: d6-Phenol	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: 2-Fluorophenol	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: Tribromophenol	DL	%	05/05/1999	656	750		jwr	SW 8270B

ANALYTICAL REPORT

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
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05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
SAMPLE NO. 533843	**SAMPLE DESCRIPTION** BLDG 40-0-000001							**DATE/TIME TAKEN** 05/04/1999
Library Search	See Text		05/07/1999		1	See Text	dmg	SW 8270B
SAMPLE NO. 533844	**SAMPLE DESCRIPTION** BLDG 40-0-000002							**DATE/TIME TAKEN** 05/04/1999
Cyanide Prep	Complete		05/05/1999	1247		Complete	kkh	SW 9012
Cyanide, Total, Non-aqueous	80.2	mg/Kg	05/05/1999	1247	350	<0.125	kkh	SW 9012
ICP NONAQUEOUS METALS	Complete		05/06/1999		573	Complete	jrw	SW 6010A
Aluminum, ICP	505	mg/Kg	05/06/1999	437	1383	<33	jrw	SW 6010A
Antimony, ICP	46	mg/Kg	05/06/1999	437	1386	<33	jrw	SW 6010A
Arsenic, ICP	<33	mg/Kg	05/06/1999	437	1381	<33	jrw	SW 6010A
Barium, ICP	40.8	mg/Kg	05/06/1999	437	1356	<6.6	jrw	SW 6010A
Beryllium, ICP	<2	mg/Kg	05/06/1999	437	1383	<2	jrw	SW 6010A
Cadmium, ICP	<10	mg/Kg	05/06/1999	437	1345	<10	jrw	SW 6010A
Calcium, ICP	1,800	mg/Kg	06/06/1999	437	1307	<330	jrw	SW 6010A
Chromium, ICP	375	mg/Kg	05/06/1999	437	1338	<13	jrw	SW 6010A
Cobalt, ICP	<6.6	mg/Kg	05/06/1999	437	1382	<6.6	jrw	SW 6010A
Copper, ICP	16,500	mg/Kg	05/06/1999	437	1351	<6.6	jrw	SW 6010A
Iron, ICP	21,100	mg/Kg	05/06/1999	437	1377	<33	jrw	SW 6010A
Lead, ICP	370	mg/Kg	05/06/1999	437	1342	<27	jrw	SW 6010A
Magnesium, ICP	654	mg/Kg	05/06/1999	437	1375	<330	jrw	SW 6010A
Manganese, ICP	31	mg/Kg	05/06/1999	437	1300	<3.3	jrw	SW 6010A

ANALYTICAL REPORT

Craig Stoll
R. F. WESTON, INC
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Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO.	SAMPLE DESCRIPTION							DATE/TIME TAKEN
533844	BLDG 40-0-000002							05/04/1999
	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
Mercury, CVAA	15.2	mg/Kg	05/06/1999	351	359	<0.010	sah	SW 7471A
Nickel, ICP	402	mg/Kg	05/06/1999	437	1344	<3.3	jrw	SW 6010A
Potassium, ICP	<330	mg/Kg	05/06/1999	437	1368	<330	jrw	SW 6010A
Selenium, ICP	<33	mg/Kg	05/06/1999	437	1382	<33	jrw	SW 6010A
Silver, ICP	87	mg/Kg	05/06/1999	437	1359	<13	jrw	SW 6010A
Sodium, ICP	<330	mg/Kg	05/06/1999	437	1369	<330	jrw	SW 6010A
Thallium, ICP	<170	mg/Kg	05/06/1999	437	1409	<170	jrw	SW 6010A
Vanadium, ICP	<17	mg/Kg	05/06/1999	437	1377	<17	jrw	SW 6010A
Zinc, ICP	7,270	mg/Kg	05/06/1999	437	1332	<17	jrw	SW 6010A
ICP Digestion, NONAQUEOUS	Complete		05/04/1999	437		Complete	jpp	SW 3050A
Mercury Digestion, NONAQUEOUS	Complete		05/04/1999	351		Complete	jpp	SW 7471A
Prep. BNA Non-Aq	Complete		05/04/1999	656		Complete	lgh	EPA 625 : SW 3540

ANALYTICAL REPORT

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R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO. 533844
SAMPLE DESCRIPTION BLDG 40-0-000002
DATE/TIME TAKEN 05/04/1999

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
BASE NEUT. COMPS.-8270 Non-aq								
Acenaphthene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Acenaphthylene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Anthracene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(a)anthracene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(b)fluoranthene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(k)fluoranthene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzo(a)pyrene	<24.800	ug/Kg	05/05/1999	656	750	<24.800	jwr	SW 8270B
Benzo(ghi)perylene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzyl alcohol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Benzyl butyl phthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Bis(2-chloroethyl)ether	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Bis(2-chloroethoxy)methane	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Bis(2-ethylhexyl)phthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,2'-oxybis(1-Chloropropane)	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Bromophenyl phenyl ether	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Chloroaniline	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Chloronaphthalene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Chlorophenylphenyl ether	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Chrysene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Dibenzo(a,h)anthracene	<24.800	ug/Kg	05/05/1999	656	750	<24.800	jwr	SW 8270B
Dibenzofuran	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Di-n-butylphthalate	283000	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
1,2-Dichlorobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
1,3-Dichlorobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B

ANALYTICAL REPORT

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R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO.	SAMPLE DESCRIPTION	DATE/TIME TAKEN
533844	BLDG 40-0-000002	05/04/1999

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
1.4-Dichlorobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
3.3'-Dichlorobenzidine	<99.000	ug/Kg	05/05/1999	656	750	<99.000	jwr	SW 8270B
Diethyl phthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Dimethyl phthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4-Dinitrotoluene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,6-Dinitrotoluene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Di-n-octylphthalate	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Fluoranthene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Fluorene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Hexachlorobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Hexachloro-1,3-butadiene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Hexachlorocyclopentadiene	<99.000	ug/Kg	05/05/1999	656	750	<99.000	jwr	SW 8270B
Hexachloroethane	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Indeno(1.2.3-cd)pyrene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Isophorone	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Naphthalene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Nitrobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
N-Nitrosodi-n-propylamine	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Phenanthrene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Pyrene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
1,2,4-Trichlorobenzene	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Surrogate: d5-Nitrobenzene	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: 2-Fluorobiphenyl	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: d14-Terphenyl	DL	%	05/05/1999	656	750		jwr	SW 8270B

ANALYTICAL REPORT

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05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

SAMPLE NO.	SAMPLE DESCRIPTION	DATE/TIME TAKEN
533844	BLDG 40-0-000002	05/04/1999

	Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
ACID COMPOUNDS - 8270 Non-aq								
Benzoic Acid	<247.500	ug/Kg	05/05/1999	656	750	<247.500	jwr	SW 8270B
4-Chloro-3-methylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Chlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4-Dichlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4-Dimethylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4-Dinitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Methyl-4,6-dinitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Methylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
meta & para-Methylphenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2-Nitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
4-Nitrophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Pentachlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Phenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4,5-Trichlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
2,4,6-Trichlorophenol	<49.500	ug/Kg	05/05/1999	656	750	<49.500	jwr	SW 8270B
Surrogate: d6-Phenol	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: 2-Fluorophenol	DL	%	05/05/1999	656	750		jwr	SW 8270B
Surrogate: Tribromophenol	DL	%	05/05/1999	656	750		jwr	SW 8270B

ANALYTICAL REPORT

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Client Project ID: Project # 01011.032.022.0100

		Result	Units	Date Analyzed	Prep Batch Number	Run Batch Number	Reporting Limit	Analyst Initials	Method Reference
SAMPLE NO.	**SAMPLE DESCRIPTION**								**DATE/TIME TAKEN**
533844	BLDG 40-0-000002								05/04/1999
Library Search		See Text		05/07/1999		1	See Text	dmg	SW 8270B

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	CCV True Concentration	CCV Concentration Observed	Units	Percent Recovery
Cyanide, Total, Non-aqueous		350	0.10	0.097	mg/L	97
Cyanide, Total, Non-aqueous		351	0.1	0.094	mg/L	94
Aluminum, ICP		1383	1.00	1.04	mg/Kg	104
Antimony, ICP		1386	1.00	1.01	mg/Kg	101
Arsenic, ICP		1381	1.00	1	mg/Kg	100
Barium, ICP		1356	1.00	1.01	mg/Kg	101
Beryllium, ICP		1383	1.00	1.00	mg/Kg	100
Cadmium, ICP		1345	1.00	1.00	mg/Kg	100
Calcium, ICP		1307	11.0	11.1	mg/Kg	101
Chromium, ICP		1338	1.00	0.97	mg/Kg	97
Cobalt, ICP		1382	1.00	0.99	mg/Kg	99
Copper, ICP		1351	1.00	1.00	mg/Kg	100
Iron, ICP		1377	1.00	0.99	mg/Kg	99
Lead, ICP		1342	1.00	0.99	mg/Kg	99
Magnesium, ICP		1375	3.00	2.97	mg/Kg	99
Manganese, ICP		1300	1.00	0.99	mg/Kg	99
Mercury, CVAA	351	359	0.0020	0.00204	mg/Kg	102
Nickel, ICP		1344	1.00	1	mg/Kg	100
Potassium, ICP		1368	12.0	11.8	mg/Kg	98
Selenium, ICP		1382	1.00	0.99	mg/Kg	99
Silver, ICP		1359	1.00	1	mg/Kg	100
Sodium, ICP		1369	11.0	10.9	mg/Kg	99
Thallium, ICP		1409	6.00	5.95	mg/Kg	99
Vanadium, ICP		1377	1.00	1.00	mg/Kg	100
Zinc, ICP		1332	1.00	0.98	mg/Kg	98
BASE NEUT. COMPS.-8270 Non-aq						
Acenaphthene		750	50.0	48.8	ug/Kg	98
Benzo(a)pyrene		750	50.0	49.9	ug/Kg	100
1,4-Dichlorobenzene		750	50.0	51.6	ug/Kg	103
Di-n-octylphthalate		750	50.0	54.9	ug/Kg	110

CCV - Continuing Calibration Verification

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	CCV True Concentration	CCV Concentration Observed	Units	Percent Recovery
Fluoranthene		750	50.0	51.0	ug/Kg	102
Hexachloro-1,3-butadiene		750	50.0	47.8	ug/Kg	96
Hexachlorocyclopentadiene		750	50.0	47.2	ug/Kg	94
N-Nitrosodi-n-propylamine		750	50.0	47.3	ug/Kg	95
Surrogate: d5-Nitrobenzene		750	50.0	46.2	%	92
Surrogate: 2-Fluorobiphenyl		750	50.0	50.6	%	101
Surrogate: d14-Terphenyl		750	50.0	49.1	%	98

CCV - Continuing Calibration Verification

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	CCV True Concentration	CCV Concentration Observed	Units	Percent Recovery
ACID COMPOUNDS - 8270 Non-aq						
4-Chloro-3-Methylphenol		750	50.0	48.2	ug/Kg	96
2,4-Dichlorophenol		750	50.0	50.3	ug/Kg	101
2,4-Dinitrophenol		750	50.0	45.0	ug/Kg	90
2-Nitrophenol		750	50.0	52.1	ug/Kg	104
4-Nitrophenol		750	50.0	42.5	ug/Kg	85
Pentachlorophenol		750	50.0	48.0	ug/Kg	96
Phenol		750	50.0	52.4	ug/Kg	105
2,4,6-Trichlorophenol		750	50.0	49.2	ug/Kg	98
Surrogate: d6-Phenol		750	100	102.2	%	102
Surrogate: 2-Fluorophenol		750	100	104.6	%	105
Surrogate: Tribromophenol		750	100	95.0	%	95

QUALITY CONTROL REPORT
BLANKS

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units	Date Prepped
Cyanide, Total, Non-aqueous	1247	350	<0.005	mg/L	05/05/1999
Aluminum, ICP	437	1383	<0.10	mg/Kg	05/04/1999
Aluminum, ICP		1383	<0.10	mg/Kg	
Antimony, ICP	437	1386	<0.10	mg/Kg	05/04/1999
Antimony, ICP		1386	<0.10	mg/Kg	
Arsenic, ICP	437	1381	<0.10	mg/Kg	05/04/1999
Arsenic, ICP		1381	<0.10	mg/Kg	
Barium, ICP	437	1356	<0.020	mg/Kg	05/04/1999
Barium, ICP		1356	<0.020	mg/Kg	
Beryllium, ICP	437	1383	<0.005	mg/Kg	05/04/1999
Beryllium, ICP		1383	<0.005	mg/Kg	
Cadmium, ICP	437	1345	<0.030	mg/Kg	05/04/1999
Cadmium, ICP		1345	<0.030	mg/Kg	
Calcium, ICP	437	1307	<1.0	mg/Kg	05/04/1999
Calcium, ICP		1307	<1.0	mg/Kg	
Chromium, ICP	437	1338	<0.040	mg/Kg	05/04/1999
Chromium, ICP		1338	<0.040	mg/Kg	
Cobalt, ICP	437	1382	<0.020	mg/Kg	05/04/1999
Cobalt, ICP		1382	<0.020	mg/Kg	
Copper, ICP	437	1351	<0.020	mg/Kg	05/04/1999
Copper, ICP		1351	<0.020	mg/Kg	
Iron, ICP	437	1377	<0.10	mg/Kg	05/04/1999
Iron, ICP		1377	<0.10	mg/Kg	
Lead, ICP	437	1342	<0.080	mg/Kg	05/04/1999
Lead, ICP		1342	<0.080	mg/Kg	
Magnesium, ICP	437	1375	<1.0	mg/Kg	05/04/1999

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
BLANKS

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units	Date Prepped
Magnesium, ICP		1375	<1.0	mg/Kg	
Manganese, ICP	437	1300	<0.010	mg/Kg	05/04/1999
Manganese, ICP		1300	<0.010	mg/Kg	
Mercury, CVAA	351	359	<0.0002	mg/Kg	05/04/1999
Nickel, ICP	437	1344	<0.010	mg/Kg	05/04/1999
Nickel, ICP		1344	<0.010	mg/Kg	
Potassium, ICP	437	1368	<1.0	mg/Kg	05/04/1999
Potassium, ICP		1368	<1.0	mg/Kg	
Selenium, ICP	437	1382	<0.10	mg/Kg	05/04/1999
Selenium, ICP		1382	<0.10	mg/Kg	
Silver, ICP	437	1359	<0.040	mg/Kg	05/04/1999
Silver, ICP		1359	<0.040	mg/Kg	
Sodium, ICP	437	1369	<1.0	mg/Kg	05/04/1999
Sodium, ICP		1369	<1.0	mg/Kg	
Thallium, ICP	437	1409	<0.50	mg/Kg	05/04/1999
Thallium, ICP		1409	<0.50	mg/Kg	
Vanadium, ICP	437	1377	<0.050	mg/Kg	05/04/1999
Vanadium, ICP		1377	<0.050	mg/Kg	
Zinc, ICP	437	1332	<0.050	mg/Kg	05/04/1999
Zinc, ICP		1332	<0.050	mg/Kg	
BASE NEUT. COMPS.-8270 Non-aq					
Acenaphthene	656	750	<165	ug/Kg	05/04/1999
Acenaphthylene	656	750	<165	ug/Kg	05/04/1999
Anthracene	656	750	<165	ug/Kg	05/04/1999
Benzo(a)anthracene	656	750	<165	ug/Kg	05/04/1999
Benzo(b)fluoranthene	656	750	<165	ug/Kg	05/04/1999

Advisory Control Limits for Blanks:
Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.
GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.
Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
BLANKS

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units	Date Prepped
Benzo(k)fluoranthene	656	750	<165	ug/Kg	05/04/1999
Benzo(ghi)perylene	656	750	<165	ug/Kg	05/04/1999
Benzo(a)pyrene	656	750	<165	ug/Kg	05/04/1999
Benzyl alcohol	656	750	<330	ug/Kg	05/04/1999
Bis(2-chloroethoxy)methane	656	750	<165	ug/Kg	05/04/1999
Bis(2-chloroethyl)ether	656	750	<165	ug/Kg	05/04/1999
Bis(2-ethylhexyl)phthalate	656	750	<165	ug/Kg	05/04/1999
4-Bromophenyl phenyl ether	656	750	<165	ug/Kg	05/04/1999
Benzyl butyl phthalate	656	750	<165	ug/Kg	05/04/1999
4-Chloroaniline	656	750	<330	ug/Kg	05/04/1999
2-Chloronaphthalene	656	750	<165	ug/Kg	05/04/1999
4-Chlorophenylphenyl ether	656	750	<165	ug/Kg	05/04/1999
Chrysene	656	750	<165	ug/Kg	05/04/1999
Dibenzo(a,h)anthracene	656	750	<165	ug/Kg	05/04/1999
Dibenzofuran	656	750	<330	ug/Kg	05/04/1999
Di-n-butylphthalate	656	750	<165	ug/Kg	05/04/1999
1,2-Dichlorobenzene	656	750	<165	ug/Kg	05/04/1999
1,3-Dichlorobenzene	656	750	<165	ug/Kg	05/04/1999
1,4-Dichlorobenzene	656	750	<165	ug/Kg	05/04/1999
3,3'-Dichlorobenzidine	656	750	<495	ug/Kg	05/04/1999
Diethyl phthalate	656	750	<165	ug/Kg	05/04/1999
Dimethyl phthalate	656	750	<165	ug/Kg	05/04/1999
2,4-Dinitrotoluene	656	750	<165	ug/Kg	05/04/1999
2,6-Dinitrotoluene	656	750	<165	ug/Kg	05/04/1999
Di-n-octylphthalate	656	750	<165	ug/Kg	05/04/1999
Fluoranthene	656	750	<165	ug/Kg	05/04/1999

Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
BLANKS

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units	Date Prepped
Fluorene	656	750	<165	ug/Kg	05/04/1999
Hexachlorobenzene	656	750	<165	ug/Kg	05/04/1999
Hexachloro-1,3-butadiene	656	750	<165	ug/Kg	05/04/1999
Hexachlorocyclopentadiene	656	750	<660	ug/Kg	05/04/1999
Hexachloroethane	656	750	<165	ug/Kg	05/04/1999
Indeno(1.2.3-cd)pyrene	656	750	<165	ug/Kg	05/04/1999
Isophorone	656	750	<165	ug/Kg	05/04/1999
Naphthalene	656	750	<165	ug/Kg	05/04/1999
Nitrobenzene	656	750	<165	ug/Kg	05/04/1999
N-Nitrosodi-n-propylamine	656	750	<165	ug/Kg	05/04/1999
Phenanthrene	656	750	<165	ug/Kg	05/04/1999
Pyrene	656	750	<165	ug/Kg	05/04/1999
1,2,4-Trichlorobenzene	656	750	<165	ug/Kg	05/04/1999
Surrogate: d5-Nitrobenzene	656	750	67	%	05/04/1999
Surrogate: 2-Fluorobiphenyl	656	750	76	%	05/04/1999
Surrogate: d14-Terphenyl	656	750	82	%	05/04/1999

Advisory Control Limits for Blanks:
Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.
GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.
Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
BLANKS

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis	Units	Date Prepped
ACID COMPOUNDS - 8270 Non-aq					
2-Chlorophenol	656	750	<330	ug/Kg	05/04/1999
4-Chloro-3-methylphenol	656	750	<330	ug/Kg	05/04/1999
2-Methylphenol	656	750	<330	ug/Kg	05/04/1999
meta & para-Methylphenol	656	750	<330	ug/Kg	05/04/1999
Benzoic Acid	656	750	<1,650	ug/Kg	05/04/1999
2,4-Dichlorophenol	656	750	<330	ug/Kg	05/04/1999
2,4-Dimethylphenol	656	750	<330	ug/Kg	05/04/1999
2-Methyl-4,6-dinitrophenol	656	750	<330	ug/Kg	05/04/1999
2,4-Dinitrophenol	656	750	<330	ug/Kg	05/04/1999
2-Nitrophenol	656	750	<330	ug/Kg	05/04/1999
4-Nitrophenol	656	750	<330	ug/Kg	05/04/1999
Pentachlorophenol	656	750	<330	ug/Kg	05/04/1999
Phenol	656	750	<330	ug/Kg	05/04/1999
2,4,5-Trichlorophenol	656	750	<330	ug/Kg	05/04/1999
2,4,6-Trichlorophenol	656	750	<330	ug/Kg	05/04/1999
Surrogate: d6-Phenol	656	750	69	%	05/04/1999
Surrogate: 2-Fluorophenol	656	750	69	%	05/04/1999
Surrogate: Tribromophenol	656	750	72	%	05/04/1999

Advisory Control Limits for Blanks:
Metals/Wet Chemistry/ Conventionals/GC - all compounds should be less than the Reporting Limit.
GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.
Volatiles - Toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS Concentration Observed	Units	LCS % Recovery	Flag
Cyanide, Total, Non-aqueous	1247	350	0.100	0.094	mg/L	94	
Aluminum, ICP	437	1383	1.00	0.96	mg/Kg	96	
Antimony, ICP	437	1386	1.00	0.97	mg/Kg	97	
Arsenic, ICP	437	1381	1.00	0.96	mg/Kg	96	
Barium, ICP	437	1350	1.00	0.99	mg/Kg	99	
Beryllium, ICP	437	1383	1.00	1.00	mg/Kg	100	
Cadmium, ICP	437	1345	1.00	0.94	mg/Kg	94	
Calcium, ICP	437	1307	21.0	20.3	mg/Kg	97	
Chromium, ICP	437	1338	1.00	0.95	mg/Kg	95	
Cobalt, ICP	437	1382	1.00	0.96	mg/Kg	96	
Copper, ICP	437	1351	1.00	0.97	mg/Kg	97	
Iron, ICP	437	1377	1.00	1	mg/Kg	100	
Lead, ICP	437	1342	1.00	0.94	mg/Kg	94	
Magnesium, ICP	437	1375	5.00	4.74	mg/Kg	95	
Manganese, ICP	437	1300	1.00	0.97	mg/Kg	97	
Nickel, ICP	437	1344	1.00	0.97	mg/Kg	97	
Potassium, ICP	437	1308	14.0	13.3	mg/Kg	95	
Selenium, ICP	437	1382	1.00	0.96	mg/Kg	96	
Silver, ICP	437	1359	1.00	0.94	mg/Kg	94	
Sodium, ICP	437	1369	21.0	20.1	mg/Kg	96	
Thallium, ICP	437	1409	1.00	0.98	mg/Kg	98	
Vanadium, ICP	437	1377	1.00	0.97	mg/Kg	97	
Zinc, ICP	437	1332	1.00	0.93	mg/Kg	93	
BASE NEUT. COMPS.-8270 Non-aq							
Acenaphthene	656	750	100	88.7	ug/Kg	89	
1,4-Dichlorobenzene	656	750	100	77.1	ug/Kg	77	
2,4-Dinitrotoluene	656	750	100	84.1	ug/Kg	84	
N-Nitrosodi-n-propylamine	656	750	100	80.9	ug/Kg	81	
Pyrene	656	750	100	87.6	ug/Kg	88	

LCS - Laboratory Control Standard

Advisory Control Limits : Inorganics statistical limits are established at the mean +/- 3 standard deviations.
If statistical limits are not established the LCS should be 80 - 120 % recovery.

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS Concentration Observed	Units	LCS % Recovery	Flag
1,2,4-Trichlorobenzene	656	750	100	83.0	ug/Kg	83	
Surrogate: d5-Nitrobenzene	656	750	100	76.4	%	76	
Surrogate: 2-Fluorobiphenyl	656	750	100	85.3	%	85	
Surrogate: d14-Terphenyl	656	750	100	81.6	%	82	

LCS - Laboratory Control Standard

Advisory Control Limits : Inorganics statistical limits are established at the mean +/- 3 standard deviations.
If statistical limits are not established the LCS should be 80 - 120 % recovery.

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	LCS True Concentration	LCS Concentration Observed	Units	LCS % Recovery	Flag
ACID COMPOUNDS - 8270 Non-aq							
2-Chlorophenol	656	750	100	82.1	ug/Kg	82	
4-Chloro-3-methylphenol	656	750	100	82.3	ug/Kg	82	
4-Nitrophenol	656	750	100	73.3	ug/Kg	73	
Pentachlorophenol	656	750	100	88.3	ug/Kg	88	
Phenol	656	750	100	81.7	ug/Kg	82	
Surrogate: d6-Phenol	656	750	200	154	%	77	
Surrogate: 2-Fluorophenol	656	750	200	139	%	70	
Surrogate: Tribromophenol	656	750	200	162	%	81	

LCS - Laboratory Control Standard

Advisory Control Limits : Inorganics statistical limits are established at the mean +/- 3 standard deviations.
If statistical limits are not established the LCS should be 80 - 120 % recovery.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	% Rec.	MSD Result	MSD Spike Amount	Units	% Rec.	RPD	Flag
Cyanide, Total, Non-aqueous	1247	946	2.82	<0.125	2.50	mg/Kg	113	2.66	2.49	mg/Kg	107	5.5	
Aluminum, ICP	437	1383	5,430	4,540	32.0	mg/Kg	2781	5,230	31.4	mg/Kg	2198	24	ls
Antimony, ICP	437	1386	16.8	<6.3	32.0	mg/Kg	53	18	31.4	mg/Kg	57	8.7	ss
Arsenic, ICP	437	1381	48.8	15.5	32.0	mg/Kg	104	48	31.4	mg/Kg	104	0.6	
Barium, ICP	437	1356	81.9	33.9	32.0	mg/Kg	150	82	31.4	mg/Kg	153	2.1	ss
Beryllium, ICP	437	1383	32.1	0.4	32.0	mg/Kg	99	31.3	31.4	mg/Kg	98	0.7	
Cadmium, ICP	437	1345	30	<1.9	32.0	mg/Kg	94	30.9	31.4	mg/Kg	98	4.8	
Calcium, ICP	437	1307	6,980	6,080	672	mg/Kg	134	7,410	659	mg/Kg	202	41	ls
Chromium, ICP	437	1338	42.9	10.3	32.0	mg/Kg	102	41.6	31.4	mg/Kg	100	2.1	
Cobalt, ICP	437	1382	35.5	5.1	32.0	mg/Kg	95	34.6	31.4	mg/Kg	94	1.2	
Copper, ICP	437	1351	60	35.9	32.0	mg/Kg	75	74.1	31.4	mg/Kg	122	47	rpd
Iron, ICP	437	1377	13,600	12,900	32.0	mg/Kg	2188	15,100	31.4	mg/Kg	7006	105	ls
Lead, ICP	437	1342	109	69.0	32.0	mg/Kg	125	128	31.4	mg/Kg	188	40	msdr
Magnesium, ICP	437	1375	2,290	2,080	160	mg/Kg	131	2,370	157	mg/Kg	185	34	ls
Manganese, ICP	437	1300	191	174	32.0	mg/Kg	53	208	31.4	mg/Kg	108	08	msr
Mercury, CVAA	351	359	0.054	0.012	0.038	mg/kg	111	0.085	0.040	mg/kg	183	49	MSDR
Nickel, ICP	437	1344	45.9	14.9	32.0	mg/Kg	97	45.6	31.4	mg/Kg	98	0.9	
Potassium, ICP	437	1368	954	468	448	mg/Kg	109	923	440	mg/Kg	103	4.8	
Selenium, ICP	437	1382	31.7	<6.3	32.0	mg/Kg	99	31.7	31.4	mg/Kg	101	1.8	
Silver, ICP	437	1359	29.6	<2.6	32.0	mg/Kg	92	27	31.4	mg/Kg	86	7	
Sodium, ICP	437	1360	1,270	622	672	mg/Kg	96	1,240	659	mg/Kg	94	2.7	
Thallium, ICP	437	1409	<32	<31	32.0	mg/Kg	0	<31	31.4	mg/Kg	0	0	dl

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Craig Stoll
R. F. WESTON, INC
2566 Kohnle Drive
Miamisburg, OH 45342

05/10/1999

Job Number: 99.06604

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	% Rec.	MSD Result	MSD Spike Amount	Units	% Rec.	RPD	Flag
Vanadium, ICP	437	1377	43.8	10.6	32.0	mg/Kg	104	42.5	31.4	mg/Kg	102	2.1	
Zinc, ICP	437	1332	141	86	32.0	mg/Kg	172	127	31.4	mg/Kg	131	27	ssr
BASE NEUT. COMPS.-8270 Non-aq													
Acenaphthene	656	743	69.3	<330	100	ug/Kg	69	79.3	100	ug/Kg	79	14	
1,4-Dichlorobenzene	656	743	51.0	<330	100	ug/Kg	51	63.7	100	ug/Kg	64	22	
2,4-Dinitrotoluene	656	743	69.2	<330	100	ug/Kg	69	78.7	100	ug/Kg	79	13	
N-Nitrosodi-n-propylamine	656	743	60.6	<330	100	ug/Kg	61	74.4	100	ug/Kg	74	20	
Pyrene	656	743	81.9	<330	100	ug/Kg	82	89.1	100	ug/Kg	89	8.4	
1,2,4-Trichlorobenzene	656	743	60.7	<330	100	ug/Kg	61	68.4	100	ug/Kg	68	12	

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

QUALITY CONTROL FLAG DEFINITIONS

Job Number: 99.06604

(*) Indicates an out-of-control QC. The analytical data was reported based on other supporting quality control information.

(MS) Indicates that the Matrix Spike (MS) was out of statistical advisory limits.

(MSD) Indicates that the Matrix Spike Duplicate (MSD) was out of statistical advisory limits.

(RPD) Indicates that the Relative Percent Difference (RPD) for the MS/MSD pair was outside of statistical advisory limits.

(SS) Indicates that the MS and MSD were out of statistical advisory limits.

(SSR) Indicates that the MS, MSD and RPD were out of statistical advisory limits.

(MSR) Indicates that the MS and RPD were out of statistical advisory limits.

(MSDR) Indicates that the MSD and RPD were out of statistical advisory limits.

(DL) Indicates that the MS and MSD were diluted out and the percent recoveries of the spikes could not be calculated.

(LS) Indicates that statistical accuracy and precision data is not available for spike concentrations which are < 1/4 of the sample amount. Care should be used in interpreting this data.

(J) Indicates estimated concentration due to internal standard areas or surrogate recoveries outside of control limits. A sample matrix effect is usually indicated.

(DW) Indicates Dry Weight.

Analytical Reporting Limits

The reporting limits listed for non-aqueous samples in the analytical report section are Practical Quantitation Limits (PQLs). These PQLs are based upon a typical standard weight used for a non-aqueous sample. The reporting limit for a sample may be different from the PQL listed depending upon the actual weight of sample used, the samples moisture content and any dilutions used during the analysis.

NOTES AND COMMENTS

NET Job Number: 99.06604

Sample Number: 533844

Analysis: GCMS Semi-volatilcs library scarch

ADDITIONAL TENTATIVELY IDENTIFIED SEMI-VOLATILES:

COMPOUND	CAS NO.	ESTIMATED CONC.
bis-2-ethylhexyl phthalate	--	32,700 ug/Kg*
Benzenemethanethiol	100538	55,300
Pentan-1,3-Diisobutyrate, 2,2,4		74,300
1-Tetradecanamine, N,N-dimethyl-	112754	181,000
Unknown		57,500
Unknown		42,100

* Dctcction notcd but was bclow thc normal 8270 rcporting limit

Sample Number: 533843

ADDITIONAL TENTATIVELY IDENTIFIED SEMI-VOLATILES:

COMPOUND	CAS NO.	ESTIMATED CONC.
bis-2-ethylhexyl phthalate	--	17,700 ug/Kg*
dl-Limonene	138863	71,200

* Detection noted but was below the normal 8270 reporting limit

Sample Number: 533843 & 533844

Analysis: 8270B/Semi-Volatiles

10 grams of sample were used for the extractions, due to limited sample amounts (The "normal" amount is approxiamtely 30 grams). The extract was concentrated to 1 milliliter.

A portion of the extract was diluted 1:50 prior to injection into the instrument, thus elevating the overall reporting from a nominal 330 ug/Kg to 50,000 mg/Kg. Please note that some compounds have baseline reporting limits lower (such as benzo(a)pyrene) or higher (e.g. benzoic acid) than 330 ug/Kg.

A 50X dilution was made on the extract, due to visual observation of a large amount of black sludge-like material in the bottom fourth of the vial.

APPENDIX B

Chain-of-Custody

TESTAMERICA INC.

Chain of Custody Record

- ☐ Asheville, NC (A) (828) 254-5169
- ☐ Atlanta, GA (B) (770) 368-0636
- ☐ Bartlett, IL (C) (630) 289-3100
- ☐ Brighton, CO (D) (303) 659-0497
- ☐ Cedar Falls, IA (E) (319) 277-2401
- ☐ Charleston, SC (F) (843) 849-6550
- ☐ Charlotte, NC (G) (704) 392-1164
- ☐ Columbia, SC (H) (803) 796-8989
- ☒ Dayton, OH (I) (937) 294-6856
- ☐ Davenport, IA (J) (319) 323-7944
- ☐ Lumberton, NC (K) (910) 738-6190
- ☐ Indianapolis, IN (L) (317) 842-4261
- ☐ Nashville, TN (M) (615) 726-0177
- ☐ Macon, GA (N) (912) 757-0811
- ☐ Pontiac, MI (O) (248) 332-1940
- ☐ Orlando, FL (P) (407) 851-2560
- ☐ Rockford, Il (Q) (815) 874-2171
- ☐ Watertown, WI (R) (920) 261-1660

Client: Roy F. Weston, Inc.
Report Address: 2566 Kohnle Dr.
Miamisburg, OH 45342
Attn: Craig Stoll
Phone No.: (937) 384-4200
Fax No.: (937) 384-4201

Project No.: 01011.032.022.0100
Invoice Address: Same
Attn:
Sampled By: S. Berry / S. Parfitt
P.O. No:
Quote No.
State Samples Collected 2 (AS 500)

TURNAROUND TIME
☐ Standard
☐ Rush (surcharges may apply) Date Needed:

REQUESTED PARAMETERS

Is this work being conducted for regulatory compliance monitoring? Yes___ No___

Is this work being conducted for regulatory enforcement action? Yes___ No___

Which regulations apply:
RCRA___ NPDES Wastewater___
UST___ Drinking Water___
Other___ None___

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	METALS	CN	SVOCs	# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
BLDG40-0-000001	5.4.99	1110	G	SLUDGE		1	1							2	5.4.99 500 ADDITIONAL FRACTION PROVIDED
BLDG40-0-000002	5.4.99	1045	G	SLUDGE		1	1							2	

QC Deliverables: ☐ None ☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4

COMMENTS:

Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	5/4/99	1155	[signature]	5/4/99	1355
Stephanie Parfitt					

Lab Use Only:
Custody Seal: ☐ Yes ☐ No ☐ N/A
Bottles Supplied by TA: ☒ Yes ☐ No

APPENDIX C

Logbook Pages

5/4/99 BLDG. 40 DRAINS

0805 S. PARFITT AND I MET KEN SCHROEDER @ OSE LOBBY. WE THEN WERE TAKEN TO OSW 4TH FLOOR FOR CONTRACTOR ORIENTATION. K. SCHROEDER STATED THAT THE PLUMBER HAD SHOWN UP @ 0710, BUT HE COULDN'T CURRENTLY LOCATE THE PLUMBER.

0845 COMPLETED WATCHING CONTRACTOR V3000.

0850 ARRIVED @ BLDG 40. PLUMBER (D. PRO 5-4-99) WENT ON BREAK.

0900 SPOKE w/ C. SOLL.

0910 MET w/ SECURITY UP @ BLDG 99. RESOLVED PROBLEM w/ PARKING @ C BLDG LOT. NEED TO CALL X3400 IN THE FUTURE TO LET THEM KNOW ABOUT A SAMPLING EVENT REQUIRING PARKING IN AN UNUSUAL AREA.

0920 SETTING UP.

0930 PLUMBER (D. PRO 5-4-99) CAME BACK.

0945 CALIBRATED OVM. HELD H&S BRIEFING w/ S. PARFITT ON MONITORING INSTRUMENTS.

0950 DRAINS (FLOOR) #2 AND #4 UNABLE TO SAMPLE. DRAIN #2 (JANITOR CLOSET) TO BARE METAL, PROBE 3" AND BENDS APPROX. 90° TO THE NORTH. NO SAMPLE TO COLLECT. DRAIN #4,

5/4/99 BLDG 40 DRAINS

(FLOOR DRAIN) IN MAIN ROOM 100, HAS A FLOOD VALVE (A METAL BALL) BELOW THE CONICAL SHAPED LIP DRAIN. BALL IS LARGER THAN HOLE AND CANNOT BE REMOVED. THEREFORE, UNABLE TO ACCESS THE DRAIN. NOTE: SAMPLING RODS USED ARE STEEL RODS.

1000 S. PARFITT BEGAN SAMPLING DRAIN #5.

1045 COLLECTED BLDG40-0-000002 FROM DRAIN #7. COLLECTED METALS AND SVOC FRACTION ONLY.

1110 S. PARFITT COLLECTED BLDG40-0-000001 FROM DRAIN #5.

1120 ATTEMPTED TO SAMPLE DRAIN #6. THERE WERE NO SOLIDS/SLUDGE, ONLY WATER/CHEMICALS. NO SAMPLE COLLECTED. SPOKE w/ PLUMBER (D. PRO 5-4-99) EARLIER, THERE IS NO BASEMENT AND IN ORDER TO ACCESS FLOOR DRAINS WOULD REQUIRE TEARING UP OF THE FLOOR (CONCRETE). BOTH DRAINS #2 AND #4 WERE ≥ 2½" IN DIAMETER. SPOKE w/ C. SOLL. S. PARFITT AND HE WILL DELIVER SAMPLES TO LAB. NO NEED TO ICE SAMPLES. RAD SCAN WAS NOT REQUIRED ACCORDING TO BOB RANSCOTTOM.

1140 LEFT SITE.

APPENDIX D

Corrective Action Report

Mound Plant
Nonconformance/Corrective Action Report

Task Name:	Building 40 – Drains	**Initiator:**	Craig Stoll
Internal Project Number:	01011-032-022	**File Code:**	6.2.5
Project Manager:	Craig Stoll	**Date Initiated:**	4 May 1999
CAR No:	001	**Revision:**	0

Requirement: The drains in building 40 designated in the statement of work must be sampled for target analytes.

Finding/Observation: The field team experienced difficulties collecting the required samples from the designated drain locations.

Drain #2 – No samples could be collected because the drain line drops to a 90 degree elbow and no trap was present. The drain is buried in a concrete floor and the only access would be by jack hammering the floor to access the drain line. This was outside the task scope. Both the assigned pipe fitter and Mound technical lead, Bob Ransbottom, concurred with the decision.

Drain #4 – No sample could be collected because the drain has a metal flood valve immediately below the drain cover. The drain line is buried in a concrete floor and the only access would be by jack hammering the floor to access the drain line. This was outside the task scope. Both the assigned pipe fitter and Mound technical lead, Bob Ransbottom, concurred with the decision.

Drain #5 – Two sample fractions were collected, one for metals, and one for semi volatile organics. An insufficient amount of sludge was available in the drain to collect a sample for volatile organic analysis with no headspace. The amount of sample collected for semi-volatile analysis was insufficient for a normal extraction. The laboratory was requested to perorm a reduced volume extraction that is likely to result in elevated reporting limits.

Drain #6 – No samples could be collected because the drain line contained only water, no sludge or sediment were available for sampling.

Drain #7 – Two samples total were collected, one for metals, and one for semi volatile organics. An insufficient amount of sludge was available in the drain to collect a sample for volatile organic analysis with no headspace. The amount of sample collected for semi-volatile analysis was insufficient for a normal extraction. The laboratory was requested to perorm a reduced volume extraction that is likely to result in elevated reporting limits.

Corrective Action for Incident:

Initiator of Corrective Action: *Craig Stoll* _____ ***Date:*** *4 May 1999*

Root Cause: Not applicable

Corrective Action to Prevent Recurrence: Not applicable

Initiator of Corrective Action: *Craig Stoll* _____ ***Date:*** *4 May1999*

Rejected By: ___ Date Rejected: _	
Verifications/Approvals: Project Manager: Ora Stoll	Date: 5/20/95

Due to the history of printing and photographic development operations in Building 40, the project team, in coordination with the DOE/EPA Core Team, decided to sample process drains in the building. Roy F. Weston, Inc., was contracted to do sampling and analysis on five floor drains; numbered 2, 4, 5, 6, and 7. (See attached sketch.) Floor and sink drains located in the restrooms and floor drains in the 1994 addition were not sampled based on historical use and process knowledge. Weston experienced difficulties collecting the required samples from the drain locations as follows:

- Drain #2 - No samples could be collected because the drain line drops to a 90 degree elbow and no trap was present. The drain is buried in a concrete floor and the only access would be by jack hammering the floor to access the drain line. This was outside the task scope.

- Drain #4 - No sample could be collected because the drain has a metal flood valve immediately below the drain cover. The drain line is buried in a concrete floor and the only access would be by jack hammering the floor to access the drain line. This was outside the task scope.

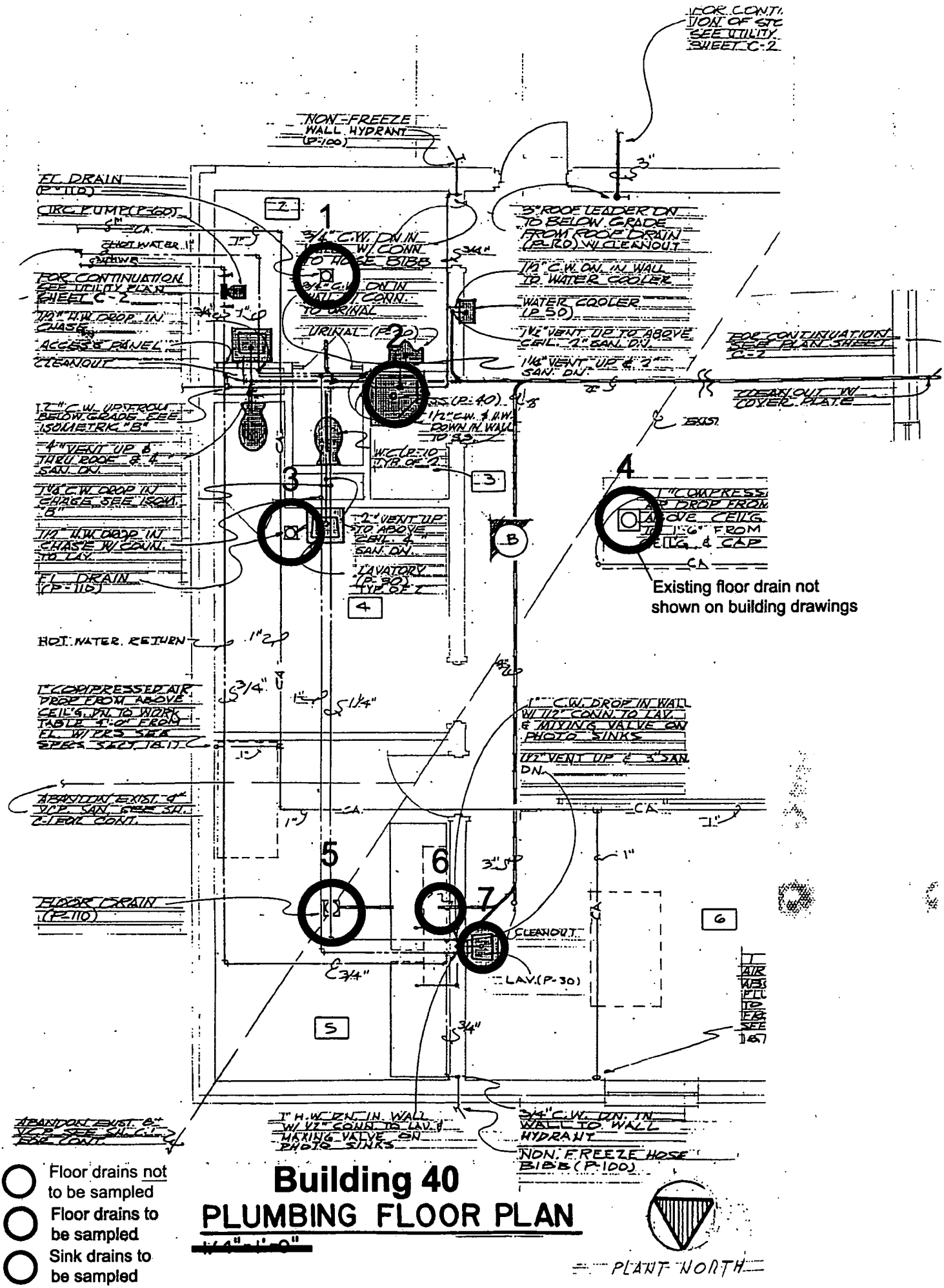
- Drain #5 - Two sample fractions were collected: one for metals and another for semi-volatile organics. An insufficient amount of sludge was available in the drain to collect a sample for volatile organic analysis with no headspace. The amount of sample collected for semi-volatile analysis was insufficient for a normal extraction. The laboratory was requested to perform a reduced volume extraction, which could result in elevated reporting limits.

- Drain #6 - No samples could be collected because the drain line contained only water; no sludge or sediment were available for sampling.

- Drain #7 - Two samples were collected: one for metals and another for semi-volatile organics. An insufficient amount of sludge was available in the drain to collect a sample for volatile organic analysis with no headspace. The amount of sample collected for semi-volatile analysis was insufficient for a normal extraction. The laboratory was requested to perform a reduced volume extraction which could result in elevated reporting limits.

The analytical results for drains 5 and 7 did not exceed the risk based 10^{-6} comparison levels for carcinogenic or toxic substances. The sampling process cleaned all existing sediment from the drains. A summary of significant analysis results and the full Weston report are located in Appendix K.

The IEMP Environmental Appraisal for Building 40 noted that the sink in the first floor janitor closet (drain #2) drains very slowly. The report surmises that the drain could have been connected to an abandoned line. Based on building drawings and the fact that the drain worked properly until 1994, this supposition appears incorrect. The Weston drain sample report notes that the Mound pipefitter who assisted Weston while samples were taken stated that he believed the drain line was collapsed. The Area Maintenance foreman stated that he did not know why the line would collapse; although the drain has resisted several efforts to unclog it. The Main Hill Non-Rad project intends to plug the drain.



Floor drains not to be sampled

Floor drains to be sampled

Sink drains to be sampled

Building 40

PLUMBING FLOOR PLAN

1/4" = 1'-0"

BUILDING 40
(PRINT SHOP)
SUMMARY OF SIGNIFICANT ANALYTICAL RESULTS

BUILDING 40 DRAIN #5

ANALYTE	RESULT	UNITS	REPORTING LIMIT	COMPARISON VALUES		
				Comp No.1	Comp. No. 3	Comp. No. 6
Cyanide. Total. Non-aqueous	2.81	mg/Kg	<0.125			4.30E+03 mg/Kg
Antimony	150	mg/Kg	<33			8.50E+01mg/Kg
Arsenic, ICP	<33	mg/Kg	<33			6.40E+01 mg/Kg
Barium, ICP	41.7	mg/Kg	<6.6			1.5E+04 mg/Kg
Beryllium, ICP	<2	mg/Kg	<2	7.00E-01 mg/Kg		1.10E+03 mg/Kg
Cadmium, ICP	<9.8	mg/Kg	<9.8	5.00E+04 mg/Kg		2.10E+02 mg/kg
Chromium, ICP	61	mg/Kg	<13	7.50E+03 mg/kg		1.10E+03 mg/Kg
Lead, ICP	257	mg/Kg	<26		400 mg/Kg	
Manganese, ICP	876	mg/Kg	<3.3			2.70E+04 mg/Kg
Mercury, CVAA	0.611	mg/Kg	<0.010			6.40E+01 mg/Kg
Nickel, ICP	73.1	mg/Kg	<3.3			4.30E+03 mg/Kg
Silver, ICP	83	mg/Kg	<13			1.10E+03 mg/Kg
Vanadium, ICP	<16	mg/Kg	<16			1.50E+03 mg/Kg
Zinc, ICP	1300	mg/Kg	<16			6.40E+04 mg/Kg

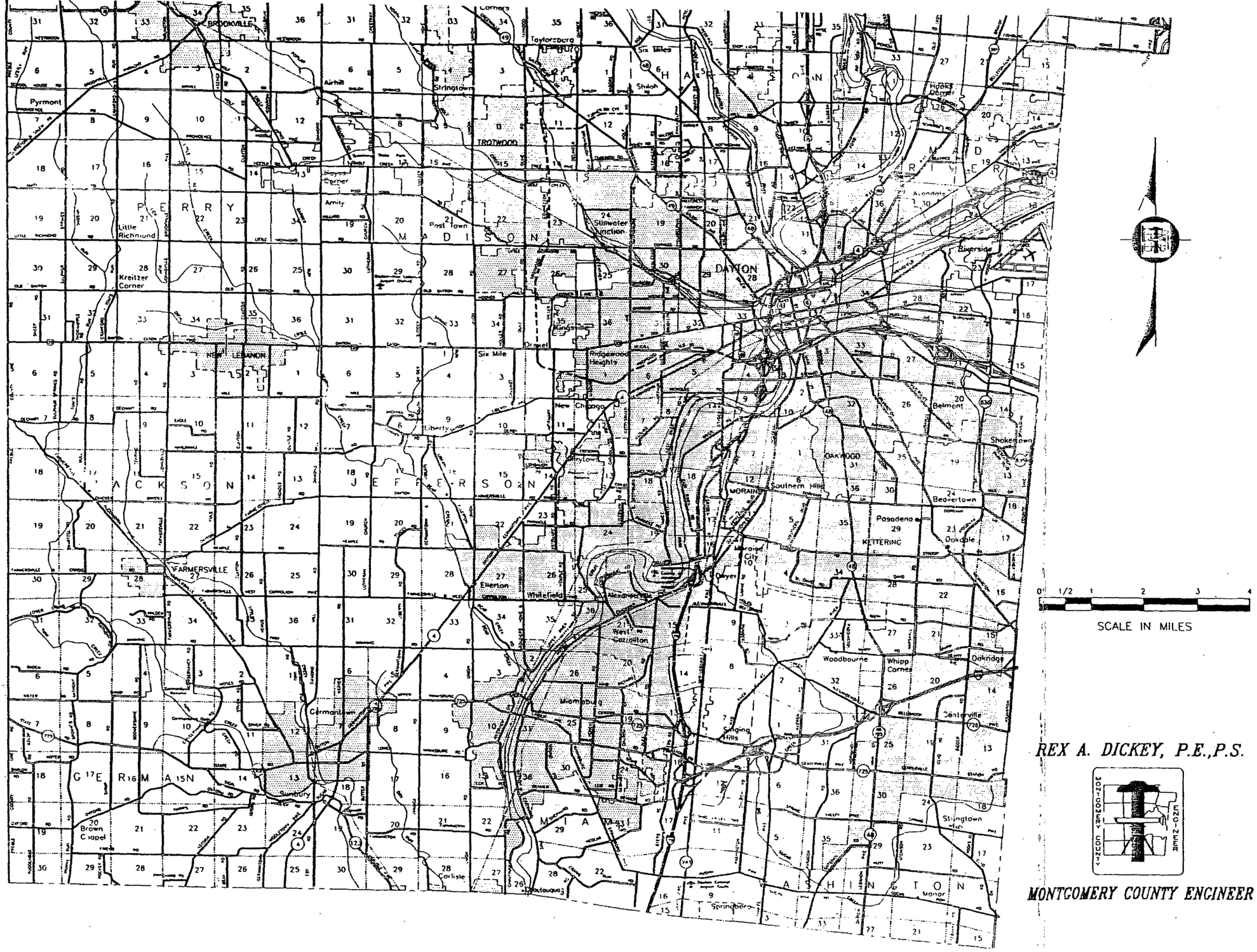
BUILDING 40 DRAIN #7

ANALYTE	RESULT	UNITS	REPORTING LIMIT	COMPARISON VALUES		
				Comp No.1	Comp. No. 3	Comp. No. 6
Cyanide. Total. Non-aqueous	80.2	mg/Kg	<0.125			4.30E+03 mg/Kg
Antimony, ICP	46	mg/Kg	<33			8.50E+01mg/Kg
Arsenic, ICP	<33	mg/Kg	<33			6.40E+01 mg/Kg
Barium, ICP	40.8	mg/Kg	<6.6			1.5E+04 mg/Kg
Beryllium, ICP	<2	mg/Kg	<2	7.00E-01 mg/KG		1.10E+03 mg/Kg
Cadmium, ICP	<10	mg/Kg	<10	5.00E+04 mg/Kg		2.10E+02 mg/kg
Chromium, ICP	375	mg/Kg	<13	7.50E+03 mg/Kg		1.10E+03 mg/Kg
Lead, ICP	370	mg/Kg	<26		400 mg/Kg	
Manganese, ICP	31	mg/Kg	<3.3			2.70E+04 mg/Kg
Mercury, CVAA	15.2	mg/Kg	<0.010			6.40E+01 mg/Kg
Nickel, ICP	402	mg/Kg	<3.3			4.30E+03 mg/Kg
Silver, ICP	87	mg/Kg	<13			1.10E+03 mg/Kg
Vanadium, ICP	<17	mg/Kg	<17			1.50E+03 mg/Kg
Zinc, ICP	7270	mg/Kg	<17			6.40E+04 mg/Kg
Di-n-butylphthalate	283000	ug/Kg	<49,500			2.10E+04 mg/Kg

Comparison No. 1	Value is 10-6 Risk-Based Guide Value (carcinogenic)
Comparison No. 3	Value is other criteria, i.e. 5 pCi/g for certain radionuclides 25 pCi/g plutonium
Comparison No. 6	Value is the Guide Value based on the hazard index (toxic)
RED	Above risk based comparison values (Note: none were above the comparison values)
GREEN	Risk based value lower than reporting limit

Page Redacted

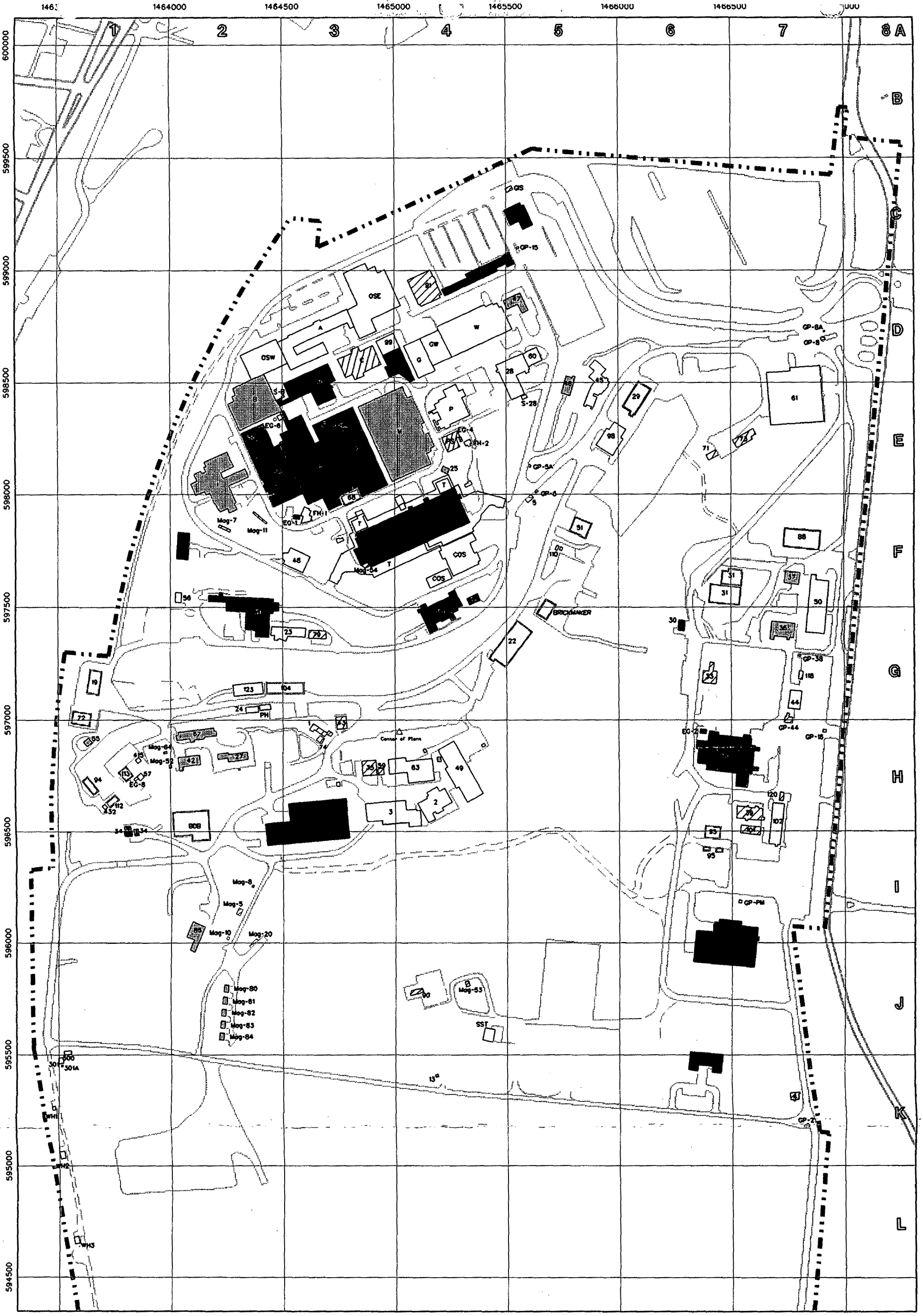
Contains Proprietary Information



REX A. DICKEY, P.E.,P.S.

MONTGOMERY COUNTY ENGINEER

FEBRUARY, 1992



Legend

- To Be Demolished (CERCLA)
- To Be Demolished (Construction)
- Personal Property
- Hatch: Removed/Demolished
- Transfer (Waiting Evaluation)
- Transfer (NFA)
- Transfer (FA)
- Transfer (RA)

TN
GN
MN

0 100 200 400 600 800 1000
Scale in Feet

ISS	DATE	REVISION	BY	CHKR	ENG	M
	07/29/99	UPDATE	MR			

MOUND

Environmental Restoration Geographic Information System

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

PART CLASSIFICATION

(U) TITLE CLASSIFICATION

Building Disposition Core Team

07/29/99

DRAWING CLASSIFICATION	SIZE	DRAWING NUMBER	JOB NUMBER
UNCLASSIFIED	D	bldg_disp.dgn	

DWG TYPE	PRMG	CAGEC	SCALE	SHEET 1 OF
STATUS		ORIGIN	MSTATION 5.0	

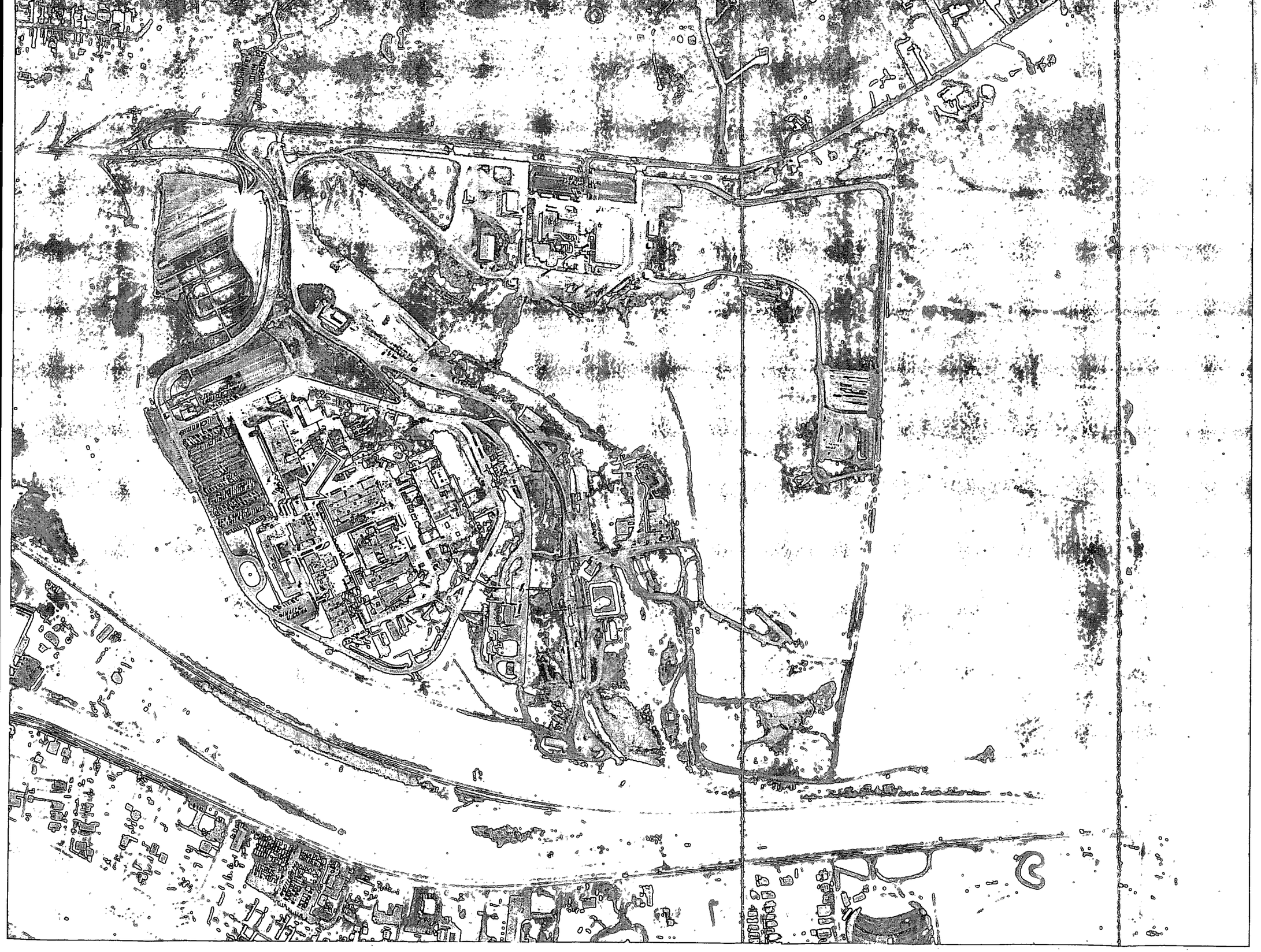
A B C D

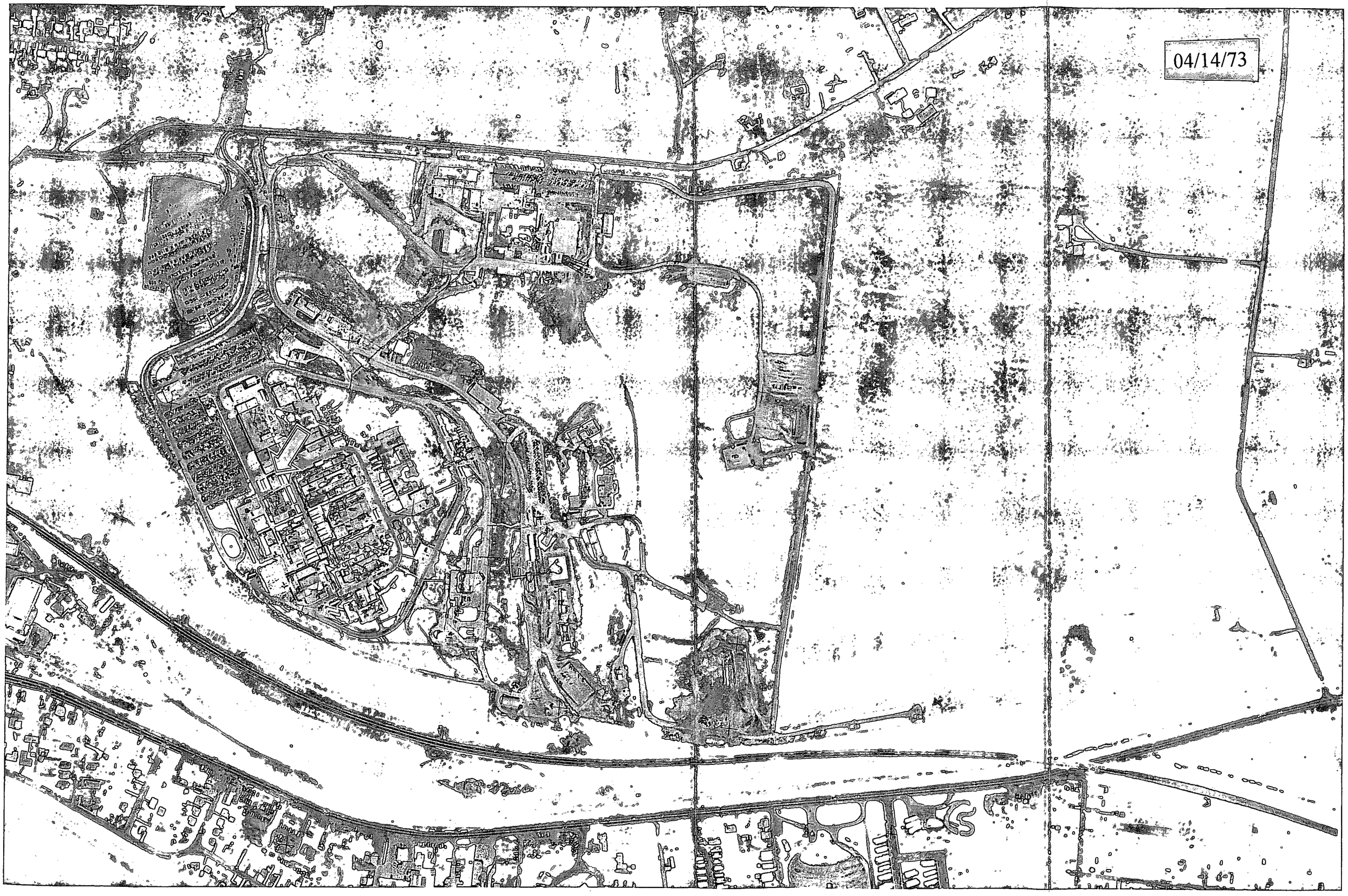
11/08/49

11/19/59
1955-70

04/07/65

03/30/68

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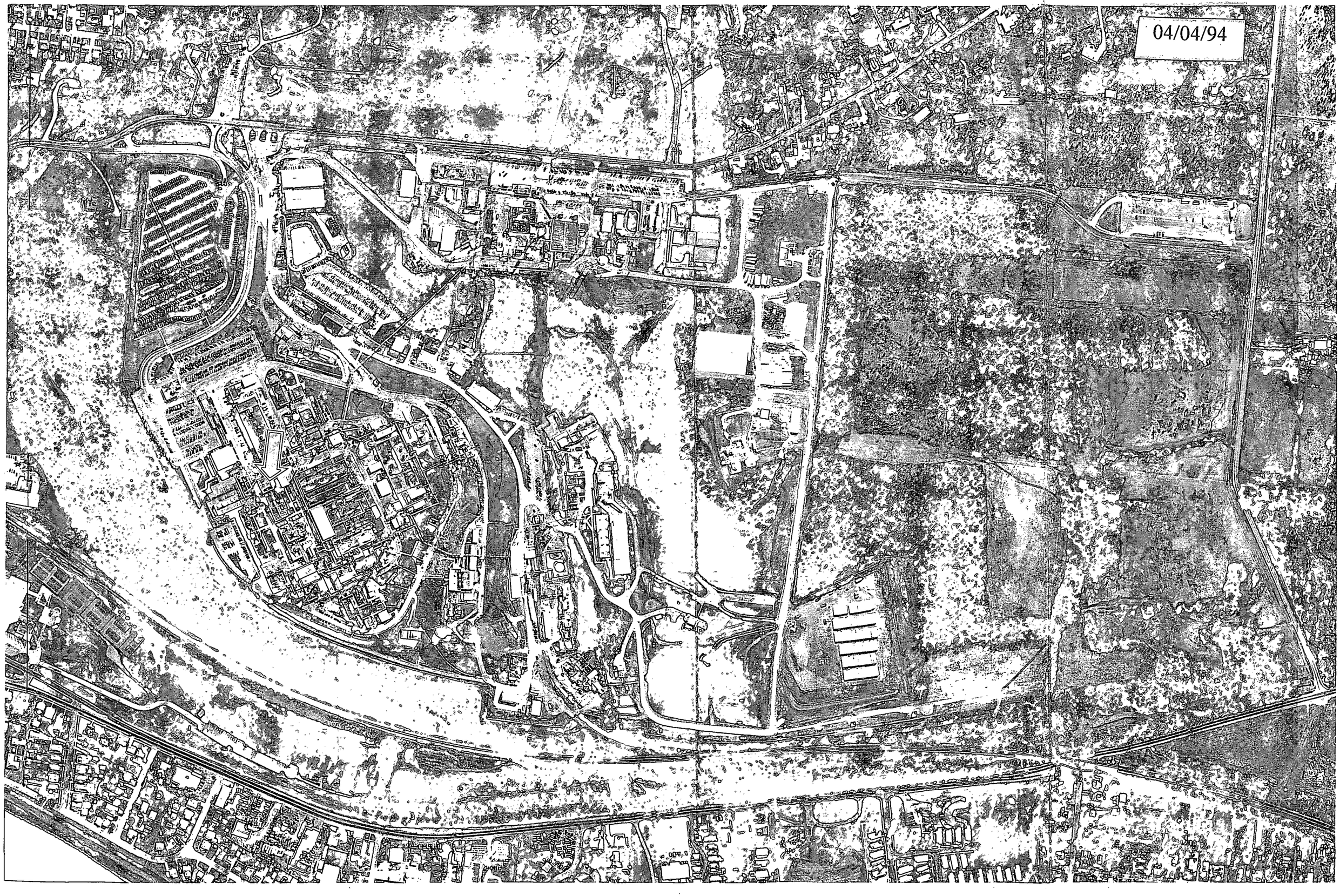
06/83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