L & L 28312
040-08976

Westinghouse Electric Corporation
Energy Systems
Box 355
Pittsburgh Pennsylvania 15230-0355

LA 88-49

November 4, 1988

U. S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406

Attention: Regional Administrator

Subject: Application for Source Material License

The Westinghouse Electric Corporation hereby submits this application for a Source Material License for the Westinghouse Site in Bloomfield, New Jersey. This license is intended to authorize Westinghouse to conduct decontamination and decommissioning activities at the site for the purpose of releasing the site for unrestricted use. Licensed material present at the site are currently possessed under License SMB-1423 issued to Phillips Lighting Company, a Division of North American Phillips Corporation. Issuance of a new license to Westinghouse is to be made concurrent with termination of License SMB-1423.

Enclosed is a check in the amount of $350.00 in payment of the fee specified in 10CFR170.31 for this application. If you have any questions concerning this application, please contact me.

Sincerely,

A. J. Nardi, Manager
License Administration

dh

Attachment

License Fee Information
on Application

109884
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OFFICIAL RECORD COPY ML10

L & L 28312

040-

APPENDIX A

NRC FORM 313
(1-84)
10 CFR 30, 32, 33, 34, 35 and 40

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED BY OMB
3150-0120
Expires: 8-31-87

APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIAL SECTION B
631 PARK AVENUE
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
MATERIAL RADIATION PROTECTION SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIALS LICENSING SECTION
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
MATERIAL RADIATION PROTECTION SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- [X] A. NEW LICENSE
- [ ] B. AMENDMENT TO LICENSE NUMBER _____
- [ ] C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

Westinghouse Electric Corporation
P. O. Box 355
Pittsburgh, PA 15230 Attn: A.J.Nardi

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED.

Westinghouse Electric Corporation
One Westinghouse Plaza
Bloomfield, N.J. 07003

9002050437 890203
REG1 LIC40
SMB-1527 PDR

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION: A. Joseph Nardi

TELEPHONE NUMBER: (412)374-4652

SUBMIT ITEMS 5 THROUGH 11 ON 8½ x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)
FEE CATEGORY 2G
AMOUNT ENCLOSED $ 350.00

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN, IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE—CERTIFYING OFFICER	TYPED/PRINTED NAME	TITLE	DATE
A Joseph Nardi	A. Joseph Nardi	Manager, License Administration	11/4/88

14. VOLUNTARY ECONOMIC DATA

a. ANNUAL RECEIPTS

- [ ] <$250K
- [ ] $250K–500K
- [ ] $500K–750K
- [ ] $750K–1M
- [ ] $1M–3.5M
- [ ] $3.5M–7M
- [ ] $7M–10M
- [ ] >$10M

b. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)

c. NUMBER OF BEDS

d. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (dollar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial—proprietary—information furnished to the agency in confidence)

- [ ] YES
- [ ] NO

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS	APPROVED BY
APP	Dec. 21	2G	88 NOV 16 A9:56	J. Kimball
AMOUNT RECEIVED	CHECK NUMBER			DATE
$350	928428			12/2/88

RECEIVED-REGION 1

PRIVACY ACT STATEMENT ON THE REVERSE

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109884

5. Radioactive Material

The material possession limits requested under this license are those associated with the decommissioning of the facility. Some known quantities are in the form of thorium compounds and/or metal in containers. There is also an unknown total quantity present as residual contamination, the extent of which is documented in Attachment 1. See Attachment 2 for a breakdown of the specific materials covered by Item 1 below.

Element	Chemical and/or Physical Form	Maximum Amount Which Will Be Possessed At Any One Time
1. Natural Thorium	Any form	300 kgs.
2. Natural Thorium	Any form as residual contamination	As present
3. Natural Uranium	Any form as residual contamination	As present

6. Purpose For Which Licensed Material Will Be Used

The purpose of this license is to permit Westinghouse to conduct decommissioning activities at the Bloomfield, NJ site. This site is currently licensed under NRC License Number SMB-1423, which is issued to Philips Lighting Company, a Division of North American Philips Corporation. Issuance of this license is expected to be concurrent with termination of License SMB-1423.

The activities to be conducted under this license are limited to; 1) decontamination of equipment, facilities and land as necessary to permit release of the site for unrestricted use, and 2) packaging of licensed material for transfer to other licensed operations. There will be no use of the licensed material for purposes of production as was done under License SMB-1423.

7. Individuals Responsible for Radiation Safety Program And Their Training and Experience

The activities to be conducted under this license are expected to be of short duration (approximately 6 months to perform decontamination and final survey). Most of the actual on-site effort will be conducted under contract by experienced contractors. Figure 7-1 presents the overall Westinghouse organization which will be responsible for this project. Each of these individuals is experienced with respect to his or her role in this project.

The radiation safety program is the direct responsibility of Mr. C. W. Bickerstaff, who will serve as the Radiation Safety Officer (RSO). His qualifications are presented in Tables 7-1 and 7-2.

The physical activities conducted on-site will be directed by contractor personnel who have not been specifically selected and identified. In lieu of presenting specific qualifications, the following qualifications will serve as the basis for selection of the contractor personnel.

Operations Supervisor

This individual shall have a minimum of two years of experience as a supervisor of similar projects. The individual shall be knowledgeable of basic radiation protection procedures as evidenced by successful completion of the radiation training program.

TABLE 7-1

C. W. Bickerstaff, Manager
Corporate Industrial Hygiene

Education

BS Chemistry, Duquesne University, 1970
MS Radiological Health, University of Pittsburgh, 1977

Nuclear Remediation Experience

Supervisor, Health Physics, Westinghouse Cheswick, PA. Decommissioning of the special nuclear material license for the uranium fuel fabrication facility. 1973-1974.

Manager, Corporate Industrial Hygiene. Decommissioning of the Manhattan Project at the Westinghouse Bloomfield, NJ plant. 1976-1978.

Additional Health and Safety Experience

Westinghouse Waltz Mill Site, Health Physics and Industrial Hygiene Technician, Hotcells Test and Training Reactor and Radiochemistry Operation. 1960-1970.

Westinghouse Nuclear Energy Systems, Forest Hills, PA. Health Physics, Industrial Hygiene and Safety Engineer, Nuclear Reactors Support and Research. 1970-1973.

Westinghouse Cheswick Plant. Health Physics Supervisor. Plutonium and Uranium Development Laboratories, Navy Nuclear Pump Decontamination Facility and Industrial Radiography. 1973-1976.

Westinghouse Corporate Industrial Hygiene Manager, Radiation Safety Officer and Member of Radiation Protection Committees for several Westinghouse nuclear operations. Manage the Corporate Radiation Protection Audit Program. 1976-Present.

Radiation Worker

Each individual who is to perform activities covered by this license shall have successfully completed the radiation training program described in Item 8 attached. Those individuals who have already had a minimum of 6 months experience on other similar jobs shall be permitted to conduct directed activities. Those individuals who have less than the minimum experience shall be limited to working along with experienced persons until they have demonstrated adequate competence.

Radiation Survey Personnel

Those individuals who will utilize radiation survey equipment to monitor compliance with the license conditions, in addition to meeting the basic requirements stated above for a radiation worker, shall demonstrate competence in the proper use and interpretation of survey meters to the satisfaction of the RSO.

FIGURE 7-1

ORGANIZATION CHART

Westinghouse Organization

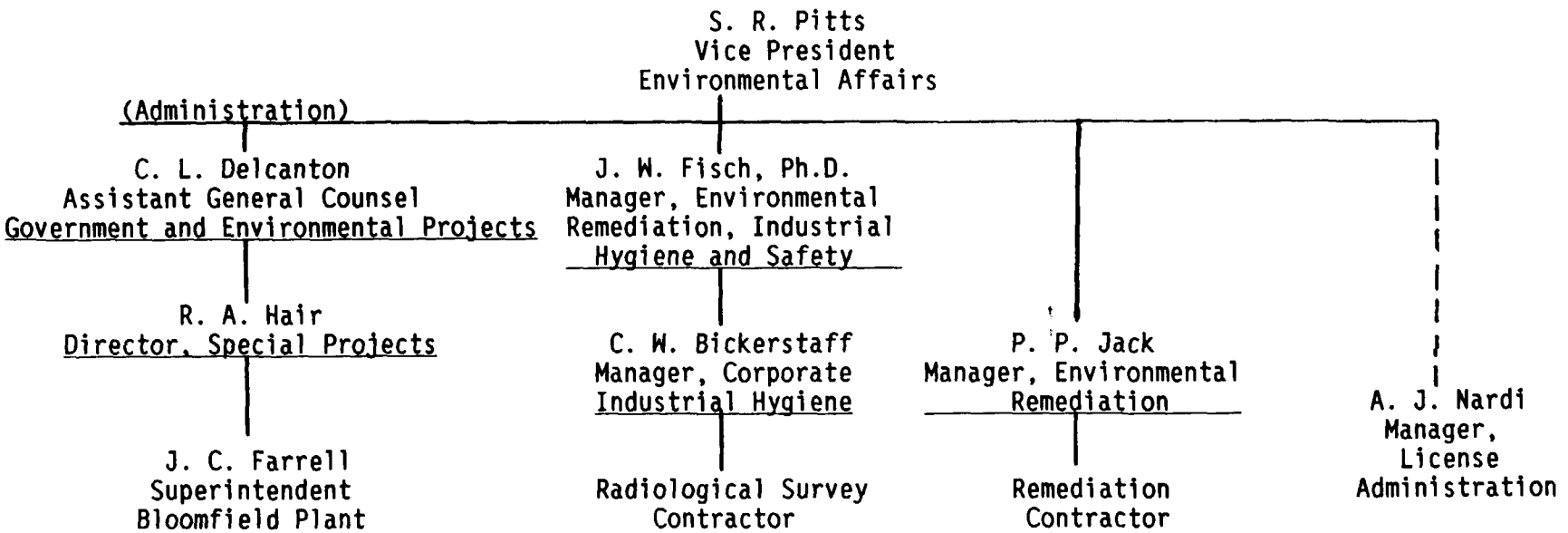

TABLE 7-2

C. W. BICKERSTAFF TRAINING

NAME: C. WAYNE BICKERSTAFF

Type of Training	Where Trained	Duration of Training	On Job Yes	On Job No	Formal Courses Yes	Formal Courses No
1. Principles and practices of radiological health safety	Westinghouse Waltz Mills	9-1/2 yrs.(1)	X			X
	Westinghouse Forest Hills	3 yrs. (1)	X			X
	Westinghouse Cheswick	3-1/2 yrs.(1)	X			X
	Westinghouse Hdqtrs.	12 yrs. (2)	X			X
	Univ. of Pittsburgh, Graduate School of Public Health	3-1/2 yrs. part-time		X	X	
2. Radioactivity measurements, standardization and monitoring techniques and instruments	Westinghouse Waltz Mills	9-1/2 yrs.(1)	X			X
	Westinghouse Forest Hills	3 yrs. (1)	X			X
	Westinghouse Cheswick	3-1/2 yrs.(1)	X			X
	Westinghouse Hdqtrs.	12 yrs. (2)	X			X
	Univ. of Pittsburgh, Graduate School of Public Health	3-1/2 yrs. part-time		X	X	
3. Mathematics and calculations basic to the use and measurement of radioactivity	Westinghouse Waltz Mills	9-1/2 yrs.(1)	X			X
	Westinghouse Forest Hills	3 yrs. (1)	X			X
	Westinghouse Cheswick	3-1/2 yrs.(1)	X			X
	Westinghouse Hdqtrs.	12 yrs. (2)	X			X
	Univ. of Pittsburgh, Graduate School of Public Health	3-1/2 yrs. part-time		X	X	

(1) Full-time
(2) Part-time approximately 20% of time

TABLE 7-2 Continued

NAME: C. WAYNE BICKERSTAFF

Type of Training	Where Trained	Duration of Training	On Job Yes	On Job No	Formal Courses Yes	Formal Courses No
4. Biological effects of radiation	Westinghouse Waltz Mills	9-1/2 yrs.(1)	X			X
	Westinghouse Forest Hills	3 yrs. (1)	X			X
	Westinghouse Cheswick	3-1/2 yrs.(1)	X			X
	Westinghouse Hdqtrs.	12 yrs. (2)	X			X
	Univ. of Pittsburgh, Graduate School of Public Health	3-1/2 yrs. part-time		X	X	
5. Actual use of radio-isotopes in the types and quantities for which application is being made, or equivalent.	Westinghouse Waltz Mills	9-1/2 yrs.(1)	X			X
	Westinghouse Forest Hills	3 yrs. (1)	X			X
	Westinghouse Cheswick	3-1/2 yrs.(1)	X			X
	Westinghouse Hdqtrs.	12 yrs. (2)	X			X
	Univ. of Pittsburgh, Graduate School of Public Health	3-1/2 yrs. part-time		X	X	

(1) Full-time
(2) Part-time approximately 20% of time

8. Training for Individuals Working In Or Frequenting Restricted Areas

A radiation training program will be established for those individuals who will be conducting decommissioning activities under this license. This training requirement may be met by documentation provided by the contractor selected if that contractor has a radiation training program that meets the program described below. All personnel will receive training that will orient them to the Bloomfield site, the nature and levels of the contamination they will be working with, and other site specific controls such as prescribed protective clothing, etc.

The radiation training program shall cover the following subjects:

1) Review of the Regulations (10 CFR 19 and 20) and Postings (NRC-3 Form),
2) Availability of Regulations and License Documents,
3) The health protection problems associated with exposure to radioactive material,
4) The specific nature of the radioactive material involved,
5) The precautions and procedures to minimize exposure.
6) The purpose, function and proper use of protective devices used,
7) The proper use of monitoring equipment to survey themselves
8) The proper wearing of personnel monitoring devices,
9) The availability of radiation exposure reports the worker may request pursuant to 10 CFR 19.13,
10) The meaning of and proper response to radiation signs and warnings that may be utilized, and
11) Applicable procedures, especially with respect to meeting disposal site criteria for proper packaging and transportation of radioactive waste.

9. Facilities and Equipment

The Bloomfield site is described in Attachment 1, which defines the facilities and the residual contamination levels.

10 Personnel Health and Safety Plan for Decommissioning

I. This Personnel Health and Safety Plan (PSP) has been developed specific to the site conditions at the Westinghouse Bloomfield facility. Based upon the history of operations and activities at the plant, this Plan is designed to protect and limit exposure to potentially hazardous materials and activities by those personnel implementing the sampling and analysis plan. The implementation of this Plan and its described safety procedures will be coordinated with all site investigation activities.

II. The following personnel protective equipment will be available for use as needed in the radiation control areas:

1. One (1) each, half-face respirator with NIOSH/MSHA approved filter cartridges for radionuclides. TC-21C-135.

2. Tyvek suit or coveralls.

3. Disposable rubber overshoes and/or plastic shoe covers.

4. Latex or neoprene rubber gloves.

5. Hard hat.

6. Radiation monitoring device (e.g., film badge, TLD badge, pocket dosimeter).

Personnel will not be allowed to smoke, drink or eat while in the radiological control area. All radiation workers will be required to monitor themselves prior to leaving the site.

III. Monitoring Equipment

Radiation monitoring devices will be worn on outside layer of clothing. In addition, alpha, beta and gamma radiation detectors will be on site, and operated by qualified personnel.

For radiation measurements, an instrument which is capable of measuring at least 0.1 mrem per hour will be used.

IV. Radiation Control Areas

a. An initial radiation survey will be performed in each radiation control area prior to entry by radiation workers. Periodic surveys will be conducted at least monthly, and workers will be advised of any changes in radiation levels.

b. Personnel shall wear appropriate protective clothing (coveralls, lab coats, gloves, shoe covers or boots) upon entry into each radiation control area.

c. In general, airborne contamination will not be a problem, since there are no activities in these areas which would generate aerosols. However, if significant surface contamination is suspected or known, air samples will be taken.

d. All personnel shall monitor themselves with an end-window GM tube or equivalent meter upon exiting a radiation control area. Readings which are twice above background shall require appropriate decontamination activities.

V. Respiratory Protection

Respiratory protection devices may be issued to radiological workers as a precautionary matter and in the interest of maintaining exposures as low as reasonably achievable. Based on the pre-cleanup radiation survey results, there will be no need to utilize respiratory protection under the provisions of 10 CFR 20.103 in order to limit personnel exposures to airborne concentration to less than allowable levels. Air samples will be taken to assure that cleanup activities are being conducted in a manner so as not to generate airborne concentrations of radioactive material that would require the use of respiratory protection to maintain exposures within regulatory requirements. If such airborne concentrations are generated, cleanup practices will be modified as appropriate. In no case will respiratory protection devices be used under the provisions of 10 CFR 20.103 without the prior approval of the USNRC.

ITEM 11

11. Waste Management

The site decommissioning program will leave the Bloomfield, NJ site (facilities and land) in such a condition that it meets all the criteria (See Attachment 3) for unrestricted release. The waste materials generated or removed during these activities will be transferred to other licensed operations. A specific licensed burial site has not been selected because of the many issues surrounding specific burial site criteria and other economic factors.

Attachment 1

Radiological Survey of the

Westinghouse Electric Corporation/

North American Phillips Corporation Facility

at Bloomfield, NJ

(August 27, 1986)

(64 5.0-13)

RADIOLOGICAL SURVEY OF THE
WESTINGHOUSE ELECTRIC CORPORATION/
NORTH AMERICAN PHILLIPS CORPORATION
FACILITY AT BLOOMFIELD, NJ

109884

CANBERRA
RMC

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NOV 16 1988

RADIOLOGICAL SURVEY OF THE WESTINGHOUSE ELECTRIC CORPORATION/ NORTH AMERICAN PHILLIPS CORPORATION FACILITY AT BLOOMFIELD, NJ

Prepared For:

RECON SYSTEMS, INC.

Prepared By:

RADIATION MANAGEMENT CORPORATION

August 27, 1986

[100,100]067

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Acceptable Surface Contamination Levels

APPENDIX E

Site Maps

I. INTRODUCTION

In May, June and July of 1986, Radiation Management Corporation (RMC), performed a comprehensive radiological survey of the Westinghouse/North American Phillips facilities at Bloomfield, NJ. The purpose of this survey was to identify any area within these facilities which contains radioactive materials or contamination, and to provide quantitative and qualitative information concerning these materials. In addition, the survey was designed to specify all areas which exceed prescribed limits on contamination for unrestricted release, and to provide information on the level of decontamination efforts required to achieve these limits.

The Bloomfield Plant is comprised of eleven principal buildings and several smaller structures, containing approximately 1,000,000 square feet of building space, on a 14 acre site. The plant operations were devoted principally to the development and manufacture of electric lamps. In connection with this work, radioactive materials, primarily uranium and thorium, have been used. The thorium was employed in a variety of studies and manufacturing processes related to the production of metallic wire for filaments. Uranium was used in work related to the Manhattan Project during World War II and in projects before and following that period.

The locations and uses of radioactive materials were generally well documented and controlled. Cleanup and remediation of several areas had been effected and access to other areas was controlled by the licensees. The primary area of uranium use at the plant, the basement of Building 7 (Manhattan Project), had been decontaminated, surveyed and released for unrestricted use by the U.S. Nuclear Regulatory Commission (NRC) in

1981. All other remaining areas are low level and present a negligible hazard to personnel or the environment.

II. RADIOLOGICAL SURVEY METHODOLOGY

A. Protocol

The radiological survey protocol was developed as part of the Sampling Plan for Radioactive Materials, which was contained in the Site Evaluation Plan submitted to the New Jersey Department of Environmental Protection by RECON SYSTEMS, INC. on April 17, 1986, on behalf of Westinghouse and North American Philips. Two separate survey protocols were established: 1) Intensive and 2) Non-intensive procedures.

For indoor areas known or believed to have contained radioactive materials, intensive survey procedures were used. These areas had been previously identified by plant personnel and confirmed during a preliminary survey performed by RMC in March, 1986.

Each of these areas was systematically sampled using a 1 meter grid system for accessible floor and wall surfaces. A contact reading with an end window GM tube was made at the intersection of each grid line to determine total beta-gamma activity. At 25% of these grid points, surface swipes were taken to assess the fraction of removable contamination present. In addition, contact alpha measurements were made at approximately 10% of the grid locations to ensure the absence of pure alpha emitters and equilibrium with beta-gamma daughters.

Items and equipment with irregular surface areas (equipment,

girders, pipes, ducts, drains) and small items were continuously scanned with an end window GM tube and swipes were taken at appropriate locations such as drain covers, vent openings, handles, and storage areas.

Whenever possible, removable contamination such as activity on swipes, concrete chips, floor sweepings, soils, paint chips or water samples was analyzed with an on-site high resolution gamma spectroscopy system to provide positive identification of contaminants.

For indoor areas presumed to be free of radioactive contamination, non-intensive survey procedures were used, which consisted of a walk through survey. This survey was accomplished with sensitive large volume NaI (Tl) scintillation detectors. In each area, the instrument was held 1 meter above the floor and moved slowly along the length (or width) of the area at about 2 meter intervals (e.g. traversing the area on lines separated by about 2 meters). In addition, locations such as drains, piping, vent ducts and cabinets, were surveyed with the probe. Any area where the reading exceeded three times the standard deviation of background was resurveyed on an intensive basis.

For outdoor areas, similar survey protocols were followed. All outdoor areas on the plant site were subjected to a non-intensive walk through survey with a NaI (Tl) detector system. Outdoor areas exhibiting radiation levels above normal background, and other areas where the presence of contamination was suspected, were subjected to intensive surveys. For small intensive survey areas, a 3 meter by 3 meter grid (or smaller) was established. At

each grid intersection two readings were taken; 1) a contact reading with an end window GM tube and 2) a reading one meter above the surface with a NaI (Tl) scintillation detector. Each grid was also scanned for elevated readings to detect a maximum level. Representative soil (or other media) samples were collected from elevated reading locations.

For large outdoor areas, a 10 meter by 10 meter grid was established. At each grid point, a gamma reading was recorded one meter above ground. In addition, continuous readings were made between the grid locations. At any location where gamma readings exceed three times the standard deviation of the background, contact, GM tube readings were taken and representative soil samples collected.

B. Instrumentation

A variety of instruments were used to measure radioactivity at the Bloomfield plant. Portable survey instruments included ratemeters, scalers and alpha, beta and gamma probes manufactured by Eberline, Ludlum and Johnson Assoc. Laboratory equipment included a Gamma Products automatic alpha/beta proportional counter and a gamma spectroscopy system consisting of an EG&G Ortec intrinsic germanium detector and a Tracor Northern multi channel analyzer.

Alpha surface activities were measured with alpha scintillation probes and count rate meter/scalers. Removable contamination was assessed by rubbing surfaces with dry filter papers and counted in a gas flow alpha/beta proportional counter. Beta surface activities and dose rates were measured with end

window GM tubes and rate meters. Gamma exposure rates were approximated with NaI (Tl) scintillation detectors (micro R-meters). Thorium and uranium concentrations in various media were determined by high resolution gamma spectroscopic analysis of parent and/or daughter photopeaks.

The quality assurance program for these instruments and measurements is described in the Sampling Plan for Radioactive Materials. Records generated during this project for quality control purposes are summarized in Appendix C.

C. Criteria

Results of the radiological survey may be evaluated in terms of acceptable contamination levels for unrestricted use.

The criteria for unrestricted release fall into several catagories which are summarized in Table 1. These criteria have been taken from USNRC Licenses, Tables and Branch Technical Position documents (see Appendix D) and USEPA Standards. Separate criteria are listed for natural uranium and natural thorium, the two predominant contaminants at the Bloomfield site. For uranium, contamination levels are specified in terms of average, maximum and removable alpha contamination. In addition, since uranium decay products emit beta particles, average and maximum beta surface dose rates have been specified. For thorium, average, maximum and removable activity levels are defined, without specification of the type of particle. Since natural thorium and daughters emit both alpha and beta particles, in approximately equal numbers, it is assumed the limits apply to either alpha or beta activity, each

independently of the other. Also, beta dose rate limits are applicable.

Table 1

Acceptable Concentrations and Contamination Levels

	Uranium Natural	Thorium Natural
Surface Contamination		
Average	5000 dpm/100cm^2 alpha	1000 dpm/100cm^2
Maximum	15000 dpm/100cm^2 alpha	3000 dpm/100cm^2
Removable	1000 dpm/100cm^2 alpha	200 dpm/100cm^2
Dose Rate		
Average beta	0.2 mrad/hr @ 1cm	0.2 mrad/hr @ 1cm
Maximum beta	1.0 mrad/hr @ 1cm	1.0 mrad/hr @ 1cm
Soil Concentration	5 pCi/g (each isotope in chain)	5 pCi/g (each isotope in chain)
Water Concentration	5 pCi/l (Ra-226)	15 pCi/l (gross alpha)

Although surface criteria are specified in terms of alpha activity for uranium, it is assumed that assessment of beta surface activity is adequate to confirm that alpha levels are within limits. That is, since natural uranium and natural thorium emit both alpha and beta particles, the measurement of beta activity is sufficient to establish the presence or absence of contamination. Hence, all survey locations were measured for beta activity. Alpha measurements were made primarily at locations where beta contamination was found, and randomly at other locations, to confirm that beta measurements were

adequate to characterize contamination levels. Use of this measurement protocol allowed for efficient and reliable measurements to be made in a timely manner. Survey results show that in locations where both alpha and beta surface count rates were measured, beta count rates were always higher. Therefore, the use of beta surface activity measurements to assess uranium contamination is adequate and conservative.

Application of several different criteria at a single measurement location and the random nature of radioactivity sampling and measurement can result in slightly inconsistent results. That is, it is possible for one (or more) standard to be exceeded, while all others are met. This problem is especially obvious with beta measurements, where both surface activity and dose rate measurements are performed with the same instrument. A conversion factor of 2 cpm/urad/hr was used for beta dose rate measurements. This conversion factor, which is consistent with similar factors employed by the NRC, leads to an inequality in beta criteria. Allowable beta dose rates produce a higher count rate than allowable surface activity for a given instrument. That is, the count rate equivalent to a 0.2 mrad/hr dose rate is greater than the count rate from 1000 dpm/100cm activity level. Thus, it is possible to be within beta dose rate limits but to exceed surface activity limits, at the same measurement point. In fact, this is indeed the case for a number of measurements at the Bloomfield site.

Because of these inconsistencies, areas have been characterized in terms of exceeding any potentially applicable criteria, even if all other criteria are met (see Section III, Survey Results).

III. RADIOLOGICAL SURVEY RESULTS

Survey results show that, with the exception of a few areas noted below, the Bloomfield Plant is relatively free of radiological contamination. Although several areas have been identified as containing radioactive materials, none present significant radiological hazards to personnel or the environment. Identified areas typically contain low levels of fixed surface contamination, either natural thorium or uranium. Small surface deposits, and in one case a subsurface deposit, have been detected outdoors. In general, the radiological contamination at the Bloomfield Plant is measureable above natural background but less than applicable criteria for unrestricted release, for most areas. However, the survey results have identified some areas which will require remedial actions, as described later.

The entire plant site, both indoor and outdoor, has been subjected to a walk through survey, using methods described in Section II. In addition, 86 individual areas within the site have been surveyed in detail, using the intensive survey methods previously described. These areas represent all locations where readings were statistically significant above background (but not necessarily exceeding acceptable contamination limits), or where radioactive materials were known to have been used or stored. They are identified in Figs. 1 and 2, summarized in Table 2 and characterized in more detail in the Appendices.

As can be seen, many areas are marginally contaminated; that is, all levels are within criteria or only a few isolated measurements exceed criteria, usually by less than a factor of two. For these marginal areas it is likely that minimal clean up activities will be required to achieve compliance with criteria listed in Section II. The

few remaining areas clearly exceed criteria and require more extensive decontamination. These areas have been selected from Table 2 and are presented separately in Table 3 with additional comments concerning the status of the contamination. In general, more intensive methods, such as surface removal or possibly bulk disposal, will be required to achieve criteria. The area requiring the greatest level of effort will be Bldg 9, where large volumes of contaminated equipment, duct work and flooring must be dealt with.

The measurement results for intensively surveyed areas are presented in Appendix A. Some areas listed in Table 2 are not detailed in Appendix A, due to the limited nature of the measurements performed. The sample analysis results from the high resolution gamma spectroscopy system are shown in Appendix B, along with representative spectra. In all cases but one, natural thorium or natural uranium was the contaminant. The single exception was soil from an area behind the substation (Area No. 81) where Ra-226 was measured.

Appendix C contains QC control charts for survey instrumentation and Appendix D contains the table for Acceptable Surface Contamination Levels, taken from NRC documents.

Appendix E contains site maps for user reference.

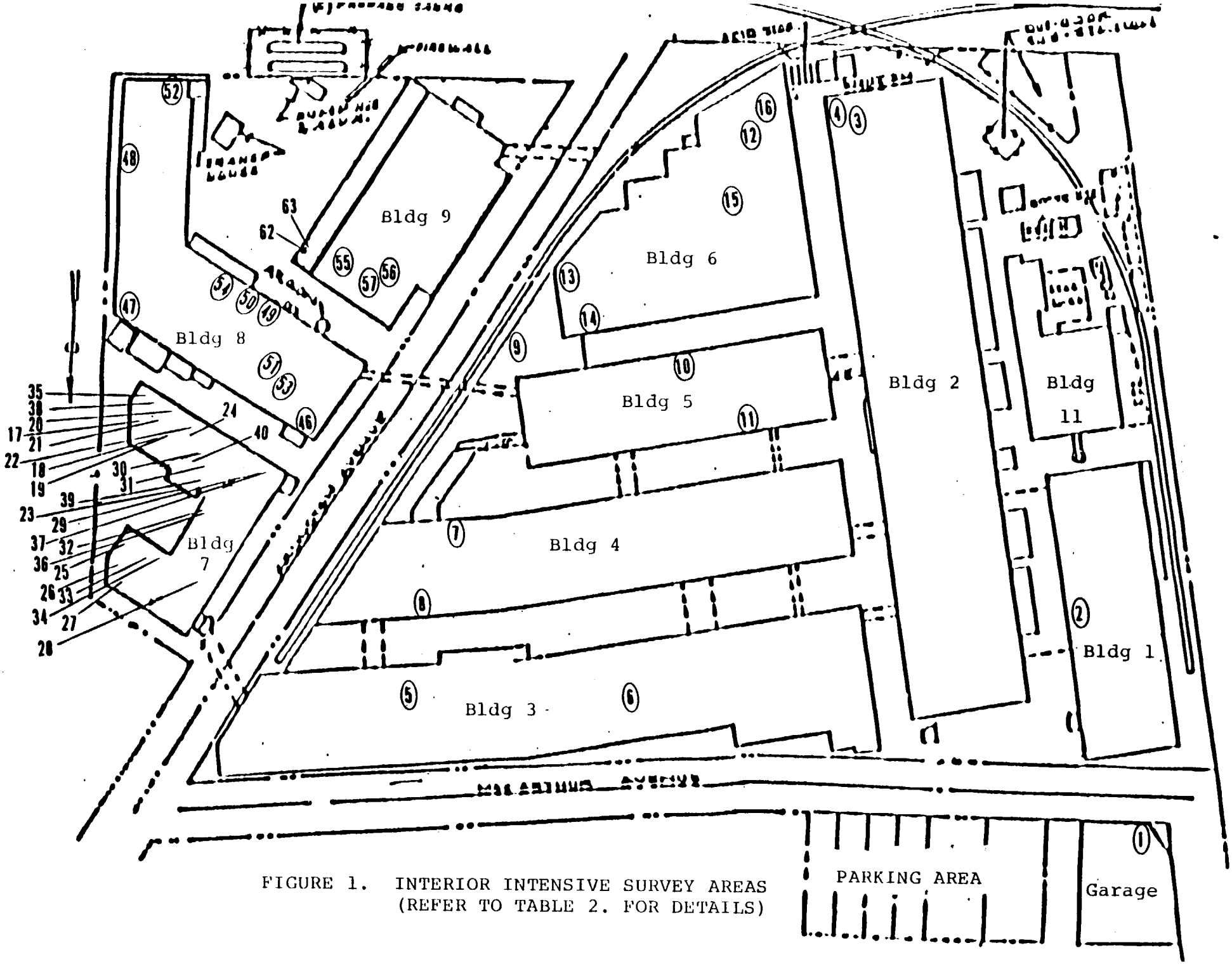


FIGURE 1. INTERIOR INTENSIVE SURVEY AREAS
(REFER TO TABLE 2. FOR DETAILS)

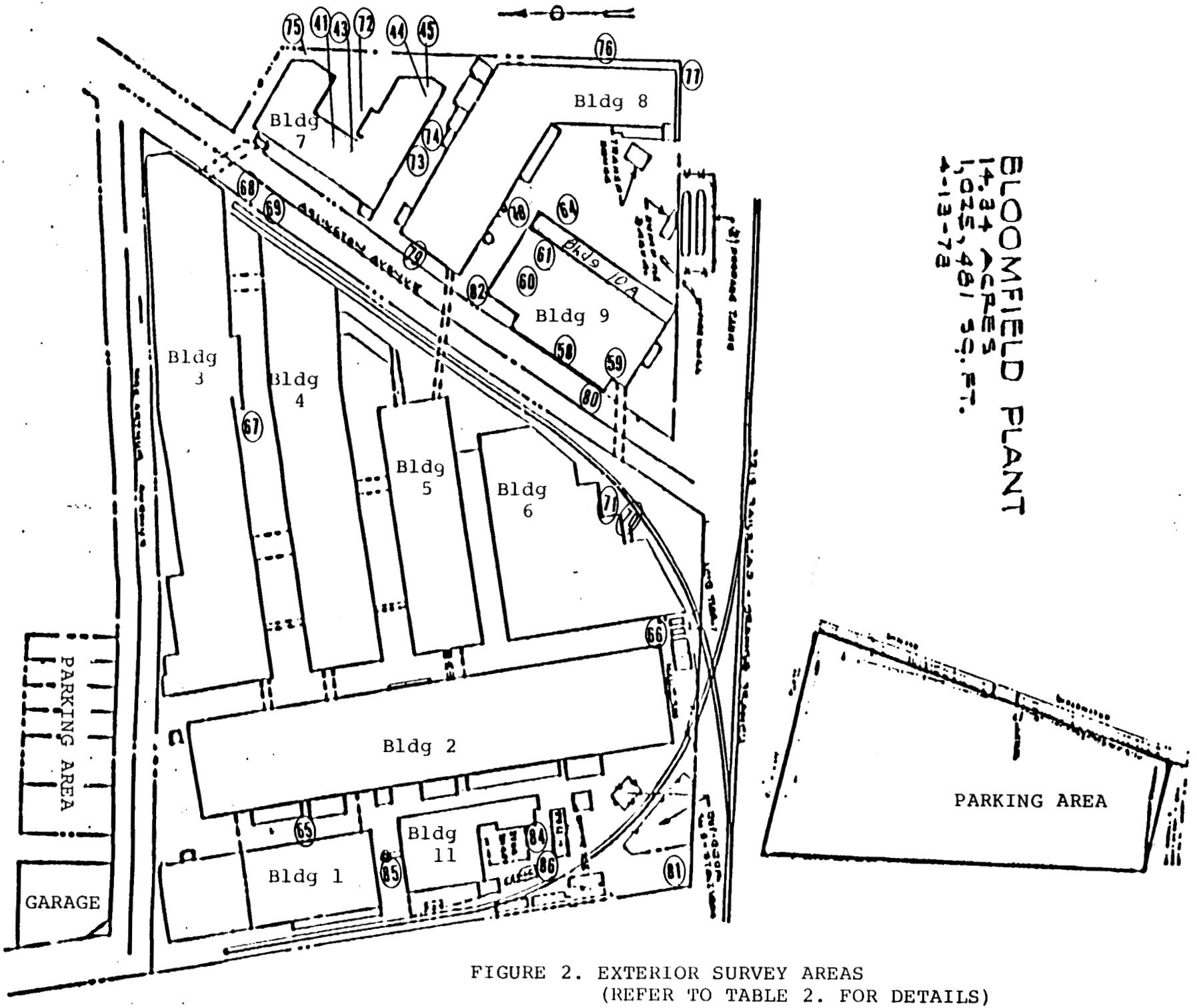


FIGURE 2. EXTERIOR SURVEY AREAS
(REFER TO TABLE 2. FOR DETAILS)

TABLE 2

MASTER INDEX OF SURVEY RESULTS

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
1	Garage Basement	None Taken	None Taken	16,500 Max	0.3 Max	Soil Floor: 70-130 pci/g U-238	1 out of 7 measurements exceeds 15,000 DPM/100cm^2 (max criteria for U)
2	Bldg 1, 1st fl TV Promotion Room	None Taken	None Taken	<1000	<0.2	N/A	5' dia. area carpeted room 14-18 uR/hr
3	Bldg 2, 1st fl, Rm below Moly-Ribbon Rm	All <200	None Taken	N/A	3.5 Max	N/A	Contaminated pipes from room above causing all elevated readings
4	Bldg 2, 2nd fl, Moly-Ribbon Rm	6 out of 20 smears >200	42,000 Max	120,000 Max	2.0 Max	Floor Sweepings: TH-232: 370 pCi/g	Significant portion of room area exceeds 1 or more criteria
5	Bldg 3, 3rd fl Lab Wall (both sides)	All <200	None Taken	4 out of 18 readings exceed 3000 DPM/100cm^2	0.13 Max	None Taken	Elevated readings believed to be due to wall brick material
6	Bldg 3, 3rd fl caustic washing area	550 Max	None Taken	All exceed criteria	0.8 Max	N/A	Brick floor area 18 uR/hr
7	Bldg 4, 1st fl rear stairway	ALL	LIMITS	SATISFIED			Area under lower steps 60 uR/hr from thorium rod

* see Table 1 for limits

NOTE: "NA" = not applicable

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm²	TOTAL α * DPM/100cm²	TOTAL β * DPM/100cm²	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
8	Bldg 4, 3rd fl east end - storage	All < 200	None Taken	8000 to 35,000	0.7	N/A	2 spots - 4' dia. 14 & 60 uR/hr
9	Bldg 5, 1st fl loading dock east end	N/A	N/A	N/A	N/A	<2 pCi/ml Th or U	3 containers (open) of contaminated oil 80 uR/hr
10	Bldg 5, 3rd fl rest room	ALL LIMITS SATISFIED					Possibly from tile 10 uR/hr
11	Bldg 5, 4th fl west area	ALL LIMITS SATISFIED					Box of bricks 15 uR/hr
12	Bldg 6, 1st fl isolated floor area	All <200	None Taken	2 Readings exceed 3000 DPM/100cm²	0.15 Max	Th-232: 40 pCi/g	Spot on concrete, wood flooring and soil
13	Bldg 6, NE side fork lift ramp	None Taken	None Taken	Within Limits	Within Limits	N/A	This is under the ramp 24 uR/hr
14	Bldg 6, Mercury Storage Room	ALL LIMITS SATISFIED					Stack of bricks 18 uR/hr
15	Bldg 6, Powder Storage Area	<200	None Taken	Exceed Limits	<0.2	N/A	Empty thorium cans

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
16	Bldg 6, SE section	N/A	N/A	N/A	N/A	10-20 pCi/g Th-232	1 barrel of debris slightly elevated reading
17	Bldg 7, Basement Storage Room	All <200	4500 Max (at pipe)	58,000 Max (at pipe)	1.0 Max	N/A	Vent pipe from roof is likely only source of elevated readings
18	Bldg 7, Basement Office	All <200	1200 Max	58,000 Max	1.0 Max	N/A	Several random readings above 10,000 dpm/100cm^2, only 1 exceeds 15,000
19	Bldg 7, Basement, Small Office	420 Max	2760 Max	10,500 Max	.2 Max	N/A	No readings exceed uranium criteria
20	Bldg 7, Basement, Filter Room	177 Max	720 Max	43,000 Max	.75 Max	N/A	Only 4 discrete measurement points, small area
21	Bldg 7, Basement, Hallway	All <200	240 Max	6000 Max	.13 Max	N/A	Uranium criteria satisfied at all meas. locations.

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
22	Bldg 7, Basement HG Vapor Lamp Assembly Room	225 Max (on table top)	8000 Max (on table top)	Many readings exceed 15,000 660,000 Max	11.0 Max.	Overhead pipe insulation material U-238: 1000-3000 pCi/g	Floor essentially clean. Walls, pillars and overhead pipes exceed beta criteria. Low alpha, removable values indicate contamination covered with paint
23	Bldg 7, Basement, Vault	All <200	480 Max	180,000 Max	3.0 Max	Floor Chips: U-238: 1000 pCi/g	Approx, 50% of readings exceed 15,000 DPM/100cm^2
24	Bldg 7, Basement Life Test Room (including NW storage rms)	All <200	2500 max	600,000 Max	10.0 Max	Loose mat. on floor U-238: 1000 pCi/g	Significant floor surface exceeds beta 15,000 DPM/100cm^2
25	Bldg 7, 1st fl, Room 106	8 smears >200	34,000 Max	240,000 Max	4.0 Max	Powder from drum: TH-232: 170 pCi/g	Significant alpha, beta, removable contamination throughout room - thorium criteria apply
26	Bldg 7, 1st fl Room 107	All <200	840 Max (under tile)	4500 Max	0.1 Max	N/A	2 locations exceed 3000 DPM/100cm^2 beta (thorium limit for max) readings are generally higher beneath tile

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm²	TOTAL α * DPM/100cm²	TOTAL β * DPM/100cm²	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
27	Bldg 7, 1st fl Room 108	All <200	960 max	240,000 Max	4.0 Max	Floor chips, debris - U-238: 100 pCi/g	Small area of floor exceeds 3000 DPM/100cm² (limit for TH) other criteria satisfied
28	Bldg 7, Room 111	ALL	LIMITS	SATISFIED			Closet 14 uR/hr (Th rod removed)
29	Bldg 7, 1st fl, Room 119	270 Max	None Taken	43,000 Max		N/A	Single sink is only source of elevated readings
30	Bldg 7, Room 126	ALL	LIMITS	SATISFIED			Storage can 22 uR/hr
31	Bldg 7, 1st fl, Room 128	All <200	540 Max (in vault)	2100 Max (in vault)	.06 Max	N/A	TH criteria are satisfied
32	Bldg 7, 2nd fl men's room	ALL	LIMITS	SATISFIED			Possible contamination in drain pipes 14 uR/hr
33	Bldg 7, Room 202	ALL	LIMITS	SATISFIED			Closet 13 uR/hr thoriated rods
34	Bldg 7, Room 204	ALL	LIMITS	SATISFIED			Wall area 13 uR/hr possible plumbing

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm²	TOTAL α * DPM/100cm²	TOTAL β * DPM/100cm²	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
35	Bldg 7, 2nd fl Room 225	All <200	2340 Max (under sink)	28,000 Max	.5 Max	N/A	Single spot under sink exceeds criteria
36	Bldg 7, 2nd fl custodian room	ALL	LIMITS	SATISFIED			At 8' level 14 uR/hr Masonry
37	Bldg 7, Room 310	ALL	LIMITS	SATISFIED			At 6' level 14 uR/hr Masonry
38	Bldg 7, Room 313	None Taken	None Taken	Exceed Limits	Within Limits	N/A	15 & 20 uR/hr sink and floor drains
39	Bldg 7, 3rd fl, Room 318	ALL	LIMITS	SATISFIED			Bottle of TH liquid cause of elevated readings (removed)
40	Bldg 7, 5th fl dark room	ALL	LIMITS	SATISFIED			Wall tile or plumbing 10 uR/hr
41	Bldg 7, Roof, Main Stairway	All <200	None Taken	43,000 Max	.75 Max	N/A	Roof and 5th floor landings, some steps have fixed beta surface contamination above uranium max limits

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm²	TOTAL α * DPM/100cm²	TOTAL β * DPM/100cm²	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
42	Bldg 7, Roof, Storage Room	1400 Max	None Taken	300,000 Max	5.0 Max	Loose Mat. U-238: 100 pCi/g	Concrete floor above max U. limits
43	Bldg 7, Roof, Vent	1900 Max	None Taken	60,000 Max	1.0 Max	N/A	U. criteria exceeded
44	Bldg 7, Roof, SE Stairway	All <1000	None Taken	19,000 Max	.35 Max	N/A	U. limits for beta DPM/100cm² exceeded at 1 spot
45	Bldg 7, Roof, Pipe Enclosure	1460 Max	None Taken	90,000 Max	1.5 Max	Wall Scrapings: Greater than 1000 pCi/g U-238	Inner walls exceed U. limits. Pipe assumed to be internally contaminated all the way down to the basement.
46	Bldg 8, basement stairway	ALL	LIMITS	SATISFIED			10 uR/hr Shine from 10A
47	Bldg 8, 1st fl, trench & pit	None Taken	None Taken	22,500 Max	0.4 Max	Debris from trench bottom: TH-232: 103 pCi/g	Debris in trench contaminated with thorium and mercury

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
48	Bldg 8, 2nd fl rm 10 - chemical mfg. area	N/A	N/A	N/A	N/A	Loose Absorbent Material: Th-232 650 pCi/g	Oil spillage near window roller machine 100 uR/hr
49	Bldg 8, 3rd fl high temp lab	N/A	N/A	N/A	N/A		Wall tile 14 uR/hr
50	Bldg 8, 3rd fl high temp lab area	ALL	LIMITS	SATISFIED			Thorium wire cuttings on floor. Various thoriated products
51	Bldg 8, 3rd fl base lab area NE corner	None Taken	None Taken	Exceed Limits	N/A	N/A	Small spot of spilled thoriated liquid on wood floor 80 uR/hr
52	Bldg 8, 3rd fl furnace firing area SE end	<200	None Taken	60,000 Max	1.2	N/A	Small wall area behind radiator 12 uR/hr
53	Bldg 8, 4th fl storage area in packaging & shipping	ALL	LIMITS	SATISFIED			Various thoriated materials stored 1700 uR/hr (relocated to 10A storage)
54	Bldg 8, 5th fl Building pipe service	ALL	LIMITS	SATISFIED			10 uR/hr Possible masonry readings

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
55	Bldg 9, 1st fl (floor and wall surfaces) [this is largest single survey area - approx. 1500 measurement locations]	980 Max	29,000 Max	150,000 Max	2.5 Max	N/A	Most of floor exceeds 1000 (and 3000) beta DPM/100cm^2 limit. Many spots also exceed .2 MRAD/HR. Drains and drain trench show higher readings.
56	Bldg 9, 1st fl, Equipment - [Data presented in separate table]	800 Max	5400 Max	600,000 Max	10.0 Max	N/A	Several dozen separate items were surveyed. Sintering tables were surveyed most thoroughly and showed highest readings.
57	Bldg 9, Overhead Exhaust Ducts and Pipes [Data presented in separate table]	3300 Max	None Taken	88,000 Max	1.5 Max	N/A	All beta readings taken (except 1) exceed 3000 DPM/100cm^2. Approx. 50% also exceed .2 MRAD/HR. Contamination appears to be due to settled dust on upper surfaces, although internal contamination is possible.
58	Bldg 9, Lower West Roof	All <200	None Taken	7500 Max	.15 Max	N/A	TH criteria exceeded

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
59	Bldg 9, West Roof	1380 Max	None Taken	270,000 Max	4.5 Max	Loose Mat. - 10-45 pCi/g	Measurements made TH-232:primarily at vent openings. TH criteria exceeded at essentially all measured locations.
60	Bldg 9, Center Roof	550 Max	None Taken	None Taken	None Taken		One out of 10 smears taken in this area exceeded 200 DPM/100cm^2
61	Bldg 9, East Roof	All <200	None Taken	4500 Max	.10 Max	Roof Tar - TH-232: 15 pCi/g	6 out of 8 measurement locations had beta readings exceed 3000 DPM/100cm^2
62	Bldg 10A, Lab Area	17,000 Max	None Taken	330,000 Max (on equip.)	5.5 Max (on equip.)	N/A	High background in area interferes with determining precise locations of contamination on floor and wall surfaces. All readings on these surfaces and equipment exceed TH criteria.
63	Bldg 10A, Loft	250 Max	None Taken	None Taken	None Taken	N/A	Smear survey only. 1 out of 6 exceeds 200 DPM/100cm^2

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm²	TOTAL α * DPM/100cm²	TOTAL β * DPM/100cm²	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
64	Bldg 10, Exposed Concrete Pad	None Taken	None Taken	3300 Max	.08 Max	N/A	Only 1 out of 210 measurements exceeded 3000 DPM/100cm² Pad is believed to be essentially uncontaminated
65	Driveway between Bldg 1 and 2	<200	None Taken	<1000	<0.5	<5 pCi/g U and Th	Paved surface 7 uR/hr
66	Driveway between Bldg 2 and 6	ALL LIMITS SATISFIED					Shine from Moly-Ribbon Room 8 uR/hr
67	Sump (catch-basin) south side Bldg 3	None Taken	None Taken	None Taken	None Taken	Sludge: 40 pCi/g Th-232	Possibly from caustic washing in Bldg 3 25 uR/hr
68	End of RR tracks behind Bldg. 4	N/A	N/A	N/A	N/A	Soil/gravel: 1100 pCi/g U-238	22 uR/hr very small area
69	Behind Bldg 4 15' from end of tracks	N/A	N/A	N/A	N/A	Soil/gravel: 500 pCi/g U-238	20 uR/hr over small area
70	Behind Bldg 6 by RR tracks	N/A	N/A	N/A	N/A		Very small spot 12 uR/hr

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
71	Behind Bldg 6 by RR tracks	<200	None Taken	<1000	<0.2	None Taken	Blue plate grate 8 uR/hr
72	Bldg 7, Dock	None Taken	None Taken	4000 to 13,000	0.3	N/A	Loading dock slightly elevated readings 8 uR/hr
73	Bldg 7, Wooden Sluice	<200	None Taken	None Taken	None Taken	Gravel: 12 pCi/g RA-226	Aggregate in sluice 17 uR/hr
74	Bldg 7 near sluice ventilation base	ALL	LIMITS	SATISFIED			17 uR/hr
75	Bldg 7, NE corner near steps - under asphalt	N/A	N/A	N/A	N/A	Soil: 150 pCi/g Th-232	Area under raised asphalt near surface 26 uR/hr
76	Bldg 8, Outside near east wall	None Taken	None Taken	4500 Max	0.1 Max	TH-232: 50 pCi/g - 190 pCi/g at surface	Contaminated soil appears to be confined to top 1' depth only
77	Bldg 8, Outside near south wall	None Taken	None Taken	750 Max	<0.2	TH-232: 5-10 pCi/g	Elevated TH-232 in pea gravel in top 12" only
78	Bldg 8, across from Bldg 10A	ALL	LIMITS	SATISFIED			Shine from Bldg 10A 12 uR/hr

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm²	TOTAL α * DPM/100cm²	TOTAL β * DPM/100cm²	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
79	Bldg 8, 12' south of guard house by sidewalk	N/A	N/A	N/A	N/A	U-238 900 pCi/g U-235 59 pCi/g	Small spot 40 uR/hr
80	Bldg 9, Outside near west wall	None Taken	None Taken	6000 Max	0.12 Max	TH-232 5-10 pCi/g	Possible wash-off from roof at ground surface
81	Earth filled resevoir behind substation SW corner of property	None Taken	None Taken	10,500 Max	0.2 Max	U-238: 70 pCi/g Ra-226: 5-40 pCi/g	U-238 and RA-226 observed in soil (but no thorium). Depth of contamination undetermined
82	Near NW corner Bldg 9 sump catch basin	N/A	N/A	N/A	N/A	Th-232 32 pCi/g	Sludge in sump 26 uR/hr
83	Next to So. end of Bldg 9, circular slab area	None Taken	None Taken	None Taken	None Taken	Th-232: 90 pCi/g	Sandy material 44 uR/hr
84	Storage house behind Bldg 11	ALL LIMITS SATISFIED					Confined to bricks 10 uR/hr
85	Smoke stack for Bldg 11	ALL LIMITS SATISFIED					Interior of incinerator 30 uR/hr

* see Table 1 for limits

TABLE 2 - continued

AREA ID NO.	SURVEY AREA DESCRIPTION	REMOVABLE * α or β DPM/100 cm^2	TOTAL α * DPM/100cm^2	TOTAL β * DPM/100cm^2	β DOSE RATE * MRAD/HR	SOIL * SAMPLE RESULTS	COMMENTS
86	Interior bricks in incinerator SW of Bldg 11	ALL LIMITS SATISFIED					Confined to interior bricks 40 uR/hr

[100,100]060

* see Table 1 for limits

TABLE 3

AREAS WITH CONTAMINATION EXCEEDING RELEASE CRITERIA

AREA ID NUMBER	AREA DESCRIPTION	COMMENTS
1	Garage Basement	Sludge from atop floor with elevated uranium concentration requires removal (total volume undetermined).
3	Bldg 2, 1st floor below Moly-Ribbon Room	Contaminated pipes require cleaning or removal.
4	Bldg 2, 2nd Floor Moly-Ribbon Room	Floor, wall, sink and drain pipe require cleaning or removal.
6	Bldg 3, 3rd floor caustic washing area	Contaminated bricks require cleaning or disposal.
22	Bldg 7, Basement, HG Vapor Lamp Assembly Room	Most floor areas satisfy release criteria. However, isolated spots where bare concrete is exposed due to broken tile show contamination in excess of criteria limits. Vertical surfaces of walls and pillars show highest contamination levels. This contamination is fixed, possibly beneath layers of paint. Pipes at ceiling level also require cleaning or removal (possible asbestos in insulation around some pipes.)
23	Bldg 7, Basement, Vault	Surface of floor is contaminated in excess of release limits - layer of floor material requires removal.
24	Bldg 7, Basement Life Test Room	Large portions of concrete floor require cleaning or removal. Depth of contaminated concrete unknown.

TABLE 3 Continued

AREA ID NUMBER	AREA DESCRIPTION	COMMENTS
25	Bldg 7, 1st Floor, Room 106	All room surfaces require cleaning to eliminate removable contamination. Sink and equipment require cleaning or removal.
41-45	Bldg 7, Roof, Various Areas	Enclosure over large diameter pipe leading to basement requires scraping of interior wall surfaces. Pipe itself is possibly internally contaminated along entire length to basement. Concrete floor and steps in stairway and storage room require cleaning or removal of thin surface layers. Vent surfaces at roof level require cleaning. Vent origin should be located and contamination levels measured.
47	Bldg 8, 1st Floor, Trench	Sludge from portion of trench requires removal (contaminated with thorium and mercury).
55-57	Building 9, Interior	Large portions of floor require cleaning. Drains beneath floor may be contaminated. Equipment (especially sintering tables) require decontamination and/or removal and disposal. Overhead ductwork and pipes require cleaning or removal.
67	Sump Outside Bldg 3	Sludge from sump bottom requires removal (volume unknown). Drain pipe from 3rd floor caustic washing area may be contaminated.
68-69	End of RR Spur between Bldgs 3 & 4	Surface soil and gravel between tracks requires removal (total volume unknown but surface area may be 3 ft by 20 ft).

TABLE 3 Continued

AREA ID NUMBER	AREA DESCRIPTION	COMMENTS
75	Outside Bldg 7, NE corner, under asphalt	Soil below asphalt requires removal. Depth and volume of contaminated material undetermined but surface area small.
76	Outside east wall of Bldg 8	Surface soil (top 12" estimated) requires removal. Total volume not known.
79	Outside Bldg 8 by Guard Shed	Soil requires removal. Depth and volume not known but believed small.
80	Outside west wall of Bldg 9, between wall and sidewalk	Surface soil requires removal. Large volume not anticipated.
81	Filled Resevoir behind substation, SW corner of property	Significant subsurface contamination likely. Additional characterization (e.g. borehole logging) and eventual soil excavation required.
82	Sump outside NW corner of Bldg 9	Sludge from sump bottom requires removal. Total volume unknown.

[100,100]079

APPENDIX A

SELECTED INTENSIVE SURVEY AREA MEASUREMENT RESULTS

NOTES:

1) REMOVABLE ACTIVITY VALUES DETERMINED BY WIPING A 100 CM^2 AREA AND MEASURING ALPHA AND BETA DPM ON SMEAR (SMEARS COUNTED WITH AUTOMATIC GAS-FLOW PROPORTIONAL COUNTER).

2) TOTAL ALPHA ACTIVITY MEASURED WITH RATE METER/SCALER AND ZNS WINDOW PROBE. PROBE AREA = 17 CM^2. EFFICIENCY = 0.2 COUNTS PER DISINTEGRATION.

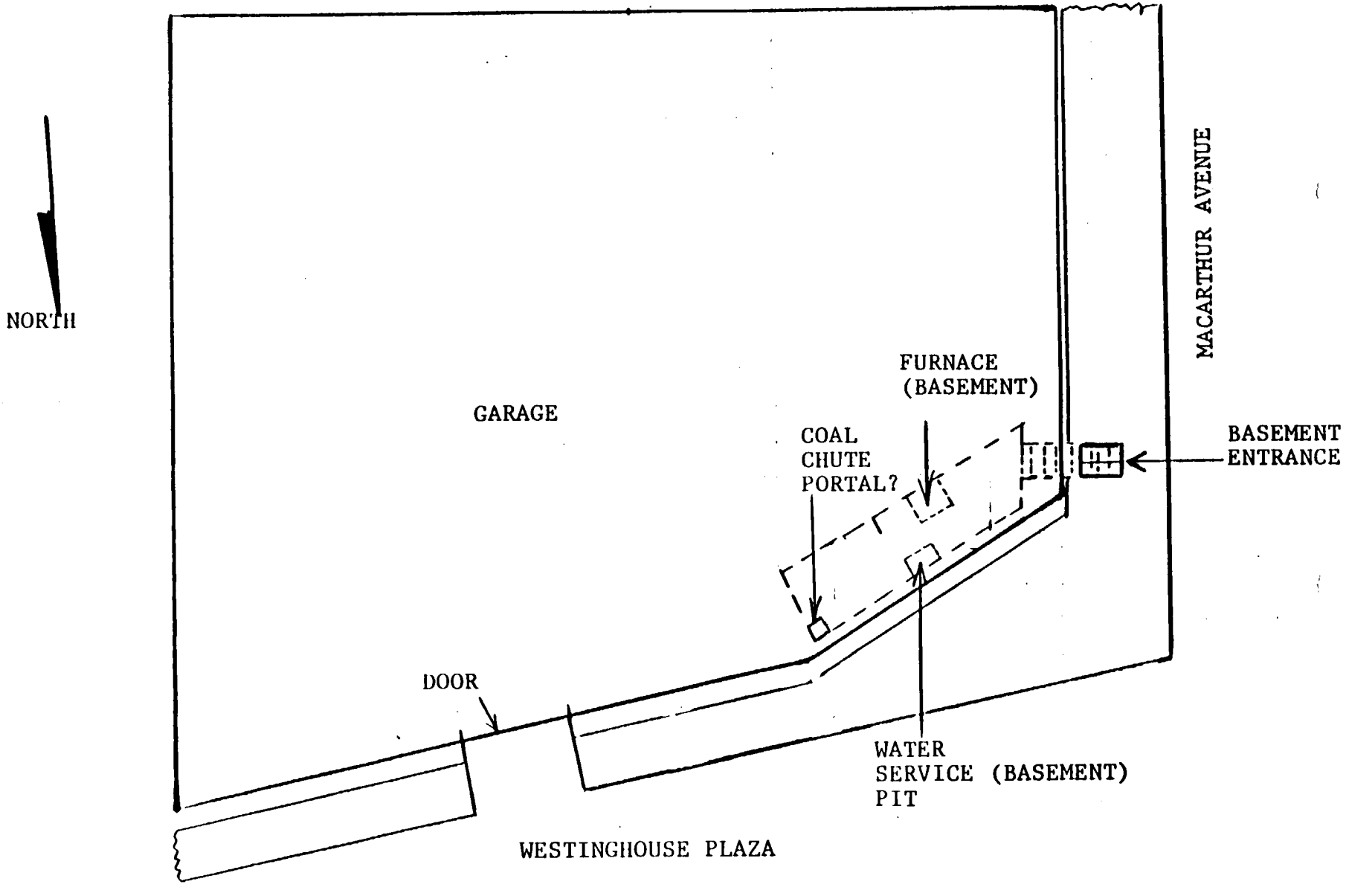
3) TOTAL BETA ACTIVITY MEASURED WITH RATEMETER AND GM PROBE. PROBE WINDOW AREA = 17 CM^2. EFFICIENCY = 0.2 COUNTS PER DISINTEGRATION. MEASUREMENTS IDENTIFIED WITH THE NOTE "CW" (FOR "CLOSED WINDOW") WERE MADE WITH A THIN ALUMINUM ABSORBER BETWEEN PROBE WINDOW AND MEASURED SURFACE TO DETERMINE APPROXIMATE FRACTION OF TOTAL COUNT RATE DUE TO ACTIVITY ACTUALLY PRESENT AT SURFACE.

4) DOSE RATE VALUES CALCULATED USING THE FOLLOWING CONVERSION FACTOR: 1 uRAD/HR = 2.0 COUNTS PER MINUTE.

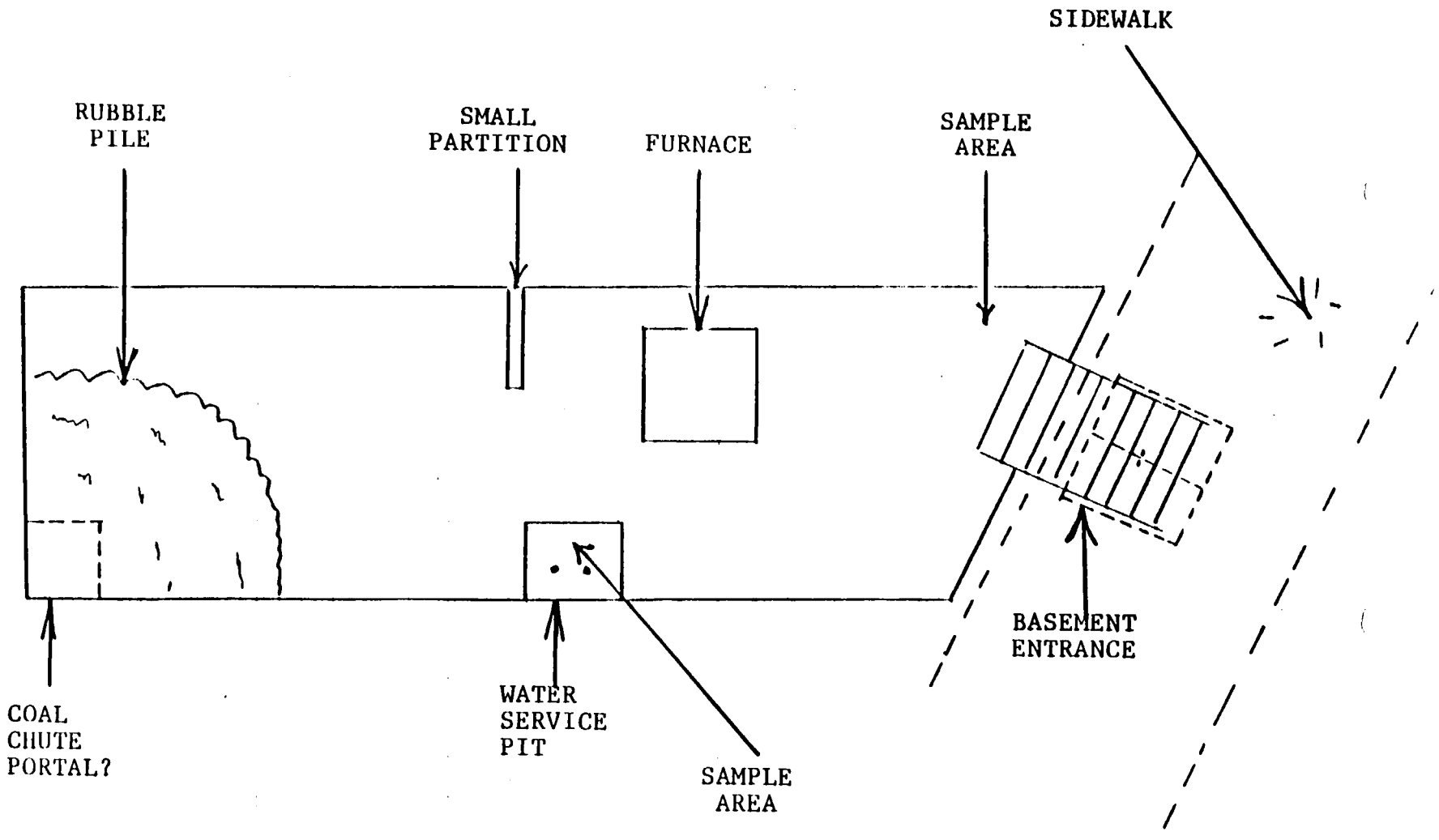
5) MEASUREMENT RESULTS REPORTED AS "MDA" SIGNIFY THAT NO STATISTICALLY SIGNIFICANT ACTIVITY ABOVE AMBIENT BACKGROUND LEVELS WAS DETECTED.

PARKING AREA

AREA NO. 1



AREA NO. 1 (DETAIL)



GARAGE BASEMENT

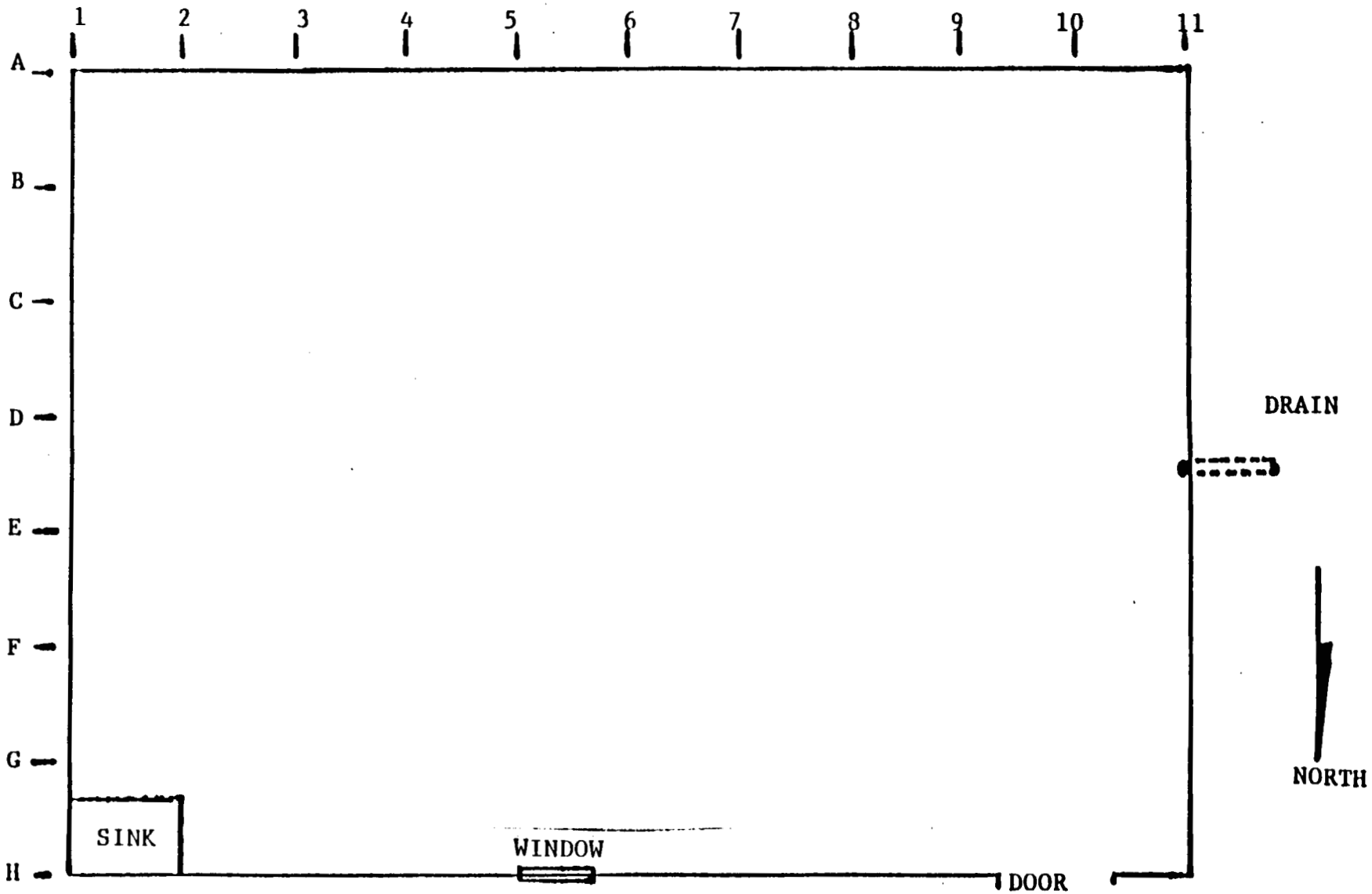
Surface Contamination Survey
Garage Basement

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
CEILING			0.06	2250	
BASE OF STAIRS			0.18	9000	
BASE OF STAIRS CW			0.08	3000	
AREA LEFT OF STAIRS			0.13	6000	
ACROSS FROM FURNACE			0.30	16500	
ACROSS F/FURNACE CW			0.08	3000	
AREA LEFT OF FURNACE			0.13	6000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO.4

(AREA NO. 3 DIRECTLY BELOW THIS)



BUILDING 2, SECOND FLOOR, MOLY -RIBBON ROOM

Surface Contamination Survey
Building 2 1st Floor

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
ENTIRE FLOOR AREA			0.04	750	
TANK			0.05	1500	
SUSPENDED BEAM		MDA	1.20	70500	17.
SUSPENDED BEAM (CW)			0.95	55500	
SPRINKLER PIPE		7.	0.25	13500	13.
SPRINKLER PIPE (CW)			0.18	9000	
CROSS BEAMS		MDA	0.30	16500	6.
CROSS BEAMS (CW)			0.30	16500	
WHT WRAPPED PIPE		MDA	0.18	9000	11.
WHT WRAPPED PIPE (CW)			0.15	7500	
VENT BY DOOR		14.	0.08	3000	6.
VENT BY DOOR (CW)			0.08	3000	
VENT NEAR BEND		4.	0.01	MDA	7.
PIPE TO CEILING		7.	0.10	4500	11.
PIPE TO CEILING (CW)			0.08	3000	
HEATER		11.	0.08	3000	37.
HEATER (CW)			0.05	1500	
LIGHT SW END		MDA			4.
BEYOND SOIL TRAP		7.	1.00	58500	11.
BEYOND SOIL TRAP(CW)			0.95	55500	
PIPE NEAR LG VENT		7.	0.05	1500	13.
SOIL PIPE #1		MDA	3.50	208500	20.
SOIL PIPE #1 (CW)			3.00	178500	
SOIL PIPE #2			0.45	25500	
SOIL PIPE #3		4.	1.75	103500	22.
SOIL PIPE #3 (CW)			1.70	100500	
SOIL PIPE #4			0.95	55500	
SOIL PIPE #4 (CW)			0.75	43500	
SOIL PIPE #5		MDA	2.50	148500	6.
SOIL PIPE #5 (CW)			2.25	133500	
TOP LARGE VENT		7.			9.
TOP SMALL VENT		MDA			2.
LIGHT NEAR DRAIN		MDA			6.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Canberra/RMC

[210,150]057

Surface Contamination Survey
Building 2 Moly-Ribbon Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 01	42000	1275.	2.00	118500	877.
A 01 @1			0.15	7500	
A 01 @2			0.05	1500	
A 02			0.30	16500	
A 02 @1			0.08	3000	
A 02 @2			0.03	MDA	
A 03		96.	0.50	28500	59.
A 03 @1			0.05	1500	
A 03 @2			0.03	300	
A 04			0.20	10500	
A 04 @1			0.05	1500	
A 04 @2			0.03	MDA	
A 05			0.30	16500	
A 05 @1			0.03	MDA	
A 05 @2			0.04	600	
A 06		100.	0.35	19500	80.
A 06 @1			0.05	1200	
A 06 @2			0.03	MDA	
A 07			0.10	4500	
A 07 @1			0.02	MDA	
A 07 @2			0.02	MDA	
A 08			0.18	9000	
A 08 @1			0.03	MDA	
A 08 @2			0.02	MDA	
A 09			0.30	16500	
A 09 @1			0.03	MDA	
A 09 @2			0.02	MDA	
A 10			0.15	7500	
A 10 @1			0.04	600	
A 10 @2			0.01	MDA	
A 11	900.	182.	0.15	7500	208.
A 11 @1			0.04	750	
A 11 @2			0.03	MDA	
B 01	5500.		0.90	52500	
B 01 @1			0.04	750	
B 01 @2			0.03	MDA	
B 02			0.35	19500	
B 03			0.30	16500	
B 04			0.20	10500	
B 05			0.23	12000	
B 06			0.18	9000	
B 07			0.10	4500	
B 08			0.08	3000	
B 09			0.08	3000	
B 10			0.13	6000	
B 11		79.	0.30	16500	80.
B 11 @1			0.04	750	
B 11 @2			0.04	750	
C 01		204.	0.45	25500	128.
C 01 @1			0.08	3000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 2 Moly-Ribbon Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
C 01 @2			0.06	2250	
C 02	1440.		0.50	28500	
C 03		21.	0.45	25500	19.
C 04			0.20	10500	
C 05			0.15	7500	
C 06			0.10	4500	
C 07			0.13	6000	
C 08			0.13	6000	
C 09			0.10	4500	
C 10			0.09	3750	
C 11		71.	0.23	12000	85.
C 11 @1			0.04	750	
C 11 @2			0.03	MDA	
D 01			0.18	9000	
D 01 @1			0.09	3750	
D 01 @2			0.05	1500	
D 02			0.13	6000	
D 03		107.	0.18	9000	72.
D 04			0.20	10500	
D 05	3900.		0.18	9000	
D 06			0.13	6000	
D 07			0.08	3000	
D 08			0.09	3750	
D 09			0.08	3000	
D 10			0.06	2250	
D 11			0.05	1500	
D 11 @1			0.03	MDA	
D 11 @2			0.01	MDA	
E 01		75.	0.18	9000	54.
E 01 @1			0.05	1500	
E 01 @2			0.03	MDA	
E 02			0.09	3750	
E 03			0.09	3750	
E 04	1350.		0.10	4500	
E 05		71.	0.18	9000	72.
E 06			0.20	10500	
E 07			0.10	4500	
E 08			0.08	3000	
E 09		18.	0.15	7500	32.
E 10			0.10	4500	
E 11			0.15	7500	
E 11 @1			0.04	750	
E 11 @2			0.04	750	
F 01			0.10	4500	
F 01 @1			0.10	4500	
F 01 @2			0.05	1500	
F 02			0.08	3000	
F 03			0.05	1500	
F 04			0.08	3000	
F 05			0.06	2100	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 2 Moly-Ribbon Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
F 06			0.09	3750	
F 07			0.08	3000	
F 08	510.	21.	0.16	8100	32.
F 09			0.09	3750	
F 10			0.09	3750	
F 11		68.	0.15	7500	65.
F 11 @1			0.05	1500	
F 11 @2			0.03	MDA	
G 01			0.15	7500	
G 01 @1			0.09	3750	
G 01 @2			0.05	1500	
G 02		61.	0.18	9000	43.
G 03			0.05	1500	
G 04			0.13	6000	
SINK BASIN		50.	0.05	1500	41.
SINK TRAP	14700.	68.	1.25	73500	93.
G 05			0.08	3000	
G 06			0.08	3000	
G 07			0.13	6000	
G 08			0.06	2100	
G 09			0.05	1500	
G 10			0.09	3600	
G 11			0.11	5100	
G 11 @1			0.05	1500	
G 11 @2			0.04	600	
H 01 BEHIND SINK	4980		1.10	64500	
H 01 @1			0.13	6000	
H 01 @2			0.05	1500	
H 02			0.15	7500	
H 02 @1			0.06	2100	
H 02 @2			0.03	MDA	
H 03			0.15	7500	
H 03 @1			0.05	1500	
H 03 @2			0.04	750	
H 04		29.	0.18	9000	43.
H 04 @1			0.04	750	
H 04 @2			0.01	MDA	
H 05			0.06	2100	
H 05 @1			0.04	750	
H 05 @2			0.04	750	
H 06			0.06	2100	
H 06 @1			0.01	MDA	
H 06 @2			0.01	MDA	
H 07			0.18	9000	
H 07 @1			0.04	750	
H 07 @2			0.01	MDA	
H 08			0.06	2100	
H 08 @1			0.04	750	
H 08 @2			0.01	MDA	
H 09 DOOR			0.09	3600	

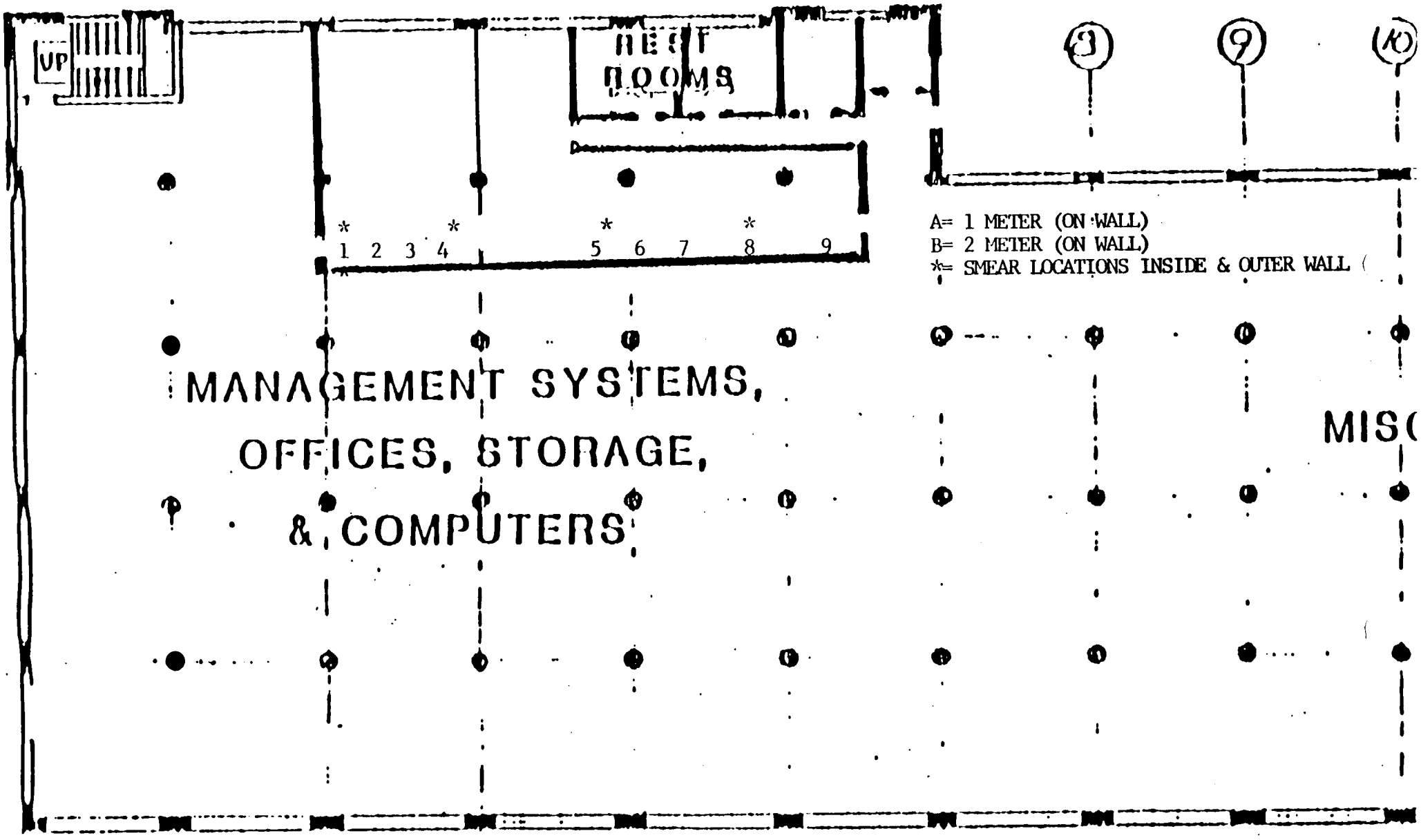
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 2 Moly-Ribbon Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
H 09 @1			0.04	750	
H 10			0.04	750	
H 10 @1			0.01	MDA	
H 10 @2			0.01	MDA	
H 11			0.13	6000	
H 11 @1			0.03	MDA	
H 11 @2			0.01	MDA	
DOOR HANDLES		18.			17.
BEHIND SINK		407.			484.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 5



BUILDING 3, THIRD FLOOR LAB WALL

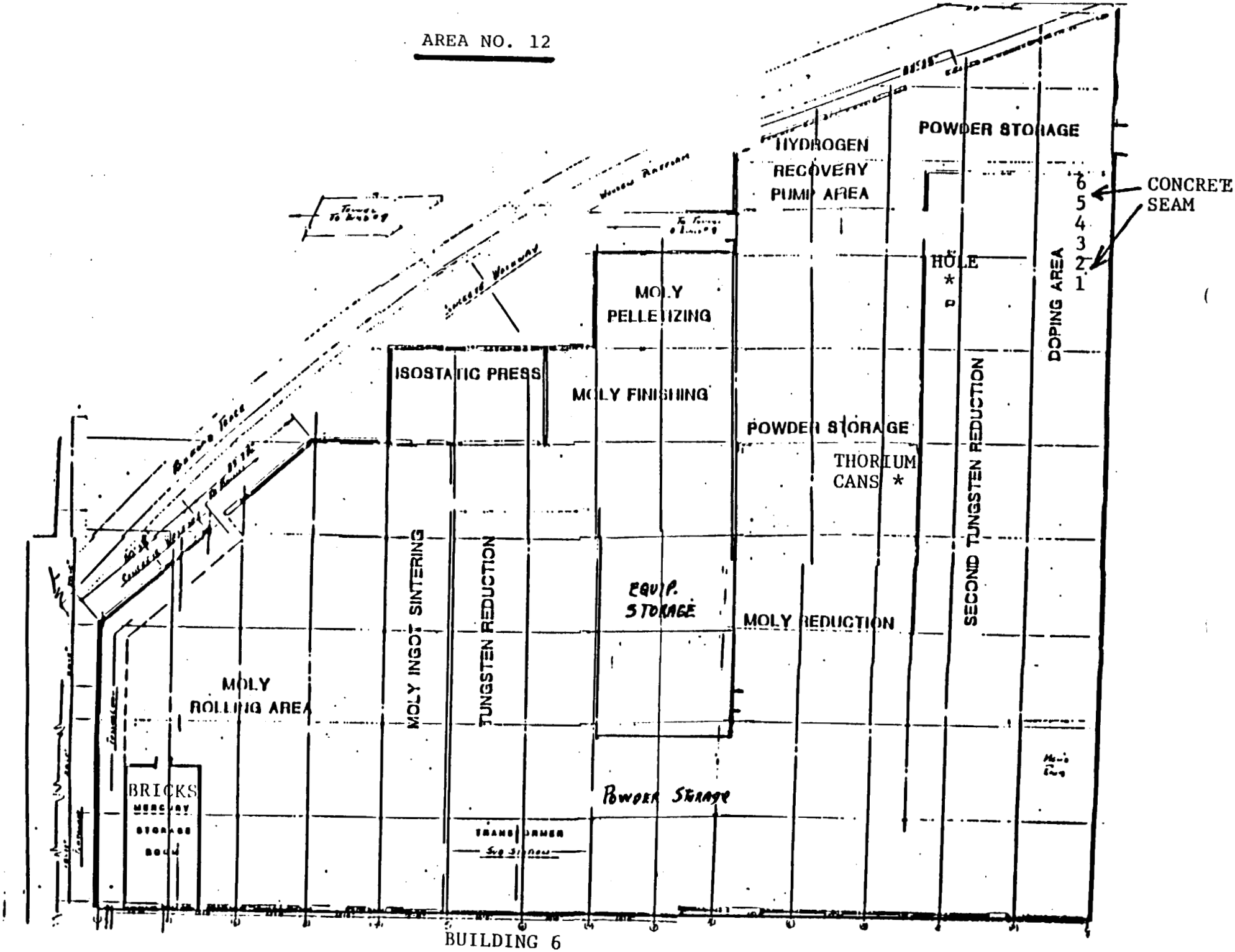
Surface Contamination Survey
Building 3 3rd Floor Wall

[210,150]059

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
LAB WALL INSIDE		29.			38.
LAB WALL INSIDE		MDA			5.
LAB WALL INSIDE		18.			3.
LAB WALL INSIDE		MDA			3.
LAB WALL OUTSIDE		MDA			MDA
LAB WALL OUTSIDE		MDA			MDA
LAB WALL OUTSIDE		MDA			3.
LAB WALL 3RD FLOOR		21.			16.
A 1			0.06	2250	
A 2			0.06	2250	
A 3			0.05	1500	
A 4			0.05	1500	
A 5			0.05	1500	
A 6			0.08	3000	
A 7			0.04	750	
A 8			0.06	2250	
A 9			0.04	900	
B 1			0.05	1500	
B 2			0.05	1500	
B 3			0.04	750	
B 4			0.04	750	
B 5			0.04	750	
B 6			0.08	3000	
B 7			0.04	750	
B 8			0.09	3750	
B 9			0.05	1500	
CLOCK			0.13	6000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 12



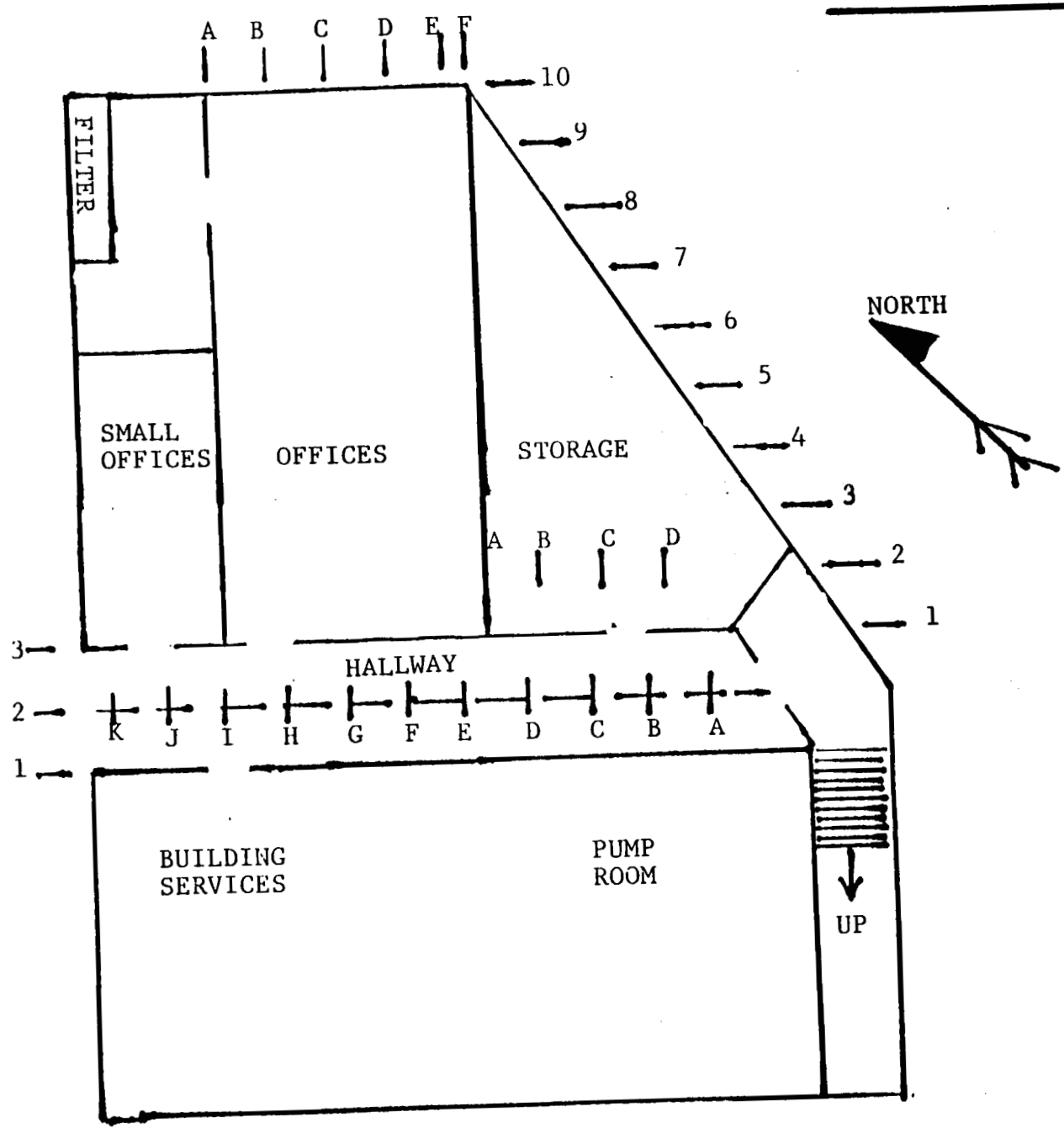
BUILDING 6

Surface Contamination Survey
Building 6 Floor Area

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
FLOOR SEAM		18.			24.
FLOOR SEAM		4.			6.
SPOT NEXT TO WALL		54.	0.09	3750	61.
DRAIN		4.			6.
THORIUM CANS IN		57.			41.
THORIUM CANS OUT			0.15	7500	9.
FLOOR SEAM 1			0.01	MDA	
FLOOR SEAM 2			0.03	MDA	
FLOOR SEAM 3			0.04	750	
FLOOR SEAM 4			0.03	MDA	
FLOOR SEAM 5			0.04	750	
FLOOR SEAM 6			0.04	750	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NOS. 17-21



BUILDING 7 BASEMENT

Surface Contamination Survey
Building 7 Basement Storage Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1	150.		0.03	300	
A 1 @1	30.		0.03	MDA	
A 1 @2		4.	0.03	MDA	10.
A 2		MDA	0.04	600	6.
A 2 @1			0.03	MDA	
A 2 @2			0.03	MDA	
A 3	240.		0.03	300	
A 3 @1	180.		0.08	3000	
A 3 @2	60.		0.15	7500	
A 4			0.05	1500	
A 4 @1			0.10	4500	
A 4 @2			0.10	4500	
A 5		30.	0.08	3000	46.
A 5 @1		MDA	0.08	3000	MDA
A 5 @2			0.08	3000	
A 6		MDA	0.05	1500	29.
A 6 @1			0.03	300	
A 6 @2			0.03	300	
A 7			0.06	1800	
A 7 @1	60.		0.03	300	
A 7 @2			0.03	300	
A 8	300.	7.	0.05	1500	31.
A 8 @1			0.05	1500	
A 8 @2			0.05	1500	
B 1			0.02	MDA	
B 2			0.03	MDA	
B 3			0.02	MDA	
B 4			0.03	300	
B 5			0.03	MDA	
B 6			0.02	MDA	
B 7		30.	0.08	3000	50.
B 7 @1			0.03	MDA	
B 7 @2			0.03	MDA	
C 1			0.04	600	
C 1 @1			0.03	MDA	
C 1 @2			0.03	MDA	
C 2			0.04	600	
C 3		MDA	0.02	MDA	8.
C 4			0.03	MDA	
C 5	240.	7.	0.10	4500	14.
C 5 @1			0.04	600	
C 5 @2			0.04	600	
C 6	450.	7.	0.07	2400	39.
C 6 @1			0.03	MDA	
C 6 @2			0.03	MDA	
D 1		4.	0.03	300	MDA
D 1 @1			0.03	300	
D 1 @2			0.03	300	
D 2			0.03	MDA	
D 3			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Basement Storage Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
D 3 @1			0.04	600	
D 3 @2			0.04	600	
D 4		7.	0.04	600	23.
D 4 @1			0.03	MDA	
D 4 @2			0.05	1500	
E 1 DRAIN PORT	4500.	48.	1.00	58500	70.
E 2 @1			0.03	MDA	
E 2 @2			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Basement Office

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 01		4.	0.03	MDA	14.
A 01 @1			0.03	MDA	
A 01 @2			0.03	MDA	
A 02			0.03	MDA	
A 02 @1			0.03	MDA	
A 02 @2			0.03	MDA	
A 03			0.02	MDA	
A 03 @1			0.03	MDA	
A 03 @2			0.03	MDA	
A 04			0.03	300	
A 04 @1		4.	0.06	2100	MDA
A 04 @2		MDA	0.06	2100	6.
A 05	180.		0.02	MDA	
A 05 @1			0.03	MDA	
A 05 @2			0.03	MDA	
A 06			0.02	MDA	
A 06 @1			0.03	MDA	
A 06 @2			0.03	MDA	
A 07			0.03	MDA	
A 07 @1			0.02	MDA	
A 07 @2			0.02	MDA	
A 08			0.05	1500	
A 08 @1			0.04	600	
A 08 @2			0.04	600	
A 09	1200.	50.	0.20	10500	120.
A 09 @1			0.03	MDA	
A 09 @2			0.03	MDA	
A 10		14.	0.20	10500	32.
A 10 @1			0.05	1500	
A 10 @2			0.03	MDA	
B 01		4.	0.02	MDA	19.
B 02	150.		0.03	MDA	
B 03			0.03	MDA	
B 04		7.	0.03	300	12.
B 05			0.03	MDA	
B 06			0.02	MDA	
B 07			0.03	MDA	
B 08			0.03	300	
B 09	60.		0.04	600	
B 10		7.	0.08	3000	18.
B 10 @1		MDA	0.05	1500	MDA
B 10 @2			0.05	1500	
C 01			0.02	MDA	
C 02			0.03	MDA	
C 03		4.	0.03	300	10.
C 04			0.04	600	
C 05			0.03	MDA	
C 06			0.03	300	
C 07		7.	0.04	600	14.
C 08			0.04	600	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Basement Office

[210,150]024

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
C 09	90.		0.03	300	
C 10		MDA	0.03	MDA	6.
C 10 (WALLS)		MDA	0.04	900	MDA
D 01 @1			0.03	MDA	
D 01 @2			0.04	600	
D 01			0.04	600	
D 02		4.	0.03	300	6.
D 03			0.04	600	
D 04			0.04	600	
D 05 CONCRETE PAD			0.02	MDA	
D 06		4.	0.02	MDA	6.
D 07			0.03	MDA	
D 08			0.03	MDA	
D 09		MDA	0.02	MDA	6.
D 10			0.04	600	
D 10 @1		4.	0.08	3000	MDA
D 10 @2			0.08	3000	
E 01 @1			0.02	MDA	
E 01 @2			0.02	MDA	
E 01			0.02	MDA	
E 02			0.03	300	
E 03			0.03	MDA	
E 04		4.	0.03	MDA	23.
E 05			0.03	MDA	
E 06			0.02	MDA	
E 06			0.02	MDA	
E 07		7.	0.02	MDA	14.
E 08			0.02	MDA	
E 09			0.03	MDA	
E 10			0.04	600	
E 10 @1		4.	0.08	3000	MDA
E 10 @2			0.08	3000	
F 01 @1			0.03	MDA	
F 01 @2			0.03	MDA	
F 02 @1			0.03	MDA	
F 02 @2			0.03	MDA	
F 03 @1 BRICK		MDA	0.10	4500	10.
F 03 @2 BRICK			0.10	4500	
F 04 @1			0.10	4500	
F 04 @2			0.10	4500	
F 04 PILLAR	60.		0.03	MDA	
F 05 @1		4.	0.15	7500	MDA
F 05 @2			0.10	4500	
F 7.5 MAX CPM	120.	MDA	1.00	58500	4.
F 07 @1	120.	7.	0.25	13500	MDA
F 07 @2			0.15	7500	
F 08 @1		4.	0.20	10500	MDA
F 08 @2			0.10	4500	
F 09 @1			0.10	4500	
F 09 @2			0.05	1500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Basement Small Office

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 3	2760.		0.20	10500	
B 3			0.10	4500	
A 7	600.		0.05	1500	
ALL OTHERS			0.05	1500	
B 1		43.			239.
E 1		114.			422.
C 1 @1 PILLAR		86.			228.
B 2		MDA			13.
D 3		7.			20.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Basement Filter Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
FLOOR BY DOOR	720.	108.	0.75	43500	177.
FLOOR BY WALL CRNR	210.	100.	0.75	43500	156.
ALL OTHER AREAS	150.		0.05	1500	
G 2		4.			14.
J 3		MDA			10.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

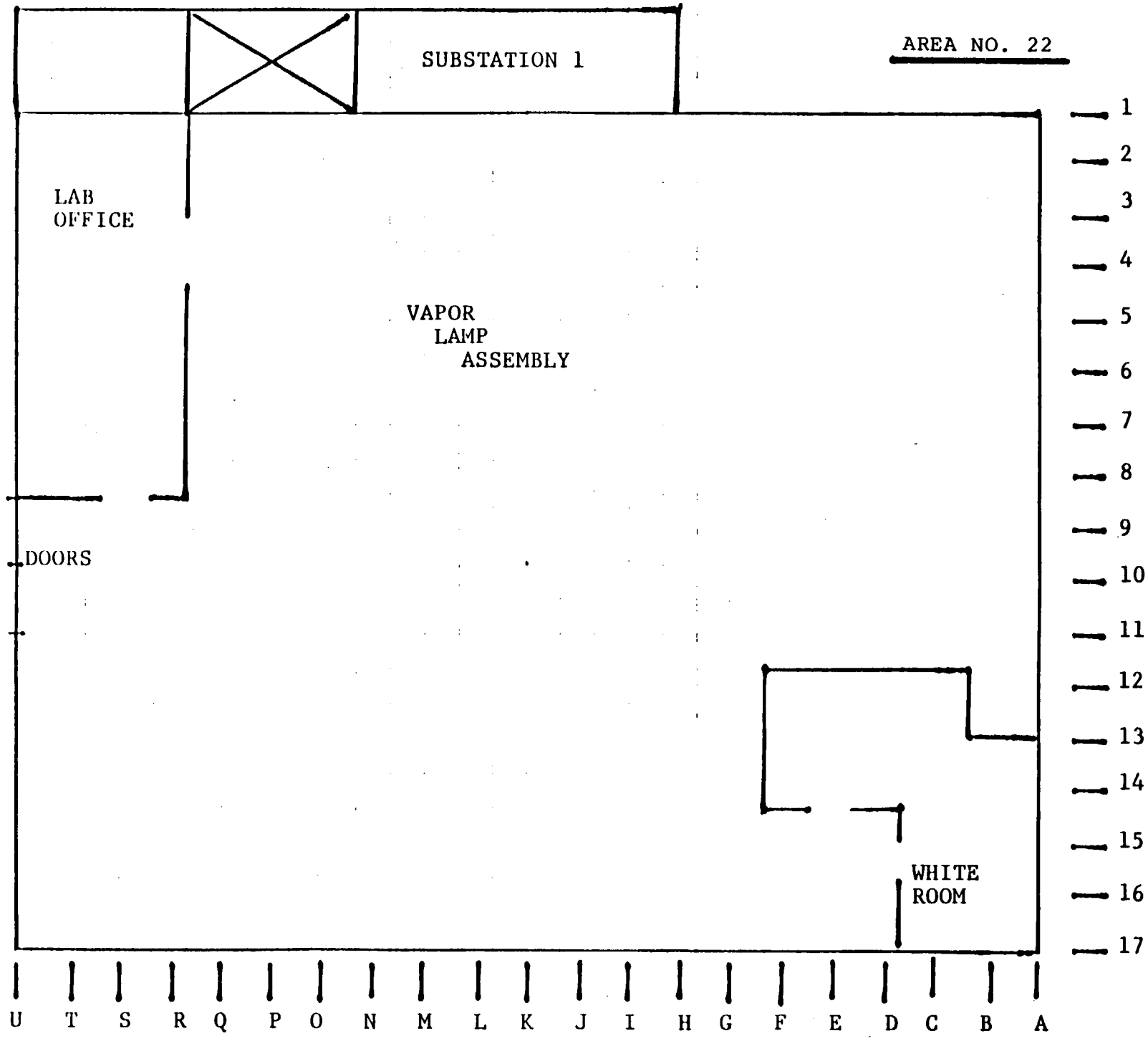
Canberra/RMC

[210,150]009

Surface Contamination Survey
Building 7 Basement Hallway

Sample Location		Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1		240.	14.	0.04	600	41.
A 2				0.03	MDA	
A 3				0.05	1500	
B 1				0.03	MDA	
B 2				0.03	MDA	
B 3				0.03	MDA	
C 1				0.04	900	
C 2				0.03	MDA	
C 3				0.03	300	
D 1	PILLAR	30.	11.	0.13	6000	18.
D 2				0.04	900	
D 3				0.03	MDA	
E 1				0.03	300	
E 2				0.03	300	
E 3				0.03	MDA	
F 1		30.		0.03	MDA	
F 2				0.02	MDA	
F 3		90.		0.04	600	
G 1				0.06	2100	
G 2				0.04	600	
G 3				0.02	MDA	
H 1			4.	0.04	600	10.
H 2		60.		0.03	MDA	
H 3				0.03	MDA	
I 1				0.04	900	
I 2				0.04	900	
I 3				0.04	600	
J 1				0.03	MDA	
J 3		210.	MDA	0.03	MDA	MDA
K 1				0.04	600	
K 2				0.03	300	
K 3				0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.



BUILDING 7 BASEMENT

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 01	180.	MDA	0.15	7500	19.
A 01 @1	30.		0.04	600	
A 01 @2	30.		0.04	600	
A 02			0.15	7500	
A 02 @1			0.03	MDA	
A 02 @2			0.03	MDA	
A 03			0.08	3000	
A 03 @1			0.03	MDA	
A 03 @2			0.03	MDA	
A 04	150.	4.	0.50	28500	8.
A 04 @1			0.03	MDA	
A 04 @2			0.03	MDA	
A 05			0.40	22500	
A 05 @1			0.03	MDA	
A 05 @2			0.03	MDA	
A 06			0.05	1500	
A 06 @1 PILLAR	30.	MDA	0.75	43500	6.
A 06 @2 PILLAR	60.	MDA	0.75	43500	15.
A 06 CW PILLAR			0.20	10500	
A 07			0.03	300	
A 07 @1			0.05	1500	
A 07 @2			0.05	1500	
A 08		7.	0.03	300	23.
A 08 @1			0.04	600	
A 08 @2			0.04	600	
A 09			0.03	MDA	
A 09 @1			0.03	300	
A 09 @2			0.03	300	
A 10			0.03	300	
A 11	60.		0.04	600	
A 11 @1			0.10	4500	
A 11 @2			0.10	4500	
A 12 PIPES (UP) CW			0.10	4500	
A 12 PIPES (UP) CW		4.	2.00	118500	14.
A 14 @ WALL CORNER			0.06	2100	
A 15			0.04	600	
A 16			0.50	28500	
A 17 PIPE CW			0.50	28500	
A 17 PIPE CW	60.		2.50	148500	
A 17 WALL			0.05	1500	
B 01	240.	4.	0.07	2400	14.
B 01 PIPE EXT.			0.10	4500	
B 01 @1		MDA	0.65	37500	MDA
B 01 @2		MDA	0.65	37500	8
B 01 @2 CW			0.20	10500	
B 02		MDA	0.03	300	23.
B 03			0.04	600	
B 04		MDA	0.03	300	MDA
B 05			0.04	600	
B 06	210.	7.	0.04	600	10.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
B 07			0.02	MDA	
B 08			0.02	MDA	
B 09			0.03	MDA	
B 10		MDA	0.02	MDA	MDA
B 11	120.		0.03	MDA	
B 11 @1 OFFICE DOOR			0.02	MDA	
B 11 @2			0.02	MDA	
B 14			0.04	600	
B 14 CEILING DUCT			0.03	MDA	
B 14 OVERHEAD PIPE	450.		2.00	118500	
B 15		MDA	0.04	600	8.
B 16			0.03	MDA	
B 16 DRAIN COVER			0.06	2100	
B 17			0.05	1500	
BEAM @ LINE M			1.00	58500	
C 01		MDA	0.15	7500	15.
C 01 @1		MDA	0.40	22500	10.
C 01 @2		4.	0.25	13500	8.
C 02			0.03	MDA	
C 03	30.	4.	0.03	MDA	14.
C 04			0.03	MDA	
C 05			0.04	600	
C 06			0.03	MDA	
C 07		7.	0.04	600	12.
C 08			0.02	MDA	
C 09	120.		0.02	MDA	
C 10			0.03	300	
C 11		11.	0.05	1500	14.
C 11 @1 OFFICE WALL			0.03	MDA	
C 11 @2			0.03	MDA	
C 14			0.03	300	
C 15			0.03	300	
C 16			0.03	MDA	
CEILING AT I 06			0.15	7500	
CEILING AT L 11			0.10	4500	
CEILING AT M 15			0.30	16500	
D 01		7.	0.03	MDA	8.
D 01 @1	30.	MDA	0.25	13500	15.
D 01 @2	30.		0.25	13500	
D 02			0.04	600	
D 03			0.03	300	
D 04		4.	0.02	MDA	8.
D 05			0.02	MDA	
D 06	60.		0.02	MDA	
D 07			0.02	MDA	
D 08		4.	0.03	MDA	10.
D 09			0.03	MDA	
D 10	90.		0.02	MDA	
D 11		MDA	0.02	MDA	MDA
D 11 @1 OFFICE WALL			0.03	300	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
D 11 @2			0.03	300	
D 12	390.	64.	0.03	MDA	129.
D 13			0.03	MDA	
D 13 WALL SCAN			0.03	MDA	
D 14			0.02	MDA	
D 15			0.02	MDA	
D 16			0.03	MDA	
E 01		MDA	0.09	3600	23.
E 01 @1		MDA	0.35	19500	MDA
E 01 @2		4.	0.35	19500	MDA
E 02			0.04	900	
E 03			0.03	MDA	
E 04	60.	MDA	0.03	MDA	6.
E 05			0.03	MDA	
E 06			0.03	MDA	
E 07		4.	0.03	MDA	6.
E 08	60.		0.02	MDA	
E 09			0.02	MDA	
E 10		4.	0.02	MDA	10.
E 11			0.04	600	
E 11 @1 OFFICE WALL	30.	4.	0.03	300	6.
E 11 @2	120.		0.03	300	
E 12			0.03	MDA	
E 13			0.03	MDA	
E 14			0.04	600	
E 15			0.05	1500	
E 16			0.03	MDA	
E 17 CABINET			0.03	MDA	
F 01		7.	0.07	2400	14.
F 01 @1 BREAKER BOX	120.	MDA	0.25	13500	MDA
F 01 @2	30.	MDA	0.10	4500	MDA
F 02			0.03	300	
F 03			0.02	MDA	
F 04			0.03	300	
F 05		15.	0.03	MDA	20.
F 06			0.03	MDA	
F 07			0.03	300	
F 08			0.05	1500	
F 09		7.	0.03	300	16.
F 10			0.03	300	
F 11			0.03	300	
F 12		4.	0.03	MDA	16.
F 13	150.		0.04	600	
F 14			0.04	600	
F 15		7.	0.03	MDA	12.
F 16			0.03	MDA	
F 17		14.	0.05	1500	32.
F 17 TABLE HOOD VENT			0.03	MDA	
F 17 TABLE TOP	7770.	41.	0.40	22500	225.
F 17 TABLE TOP CW			0.08	3000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
G 01		4.	0.03	MDA	27.
G 01 @1		4.	0.25	13500	10.
G 01 @2		MDA	0.15	7500	17.
G 02	60.		0.03	300	
G 03			0.03	300	
G 04		MDA	0.03	300	23.
G 05			0.04	900	
G 06			0.05	1500	
G 07			0.08	3000	
G 08		4.	0.04	600	21.
G 09			0.09	3600	
G 10			0.03	MDA	
G 11			0.05	1500	
G 12		MDA	0.05	1500	21.
G 13			0.03	MDA	
G 14			0.02	MDA	
G 15			0.03	300	
G 16		4.	0.02	MDA	14.
G 17 FLOOR IN CORNER	1140.	MDA	3.50	208500	31.
G 17 @1		MDA	0.03	MDA	15.
H 01		14.	0.25	13500	35.
H 01 @1	540.	MDA	0.15	7500	10.
H 01 @2		MDA	0.15	7500	10.
H 02			0.03	MDA	
H 03			0.03	MDA	
H 04			0.02	MDA	
H 05	90.	7.	0.05	1500	35.
H 06			0.05	1500	
H 07			0.10	4500	
H 07 PILLAR			1.50	88500	
H 07 05 DIRECTION CW			0.15	7500	
H 07 05 DIRECTION CW			0.75	43500	
H 07 07 DIRECTION		7.	2.00	118500	35.
H 07 H DIRECTION CW	300.	18.	2.00	118500	61.
H 07 H DIRECTION CW	300.	18.	11.00	658500	61.
H 08			0.04	600	
H 09		7.	0.03	MDA	14.
H 10		MDA	0.03	300	8.
H 11			0.04	600	
H 11 PILLAR			1.50	88500	
H 12	30.		0.08	3000	
H 13			0.05	1500	
H 14			0.04	900	
H 15		7.	0.03	MDA	16.
H 16	60.		0.03	MDA	
H 17		7.	0.08	3000	18.
I 01		7.	0.05	1500	20.
I 01 @1		MDA	0.25	13500	MDA
I 01 @2		MDA	0.15	7500	8.
I 02			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
I 03			0.02	MDA	
I 04		4.	0.02	MDA	19.
I 05			0.02	MDA	
I 06			0.05	1500	
I 07			0.10	4500	
I 08			0.08	3000	
I 09		MDA	0.04	600	8.
I 10			0.04	600	
I 11			0.03	MDA	
I 12		4.	0.03	MDA	4.
I 13			0.02	MDA	
I 14			0.03	MDA	
I 15			0.04	600	
I 16			0.03	MDA	
I 17		7.	0.15	7500	8.
I 17 @1		MDA	0.03	MDA	4.
I 17 @2		MDA	0.05	1500	2.
I PIPE CW			0.20	10500	
I PIPE CW			0.25	13500	
J 01	240.	14.	0.05	1500	49.
J 01 @ T CW			0.50	28500	
J 01 @ T CW		7.	2.00	118500	6.
J 01 LEFT OF JUNC.			1.50	88500	
J 01 @1		MDA	0.30	16500	35.
J 01 @2		4.	0.30	16500	2.
J 01 PIPE JUNC.		4.	1.00	58500	14.
J 02			0.03	MDA	
J 03			0.03	MDA	
J 04		MDA	0.03	MDA	2.
J 05			0.02	MDA	
J 06			0.03	MDA	
J 07	60.		0.05	1500	
J 08			0.03	MDA	
J 09			0.03	MDA	
J 10 DRAIN			0.03	MDA	
J 11	30.		0.03	MDA	
J 12			0.04	900	
J 13			0.03	MDA	
J 14			0.01	MDA	
J 15			0.03	MDA	
J 16			0.03	MDA	
J 17	180.	11.	0.10	4500	20.
J 17 @1	30.	MDA	0.15	7500	38.
J 17 @2	120.	MDA	0.05	1500	MDA
K 01	270.	11.	0.10	4500	29.
K 01 @1		4.	0.25	13500	10.
K 01 @2		4.	0.25	13500	6.
K 02			0.05	1500	
K 03			0.02	MDA	
K 04			0.04	600	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
K 05		4.	0.03	300	21.
K 06	90.		0.03	300	
K 07			0.13	6000	
K 08			0.15	7500	
K 09		11.	0.03	MDA	8.
K 10			0.02	MDA	
K 11			0.03	MDA	
K 12			0.03	MDA	
K 13			0.03	MDA	
K 14			0.03	MDA	
K 15		7.	0.02	MDA	16.
K 16			0.03	300	
K 17			0.03	MDA	
K 17 @1			0.04	600	
K 17 @2			0.03	MDA	
L 01	120.	4.	0.13	6000	19.
L 01 WALL CW			1.00	58500	
L 01 WALL CW		29.	6.00	358500	54.
L 01 @1		7.	0.15	7500	6.
L 01 @2		21.	0.25	13500	15.
L 02			0.03	300	
L 03			0.04	600	
L 04			0.04	600	
L 05			0.04	600	
L 06	120.		0.03	MDA	
L 07			0.02	MDA	
L 08		MDA	0.04	900	15.
L 09			0.03	300	
L 10			0.03	300	
L 11			0.04	900	
L 12		7.	0.04	900	29.
L 13			0.04	900	
L 14			0.03	MDA	
L 15			0.03	MDA	
L 16			0.06	2100	
L 17	120.	14.	0.08	3000	20.
L 17 @1		MDA	0.10	4500	6.
L 17 @2		4.	0.10	4500	MDA
M 01	270.	MDA	0.08	3000	6.
M 01 @1		MDA	0.15	7500	MDA
M 01 @2		MDA	0.30	16500	6.
M 02			0.03	300	
M 03			0.02	MDA	
M 04			0.02	MDA	
M 05			0.02	MDA	
M 06		MDA	0.02	MDA	15.
M 07			0.02	MDA	
M 08			0.02	MDA	
M 09		4.	0.03	MDA	10.
M 10			0.04	900	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
M 11	90.	4.	0.06	2100	6.
M 12			0.03	300	
M 12 @1		MDA	0.20	10500	6.
M 12 @2		MDA	0.10	4500	MDA
M 13			0.03	MDA	
M 14		4.	0.02	MDA	MDA
M 15			0.03	300	
M 16		14.	0.08	3000	24.
M 17	240.	11.	0.08	3000	79.
M PIPE TOP SIDE		MDA	2.00	118500	8.
N 01	150.	7.	0.20	10500	25.
N 01 @1		MDA	0.25	13500	8.
N 01 @2		MDA	0.25	13500	MDA
N 02			0.03	MDA	
N 03			0.03	300	
N 04			0.03	MDA	
N 05			0.03	MDA	
N 06 PILLAR BASE	210.	4.	0.05	1500	35.
N 07		7.	0.05	1500	8.
N 08			0.03	MDA	
N 09			0.03	MDA	
N 10			0.03	MDA	
N 11			0.04	600	
N 11 PILLAR @.3 CW			0.50	28500	
N 11 PILLAR @.3 CW		21.	2.50	148500	49.
N 12 PILLAR BASE	90.	MDA	0.04	600	MDA
N 13			0.03	MDA	
N 14			0.02	MDA	
N 15			0.03	300	
N 16			0.03	300	
N 17		MDA	0.04	900	6.
N 17 @1		MDA	0.15	7500	MDA
N 17 @2		MDA	0.15	7500	MDA
O 01	180.	21.	0.04	900	17.
O 01 @1 WALL/ELEVATOR		MDA			MDA
O 01 @2		4.			8.
O 02			0.04	600	
O 03			0.03	MDA	
O 04			0.03	MDA	
O 05			0.03	MDA	
O 06		MDA	0.02	MDA	8.
O 07	60.		0.03	300	
O 08			0.03	MDA	
O 09		7.	0.02	MDA	14.
O 10			0.02	MDA	
O 11			0.02	MDA	
O 12		11.	0.04	600	10.
O 13			0.03	300	
O 14			0.03	MDA	
O 15			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
O 16			0.03	MDA	
O 17 @1		MDA	0.25	13500	10.
O 17 @2		MDA	0.15	7500	6.
O 17 DRAIN PIPE CW	30.		0.25	13500	
O 17 DRAIN PIPE CW	30.	4.	1.50	88500	16.
P 01		7.	0.03	MDA	10.
P 02			0.04	900	
P 03			0.04	900	
P 04			0.02	MDA	
P 05			0.02	MDA	
P 06 BARE SPOT CW	150.		2.50	148500	
P 06 BARE SPOT CW	150.	4.	0.50	28500	29.
P 07		4.	0.05	1500	6.
P 08			0.04	900	
P 09			0.02	MDA	
P 09 PIPE (TOP)		MDA	2.50	148500	13.
P 10			0.02	MDA	
P 11			0.02	MDA	
P 12					
P 13					
P 14	90.	11.	0.03	MDA	6.
P 15			0.02	MDA	
P 16			0.04	900	
P 17		36.	0.25	13500	54.
P 17 @1		MDA	0.25	13500	6.
P 17 @2		MDA	0.15	7500	6.
PIPE @ B 13 OVERHEAD		MDA			40.
PIPE @ K1 WALL		MDA			10.
PIPE @ L1 WALL		4.			10.
PIPE @ N1 WALL		MDA			MDA
PIPES 05 HALF LENGTH			2.50	148500	
PIPES 12 RM LENGTH			2.50	148500	
Q 01	120.	MDA	0.04	900	21.
Q 01 ELEVATOR DOOR		4.	0.50	28500	12.
Q 01 ELEVATOR FLOOR	30.		0.05	1500	
Q 01 ELEVATOR PLATE		11.	1.50	88500	43.
Q 02			0.03	MDA	
Q 03			0.03	MDA	
Q 04			0.03	MDA	
Q 05		14.	0.04	900	16.
Q 06			0.03	300	
Q 07			0.04	600	
Q 08	150.		0.04	600	
Q 09			0.03	MDA	
Q 10			0.02	MDA	
Q 11		4.	0.09	3600	23.
Q 12			0.03	MDA	
Q 13			0.03	MDA	
Q 14			0.02	MDA	
Q 15			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
Q 16			0.03	MDA	
Q 17	120.	7.	0.08	3000	25.
Q 17 @1		MDA	0.10	4500	MDA
Q 17 @2		MDA	0.05	1500	MDA
R 01	630.	29.	0.15	7500	136.
R 01 @1		MDA	0.10	4500	8.
R 01 @2		MDA	0.10	4500	MDA
R 02			0.04	900	
R 03			0.03	MDA	
R 04			0.03	MDA	
R 05	60.	MDA	0.05	1500	13.
R 06			0.05	1500	
R 07			0.03	MDA	
R 08			0.03	MDA	
R 09			0.02	MDA	
R 10	30.		0.02	MDA	
R 11		7.	0.03	MDA	16.
R 12			0.05	1500	
R 13			0.03	MDA	
R 14			0.04	600	
R 15			0.03	MDA	
R 16			0.05	1500	
R 17		MDA	0.03	MDA	17.
R 17 @1			0.10	4500	
R 17 @2		MDA	0.10	4500	MDA
S 01	30.	11.	0.05	1500	18.
S 01 @1		4.	0.10	4500	21.
S 01 @2		4.	0.10	4500	8.
S 02			0.02	MDA	
S 03			0.03	300	
S 04			0.03	MDA	
S 05			0.03	MDA	
S 06			0.02	MDA	
S 07	390.	7.	0.05	1500	31.
S 08	120.	4.	0.05	1500	31.
S 09			0.04	600	
S 10			0.05	1500	
S 11			0.04	900	
S 12			0.05	1500	
S 13			0.04	900	
S 14			0.03	300	
S 15			0.03	300	
S 16			0.03	300	
S 17		4.	0.03	300	21.
S 17 @1		MDA	0.10	4500	MDA
S 17 @2		MDA	0.10	4500	6.
T 01	180.	11.	0.08	3000	26.
T 01 @1		4.	0.10	4500	6.
T 01 @2		MDA	0.05	1500	MDA
T 02			0.03	300	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
T 03			0.03	300	
T 04			0.03	300	
T 05	30.		0.03	300	
T 06			0.03	MDA	
T 07	150.	MDA	0.04	600	6.
T 08	30.		0.03	MDA	
T 09			0.03	300	
T 10			0.03	300	
T 11			0.04	600	
T 12			0.03	MDA	
T 13			0.03	300	
T 14			0.03	MDA	
T 15			0.03	MDA	
T 16			0.03	300	
T 17	90.	MDA	0.04	600	MDA
T 17 @1		MDA	0.15	7500	MDA
T 17 @2		MDA	0.15	7500	MDA
U 01	120.	7.	0.08	3000	21.
U 01 @1		MDA	0.15	7500	MDA
U 01 @2		MDA	0.05	1500	6.
U 02			0.05	1500	
U 02 @1		MDA	0.10	4500	10.
U 02 @2		4.	0.08	3000	10.
U 03			0.04	600	
U 03 @1			0.08	3000	
U 03 @2			0.04	600	
U 04			0.04	600	
U 04 @1		MDA	0.13	6000	6.
U 04 @2		MDA	0.13	6000	MDA
U 05			0.04	900	
U 05 @1			0.08	3000	
U 05 @2			0.08	3000	
U 06			0.03	MDA	
U 06 @1			0.05	1500	
U 06 @2			0.05	1500	
U 07	60.	MDA	0.05	1500	13.
U 07 @1			0.05	1500	
U 07 @2			0.05	1500	
U 08			0.03	MDA	
U 08 @1			0.03	MDA	
U 08 @2 DOOR			0.03	MDA	
U 09			0.05	1500	
U 10			0.03	300	
U 10 @1 DOOR SILL		MDA	0.10	4500	17.
U 10 @2 DOOR SILL			0.10	4500	
U 11			0.03	300	
U 11 @1		4.	0.25	13500	8.
U 11 @2		7.	0.25	13500	MDA
U 12		7.	0.08	3000	16.
U 12 @1			0.25	13500	

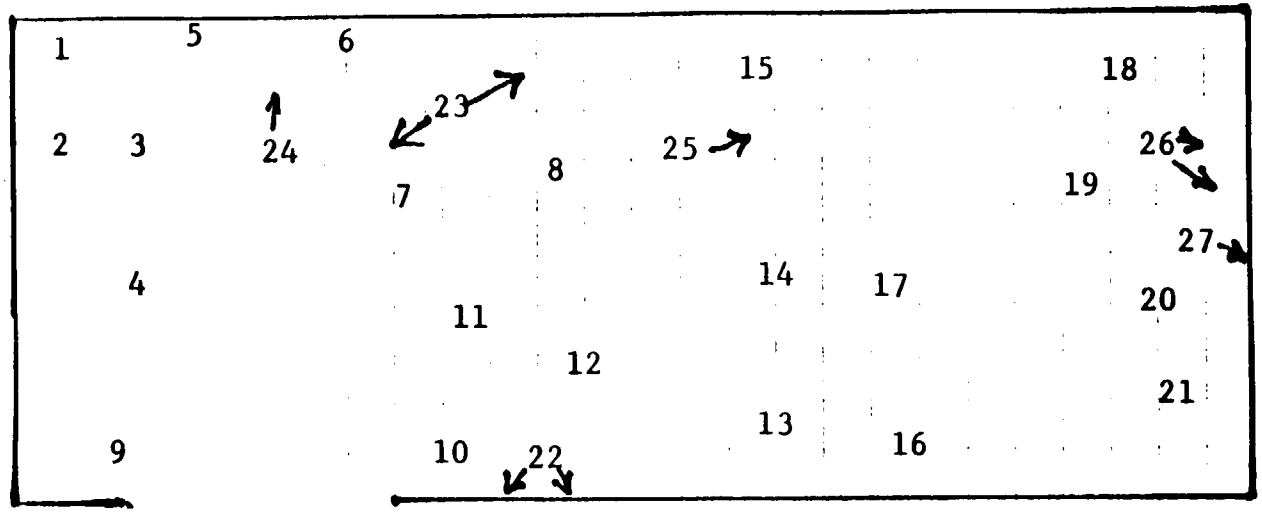
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Vapor Lamp Assembly

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
U 12 @2		7.	0.25	13500	12.
U 13		7.	0.06	2100	29.
U 13 @1			0.20	10500	
U 13 @2		4.	0.25	13500	12.
U 14	180.	46.	0.06	2100	64.
U 14 @1		11.	0.35	19500	MDA
U 15			0.04	600	
U 15 @1		7.	0.25	13500	8.
U 15 @2			0.20	10500	
U 16		MDA	0.03	MDA	MDA
U 16 @1		MDA	0.10	4500	6.
U 16 @2			0.15	7500	
U 17			0.06	2100	
U 17 @1			0.10	4500	
U 17 @2			0.05	1500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 23



BASEMENT, BUILDING 7, COMPUTER TAPE STORAGE

(VAULT BEHIND STAIRWAY)

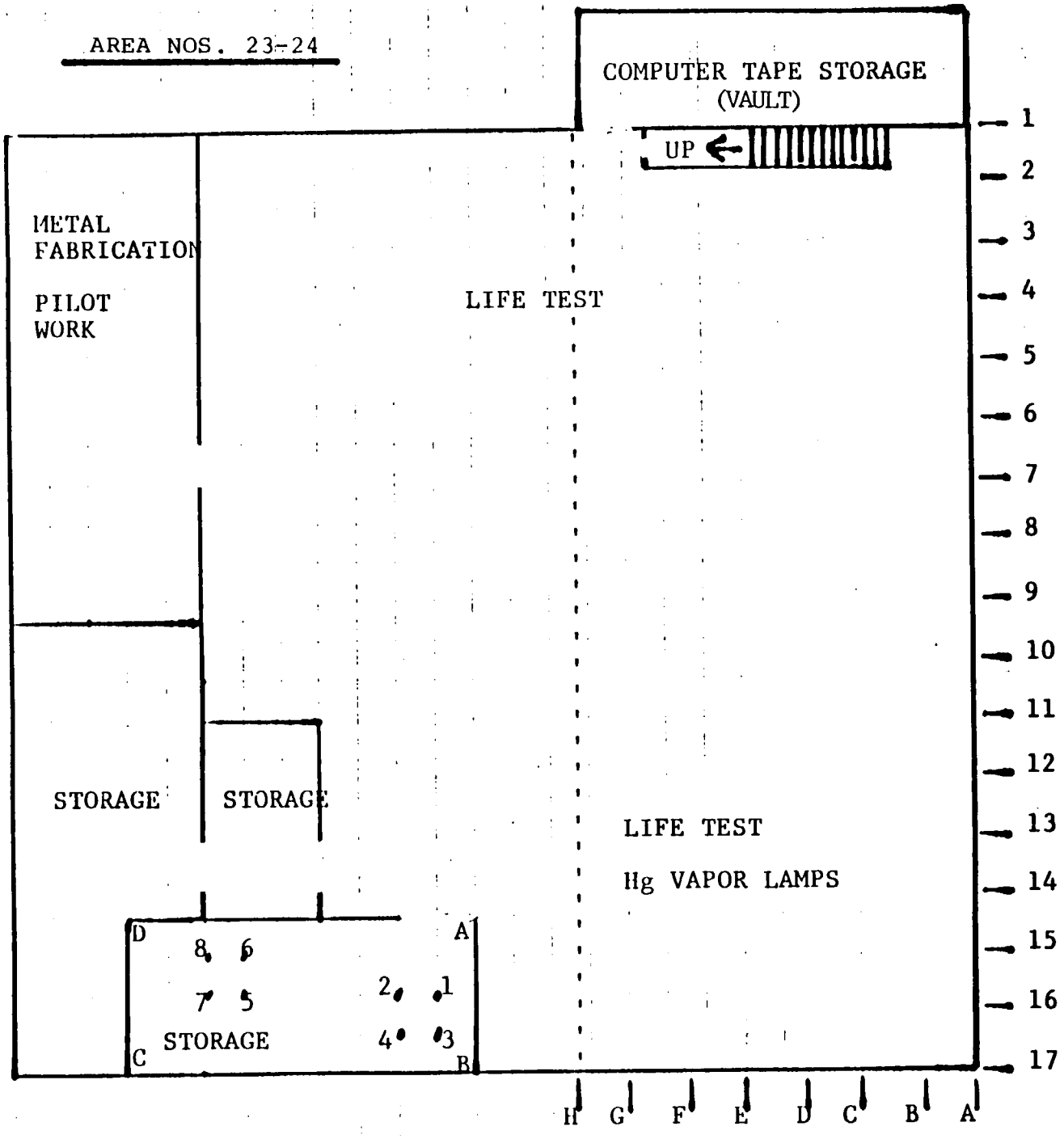
Surface Contamination Survey
Building 7 Vault

[210,150]081

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
01 UNDER SHELVES	150.	MDA	3.00	178500	MDA
02			0.25	13500	
03			0.10	4500	
04			0.10	4500	
05			0.15	7500	
06			0.03	MDA	
07			0.35	19500	
08			0.55	31500	
09	120.		0.50	28500	
10			1.05	61500	
11			1.65	97500	
12 CW		MDA	1.90	112500	8.
12 (CW)			0.40	22500	
13			0.15	7500	
14		MDA	1.75	103500	6.
15			0.05	1500	
16			0.25	13500	
17 CHIPPED OUT AREA			0.05	1500	
18			0.05	1500	
19 CW	480.	MDA	2.50	148500	15.
19 (CW)			0.60	34500	
21			0.03	MDA	
20 LOOSE SAMPLE	60.		0.70	40500	
22 WALLS			0.05	1500	
23 SHELVES 2 & 3			0.03	300	
24 1ST SHELF		MDA	1.75	103500	8.
25 2ND SHELF		MDA	0.10	4500	MDA
26 SHELVES			0.10	4500	
27 WALL			0.05	1500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NOS. 23-24



BASEMENT BUILDING 7

Surface Contamination Survey
Building 7 Life Test Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 01	90.	MDA	0.09	3750	8.
A 01 @1			0.05	1500	
A 01 @2			0.03	MDA	
A 02			0.10	4500	
A 02 @1			0.01	MDA	
A 02 @2			0.03	MDA	
A 03			0.05	1500	
A 03 @1			0.03	MDA	
A 03 @2			0.01	MDA	
A 04			0.38	21000	
A 04 @1			0.05	1500	
A 04 @2			0.03	300	
A 05			0.25	13500	
A 05 @1			0.02	MDA	
A 05 @2			0.05	1500	
A 06			0.20	10500	
A 06 @1			0.25	13500	
A 06 @2			0.05	1500	
A 07	120.		0.13	6000	
A 07 @1			0.13	6000	
A 07 @2			0.08	3000	
A 08			2.50	148500	
A 08 @1			0.03	MDA	
A 08 @2			0.03	MDA	
A 09 DOOR			0.30	16500	
A 10			0.60	34500	
A 10 @1			0.04	750	
A 10 @2			0.03	MDA	
A 11			0.80	46500	
A 11 @1			0.10	4500	
A 11 @2			0.05	1500	
A 12			0.25	13500	
A 12 @1			0.08	3000	
A 12 @2			0.05	1500	
A 13			0.20	10500	
A 13 @1			0.10	4500	
A 13 @2			0.10	4500	
A 14			0.20	10500	
A 14 @1			0.20	10500	
A 14 @2			0.10	4500	
A 15	450.		0.30	16500	
A 15 @1			0.03	MDA	
A 15 @2			0.03	MDA	
A 16			0.10	4500	
A 16 @1			0.04	750	
A 16 @2			0.05	1500	
A 17			0.10	4500	
A 17 @1			0.08	3000	
A 17 @2			0.05	1500	
B 01			0.08	3000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Life Test Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
B 01 @1			0.03	MDA	
B 01 @2			0.03	MDA	
B 02			0.05	1500	
B 03			0.04	750	
B 04			0.04	750	
B 05	150.		0.04	750	
B 06			0.04	750	
B 07			0.10	4500	
B 08			0.08	3000	
B 09	120.		0.13	6000	
B 10			0.18	9000	
B 11			0.13	6000	
B 12			0.10	4500	
B 13			0.15	7500	
B 14			0.08	3000	
B 15			0.05	1500	
B 16			0.05	1500	
B 17			0.60	34500	
B 17 @1			0.08	3000	
B 17 @2			0.05	1500	
B 17 PIPE			0.60	34500	
C 02	180.		0.18	9000	
C 03			0.13	6000	
C 04			0.10	4500	
C 05			0.13	6000	
C 06			0.08	3000	
C 07			0.08	3000	
C 08			0.13	6000	
C 09			0.18	9000	
C 10		4.	0.23	12000	10.
C 11			0.10	4500	
C 12			0.25	13500	
C 13			0.13	6000	
C 14			0.10	4500	
C 15			0.08	3000	
C 16	330.		0.08	3000	
C 17			0.10	4500	
C 17 @1			0.15	7500	
C 17 @2			0.05	1500	
D 02	90.	11.	0.60	34500	12.
D 02.5	90.	11.	10.00	598500	20.
D 03			0.10	4500	
D 04			0.13	6000	
D 05			0.10	4500	
D 06			0.13	6000	
D 07			0.13	6000	
D 08		11.	0.18	9000	10.
D 09			0.08	3000	
D 10			0.08	3000	
D 11			0.10	4500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Life Test Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
D 12			0.10	4500	
D 13	240.		0.06	2250	
D 14			0.09	3750	
D 15			0.13	6000	
D 16			0.08	3000	
D 17			0.25	13500	
D 17 @1		14.	0.15	7500	55.
D 17 @2			0.10	4500	
E 02		21.	0.75	43500	67.
E 03	180.		0.13	6000	
E 04			0.10	4500	
E 05			0.15	7500	
E 06			0.20	10500	
E 07			0.10	4500	
E 08	300.		0.08	3000	
E 09			0.10	4500	
E 10			0.75	43500	
E 11		MDA	0.40	22500	15.
E 12			0.25	13500	
E 13			0.13	6000	
E 14			0.10	4500	
E 15			0.15	7500	
E 16			0.15	7500	
E 17			0.08	3000	
E 17 @1			0.08	3000	
E 17 @2			0.04	600	
F 02			0.25	13500	
F 03			0.13	6000	
F 04		14.	0.50	28500	24.
F 05			0.35	19500	
F 06			0.13	6000	
F 07	210.		0.10	4500	
F 08			0.08	3000	
F 09			0.13	6000	
F 10			0.10	4500	
F 11		4.	1.25	73500	14.
F 12			0.15	7500	
F 13			0.13	6000	
F 14			0.08	3000	
F 15			0.30	16500	
F 16		50.	0.75	43500	164.
F 17	210.		0.45	25500	
F 17 @1			0.06	2250	
F 17 @2			0.04	750	
G 01	810.	MDA	5.50	328500	15.
G 02		18.	1.50	88500	26.
G 03		7.	2.00	118500	MDA
G 04		MDA	1.50	88500	8.
G 05		7.	2.00	118500	20.
G 06		4.	1.50	88500	MDA

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Life Test Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
G 07		MDA	1.75	103500	8.
G 08		MDA	2.00	118500	MDA
G 09		14.	1.50	88500	10.
G 10		4.	1.50	88500	10.
G 11		4.	1.00	58500	8.
G 12	390.		0.40	22500	
G 13		7.	0.35	19500	25.
G 14		14.	0.25	13500	26.
G 15		11.	0.60	34500	37.
G 16			0.50	28500	
G 17		7.	0.50	28500	6.
G 17 @1		MDA	0.30	16500	15.
G 17 @2		4.	0.13	6000	16.
H 01			0.18	9000	
H 01 @1			0.08	3000	
H 01 @2			0.05	1500	
H 02			0.15	7500	
H 03	780.	7.	0.25	13500	25.
H 04			0.10	4500	
H 05			0.30	16500	
H 06			0.15	7500	
H 07			0.25	13500	
H 08			0.08	3000	
H 09		7.	0.06	2250	10.
H 10			0.05	1500	
H 11			0.15	7500	
H 12			0.08	3000	
H 13			0.15	7500	
H 14			0.10	4500	
H 15	1290.	4.	0.20	10500	33.
H 16		29.	0.35	19500	82.
H 17	660.	29.	0.05	1500	65.
H 17 @1			0.03	MDA	
H 17 @2			0.02	MDA	
PAD AREA BTWN H3-H4		7.			14.
STORAGE ROOM BOLT 1	1620.	MDA	3.00	178500	15.
STORAGE ROOM BOLT 2	1200.	4.	2.25	133500	8.
STORAGE ROOM BOLT 3	330.		1.10	64500	
STORAGE ROOM BOLT 4	270.		1.25	73500	
CORNER A			0.05	1200	
CORNER B			0.07	2400	
CORNER C			0.40	22500	
CORNER D			0.30	16500	
CENTER E			0.03	MDA	
STORAGE ROOM BOLT 5	1170.		1.85	109500	
STORAGE ROOM BOLT 6	900.		1.75	103500	
STORAGE ROOM BOLT 7	2430.		1.00	58500	
STORAGE ROOM BOLT 8	2490.	50.	1.00	58500	36.
PIPE UP CORNER 'C'		21.	0.35	19500	57.
LAB/STORAGE SMALL		11.	0.25	13500	35.

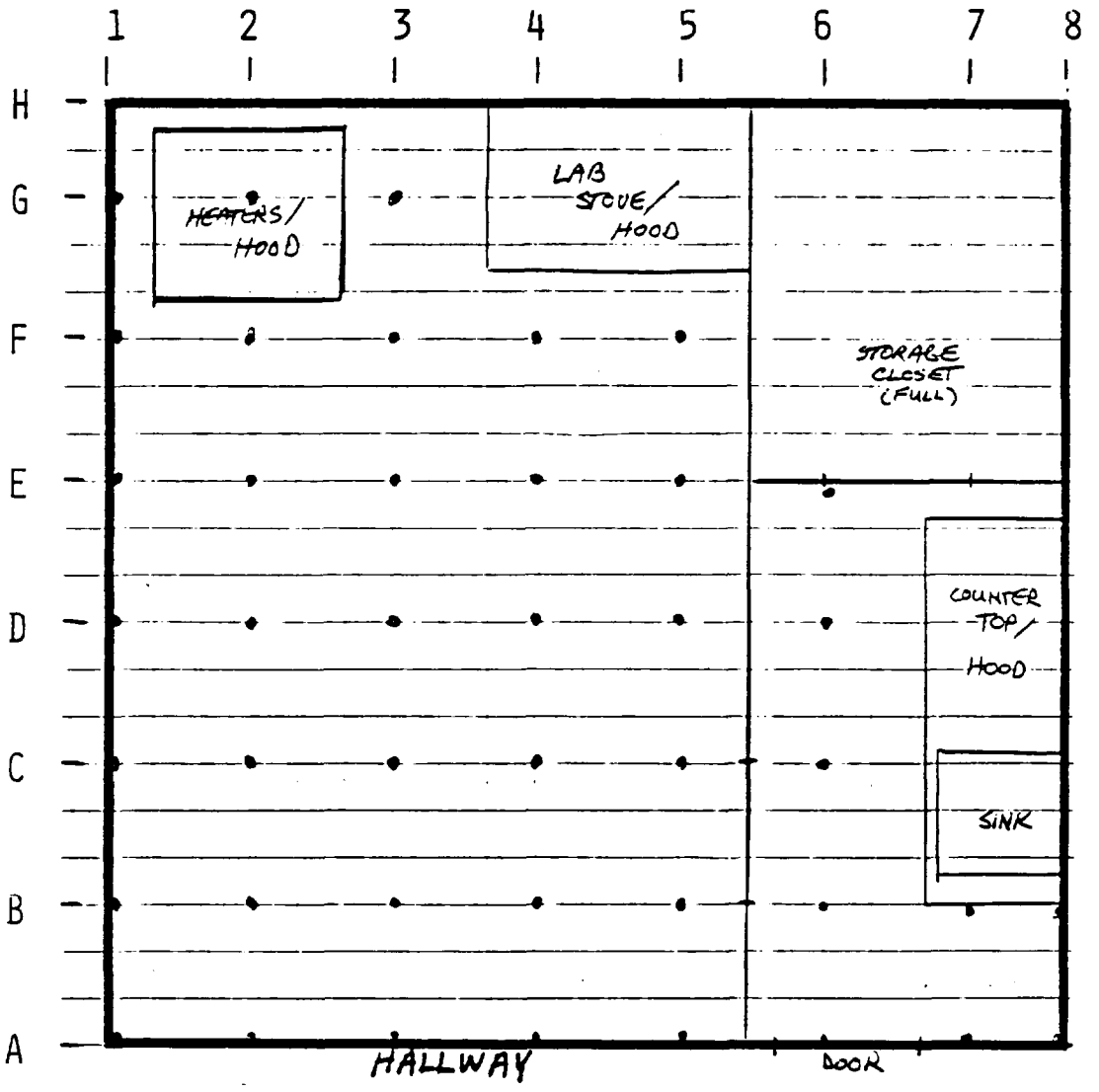
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Life Test Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
DOOR TO STORAGE		4.	0.50	28500	8.
LAB/STORAGE LARGE		11.	0.10	4500	8.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 25



BUILDING 7 - ROOM 106

Surface Contamination Survey
Building 7 Room 106

[210,150]069

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1	1290.	64.	4.00	238500	221.
A 1 @1	810.	7.	0.01	MDA	43.
A 1 @2			0.04	750	
A 2	510.	7.	0.18	9000	27.
A 2 @1			0.04	750	
A 2 @2			0.03	MDA	
A 3	510.	14.	2.50	148500	20.
A 3 @1	360.		0.03	MDA	
A 3 @2			0.03	MDA	
A 4	2640.	18.	0.45	25500	47.
A 4 @1		54.	0.03	MDA	109.
A 4 @2			0.04	750	
A 5	750.	32.	0.15	7500	33.
A 5 @1			0.01	MDA	
A 5 @2			0.03	MDA	
A 5.5			0.15	7500	
A 5.5 @1			0.03	MDA	
A 5.5 @2			0.03	MDA	
A 6	780.	21.	0.04	600	15.
A 6 @1			0.04	600	
A 6 @2			0.04	600	
A 7	390.	39.	0.03	MDA	43.
A 8	150.		0.03	MDA	
A 8 @1			0.03	MDA	
A 8 @2			0.03	MDA	
B 1	720.	389.	0.20	10500	440.
B 1 @1	360.		0.04	750	
B 1 @2			0.01	MDA	
B 2			0.05	1500	
B 3			0.01	MDA	
B 4	390.		0.04	750	
B 5			0.03	MDA	
B 6	390.		0.03	300	
B 7			0.04	600	
B 7 CABINET	3000.				
B 8	510.	104.	0.05	1500	214.
C 1	540.		0.08	3000	
C 1 @1			0.03	MDA	
C 1 @2			0.01	MDA	
C 2			0.05	1500	
C 3	360.		0.08	3000	
C 4			0.05	1500	
C 5	330.		0.08	3000	
C 6	4200.	129.	0.20	10500	158.
C 6.5			0.50	28500	
C 7	16320.	64.	0.20	10500	23.
C 8 SINK TOP	14910.	29.	1.00	58500	48.
D 1	390.		0.03	MDA	
D 1 @1			0.04	750	
D 1 @2			0.01	MDA	

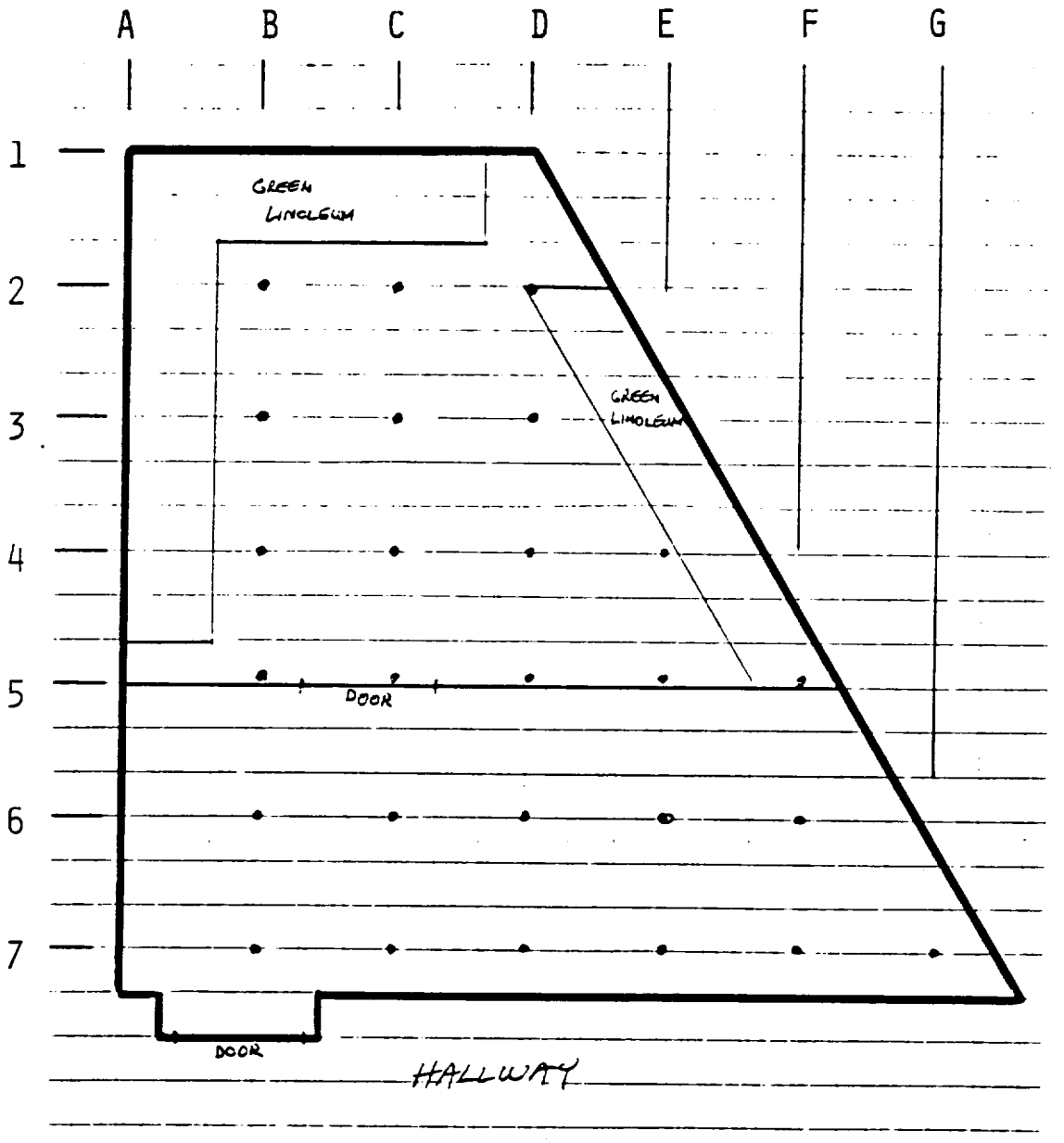
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Room 106

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
D 2			0.05	1500	
D 3			0.08	3000	
D 4			0.15	7500	
D 5	1680.	61.	0.45	25500	142.
D 6			0.04	600	
D 7	5910.	21.	0.13	6000	72.
D 8 HOOD			0.03	MDA	
D 8 SINK TOP	2580.		0.50	28500	
D 8 UNDER SINK			1.00	58500	
E 1	60.		0.01	MDA	
E 1 @1			0.03	MDA	
E 1 @2			0.05	1500	
E 2			0.04	750	
E 3			0.08	3000	
E 4	510.	32.	0.05	1500	33.
E 5			0.20	10500	
E 6 NEXT TO CLOSET	240.				
E 7	1440.	657.	0.04	900	408.
F 1	630.		0.08	3000	
F 1 @1			0.04	750	
F 1 @2			0.01	MDA	
F 2	4410.	4.	0.35	19500	4.
F 3			0.09	3750	
F 4			0.05	1200	
F 5	270.		0.08	3000	
F 5 @1			0.03	MDA	
F 5 @2			0.03	MDA	
G 1	2730.		0.06	2250	
G 1 @1			0.04	750	
G 1 @2			0.04	750	
G 2	43440.	304.	0.40	22500	212.
G 2 FLOOR			0.08	3000	
G 2 HEATERS			0.08	3000	
G 2 HOOD	600.	14.	0.05	1500	53.
G 2 @1	4260.	750.			775.
G 3	33600.	321.	0.20	10500	261.
G 4 CENTER	300.				
G 4 HOOD	330.				
G 4 STOVE			0.05	1500	
G 4 TABLE TOP		3071.			3326.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 26



BUILDING 7 - ROOM 107

Surface Contamination Survey
Building 7 Room 107

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1	60.		0.01	MDA	
A 1 @1			0.04	600	
A 2 @2			0.02	MDA	
B 1			0.03	MDA	
B 1 @1			0.02	MDA	
B 1 @2			0.01	MDA	
C 1			0.01	MDA	
C 1 @1			0.01	MDA	
C 1 @2			0.01	MDA	
D 1			0.01	MDA	
D 1 @1			0.05	1500	
D 1 @2			0.04	750	
A 2			0.04	750	
A 2 @1			0.01	MDA	
A 2 @2			0.01	MDA	
B 2			0.04	750	
C 2			0.03	MDA	
D 2	30.	7.	0.02	MDA	25.
E 2			0.01	MDA	
E 2 @1			0.03	MDA	
E 2 @2			0.01	MDA	
A 3			0.05	1500	
A 3 @1			0.05	1500	
A 3 @2			0.03	MDA	
B 3			0.03	MDA	
C 3			0.03	MDA	
D 3			0.01	MDA	
E 3	60.		0.01	MDA	
E 3 @1			0.04	750	
A 4			0.03	MDA	
A 4 @1			0.05	1500	
A 4 @2			0.05	1500	
B 4	90.		0.03	MDA	
C 4			0.02	MDA	
D 4			0.03	MDA	
E 4	30.		0.01	MDA	
F 4			0.04	750	
4 F @1			0.03	MDA	
A 5			0.01	MDA	
A 5 @1			0.04	750	
A 5 @2			0.01	MDA	
B 5			0.01	MDA	
C 5			0.01	MDA	
D 5	60.		0.01	MDA	
E 5			0.03	MDA	
F 5	30.		0.03	MDA	
F 5 @1			0.01	MDA	
UNDER LIN A-B ROWS			0.10	4500	
E 4 UNDER LINOLEUM	450.	7.			14.
D 3 UNDER LINOLEUM	420.	4.			10.

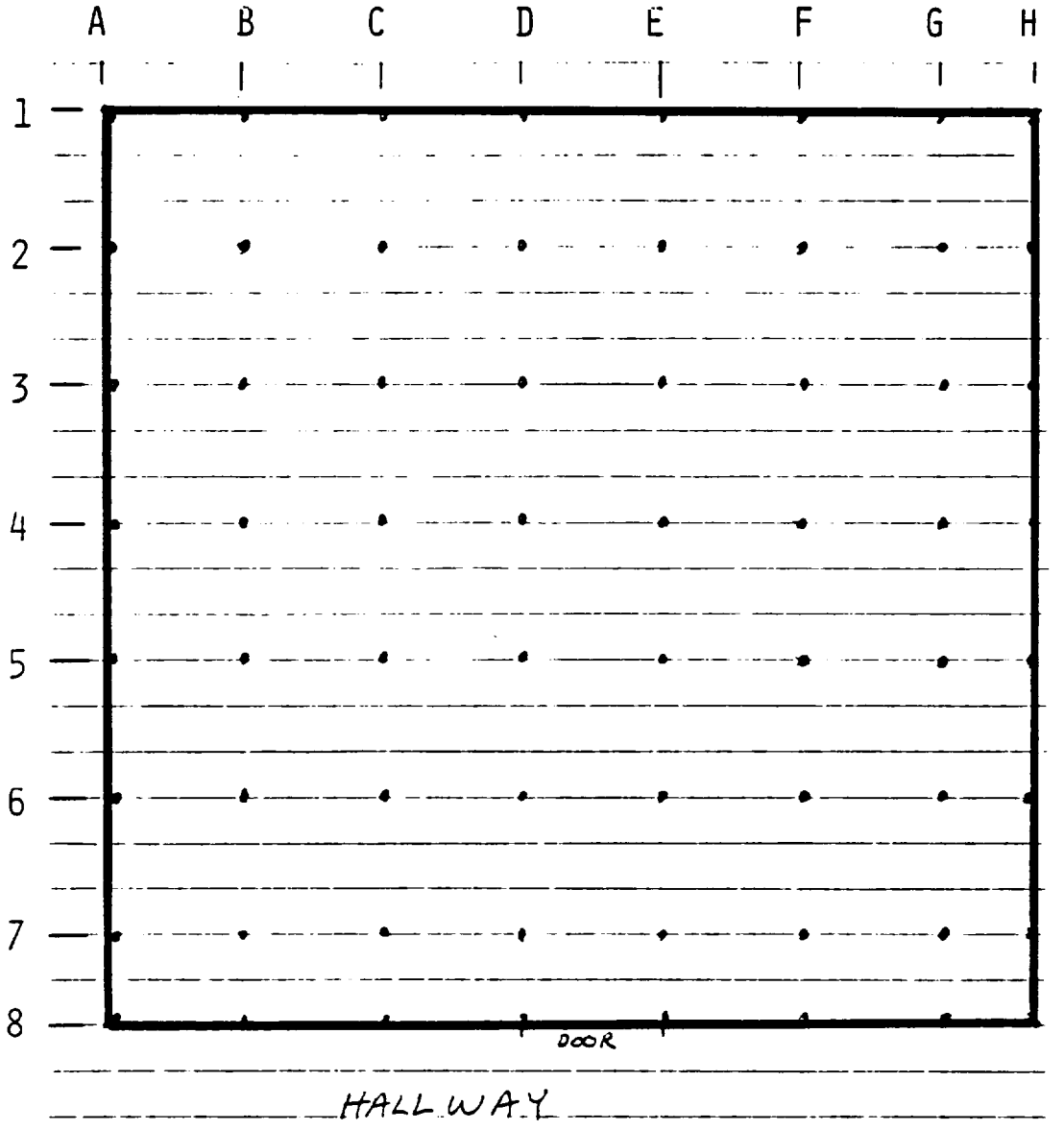
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Room 107

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
B 3 UNDER LINOLEUM	60.	MDA			MDA
B 4.5 UNDER LIN	120.	4.			6.
A 6			0.03	MDA	
A 6 @1			0.03	300	
A 6 @2			0.03	300	
B 6			0.03	MDA	
C 6			0.03	MDA	
D 6			0.03	MDA	
E 6			0.03	MDA	
F 6	60.		0.03	MDA	
G 6	60.		0.04	750	
G 6 @1			0.03	MDA	
G 6 @2			0.02	MDA	
A 7			0.02	MDA	
A 7 @1			0.02	MDA	
A 7 @2			0.02	MDA	
B 7			0.02	MDA	
D 7 FLOOR/UNDER TILE	630.	MDA			MDA
E 7 FLOOR/UNDER TILE	840.	4.			8.
C 7	240.		0.02	MDA	
C 7 @1			0.03	300	
C 7 @2			0.03	MDA	
D 7	300.	MDA	0.03	300	MDA
D 7 @1			0.02	MDA	
D 7 @2			0.02	MDA	
E 7	90.		0.08	3000	
E 7 @1			0.02	MDA	
E 7 @2			0.02	MDA	
F 7			0.05	1200	
F 7 @1			0.03	MDA	
F 7 @2			0.02	MDA	
G 7	60.		0.04	600	
G 7 @1			0.02	MDA	
G 7 @2			0.02	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 27



BUILDING 7 - ROOM 108

Surface Contamination Survey
Building 7 Room 108

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1			0.06	1800	
A 1 @1			0.03	300	
A 1 @2			0.02	MDA	
A 2	540.	4.	0.03	300	6.
A 2 @1			0.02	MDA	
A 2 @2			0.02	MDA	
A 3			0.04	750	
A 3 @1	960.		0.03	MDA	
A 3 @2			0.02	MDA	
A 4			0.05	1500	
A 4 @1			0.04	750	
A 4 @2			0.03	MDA	
A 5	690.	21.	0.05	1500	9.
A 5 @1			0.04	750	
A 5 @2			0.04	750	
A 6	750.	82.	0.05	1500	107.
A 6 @1			0.04	750	
A 6 @2			0.04	750	
A 7	630.	36.	4.00	238500	35.
A 7 @1			0.01	MDA	
A 7 @2			0.01	MDA	
A 8			0.01	MDA	
A 8 @1			0.03	MDA	
A 8 @2			0.10	4500	
B 1	60.		0.10	4500	
B 1 @1			0.10	4500	
B 1 @2			0.01	MDA	
B 2			0.05	1500	
B 3			0.02	MDA	
B 4	180.	18.	0.05	1500	30.
B 5			0.03	MDA	
B 6			0.03	MDA	
B 7	150.		0.05	1500	
B 8			0.03	MDA	
B 8 @1			0.03	MDA	
B 8 @2			0.01	MDA	
C 1			0.03	MDA	
C 2	90.	29.	0.05	1500	63.
C 3			0.02	MDA	
C 4			0.03	MDA	
C 5	60.		0.03	MDA	
C 6			0.01	MDA	
C 7			0.05	1500	
C 8			0.04	750	
C 8 @1			0.03	MDA	
C 8 @2			0.01	MDA	
D 1	90.	14.	0.01	MDA	5.
D 2			0.03	MDA	
E 1			0.04	750	
E 2			0.04	750	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Room 108

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
D 3			0.08	3000	
E 3	120.		0.04	750	
F 3			0.03	MDA	
F 2			0.03	300	
F 1	150.	11.	0.03	MDA	6.
G 1			0.05	1500	
G 1 @1			0.03	MDA	
H 1	240.	MDA	0.04	750	MDA
H 1 @1			0.01	MDA	
H 1 @2			0.03	MDA	
H 2			0.03	MDA	
H 2 @1			0.03	MDA	
H 2 @2			0.03	MDA	
F 4	60.		0.05	1500	
F 5			0.03	MDA	
F 6			0.03	MDA	
F 7			0.05	1500	
F 8	660.	MDA	0.03	300	17.
F 8 @1			0.01	MDA	
F 8 @2			0.01	MDA	
G 2			0.03	MDA	
G 3	60.		0.01	MDA	
G 4		7.	0.03	MDA	MDA
G 5			0.04	750	
G 6	210.	7.	0.04	750	MDA
G 7			0.05	1500	
G 8	180.	4.	0.06	2250	6.
G 8 @1			0.03	MDA	
G 8 @2			0.01	MDA	
D 7	30.				
H 3			0.08	3000	
H 3 @1			0.01	MDA	
H 3 @2			0.01	MDA	
D 5	120.				
H 4			0.03	MDA	
H 4 @1			0.03	MDA	
H 4 @2			0.01	MDA	
H 5		18.	0.03	MDA	7.
H 5 @1	60.		0.04	750	
H 5 @2			0.03	MDA	
H 6			0.03	MDA	
H 6 @1			0.02	MDA	
H 6 @2			0.02	MDA	
H 7			0.03	MDA	
H 7 @1			0.03	MDA	
H 7 @2			0.01	MDA	
H 8			0.03	MDA	
H 8 @1	30.	14.	0.01	MDA	16.
H 8 @2			0.01	MDA	
E 4			0.04	750	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Room 108

[210,150]073

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
E 5			0.01	MDA	
E 6	90.		0.01	MDA	
E 7			0.03	MDA	
E 8			0.04	750	
E 8 @1			0.01	MDA	
E 8 @2			0.01	MDA	
D 4			0.03	MDA	
D 5			0.03	MDA	
D 6			0.03	MDA	
D 7			0.03	MDA	
D 8			0.02	MDA	
D 8 @1			0.01	MDA	
D 8 @2			0.01	MDA	
WIRE SPOOLS & PWDR			0.25	13500	

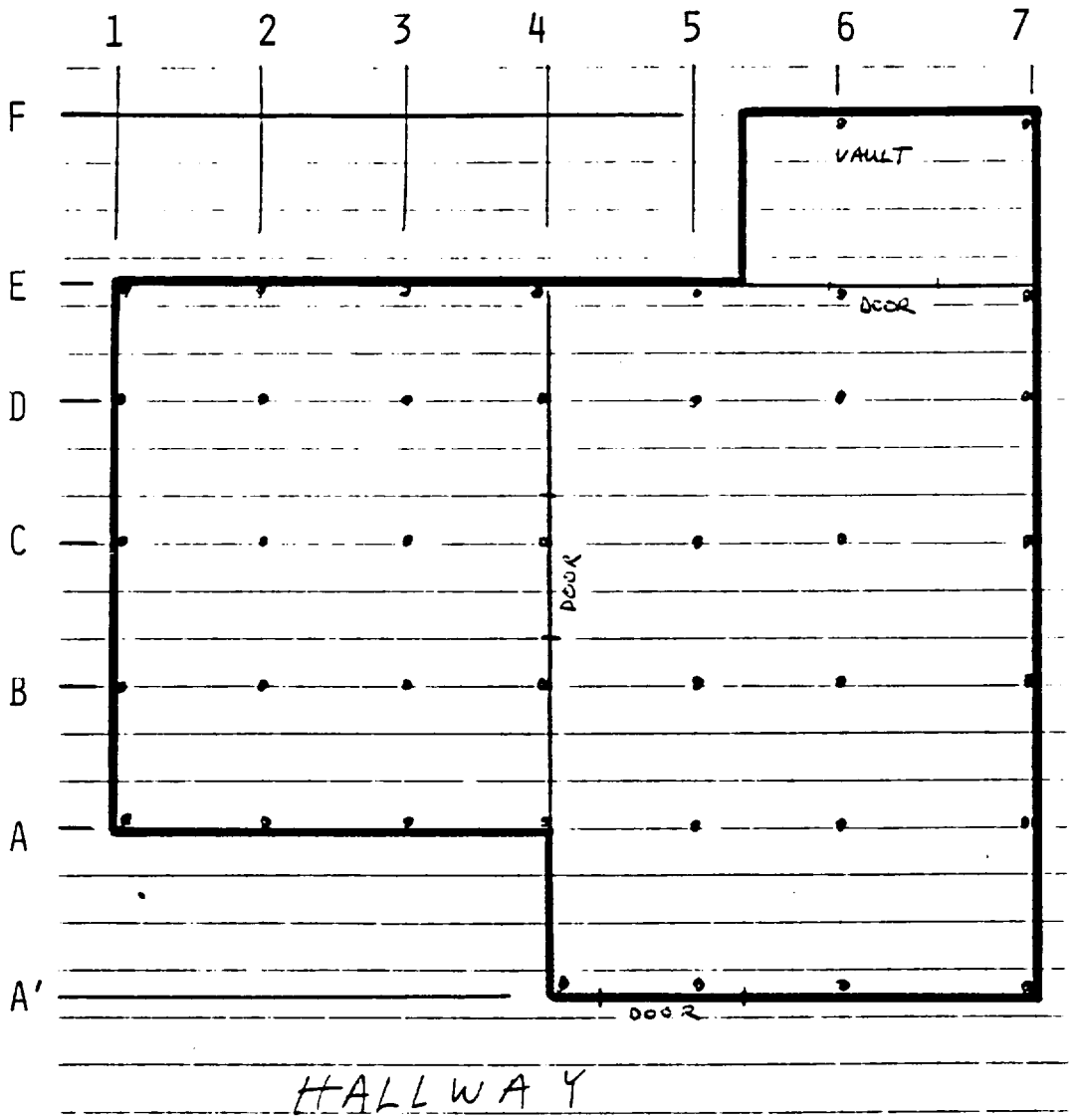
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Room 119

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
SINK BOWL		36.	0.75	43500	267.
SPOT ON FLOOR		7.	0.15	7500	17.
ALL OTHER AREAS			0.03	300	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 31



BUILDING 7 - ROOM 128

Canberra/RMC

[210,150]075

Surface Contamination Survey
Building 7 Room 128

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1	60.		0.02	MDA	
A 1 @1	60.		0.01	MDA	
A 1 @2			0.01	MDA	
B 1		11.	0.03	MDA	26.
B 1 @1			0.01	MDA	
B 1 @2			0.01	MDA	
C 1			0.04	750	
C 1 @1			0.01	MDA	
C 1 @2			0.01	MDA	
D 1 @1			0.01	MDA	
D 1 @2			0.01	MDA	
D 1			0.04	750	
E 1			0.04	750	
E 1 @1			0.01	MDA	
E 1 @2			0.01	MDA	
A 2			0.03	MDA	
A 2 @1			0.01	MDA	
A 2 @2			0.03	MDA	
B 2	90.		0.03	MDA	
C 2		MDA	0.01	MDA	23.
D 2			0.01	MDA	
E 2			0.03	MDA	
E 3			0.04	750	
D 3		7.	0.04	750	10.
C 3	120.		0.01	MDA	
B 3			0.01	MDA	
E 4	30.		0.04	750	
E 4 @1	60.		0.03	MDA	
E 4 @2			0.03	MDA	
D 4			0.03	MDA	
C 4			0.03	MDA	
B 4			0.03	MDA	
A 4	120.		0.02	MDA	
A' 5			0.01	MDA	
A 5			0.03	MDA	
B 5	60.	MDA	0.03	MDA	8.
C 5			0.03	MDA	
D 5			0.03	MDA	
E 5 COUNTER TOP			0.02	MDA	
A' 6			0.03	MDA	
A 6			0.01	MDA	
B 6			0.01	MDA	
C 6	60.	4.	0.03	MDA	4.
D 6			0.04	750	
E 6			0.03	MDA	
A' 7			0.03	MDA	
A' 7 @1			0.03	MDA	
A' 7 @2			0.03	MDA	
A 7			0.03	MDA	
A 7 @1			0.01	MDA	

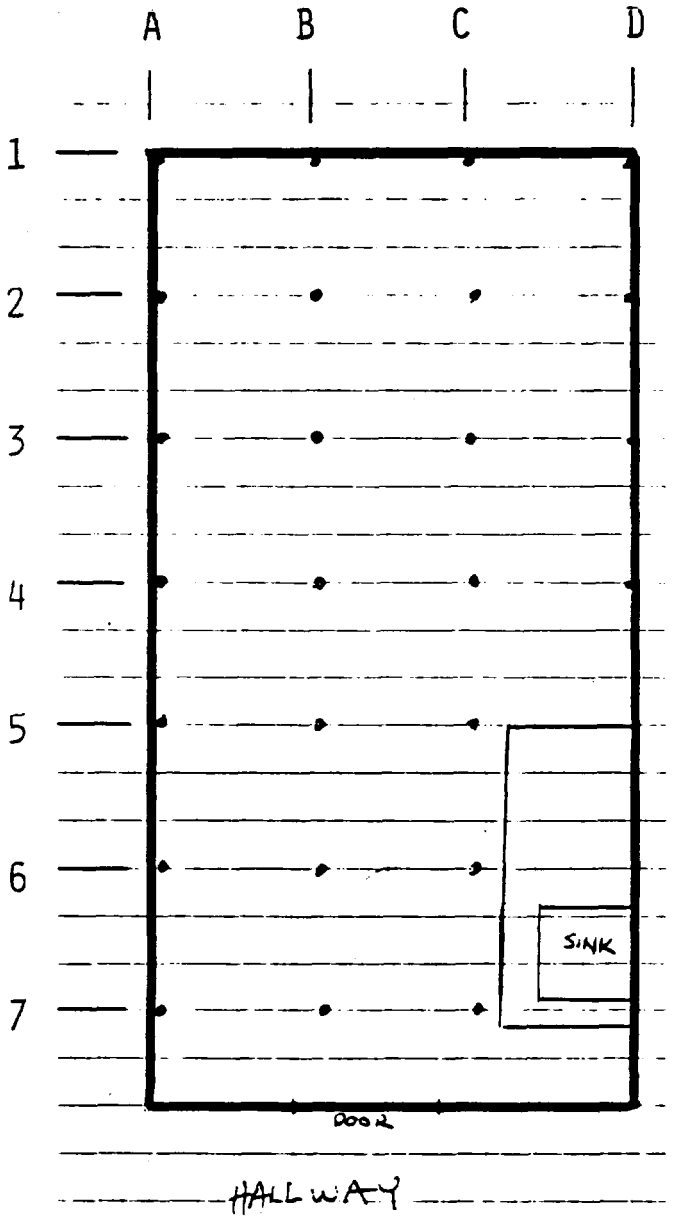
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Room 128

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 7 @2			0.01	MDA	
E 7	90.	14.	0.03	MDA	39.
E 7 @1	30.	MDA	0.03	MDA	15.
E 7 @2			0.03	MDA	
E 7 VAULT	540.	32.	0.04	750	63.
E 7 @1 VAULT	300.		0.01	MDA	
E 7 @2 VAULT	12.		0.03	MDA	
F 7			0.03	MDA	
F 7 @1			0.03	MDA	
F 7 @2			0.03	MDA	
VAULT INNER DOOR @1		11.	0.01	MDA	49.
VAULT INNER DOOR @2			0.03	MDA	
E 6 VAULT	240.	7.	0.03	MDA	16.
E 6 @1 VAULT	60.		0.03	MDA	
E 6 @2 VAULT			0.03	MDA	
F 6	150.	75.	0.06	2100	83.
F 6 @1			0.03	MDA	
F 6 @2			0.03	MDA	
VAULT CTR FLOOR		4.	0.06	2100	7.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 35



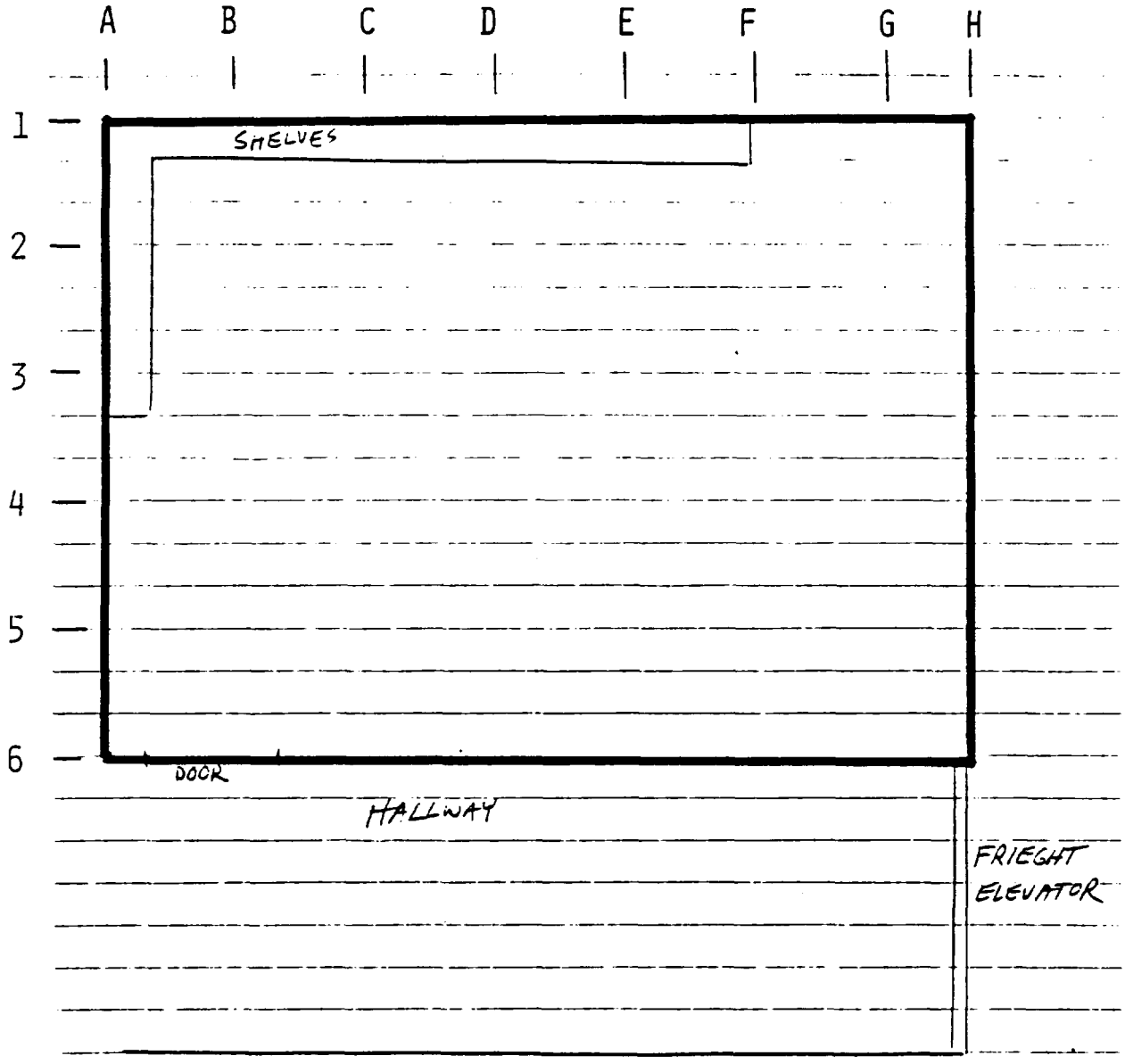
BUILDING 7 - ROOM 225

Surface Contamination Survey
Building 7 Room 225

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1	90.	MDA	0.03	300	13.
A 1 @1	120.		0.03	300	
A 1 @2	60.		0.03	300	
B 1			0.03	300	
B 1 @1			0.03	300	
B 1 @2			0.03	300	
C 1		MDA	0.03	300	MDA
C 1 @1			0.03	300	
C 1 @2			0.03	300	
D 1			0.03	300	
D 1 @1			0.03	300	
D 1 @2			0.03	300	
A 2			0.03	300	
A 2 @1	30.		0.03	300	
A 2 @2			0.03	300	
B 2	60.		0.03	300	
C 2			0.03	300	
D 2			0.03	300	
A 3			0.03	300	
A 3 @1			0.03	300	
A 3 @2			0.03	300	
B 3			0.03	300	
C 3			0.03	300	
D 3	60.		0.03	300	
D 3 @1	60.		0.03	300	
A 4	120.		0.03	300	
A 4 @1			0.03	300	
A 4 @2			0.03	300	
B 4			0.03	300	
C 4			0.03	300	
A 5			0.03	300	
A 5 @1			0.03	300	
A 5 @2			0.03	300	
B 5			0.03	300	
C 5		MDA	0.03	300	MDA
A 6	120.		0.03	300	
A 6 @1			0.03	300	
A 6 @2			0.03	300	
B 6	90.		0.03	300	
B 6 @1	60.		0.03	300	
C 6			0.03	300	
A 7			0.03	300	
A 7 @1			0.03	300	
A 7 @2			0.03	300	
B 7		4.	0.03	300	6.
C 7			0.03	300	
D 7 DRAIN PIPE		7.			25.
D 6 UNDER SINK	2340.	25.	0.50	28500	32.
D 6 SINK TOP	210.	25.			13.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 39



BUILDING 7 - ROOM 318

Surface Contamination Survey
Building 7 Room 318

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1	90.	7.	0.05	1500	14.
A 1 @1	60.		0.05	1500	
A 1 @2			0.03	MDA	
A 2			0.05	1500	
A 2 @1			0.03	MDA	
A 2 @2			0.04	750	
A 3		MDA			19.
A 4			0.04	750	
A 4 @1	120.		0.03	MDA	
A 4 @2			0.03	MDA	
A 5			0.03	MDA	
A 5 @1			0.05	1500	
A 5 @2			0.01	MDA	
A 6			0.03	MDA	
A 6 @1			0.03	MDA	
A 6 @2			0.03	MDA	
B 1			0.05	1500	
B 1 @1			0.03	MDA	
B 1 @2			0.03	MDA	
B 2			0.05	1500	
B 3	120.		0.03	MDA	
B 4			0.04	750	
B 5		MDA	0.03	MDA	6.
B 6	90.		0.04	750	
C 1	120.		0.04	750	
C 1 @1 BOTTLE	30.	MDA	3.25	193500	17.
C 1 @2			0.08	3000	
C 2			0.03	MDA	
C 3			0.04	750	
C 4			0.01	MDA	
C 5	60.		0.04	750	
C 6			0.04	750	
C 6 @1	30.		0.05	1500	
C 6 @2			0.03	MDA	
D 1			0.01	MDA	
D 1 @1			0.06	2100	
D 1 @2			0.02	MDA	
D 2	60.		0.01	MDA	
D 3			0.03	MDA	
D 4	90.		0.03	MDA	
D 5			0.03	MDA	
D 6			0.01	MDA	
D 6 @1			0.04	750	
D 6 @2			0.03	MDA	
E 1	150.	4.	0.05	1500	MDA
E 2			0.04	750	
E 3			0.03	MDA	
E 4			0.03	MDA	
E 5			0.04	750	
E 6	120.	11.	0.03	MDA	20.

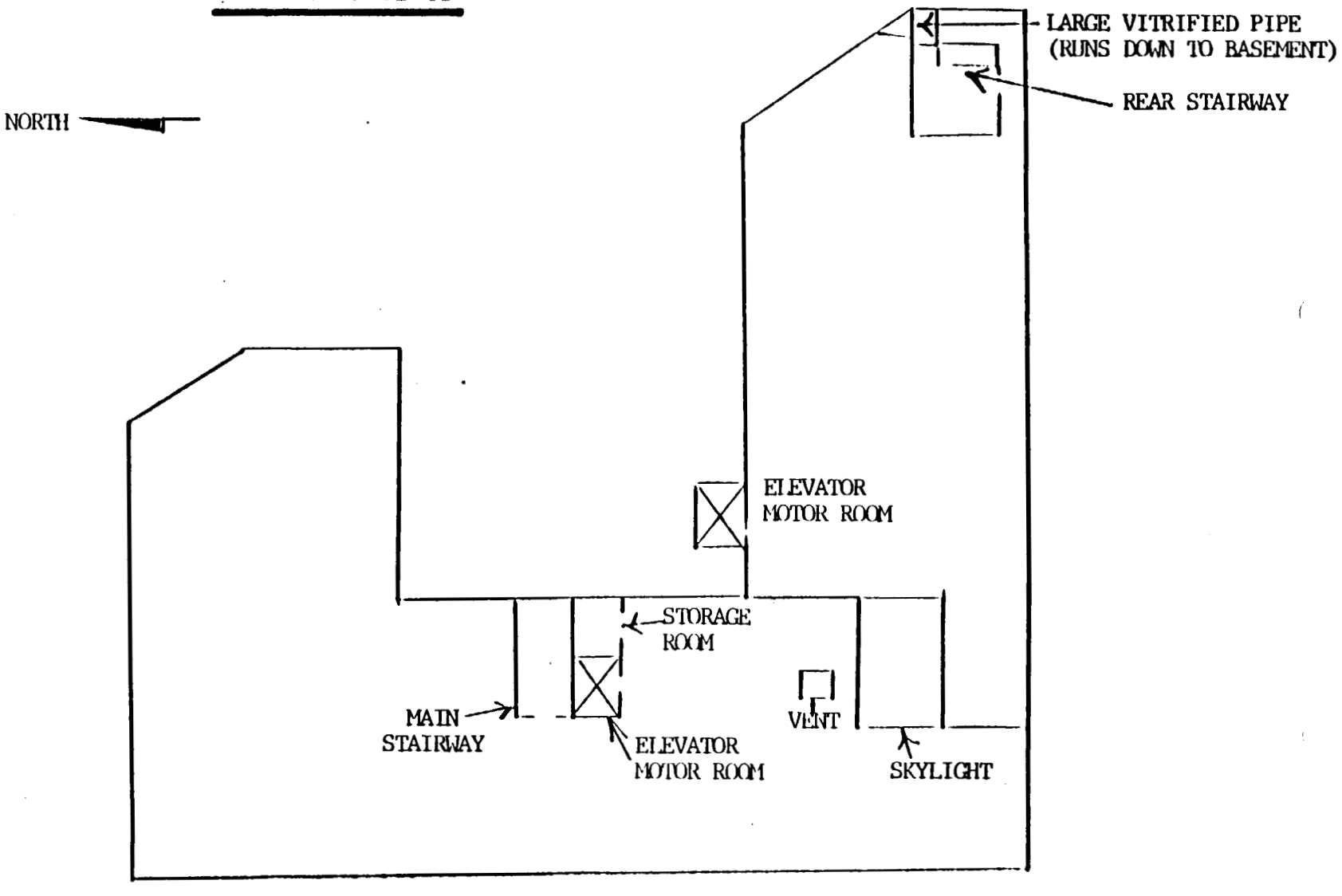
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Room 318

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
E 6 @1			0.02	MDA	
E 6 @2			0.04	750	
F 5	30.		0.03	MDA	
F 1		7.	0.04	750	MDA
F 1 @1			0.04	750	
F 1 @2			0.04	750	
F 2	60.		0.04	750	
F 3			0.05	1500	
F 4	60.		0.03	300	
F 6			0.03	MDA	
F 6 @1			0.01	MDA	
F 6 @2			0.03	MDA	
G 1			0.03	MDA	
G 1 @1			0.02	MDA	
G 1 @2			0.02	MDA	
G 2		14.	0.03	300	10.
G 3	90.		0.03	300	
G 4		MDA	0.03	MDA	10.
G 5			0.03	MDA	
H 3	90.		0.03	300	
H 3 @1			0.03	300	
H 3 @2			0.03	MDA	
H 4			0.03	300	
H 4 @1			0.03	300	
H 4 @2			0.04	600	
H 5	120.		0.03	300	
H 5 @1			0.03	MDA	
H 5 @2			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NOS. 41-45



BUILDING 7 ROOFTOP

Surface Contamination Survey
Building 7 Roof Center Stairway

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
ROOF LND RT OF DOOR			0.05	1500	
ROOF LND RT OF STEPS		43.	0.75	43500	95.
ROOF LND LEFT/STEPS		25.	0.75	43500	67.
RF LND LEFT/STEPS CW			0.45	25500	
MID LANDING		14.	0.25	13500	13.
MD-LND 3 STEP UP			0.35	19500	
MD-LND 3 STEP UP CW			0.08	3000	
WALLS/ROOF LANDING		MDA	0.04	750	15.
5TH FLOOR LANDING		4.	0.30	16500	9.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Roof Storage Room

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
CEILING			0.04	750	
RT WALL (1M) FRONT			0.05	1500	
RT WALL (1M) CENTER			0.03	MDA	
RT WALL (1M) BACK			0.03	MDA	
LEFT WALL (1M) FRONT			0.02	MDA	
LEFT WALL (1M) CTR			0.03	MDA	
BACK WALL (1M) RT			0.04	600	
BACK WALL (1M) CTR		43.			87.
BACK WALL CENTER CW			0.05	1500	
BACK WALL (1M) LEFT			0.02	MDA	
FRONT FLOOR RIGHT		7.	0.15	7500	20.
FRONT FLOOR RT CW			0.05	1500	
FRONT FLOOR CENTER		21.	0.60	34500	50.
FRONT FLOOR CTR CW			0.25	13500	
FRONT FLOOR LEFT		15.	0.35	19500	100.
FRONT FLOOR LEFT CW			0.10	4500	
CENTER FLOOR RIGHT			0.10	4500	
CENTER FLOOR RT CW			0.05	1500	
CENTER FLOOR CENTER		107.	5.00	298500	284.
CENTER FLOOR CTR CW			1.25	73500	
CENTER FLOOR LEFT		4.	0.10	4500	11.
CENTER FLOOR LEFT CW			0.05	1500	
BACK FLOOR CENTER			0.35	19500	
BACK FLOOR CTR CW			0.10	4500	
CENTER GREASE SPOT		207.			1357.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Roof Vent

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
ROOF VENT RT INSIDE		418.	0.75	43500	1858.
ROOF VENT LEFT INSIDE		368.	1.00	58500	1584.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Roof South East Stairway

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
CEILING DOOR		96.	0.35	19500	438.
STEPS FROM ROOF DOWN			0.10	4500	
MIDDLE UPPER LANDING		14.	0.15	7500	28.
2ND STEP/5TH FLOOR		4.	0.13	6000	28.
TOP LANDING TO ROOF		36.			39.
1ST LND DOWN/5TH FLR		7.			13.
5TH FLOOR LANDING		4.			7.
BASEMENT LANDING		21.			139.
1ST FLOOR LANDING		11.			30.
5 STEP DOWN/1ST FLR		7.			45.
12 STEP DOWN/1ST FLR		21.			89.

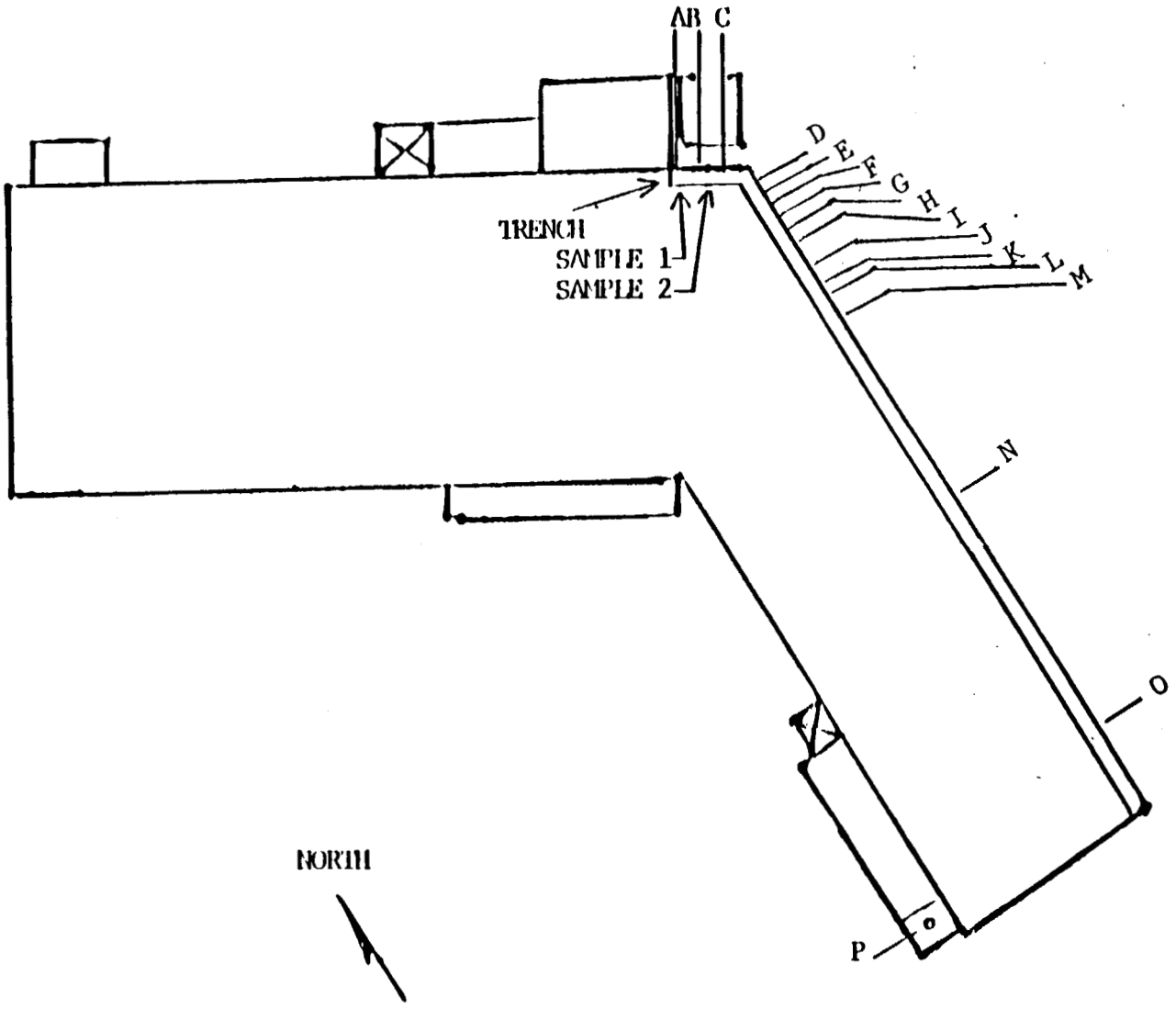
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 7 Roof Pipe Enclosure

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
FRONT WALL LOWER RT			0.05	1500	
FRONT WALL LWR LEFT			0.03	MDA	
FRONT WALL UPPER RT			0.03	MDA	
FRONT WALL UPR LEFT			0.50	28500	
RT WALL (1M) FRONT		14.	0.25	13500	46.
RT WALL (1M) BACK		11.	0.25	13500	33.
LEFT WALL (1M) CNTR		71.	1.00	58500	211.
LEFT WALL (1M) BACK		321.	1.50	88500	1461.
LEFT WALL (2M) CTR			1.25	73500	
LEFT WALL CENTER CW			0.50	28500	
LEFT WALL (2M) BACK			0.35	19500	
LOWER BACK WALL RT			0.18	9000	
LWR BACK WALL CENTER			0.08	3000	
LOWER BACK WALL LEFT			0.08	3000	
LEDGE/LWR BK WALL LT			0.35	19500	
LEDGE/LWR BK WL CTR			0.75	43500	
FLOOR FRONT RIGHT			0.08	3000	
BACK FLOOR RIGHT		7.	0.25	13500	26.
FRONT FLOOR LEFT			0.50	28500	
FRONT FLR LEFT CW			0.30	16500	
BACK FLOOR LEFT		114.	0.50	28500	291.
BACK FLOOR LEFT CW			0.30	16500	
LIP OF PIPE		21.			35.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 47



BUILDING 8 INSIDE, FIRST FLOOR

Surface Contamination Survey
Building 8, 1st Floor

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A TRENCH BOTTOM			0.23	12000	
B TRENCH BOTTOM			0.40	22500	
C TRENCH BOTTOM			0.30	16500	
D TRENCH			0.03	MDA	
D PIPE			0.03	MDA	
E TRENCH			0.02	MDA	
E PIPE			0.03	MDA	
F TRENCH			0.01	MDA	
F PIPE			0.03	MDA	
G TRENCH			0.01	MDA	
G PIPE			0.01	MDA	
H TRENCH			0.04	750	
H PIPE			0.01	MDA	
I TRENCH			0.04	750	
I PIPE			0.01	MDA	
J TRENCH			0.06	2250	
J PIPE			0.04	750	
K TRENCH			0.05	1500	
K PIPE			0.03	MDA	
L TRENCH			0.03	MDA	
L PIPE			0.04	750	
M TRENCH			0.08	3000	
M PIPE			0.03	MDA	
N TRENCH			0.03	MDA	
N PIPE			0.03	MDA	
O TRENCH			0.03	MDA	
O PIPE			0.01	MDA	
P PIT BOTTOM			0.14	6900	
P PIPE SURFACE			0.13	6000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 8, 2nd Floor, Room 12

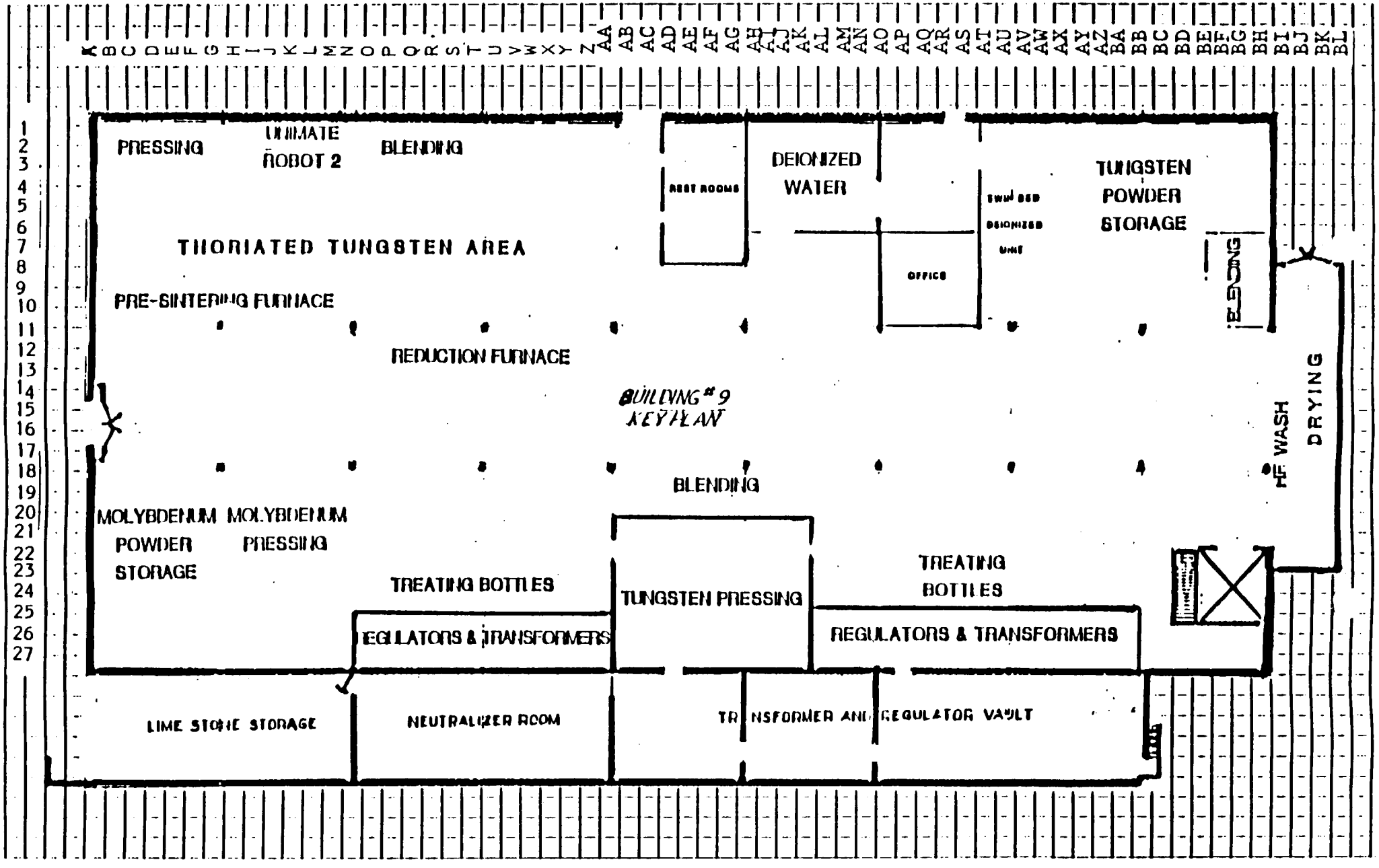
Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
WALL RT OF DOOR R#13		7.			6.
FLOOR RT OF DOOR R13		MDA			4.
FLOOR RT OF DOOR R11		4.			11.
WALL LFT OF DR RM#13		4.			15.
CENTER OF FLOOR		MDA			2.
FLOOR LFT OF DOOR 13		MDA			9.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 8, 3rd Floor

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
HIGH TEMP. LAB #1		11.			9.
HIGH TEMP. LAB #2		14.			11.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.



BUILDING 9 INSIDE

Canberra/RMC

[210,150]091

Surface Contamination Survey
Building 9

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 01	570.	14.	0.05	1500	18.
A 01 @1			0.04	600	
A 01 @2			0.04	600	
A 02			0.05	1500	
A 02 @1	600.		0.05	1500	
A 02 @2			0.05	1500	
A 03	360.		0.05	1500	
A 03 @1			0.09	3600	
A 03 @2			0.09	3600	
A 04			0.05	1500	
A 04 @1			0.08	3000	
A 04 @2			0.05	1500	
A 05			0.04	900	
A 05 @1			0.08	3000	
A 05 @2			0.05	1500	
A 06			0.06	2100	
A 06 @1			0.05	1500	
A 06 @2			0.05	1500	
A 07	330.		0.04	900	
A 07 @1			0.06	2100	
A 07 @2			0.06	2100	
A 08			0.07	2400	
A 08 @1			0.04	900	
A 08 @2			0.05	1500	
A 09			0.04	900	
A 10			0.08	3000	
A 11	570.		0.05	1500	
A 11 @1			0.03	300	
A 11 @2			0.03	300	
A 12			0.08	3000	
A 12 @1	300.		0.05	1500	
A 12 @2			0.04	900	
A 13			0.05	1500	
A 14	960.		0.04	900	
A 15 @1			0.04	900	
A 15 @2			0.03	MDA	
A 16 @1			0.03	300	
A 16 @2			0.04	600	
A 17 @1			0.04	900	
A 17 @2			0.03	300	
A 18		4.	0.08	3000	MDA
A 19			0.08	3000	
A 19 @1			0.05	1500	
A 19 @2			0.03	MDA	
A 20		25.	0.10	4500	34.
A 20 @1			0.05	1500	
A 20 @2			0.03	300	
A 21			0.13	6000	
A 21 @1			0.04	900	
A 21 @2			0.04	900	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 22			0.15	7500	
A 22 @1			0.10	4500	
A 22 @2			0.05	1500	
A 23			0.08	3000	
A 23 @1			0.10	4500	
A 23 @2			0.05	1500	
A 24		11.	0.10	4500	18.
A 24 @1			0.08	3000	
A 24 @2			0.04	600	
A 25			0.09	3600	
A 25 @1			0.06	2100	
A 25 @2			0.04	600	
A 26		50.	0.04	600	70.
A 26 @1			0.08	3000	
A 26 @2			0.04	900	
A 27			0.10	4500	
A 27 @1			0.03	300	
A 27 @2			0.03	300	
B 01	570.		0.05	1500	
B 01 @1	300.		0.10	4500	
B 01 @2			0.10	4500	
B 02			0.10	4500	
B 03	660.		0.06	2100	
B 04			0.08	3000	
B 05			0.06	2100	
B 06			0.05	1500	
B 07			0.04	900	
B 08	990.	11.	0.04	900	12.
B 09			0.06	2100	
B 10			0.06	2100	
B 11			0.05	1200	
B 12			0.10	4500	
B 13	1050.		0.05	1500	
B 15	420.		0.04	900	
B 16			0.05	1500	
B 17		14.	0.13	6000	41.
B 18			0.08	3000	
B 19			0.06	2100	
B 20			0.06	2100	
B 21			0.10	4500	
B 22			0.08	3000	
B 23		29.	0.10	4500	21.
B 24			0.08	3000	
B 25		14.	0.06	2100	12.
B 26			0.08	3000	
B 27			0.08	3000	
B 27 @1			0.03	300	
B 27 @2			0.03	MDA	
C 01	480.		0.04	900	
C 01 @1			0.10	4500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
C 01 @2			0.10	4500	
C 02			0.08	3000	
C 03			0.07	2400	
C 04	570.		0.08	3000	
C 05			0.04	900	
C 06			0.05	1500	
C 07			0.08	3000	
C 08			0.04	600	
C 09			0.05	1500	
C 10			0.05	1500	
C 11	570.	7.	0.08	3000	27.
C 12			0.04	900	
C 14			0.08	3000	
C 15			0.10	4500	
C 16	1020.		0.08	3000	
C 17			0.10	4500	
C 18			0.05	1500	
C 19			0.08	3000	
C 20			0.05	1500	
C 21			0.08	3000	
C 22			0.08	3000	
C 23			0.08	3000	
C 24			0.05	1500	
C 25			0.08	3000	
C 26			0.10	4500	
C 27			0.10	4500	
C 27 @1			0.03	300	
C 27 @2			0.03	MDA	
D 01			0.04	900	
D 01 @1			0.10	4500	
D 01 @2			0.15	7500	
D 02			0.10	4500	
D 03	420.		0.10	4500	
D 04			0.10	4500	
D 05			0.05	1500	
D 06			0.05	1500	
D 07			0.08	3000	
D 08			0.05	1500	
D 09	630.		0.04	900	
D 10			0.04	900	
D 11			0.05	1500	
D 12			0.05	1500	
D 13			0.04	900	
D 14	1170.	82.	0.06	2100	68.
D 15			0.05	1500	
D 16			0.08	3000	
D 17			0.13	6000	
D 18			0.10	4500	
D 19			0.06	2100	
D 20			0.06	2100	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
D 21			0.13	6000	
D 22			0.13	6000	
D 23			0.15	7500	
D 24			0.15	7500	
D 25			0.06	2100	
D 26			0.15	7500	
D 27			0.13	6000	
D 27 @1			0.08	3000	
D 27 @2			0.05	1500	
E 01	600.		0.04	900	
E 01 @1			0.10	4500	
E 01 @2			0.15	7500	
E 02			0.08	3000	
E 03			0.08	3000	
E 04			0.08	3000	
E 05	480.		0.08	3000	
E 06			0.06	2100	
E 07			0.05	1500	
E 08			0.08	3000	
E 09			0.06	2100	
E 10			0.05	1500	
E 11			0.06	2100	
E 12			0.08	3000	
E 13			0.06	2100	
E 14			0.04	900	
E 15	840.		0.04	900	
E 16			0.10	4500	
E 17			0.08	3000	
E 18			0.08	3000	
E 19			0.08	3000	
E 20			0.06	2100	
E 21			0.06	2100	
E 22			0.20	10500	
E 23			0.08	3000	
E 24			0.08	3000	
E 25			0.10	4500	
E 26			0.08	3000	
E 27			0.13	6000	
E 27 @1			0.05	1500	
E 27 @2			0.04	900	
F 01			0.04	900	
F 01 @1			0.10	4500	
F 01 @2			0.25	13500	
F 02			0.08	3000	
F 03	570.		0.08	3000	
F 04			0.08	3000	
F 05			0.08	3000	
F 06			0.06	2100	
F 07			0.08	3000	
F 08	600.		0.06	2100	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9

[210,150]091

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
F 09			0.08	3000	
F 10			0.08	3000	
F 11			0.08	3000	
F 12			0.08	3000	
F 13	570.		0.05	1500	
F 14			0.10	4500	
F 15			0.08	3000	
F 16			0.08	3000	
F 17			0.08	3000	
F 18			0.05	1500	
F 19			0.08	3000	
F 20			0.05	1500	
F 21			0.05	1500	
F 22			0.05	1500	
F 23			0.05	1500	
F 24			0.08	3000	
F 25			0.06	2100	
F 26			0.08	3000	
F 27		32.	0.18	9000	73.
F 27 @1			0.05	1500	
F 27 @2			0.03	MDA	
G 01			0.05	1500	
G 02			0.08	3000	
G 03	270.		0.06	2100	
G 04			0.08	3000	
G 05			0.10	4500	
G 05 MAX CPM	16860.	232.	0.50	28500	239.
G 06			0.08	3000	
G 07			0.08	3000	
G 08			0.06	2100	
G 09			0.05	1500	
G 10			0.10	4500	
G 11			0.06	2100	
G 12			0.05	1500	
G 13			0.05	1500	
G 14			0.08	3000	
G 15			0.05	1500	
G 16	570.		0.09	3600	
G 17			0.10	4500	
G 18			0.08	3000	
G 19		43.	0.09	3600	79.
G 20			0.10	4500	
G 21			0.15	7500	
G 22			0.05	1500	
G 23			0.05	1500	
G 24			0.08	3000	
G 25			0.08	3000	
G 26			0.08	3000	
G 27			0.15	7500	
G 27 @1			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9

[210,150]091

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
G 27 @2			0.03	MDA	
H 01			0.06	1800	
H 01 @1			0.15	7500	
H 01 @2			0.25	13500	
H 02			0.10	4500	
H 03			0.06	2100	
H 04	570.	18.	0.10	4500	20.
H 05			0.13	6000	
H 06			0.10	4500	
H 07	900.		0.08	3000	
H 08			0.06	2100	
H 09			0.05	1500	
H 10			0.08	3000	
H 11			0.06	2100	
H 12			0.05	1500	
H 13			0.06	2100	
H 14	840.		0.08	3000	
H 15			0.05	1500	
H 16			0.08	3000	
H 17			0.06	2100	
H 18			0.08	3000	
H 19			0.10	4500	
H 20		21.	0.10	4500	53.
H 21			0.08	3000	
H 22			0.04	600	
H 23			0.03	300	
H 24 PRESS SURFACE			0.25	13500	
H 25			0.06	2100	
H 26			0.06	2100	
H 27			0.08	3000	
H 27 @1			0.05	1500	
H 27 @2			0.05	1500	
I 01	720.	4.	0.07	2400	8.
I 01 @1			0.20	10500	
I 01 @2			0.20	10500	
I 02			0.10	4500	
I 03	330.		0.20	10500	
I 04			0.05	1500	
I 05			0.08	3000	
I 06			0.09	3600	
I 07			0.06	2100	
I 08			0.05	1500	
I 09			0.04	900	
I 10			0.05	1500	
I 11	1320.	36.	0.10	4500	48.
I 12			0.04	900	
I 13			0.06	2100	
I 14			0.06	2100	
I 15			0.08	3000	
I 16			0.05	1500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
I 17			0.08	3000	
I 18			0.08	3000	
I 19			0.06	2100	
I 20			0.13	6000	
I 21		50.	0.15	7500	61.
I 22			0.04	600	
I 23			0.04	600	
I 25			0.05	1500	
I 26			0.05	1500	
I 27			0.06	2100	
I 27 @1			0.05	1500	
I 27 @2			0.04	900	
J 01			0.08	3300	
J 01 @1			0.10	4500	
J 01 @2			0.25	13500	
J 02			0.08	3000	
J 03			0.10	4500	
J 04			0.05	1500	
J 05	870.	29.	0.10	4500	50.
J 06			0.08	3000	
J 07			0.05	1500	
J 08			0.06	2100	
J 09			0.06	2100	
J 10			0.08	3000	
J 11			0.06	2100	
J 12	750.		0.08	3000	
J 13			0.05	1500	
J 14			0.04	900	
J 15			0.05	1500	
J 16			0.06	2100	
J 17			0.09	3600	
J 18			0.08	3000	
J 19			0.13	6000	
J 20			0.08	3000	
J 21			0.10	4500	
J 22			0.04	900	
J 23			0.05	1500	
J 25			0.05	1500	
J 26			0.08	3000	
J 27			0.10	4500	
J 27 @1			0.06	2100	
J 27 @2			0.06	2100	
K 01			0.10	4500	
K 01 @1			0.10	4500	
K 01 @2			0.25	13500	
K 02			0.08	3000	
K 03			0.08	3000	
K 04			0.05	1500	
K 05			0.08	3000	
K 06	780.		0.08	3000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
K 07			0.06	2100	
K 08			0.08	3000	
K 09			0.10	4500	
K 10	930.	11.	0.10	4500	24.
K 11			0.08	3000	
K 12			0.08	3000	
K 14			0.08	3000	
K 15	780.		0.09	3600	
K 16			0.10	4500	
K 17			0.09	3600	
K 18			0.08	3000	
K 19			0.08	3000	
K 20			0.10	4500	
K 21		104.	0.13	6000	110.
K 22			0.20	10500	
K 23			0.06	2100	
K 24			0.15	7500	
K 25			0.08	3000	
K 26			0.08	3000	
K 27			0.20	10500	
K 27 @1			0.05	1500	
K 27 @2			0.04	600	
L 01	810.	4.	0.10	4500	MDA
L 01 @1			0.20	10500	
L 01 @2			0.25	13500	
L 02			0.08	3000	
L 03			0.06	2100	
L 04			0.05	1500	
L 05			0.05	1500	
L 06			0.08	3000	
L 07			0.08	3000	
L 08	1710.	50.	0.06	2100	107.
L 09			0.10	4500	
L 10	5490.	279.	0.25	13500	288.
L 11			0.08	3000	
L 12			0.05	1500	
L 14			0.10	4500	
L 15			0.10	4500	
L 16			0.08	3000	
L 17			0.08	3000	
L 18			0.08	3000	
L 19		25.	0.08	3000	40.
L 20			0.10	4500	
L 21		164.	0.50	28500	173.
L 22			0.18	9000	
L 23			0.30	16500	
L 24		43.	0.20	10500	139.
L 25		125.	0.13	6000	188.
L 26			0.25	13500	
L 27			0.20	10500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
L 27 @1			0.04	900	
L 27 @2			0.04	900	
M 01			0.10	4500	
M 01 @1	780.	32.	0.15	7500	48.
M 01 @2			0.25	13500	
M 02			0.06	2100	
M 03			0.08	3000	
M 04	720.		0.04	900	
M 05			0.05	1500	
M 06			0.10	4500	
M 07			0.07	2400	
M 08			0.09	3600	
M 09 DRAIN	17220.	539.	2.00	118500	884.
M 10			0.35	19500	
M 11			0.08	3000	
M 12	1230.	11.	0.08	3000	14.
M 13			0.05	1500	
M 14			0.13	6000	
M 15			0.09	3600	
M 16			0.08	3000	
M 17			0.05	1500	
M 18			0.09	3600	
M 19			0.08	3000	
M 20	480.	18.	0.18	9000	53.
M 21			0.15	7500	
M 22			0.08	3000	
M 23	143.		0.60	34500	208.
M 23			0.18	9000	
M 24			0.13	6000	
M 25			0.09	3600	
M 26	4620.	132.	0.25	13500	275.
M 27		96.	0.25	13500	67.
M 27			0.13	6000	
M 27 @1			0.08	3000	
M 27 @1			0.05	1500	
M 27 @2			0.05	1500	
M 27 @2			0.06	2100	
N 01	1470.	36.	0.10	4500	46.
N 01 @1			0.15	7500	
N 01 @2			0.25	13500	
N 02			0.08	3000	
N 03			0.10	4500	
N 04			0.06	2100	
N 05	1020.		0.08	3000	
N 06			0.10	4500	
N 07			0.08	3000	
N 08			0.10	4500	
N 09	3390.	39.	0.15	7500	52.
N 10			0.10	4500	
N 11			0.08	3000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
N 12			0.08	3000	
N 13	1080.		0.05	1500	
N 14			0.13	6000	
N 15			0.06	2100	
N 16	2400.	18.	0.13	6000	36.
N 17			0.06	2100	
N 18			0.13	6000	
N 19			0.15	7500	
N 20			0.13	6000	
N 21			0.15	7500	
N 22	450.	21.	0.20	10500	44.
N 23			0.10	4500	
N 24			0.20	10500	
N 25			0.05	1500	
N 26			0.20	10500	
N 27			0.08	3000	
N 27 @1			0.04	600	
N 27 @2			0.04	600	
O 01 @1			0.05	1500	
O 01	3150.	75.	0.50	28500	51.
O 02			0.25	13500	
O 03			0.25	13500	
O 04	2400.	57.	0.15	7500	63.
O 05			0.15	7500	
O 06			0.10	4500	
O 07			0.10	4500	
O 08			0.10	4500	
O 09	2100.		0.10	4500	
O 10			0.15	7500	
O 11			0.08	3000	
O 12			0.05	1500	
O 13	870.		0.08	3000	
O 14			0.15	7500	
O 15			0.05	1500	
O 16	1230.		0.10	4500	
O 17			0.08	3000	
O 18			0.13	6000	
O 19			0.13	6000	
O 20	1620.	25.	0.25	13500	57.
O 21			0.25	13500	
O 22			0.15	7500	
O 23			0.08	3000	
O 24			0.20	10500	
O 25			0.13	6000	
O 26			0.10	4500	
O 27			0.06	2100	
O 27 @1			0.04	900	
O 27 @2			0.03	300	
P 01	9600.	218.	0.60	34500	151.
P 01 @1			0.15	7500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
P 01 @2			0.13	6000	
P 02			0.30	16500	
P 03 DRAIN	21180.	221.	0.15	7500	330.
P 04			0.20	10500	
P 05			0.15	7500	
P 06			0.13	6000	
P 07	1710.		0.10	4500	
P 08			0.08	3000	
P 09			0.08	3000	
P 10			0.08	3000	
P 11	1350.		0.08	3000	
P 12			0.08	3000	
P 13			0.08	3000	
P 14	990.		0.08	3000	
P 15			0.05	1500	
P 16			0.13	6000	
P 17			0.09	3600	
P 18			0.10	4500	
P 19			0.10	4500	
P 20	1770.	43.	0.25	13500	95.
P 21			0.40	22500	
P 22			0.15	7500	
P 23			0.10	4500	
P 24			0.15	7500	
P 25			0.13	6000	
P 26			0.05	1500	
P 27			0.05	1500	
P 27 @1			0.04	600	
P 27 @2			0.03	MDA	
Q 01			0.05	1500	
Q 01 @1			0.08	3000	
Q 01 @2			0.10	4500	
Q 02	2670.	100.	0.10	4500	73.
Q 03			0.18	9000	
Q 04			0.13	6000	
Q 05			0.13	6000	
Q 06			0.08	3000	
Q 07	1020.		0.10	4500	
Q 08			0.06	2100	
Q 09			0.06	2100	
Q 10			0.08	3000	
Q 11			0.08	3000	
Q 12			0.10	4500	
Q 13	1200.		0.08	3000	
Q 14			0.06	2100	
Q 15			0.06	2100	
Q 16			0.05	1500	
Q 17			0.13	6000	
Q 18			0.10	4500	
Q 19			0.09	3600	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
Q 20			0.30	16500	
Q 21	1200.	46.	0.60	34500	105.
Q 22	960.		0.50	28500	
Q 23			0.15	7500	
Q 24			0.10	4500	
Q 25			0.25	13500	
Q 26			0.13	6000	
Q 27			0.05	1500	
Q 27 @1			0.05	1500	
Q 27 @2			0.06	2100	
R 01			0.20	10500	
R 01 @1			0.10	4500	
R 01 @2			0.13	6000	
R 02		75.	0.10	4500	49.
R 03	1950.	54.	0.10	4500	51.
R 04			0.08	3000	
R 05			0.08	3000	
R 06			0.08	3000	
R 07			0.10	4500	
R 08	1200.		0.06	2100	
R 09			0.06	2100	
R 10			0.06	2100	
R 11			0.06	2100	
R 12	1890.		0.15	7500	
R 13			0.18	9000	
R 14			0.05	1500	
R 15			0.08	3000	
R 16	930.		0.05	1500	
R 17			0.08	3000	
R 18			0.04	900	
R 19			0.05	1500	
R 20			0.20	10500	
R 21			0.35	19500	
R 22	1080.		0.40	22500	
R 23			0.25	13500	
R 24			0.25	13500	
R 25	7500.	57.	0.25	13500	163.
R 26			0.15	7500	
R 27			0.15	7500	
R 27 @1			0.03	300	
R 27 @2			0.03	300	
S 01			0.10	4500	
S 01 @1			0.13	6000	
S 02	2400.		0.13	6000	
S 03			0.08	3000	
S 04			0.05	1500	
S 05	1500.		0.06	2100	
S 06			0.20	10500	
S 07			0.08	3000	
S 08			0.06	2100	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
S 09			0.10	4500	
S 10	750.		0.06	2100	
S 11			0.09	3600	
S 12			0.08	3000	
S 13			0.10	4500	
S 14			0.05	1500	
S 15	930.		0.06	2100	
S 16			0.13	6000	
S 17			0.15	7500	
S 18			0.09	3600	
S 19			0.07	2400	
S 20			0.25	13500	
S 21			0.18	9000	
S 22			0.13	6000	
S 23			0.15	7500	
S 24			0.13	6000	
S 25			0.10	4500	
S 26			0.06	2100	
S 27			0.13	6000	
S 27 @1			0.04	600	
S 27 @2			0.04	600	
T 01	2730.	71.	0.20	10500	75.
T 01 @1			0.50	28500	
T 01 @2			0.10	4500	
T 02	1290.		0.25	13500	
T 03			0.18	9000	
T 06			0.13	6000	
T 07	1140.		0.08	3000	
T 08			0.08	3000	
T 09			0.10	4500	
T 10			0.09	3600	
T 11	1980.		0.13	6000	
T 12			0.08	3000	
T 13			0.08	3000	
T 14			0.05	1500	
T 15			0.04	900	
T 16			0.20	10500	
T 17			0.15	7500	
T 18			0.15	7500	
T 19			0.08	3000	
T 20			0.15	7500	
T 21			0.25	13500	
T 22			0.25	13500	
T 23			0.25	13500	
T 24			0.20	10500	
T 25			0.25	13500	
T 26			0.18	9000	
T 27			0.20	10500	
T 27 @1			0.04	600	
T 27 @2			0.04	600	

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Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
U 01			0.50	28500	
U 01 @1			0.50	28500	
U 01 @2			0.13	6000	
U 02	840.		0.50	28500	
U 03	870.		0.25	13500	
U 06	1140.		0.25	13500	
U 07			0.08	3000	
U 08			0.08	3000	
U 09			0.08	3000	
U 10	1290.		0.05	1500	
U 11			0.06	2100	
U 12			0.10	4500	
U 13			0.08	3000	
U 14	930.		0.05	1500	
U 15			0.08	3000	
U 16			0.08	3000	
U 17			0.10	4500	
U 18			0.15	7500	
U 19			0.05	1500	
U 20			0.18	9000	
U 21			0.50	28500	
U 22			0.50	28500	
U 23	28860.	279	1.25	73500	670.
U 24			0.08	3000	
U 25			0.25	13500	
U 26			0.13	6000	
U 27			0.08	3000	
U 27 @1			0.04	900	
U 27 @2			0.05	1500	
V 01	4380.	311.	0.35	19500	332.
V 01 @1			0.25	13500	
V 01 @2			0.10	4500	
V 02	15510.	146.	4.00	238500	126.
V 03			0.15	7500	
V 04			0.15	7500	
V 05			0.20	10500	
V 06 DRAIN	21510.	189.	1.00	58500	261.
V 07			0.08	3000	
V 08			0.20	10500	
V 09			0.08	3000	
V 10			0.08	3000	
V 11			0.10	4500	
V 12			0.10	4500	
V 13	1080.		0.13	6000	
V 14			0.04	900	
V 15			0.04	900	
V 16			0.06	2100	
V 17			0.10	4500	
V 18			0.15	7500	
V 19			0.05	1500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
V 20			0.18	9000	
V 21			0.50	28500	
V 22			0.50	28500	
V 23			1.00	58500	
V 24			0.25	13500	
V 25			0.05	1500	
V 26			0.06	2100	
V 27			0.05	1500	
V 27 @1			0.05	1500	
V 27 @2			0.04	600	
W 01			0.15	7500	
W 01 @1			0.13	6000	
W 01 @2			0.03	MDA	
W 02	1830.	186.	0.60	34500	180.
W 03			0.40	22500	
W 04	1500.		0.10	4500	
W 05			0.10	4500	
W 06			0.13	6000	
W 07			0.05	1500	
W 08			0.10	4500	
W 09			0.08	3000	
W 10			0.08	3000	
W 11	1110.		0.06	2100	
W 12			0.10	4500	
W 13			0.05	1500	
W 14			0.05	1500	
W 15			0.05	1500	
W 16	1410.		0.06	2100	
W 17			0.08	3000	
W 18			0.08	3000	
W 19			0.05	1500	
W 20			0.13	6000	
W 21			0.25	13500	
W 22			0.50	28500	
W 23			1.25	73500	
W 24			0.30	16500	
W 25			0.05	1500	
W 26			0.13	6000	
W 27			0.05	1500	
W 27 @1			0.04	600	
W 27 @2			0.03	300	
X 01			0.13	6000	
X 01 @1			1.00	58500	
X 01 @2			0.08	3000	
X 02			0.25	13500	
X 03	3844.		0.15	7500	
X 04 DRAIN	19110.	200.	2.00	118500	233.
X 05			0.13	6000	
X 06			0.13	6000	
X 07	1230.		0.08	3000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
X 08			0.15	7500	
X 09			0.06	2100	
X 10			0.10	4500	
X 11			0.13	6000	
X 12			0.08	3000	
X 13			0.08	3000	
X 14			0.04	900	
X 15	600.		0.04	900	
X 16			0.06	2100	
X 17			0.07	2400	
X 18			0.10	4500	
X 19			0.06	2100	
X 20			0.13	6000	
X 21			0.75	43500	
X 22			0.50	28500	
X 23			1.00	58500	
X 24			0.25	13500	
X 25			0.20	10500	
X 26			0.06	2100	
X 27			0.08	3000	
X 27 @1			0.06	2100	
X 27 @2			0.04	900	
Y 01	3600.	89.	0.60	34500	98.
Y 01 @1			0.25	13500	
Y 01 @2			0.05	1500	
Y 02	1500.		0.25	13500	
Y 03	1440.		0.20	10500	
Y 04			0.10	4500	
Y 05			0.06	2100	
Y 06			0.10	4500	
Y 07			0.10	4500	
Y 08			0.06	2100	
Y 09			0.09	3600	
Y 10			0.08	3000	
Y 11			0.08	3000	
Y 12			0.10	4500	
Y 13	1020.		0.08	3000	
Y 14			0.05	1500	
Y 15			0.05	1500	
Y 16			0.08	3000	
Y 17			0.06	2100	
Y 18			0.08	3000	
Y 19			0.10	4500	
Y 20			0.35	19500	
Y 21	3750.	96.	0.40	22500	242.
Y 22			0.40	22500	
Y 23	20670.	207.	1.50	88500	795.
Y 24			0.50	28500	
Y 25			0.10	4500	
Y 26			0.10	4500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
Y 27			0.08	3000	
Y 27 @1			0.04	600	
Y 27 @2			0.04	600	
Z 01			0.05	1500	
Z 02	4170.	61.	0.20	10500	61.
Z 03			0.10	4500	
Z 04			0.13	6000	
Z 05	3450.	182.	0.23	12000	261.
Z 06			0.10	4500	
Z 07			0.05	1500	
Z 08	690.		0.08	3000	
Z 09			0.09	3600	
Z 10			0.04	900	
Z 11	1020.		0.10	4500	
Z 12			0.05	1500	
Z 13			0.05	1500	
Z 14			0.08	3000	
Z 15			0.05	1500	
Z 16 DRAIN TRENCH			0.30	16500	
Z 17 -> Z 25			0.20	10500	
Z 17 -> Z 25 UNDER DRAIN			2.50	148500	
Z 26			0.08	3000	
Z 27			0.13	6000	
Z 27 @1			0.10	4500	
Z 27 @2			0.04	600	
AA 01	630.		0.13	6000	
AA 01 @1			0.08	3000	
AA 01 @2			0.05	1500	
AA 02			0.04	900	
AA 03			0.05	1500	
AA 04			0.25	13500	
AA 05			0.10	4500	
AA 06			0.05	1500	
AA 07			0.08	3000	
AA 08	510.		0.08	3000	
AA 09			0.06	2100	
AA 10 DRAIN	17010.	64.	1.00	58500	111.
AA 11			0.04	900	
AA 12	630.		0.07	2400	
AA 13			0.05	1500	
AA 14			0.05	1500	
AA 15			0.06	2100	
AA 16			0.09	3600	
AA 17			0.10	4500	
AA 18			0.13	6000	
AA 19			0.10	4500	
AA 20	3690.		1.00	58500	
AA 20 HOLE IN FLOOR	15390.		0.30	16500	
AA 21	4320.		0.50	28500	
AA 22 CLOSET			0.50	28500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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[210,150]091

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AA 23			0.10	4500	
AA 24			0.05	1500	
AA 25			0.15	7500	
AA 26			0.15	7500	
AA 27			0.15	7500	
AA 27 @1			0.10	4500	
AA 27 @2			0.10	4500	
AB 01	450.		0.03	300	
AB 02			0.03	MDA	
AB 03			0.03	MDA	
AB 04			0.04	600	
AB 05			0.04	900	
AB 06			0.04	900	
AB 07			0.04	600	
AB 08			0.04	600	
AB 09			0.04	900	
AB 10			0.05	1500	
AB 11	1110.	25.	0.10	4500	17.
AB 12			0.08	3000	
AB 13	570.		0.07	2400	
AB 14			0.03	300	
AB 15			0.04	600	
AB 16			0.08	3000	
AB 17			0.05	1500	
AB 18 DRAIN	4260.		0.25	13500	
AB 19			0.08	3000	
AB 20 E			0.10	4500	
AB 20 W			0.09	3600	
AB 21			0.08	3000	
AB 22			0.08	3000	
AB 23			0.08	3000	
AB 24	1500.	11.	0.08	3000	53.
AB 25			0.10	4500	
AB 26			0.13	6000	
AB 27			0.10	4500	
AC 01			0.02	MDA	
AC 02			0.02	MDA	
AC 03			0.03	MDA	
AC 04			0.04	900	
AC 05			0.04	900	
AC 06			0.03	300	
AC 07			0.02	MDA	
AC 08			0.03	MDA	
AC 09			0.04	600	
AC 10			0.04	600	
AC 11			0.04	600	
AC 12			0.04	600	
AC 13			0.03	MDA	
AC 14			0.03	MDA	
AC 15			0.05	1500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AC 16	1110.	36.	0.08	3000	12.
AC 17			0.10	4500	
AC 18			0.07	2400	
AC 19			0.10	4500	
AC 20 E			0.07	2400	
AC 21			0.08	3000	
AC 22			0.06	2100	
AC 23			0.08	3000	
AC 24			0.06	2100	
AC 25			0.08	3000	
AD 01			0.04	900	
AD 02			0.04	900	
AD 03			0.04	900	
AD 04			0.04	900	
AD 05			0.04	900	
AD 06			0.04	900	
AD 07			0.03	MDA	
AD 08	990.	4.	0.03	300	6.
AD 09			0.06	2100	
AD 10			0.04	600	
AD 11			0.04	600	
AD 12			0.03	300	
AD 13	510.		0.05	1500	
AD 14			0.02	MDA	
AD 15			0.02	MDA	
AD 16			0.05	1500	
AD 17			0.06	2100	
AD 18			0.05	1500	
AD 19			0.06	2100	
AD 20 E			0.09	3600	
AD 21			0.05	1500	
AD 22			0.04	900	
AD 23			0.05	1500	
AD 24			0.05	1500	
AD 25			0.06	2100	
AD 26			0.06	2100	
AD 27			0.06	2100	
AD 27 @1			0.04	600	
AD 27 @2			0.03	300	
AE 01			0.04	900	
AE 02			0.04	900	
AE 03			0.04	900	
AE 04			0.04	900	
AE 05			0.04	900	
AE 06			0.04	900	
AE 07			0.04	900	
AE 08			0.03	300	
AE 09			0.05	1500	
AE 10			0.02	MDA	
AE 11			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AE 12			0.03	300	
AE 13			0.03	300	
AE 14			0.04	600	
AE 15			0.04	600	
AE 16		21.	0.06	2100	30.
AE 17			0.03	300	
AE 18			0.04	600	
AE 19			0.04	600	
AE 20 E			0.08	3000	
AE 20 W			0.04	600	
AE 21			0.03	MDA	
AE 22			0.05	1500	
AE 23			0.04	900	
AE 24			0.04	600	
AE 25			0.05	1500	
AE 26			0.05	1500	
AE 27	150.		0.05	1500	
AF 01			0.04	900	
AF 02			0.04	900	
AF 03			0.04	900	
AF 04			0.04	900	
AF 05			0.04	900	
AF 06			0.04	900	
AF 07			0.04	900	
AF 08			0.04	900	
AF 09			0.04	900	
AF 10	630.		0.05	1500	
AF 11			0.04	600	
AF 12			0.04	600	
AF 13			0.03	300	
AF 14			0.04	900	
AF 15		7.	0.04	600	33.
AF 16			0.04	600	
AF 17			0.03	300	
AF 18			0.03	300	
AF 19			0.05	1500	
AF 20 E	3360.	14.	0.75	43500	37.
AF 21			0.04	900	
AF 22			0.04	900	
AF 23			0.06	2100	
AF 24			0.08	3000	
AF 25			0.05	1500	
AF 26			0.05	1500	
AF 27			0.05	1500	
AF 27 @1			0.03	300	
AF 27 @2			0.03	300	
AG 01					
AG 02			0.04	900	
AG 03			0.04	900	
AG 04			0.04	900	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AG 05			0.04	900	
AG 06			0.04	900	
AG 07			0.04	900	
AG 08			0.04	900	
AG 09			0.05	1500	
AG 10			0.03	300	
AG 11			0.04	600	
AG 12			0.04	900	
AG 13			0.05	1500	
AG 14			0.05	1500	
AG 15	330.	4.	0.10	4500	35.
AG 16			0.05	1500	
AG 17			0.05	1500	
AG 18			0.05	1500	
AG 19			0.05	1500	
AG 20			0.13	6000	
AG 21			0.04	600	
AG 22			0.03	300	
AG 23			0.09	3600	
AG 24	540.	MDA	0.06	2100	46.
AG 25			0.04	600	
AG 26			0.04	900	
AG 27			0.05	1500	
AG 27 @1			0.05	1500	
AG 27 @2 VENT			0.08	3000	
AH 01			0.04	900	
AH 02			0.04	900	
AH 03			0.04	900	
AH 04			0.04	900	
AH 05			0.04	900	
AH 06			0.04	900	
AH 07			0.04	900	
AH 08			0.03	300	
AH 09			0.04	600	
AH 10	540.		0.04	600	
AH 11			0.04	600	
AH 12			0.04	900	
AH 13			0.03	300	
AH 14			0.03	MDA	
AH 15			0.03	300	
AH 16			0.03	300	
AH 17			0.06	2100	
AH 18			0.06	2100	
AH 19			0.15	7500	
AH 20 E	3030.	11.	0.15	7500	37.
AH 21			0.03	300	
AH 22			0.05	1500	
AH 23			0.05	1500	
AH 24			0.08	3000	
AH 26			0.08	3000	

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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AH 27			0.07	2400	
AH 27 @1			0.05	1500	
AH 27 @2			0.04	600	
AI 01			0.02	MDA	
AI 01 @1			0.02	MDA	
AI 01 @2			0.02	MDA	
AI 02			0.03	MDA	
AI 03			0.03	300	
AI 04			0.03	MDA	
AI 05 DRAIN	5940.	186.	0.60	34500	240.
AI 06			0.05	1500	
AI 07			0.03	300	
AI 08			0.03	MDA	
AI 09			0.05	1500	
AI 10	750.		0.06	2100	
AI 11			0.04	900	
AI 12			0.06	2100	
AI 13			0.06	2100	
AI 14			0.05	1500	
AI 15			0.05	1500	
AI 16	990.		0.07	2400	
AI 17		7.	0.50	28500	10.
AI 18			0.10	4500	
AI 20 E			0.06	2100	
AI 21			0.06	2100	
AI 22			0.05	1500	
AI 23			0.05	1500	
AI 24			0.04	600	
AI 25			0.06	2100	
AI 26	450.	11.	0.08	3000	39.
AI 27			0.06	2100	
AI 27 @1			0.06	2100	
AI 27 @2			0.04	600	
AJ 01			0.03	300	
AJ 01 @1			0.02	MDA	
AJ 01 @2			0.04	900	
AJ 02			0.05	1500	
AJ 03			0.04	600	
AJ 04			0.08	3000	
AJ 05	360.	32.	0.13	6000	50.
AJ 06			0.08	3000	
AJ 07	630.		0.08	3000	
AJ 08			0.03	300	
AJ 09			0.03	MDA	
AJ 10			0.04	900	
AJ 11			0.04	600	
AJ 12			0.03	MDA	
AJ 13			0.03	MDA	
AJ 14			0.03	300	
AJ 15			0.02	MDA	

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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AJ 16			0.05	1500	
AJ 17	1260.	7.	2.00	118500	23.
AJ 18			0.06	2100	
AJ 19			0.05	1500	
AJ 20			0.06	2100	
AJ 21			0.04	900	
AJ 22			0.03	300	
AJ 23			0.08	3000	
AK 01			0.04	900	
AK 02			0.04	900	
AK 03			0.04	900	
AK 04			0.04	900	
AK 05			0.04	900	
AK 06			0.04	900	
AK 07			0.04	600	
AK 08	540.		0.05	1500	
AK 09			0.05	1500	
AK 10			0.05	1500	
AK 11			0.05	1200	
AK 12			0.04	900	
AK 13			0.03	300	
AK 14			0.04	900	
AK 15			0.04	600	
AK 16			0.05	1500	
AK 17			0.08	3000	
AK 18			0.08	3000	
AK 19			0.06	2100	
AK 20 E			0.08	3000	
AK 20 W			0.08	3000	
AK 21			0.06	2100	
AK 22			0.04	900	
AK 23	1260.	11.	0.20	10500	64.
AK 24			0.10	4500	
AK 25	1770.	14.	0.15	7500	119.
AL 01			0.04	900	
AL 02			0.04	900	
AL 03			0.04	900	
AL 04			0.04	900	
AL 05			0.04	900	
AL 06			0.04	900	
AL 07			0.04	600	
AL 08			0.04	600	
AL 09			0.04	600	
AL 10			0.04	600	
AL 11	450.	7.	0.07	2400	12.
AL 12			0.04	900	
AL 13			0.04	900	
AL 14			0.02	MDA	
AL 15			0.04	600	
AL 16			0.06	2100	

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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AL 17			0.13	6000	
AL 18			0.10	4500	
AL 19			0.07	2400	
AL 20 E			0.15	7500	
AL 20 W			0.10	4500	
AL 21			0.05	1500	
AL 22			0.10	4500	
AM 01			0.04	900	
AM 02			0.04	900	
AM 03			0.04	900	
AM 04			0.04	900	
AM 05			0.04	900	
AM 06			0.04	900	
AM 07			0.05	1500	
AM 08			0.05	1500	
AM 09			0.06	2100	
AM 10			0.05	1500	
AM 11			0.05	1500	
AM 12	420.		0.06	2100	
AM 13			0.05	1500	
AM 14			0.03	MDA	
AM 15			0.04	900	
AM 16			0.03	MDA	
AM 17			0.05	1500	
AM 18			0.04	750	
AM 19			0.04	750	
AM 20			0.04	750	
AM 21			0.05	1500	
AM 22			0.04	750	
AM 23			0.08	3000	
AM 24			0.13	6000	
AM 25			0.15	7500	
AN 01			0.04	900	
AN 02			0.04	900	
AN 03			0.04	900	
AN 04			0.04	900	
AN 05			0.04	900	
AN 06			0.04	900	
AN 07			0.03	300	
AN 08			0.04	600	
AN 09			0.05	1200	
AN 10	420.	7.	0.08	3000	10.
AN 11			0.06	2100	
AN 12	450.	7.	0.08	3000	18.
AN 13			0.06	2100	
AN 14			0.04	600	
AN 15			0.03	300	
AN 16			0.04	900	
AN 17			0.05	1500	
AN 18			0.05	1500	

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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AN 19			0.03	MDA	
AN 20			0.05	1500	
AN 21			0.05	1500	
AN 22			0.06	2100	
AN 23			0.05	1500	
AN 24			0.09	3750	
AN 25			0.10	4500	
AN 27	8070.	61.	0.45	25500	142.
AO 01			0.04	900	
AO 02			0.04	900	
AO 03			0.04	900	
AO 04			0.04	900	
AO 05			0.04	900	
AO 06			0.04	900	
AO 07			0.07	2400	
AO 08			0.05	1500	
AO 09			0.06	2100	
AO 10			0.06	2100	
AO 11	570.	21.	0.08	3000	17.
AO 12			0.05	1500	
AO 13			0.05	1500	
AO 14			0.03	300	
AO 15			0.05	1200	
AO 16			0.04	900	
AO 17			0.06	2100	
AO 18			0.05	1500	
AO 19			0.03	MDA	
AO 20			0.09	3600	
AO 21			0.08	3000	
AO 22			0.08	3000	
AO 23			0.13	6000	
AO 24			0.15	7500	
AO 25	1410.	68.	0.60	34500	110.
AO 26			0.45	25500	
AO 27	4410.		0.35	19500	
AP 01			0.04	900	
AP 02			0.04	900	
AP 03			0.04	900	
AP 04			0.04	900	
AP 05			0.04	900	
AP 06			0.04	900	
AP 07			0.03	300	
AP 08			0.03	300	
AP 09			0.03	300	
AP 10			0.03	300	
AP 11			0.05	1500	
AP 12			0.06	2100	
AP 13	420.		0.06	2100	
AP 14			0.04	600	
AP 15			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AP 16			0.05	1500	
AP 17			0.06	2100	
AP 18			0.04	750	
AP 19			0.04	750	
AP 20			0.06	2250	
AP 21			0.08	3000	
AP 22			0.08	3000	
AP 23			0.06	2100	
AP 24			0.20	10500	
AP 25			0.20	10500	
AP 26			0.20	10500	
AP 27 DRAIN	5940.	61.	0.80	46500	157.
AQ 01			0.04	900	
AQ 02			0.04	900	
AQ 03			0.04	900	
AQ 04			0.04	900	
AQ 05			0.04	900	
AQ 06			0.04	900	
AQ 07			0.03	300	
AQ 08			0.03	300	
AQ 09			0.03	300	
AQ 10			0.03	300	
AQ 11			0.06	2100	
AQ 12	570.	11.	0.08	3000	16.
AQ 13			0.04	600	
AQ 14			0.06	2100	
AQ 15			0.05	1500	
AQ 16			0.06	2100	
AQ 17			0.05	1500	
AQ 18			0.05	1500	
AQ 19			0.08	3000	
AQ 20			0.04	750	
AQ 21	270.	MDA	0.09	3750	33.
AQ 22			0.09	3600	
AQ 23			0.06	2100	
AQ 24			0.08	3000	
AQ 25			0.20	10500	
AQ 26			0.30	16500	
AQ 27	9900.	370.	1.25	73500	981.
AR 01			0.04	900	
AR 02			0.04	900	
AR 03			0.04	900	
AR 04			0.04	900	
AR 05			0.04	900	
AR 06			0.04	900	
AR 07			0.03	300	
AR 08			0.03	300	
AR 09			0.03	300	
AR 10			0.03	300	
AR 11			0.04	900	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AR 12			0.04	600	
AR 13			0.04	900	
AR 14			0.04	600	
AR 15			0.03	300	
AR 16			0.03	300	
AR 17			0.08	3000	
AR 18			0.05	1500	
AR 19			0.04	750	
AR 20			0.04	750	
AR 21			0.06	2100	
AR 22			0.08	3000	
AR 23			0.05	1500	
AR 24			0.09	3750	
AR 25			0.09	3750	
AR 26	2640.	200.	0.70	40500	408.
AS 01			0.04	900	
AS 02			0.04	900	
AS 03			0.04	900	
AS 04			0.04	900	
AS 05			0.04	900	
AS 06			0.04	900	
AS 07			0.03	300	
AS 08			0.03	300	
AS 09			0.03	300	
AS 10			0.03	300	
AS 11			0.04	900	
AS 12			0.03	300	
AS 13			0.03	300	
AS 14			0.04	600	
AS 15	330.		0.04	600	
AS 16			0.04	600	
AS 17			0.08	3000	
AS 18			0.04	750	
AS 19			0.05	1500	
AS 20			0.04	750	
AS 21			0.06	2100	
AS 22			0.05	1500	
AS 23			0.08	3000	
AS 24	660.	36.	0.15	7500	23.
AS 25			0.11	5100	
AS 26			0.08	3000	
AS 27 @1			0.08	3000	
AT 01			0.03	MDA	
AT 01 @1			0.02	MDA	
AT 01 @2			0.02	MDA	
AT 02			0.03	300	
AT 03			0.04	600	
AT 04			0.03	MDA	
AT 05			0.02	MDA	
AT 06			0.03	MDA	

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Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AT 07			0.04	600	
AT 08			0.04	900	
AT 09	390.		0.05	1500	
AT 10			0.05	1500	
AT 11			0.03	300	
AT 12			0.03	300	
AT 13			0.03	300	
AT 14			0.02	MDA	
AT 15			0.02	MDA	
AT 16			0.04	600	
AT 17			0.08	3000	
AT 18			0.03	MDA	
AT 19			0.06	2100	
AT 20			0.06	2100	
AT 21			0.03	MDA	
AT 22			0.06	2100	
AT 23			0.06	2100	
AT 24			0.09	3750	
AT 25			0.13	6000	
AT 26			0.13	6000	
AT 27 @1			0.04	750	
AU 01			0.02	MDA	
AU 02			0.02	MDA	
AU 03			0.02	MDA	
AU 04			0.03	300	
AU 05 DRAIN			0.02	MDA	
AU 06			0.03	300	
AU 07			0.03	MDA	
AU 08			0.04	600	
AU 09			0.05	1500	
AU 10	300.		0.05	1500	
AU 11			0.04	900	
AU 12			0.03	MDA	
AU 13			0.03	MDA	
AU 14			0.03	300	
AU 15			0.03	MDA	
AU 16			0.03	MDA	
AU 17			0.08	3000	
AU 18			0.04	750	
AU 19			0.03	MDA	
AU 20			0.06	2100	
AU 21			0.06	2250	
AU 22			0.05	1500	
AU 23			0.04	750	
AU 24			0.04	750	
AU 25			0.08	3000	
AU 26			0.08	3000	
AU 27 @1			0.05	1500	
AV 01			0.03	300	
AV 02			0.03	300	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AV 03			0.03	300	
AV 04			0.03	300	
AV 05			0.03	300	
AV 06			0.03	300	
AV 07			0.03	300	
AV 08			0.03	300	
AV 09			0.03	300	
AV 10			0.03	300	
AV 11			0.03	300	
AV 12			0.03	300	
AV 13			0.03	300	
AV 14			0.03	300	
AV 15			0.03	300	
AV 16			0.03	300	
AV 17			0.06	2100	
AV 18			0.03	MDA	
AV 19			0.03	MDA	
AV 20			0.04	750	
AV 21			0.05	1500	
AV 22			0.03	MDA	
AV 23			0.06	2100	
AV 24			0.04	750	
AV 25			0.08	3000	
AV 26			0.09	3600	
AV 27 @1			0.04	750	
AW 22			0.04	750	
AW 23			0.08	3000	
AW 24			0.08	3000	
AW 25			0.09	3600	
AW 26			0.10	4500	
AW 27 @1			0.04	750	
AX 22			0.04	750	
AX 23		18.	0.06	2100	59.
AX 24			0.09	3750	
AX 25			0.10	4500	
AX 26			0.08	3000	
AX 27 @1			0.04	750	
AY 22			0.04	750	
AY 23			0.05	1500	
AY 24			0.05	1500	
AY 25			0.09	3600	
AY 26 DRAIN	5940.	46.	0.75	43500	226.
AY 27 @1			0.06	2100	
AZ 24			0.05	1500	
AZ 25			0.10	4500	
AZ 26			0.05	1500	
BA 24	570.	18.	0.05	1500	30.
BA 25			0.08	3000	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9 Exhaust Ducts

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
[DUCT] F 02			0.10	4500	
[DUCT] G 02			0.15	7500	
[DUCT] H 02			0.33	18000	
[DUCT] I 02		171.	0.35	19500	257.
[DUCT] J 02		111.	0.35	19500	168.
[DUCT] K 01			0.33	18000	
[DUCT] K 02			0.25	13500	
[DUCT] K 03		100.	0.28	15000	112.
[DUCT] K 04		221.	0.25	13500	223.
[DUCT] K 05		211.	0.20	10500	195.
[DUCT] K 06		239.	0.23	12000	191.
[DUCT] K 07		111.	0.18	9000	74.
[DUCT] K 08		43.	0.13	6000	26.
[DUCT] K 09		75.	0.18	9000	45.
[DUCT] K 10		157.	0.13	6000	165.
[DUCT] K 11		221.	0.13	6000	198.
[DUCT] K 12		139.	0.10	4500	116.
[DUCT] K 13		193.	0.15	7500	165.
[DUCT] K 14		293.	0.15	7500	267.
[DUCT] K 15		239.	0.13	6000	268.
[DUCT] K 16		239.	0.15	7500	153.
[DUCT] K 17		339.	0.15	7500	285.
[DUCT] K 18		171.	0.20	10500	120.
[DUCT] I 21		1207.	0.45	25500	979.
[DUCT] I 22			0.38	21000	
[DUCT] I 23			0.40	22500	
[DUCT] P 01			0.50	28500	
[DUCT] S 01			0.18	9000	
[DUCT] T 01			0.15	7500	
[DUCT] X 03			0.15	7500	
[DUCT] Y 03		54.	0.13	6000	45.
[DUCT] Z 03			0.10	4500	
[DUCT] Y 09		71.	0.08	3000	37.
[DUCT] Z 09		118.	0.04	750	134.
[DUCT] Q 03		207.	0.25	13500	149.
[DUCT] Q 04		54.	0.25	13500	59.
[DUCT] R 05		157.	0.15	7500	152.
[DUCT] S 05		146.	0.15	7500	130.
[DUCT] U 06		464.	0.25	13500	502.
[DUCT] T 06		196.	0.20	10500	183.
[DUCT] S 06			0.18	9000	
[DUCT] R 06		186.	0.15	7500	109.
[DUCT] Q 06		157.	0.15	7500	102.
[DUCT] P 06			0.20	10500	
[DUCT] N 08			0.15	7500	
[DUCT] N 09			0.10	4500	
[DUCT] O 08			0.08	3000	
[DUCT] O 07		111.			116.
[DUCT] P 02		86.			88.
[DUCT] S 02		146.			122.

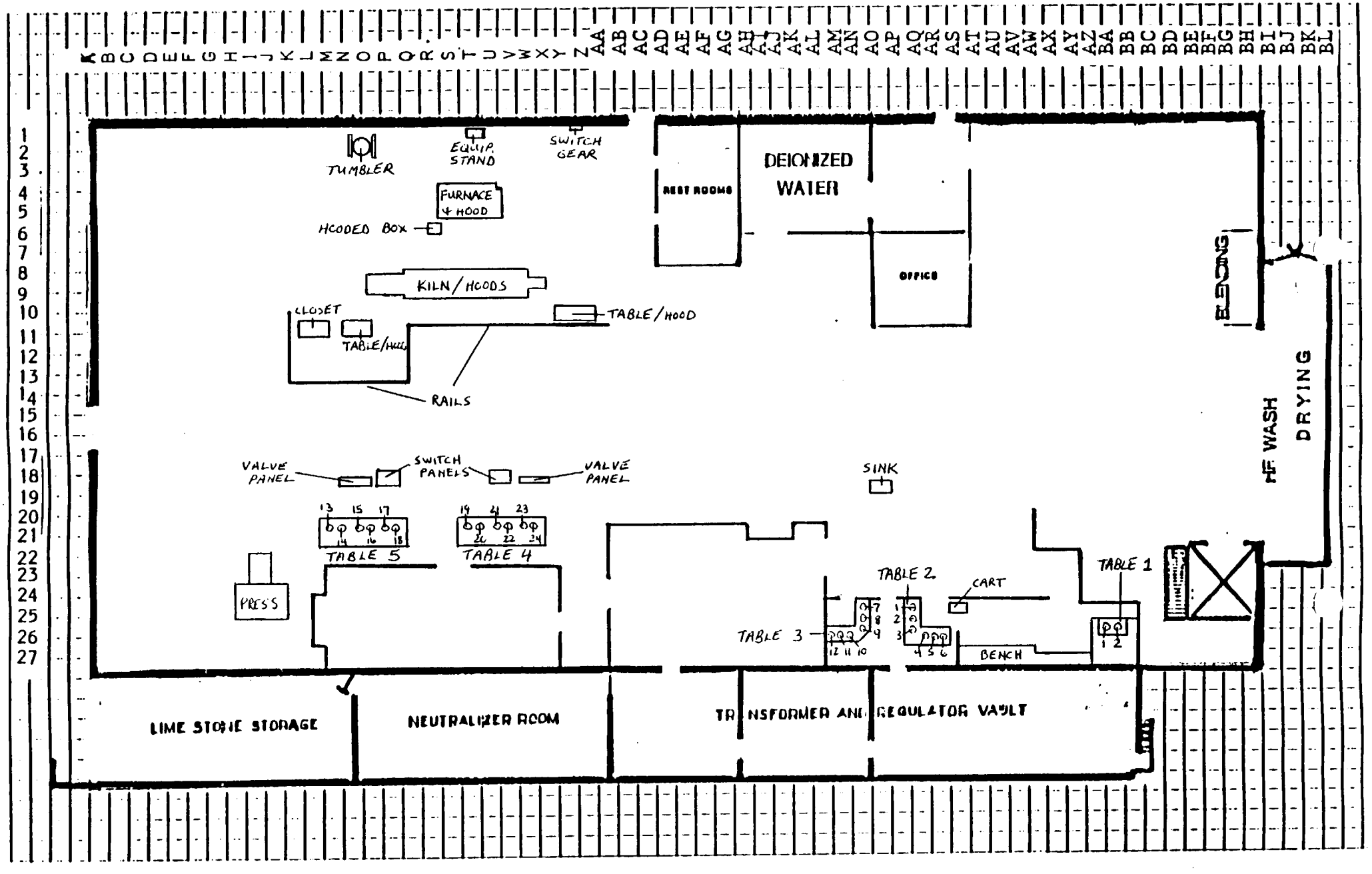
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9 Exhaust Ducts

[210,150]083

Sample Location		Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
[DUCT] T 02			164.			106.
[DUCT] W 03			82.			107.
[DUCT] K 20			21.	0.15	7500	28.
[DUCT] K 19			461.	0.65	37500	500.
[DUCT] K 18				0.13	6000	
[DUCT] L 18				0.10	4500	
[DUCT] M 18				0.15	7500	
[DUCT] N 18				0.18	9000	
[DUCT] O 18				0.18	9000	
[DUCT] P 18				0.18	9000	
[DUCT] L 20	SMALL DIA			0.55	31500	
[DUCT] M 20	SMALL DIA		114.	0.55	31500	120.
[DUCT] N 20	SMALL DIA		254.	0.45	25500	284.
[DUCT] N 20	SMALL DIA		254.	0.50	28500	284.
[DUCT] O 20	SMALL DIA		114.	0.30	16500	91.
[DUCT] O 20	SMALL DIA			0.20	10500	
[DUCT] T 18	INSIDE		175.	1.50	88500	237.
[DUCT] T 18	OUTSIDE			0.18	9000	
[DUCT] U 18				0.15	7500	
[DUCT] V 18	TOP			0.75	43500	
[DUCT] W 18				0.15	7500	
[DUCT] X 18			168.	0.13	6000	146.
[DUCT] Y 18				0.13	6000	
[DUCT] U 20	SMALL DIA			0.40	22500	
[DUCT] U 20	SMALL DIA			0.60	34500	
[DUCT] W 20	SMALL DIA			0.25	13500	
[DUCT] W 20	SMALL DIA			0.30	16500	
[DUCT] X 19			407.			468.
[DUCT] AD 24			64.	0.10	4500	69.
[DUCT] AH 24				0.15	7500	
[DUCT] AI 23				0.10	4500	
[DUCT] AJ 24				0.13	6000	
[DUCT] AM 26			254.	0.15	7500	257.
[DUCT] AM 27				0.13	6000	
[DUCT] AQ 26			3061.	0.55	31500	3314.
[DUCT] AQ 27				0.40	22500	
[DUCT] AZ 24	SMALL DIA			0.15	7500	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.



BUILDING 9 -- EQUIPMENT

Surface Contamination Survey
Building 9, Equipment

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
I 24 HYDRAULIC PRES	330.	21.	0.25	13500	51.
I 25 HYD PRESS (AVG	120.		0.10	4500	
L 10 HOODED CLOSET	5440.	482.	0.25	13500	390.
N 10 HOOD & TABLE	1920.	154.	0.10	4500	134.
O 2 TUMBLER	870.		0.10	4500	
O 3 TUMBLER	1500.	93.	0.13	6000	171.
O 9 KILN & HOODS	180.		0.10	4500	
X 9 KILN & HOODS	4770.	132.	0.20	10500	85.
R 6 HOODED BOX #1	3030.	171.	0.08	3000	95.
R 6 HOODED BOX #2	6090.	361.	0.08	3000	285.
U 1 EQUIP. STAND	540.	61.	0.50	28500	46.
U 4 FURNACE & HOOD#1	2460.	79.	0.20	10500	85.
U 4 FURNACE & HOOD#2	3510.	79.	0.20	10500	72.
Z 10 HOOD & TABLE	1140.	36.	0.05	1500	29.
N 13 RAIL		64.			67.
S 11 RAIL		21.			22.
X 11 RAIL		25.			36.
Z 1 ELEC.SWITCH GR	540.	36.			25.
BA 25 TABLE 1 #1			0.25	13500	
BA 25 TABLE 1 #2			0.20	10500	
BA 26 AVG SURFACE			0.07	2400	
AV 26 BENCH TOP		129.	0.10	4500	94.
AV 26 LOWER SHELF			0.06	2100	
AS 26 WALL			0.07	2400	
AS 24 CART			0.15	7500	
AO 18 SINK DRAIN		157.	1.25	73500	248.
AQ 25 TABLE 2 #1DUCT			0.15	7500	
AQ 25 TABLE 2 #2DUCT			0.15	7500	
AQ 25 TABLE 2 #3DUCT			0.20	10500	
AQ 25 TABLE 2 #4DUCT			0.15	7500	
AQ 25 TABLE 2 #5DUCT		218.	0.20	10500	219.
AQ 25 TABLE 2 #6DUCT			0.15	7500	
AQ 25 TBL SRFC #1			1.50	88500	
AQ 25 TBL SRFC #2			0.40	22500	
AQ 25 TBL SRFC #3			0.35	19500	
AQ 25 TBL SRFC #4			0.25	13500	
AQ 25 TBL SRFC #5			0.40	22500	
AQ 25 TBL SRFC #6			2.00	118500	
AQ 25 CLAMP DUCT #1			4.00	238500	
AQ 25 CLAMP DUCT #2			2.50	148500	
AQ 25 CLAMP DUCT #3		143.	5.00	298500	168.
AQ 25 CLAMP DUCT #4			5.00	298500	
AQ 25 CLAMP DUCT #5		804.	5.00	298500	605.
AQ 25 CLAMP DUCT #6			2.50	148500	
AQ 25 AVG SURFACE			0.15	7500	
AQ 25 TABLE LEGS			0.15	7500	
AN 25 TBL 3 DUCT #7			0.20	10500	
AN 25 TBL 3 DUCT #8			0.15	7500	
AN 25 TBL 3 DUCT #9			0.20	10500	
AN 25 TBL 3 DUCT #10			0.15	7500	

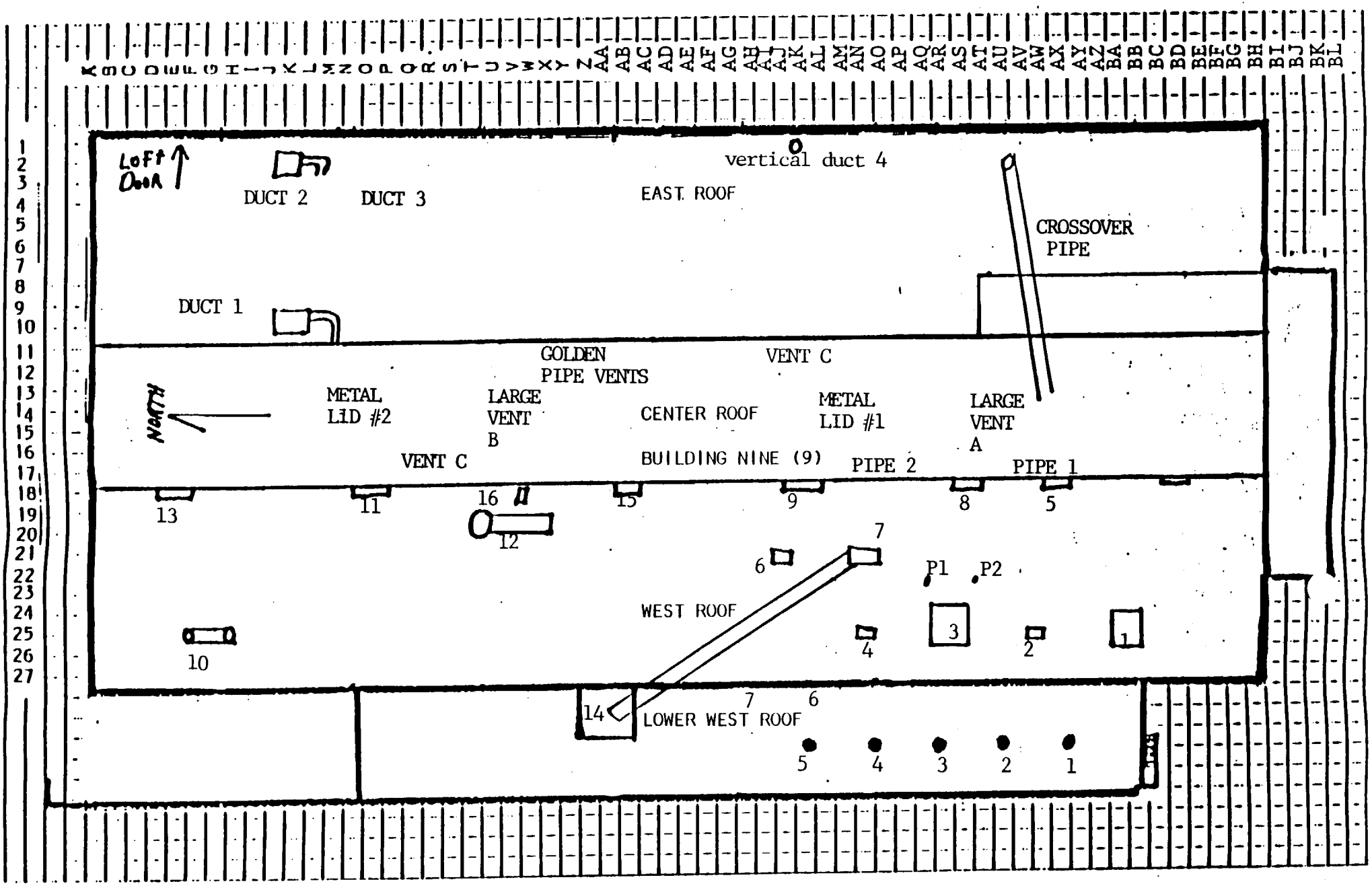
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9, Equipment

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
AN 25 TBL 3 DUCT #11			0.20	10500	
AN 25 TBL 3 DUCT #12			0.15	7500	
AN 25 TBL SURFACE #7			1.00	58500	
AN 25 TBL SURFACE #8			1.00	58500	
AN 25 TBL SURFACE #9			0.75	43500	
AN 25 TABLE SRFC #10			0.75	43500	
AN 25 TABLE SRFC #11			0.50	28500	
AN 25 TABKE SRFC #12			0.50	28500	
AN 25 CLAMP DUCT #7			1.00	58500	
AN 25 CLAMP DUCT #8			0.40	22500	
AN 25 CLAMP DUCT #9			1.00	58500	
AN 25 CLAMP DUCT #10			1.00	58500	
AN 25 CLAMP DUCT #11			0.75	43500	
AN 25 CLAMP DUCT #12			1.50	88500	
AN 25 AVG SURFACE		75.	0.10	4500	99.
AN 25 TABLE LEGS			0.08	3000	
V 21 DUCTS ABV TBL 4			0.20	10500	
V 21 TABLE SRFC #21		754.	10.00	598500	666.
V 21 TABLE SRFC #23			5.00	298500	
V 21 TABLE SRFC #24			2.50	148500	
V 21 CLAMP DUCT #21			4.00	238500	
V 21 CLAMP DUCT #23			5.00	298500	
V 21 CLAMP DUCT #24			3.50	208500	
V 21 TABLE LEGS			0.25	13500	
V 21 PIPES B-LO TBL			0.50	28500	
O 21 DUCTS ABV TBL 5		96.	0.20	10500	102.
O 21 TABLE SRFC #13			3.50	208500	
O 21 TABLE SRFC #14			3.50	208500	
O 21 TABLE SRFC #15			5.00	298500	
O 21 TABLE SRFC #16			4.00	238500	
O 21 TABLE SRFC #17			5.00	298500	
O 21 CLAMP DUCT #13			0.50	28500	
0 21 CLAMP DUCT #14			7.50	448500	
O 21 CLAMP DUCT #15			2.50	148500	
O 21 CLMAP DUCT #16			2.50	148500	
O 21 CLAMP DUCT #17			2.50	148500	
O 21 TABLE LEGS			0.25	13500	
O 21 PIPES B-LO TBL		107.	0.50	28500	97.
P 18 SWITCH PANEL		54.	0.08	3000	49.
N 18 VALVE PANEL			0.07	2400	
V 18 SWITCH PANEL			0.08	3000	
W 18 VALVE PANEL		21.	0.07	2400	38.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NOS. 58-61



BUILDING 9 ROOFTOP

Surface Contamination Survey
Building 9 Lower West Roof

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
ROOF EDGE #1		39.	0.05	1500	39.
ROOF EDGE #2		79.			65.
ROOF EDGE #3		7.	0.15	7500	30.
ROOF EDGE #4		7.			39.
ROOF EDGE #5		4.			26.
VENT #1		MDA			26.
VENT #2		4.			20.
VENT #3		MDA			17.
VENT #4		11.			17.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9 West Roof

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
VENT #01		4.	0.08	3000	11.
VENT #01 AREA UNDER		25.			9.
VENT #01 FLOOR			0.10	4500	
VENT #02		89.	0.10	4500	109.
VENT #02 AREA UNDER		54.			76.
FLOOR BTWN VENTS 2&3			0.30	16500	
VENT #03		25.	0.20	10500	35.
VENT #03 AREA UNDER		411.			360.
VENT #04		14.	0.13	6000	9.
VENT #04 AREA UNDER		150.			126.
VENT #05		946.	2.25	133500	1380.
VENT #05 AREA UNDER		75.			119.
FLOOR BTWN VENTS 3&4			0.75	43500	
FLOOR UNDER CROSSPIPE			0.13	6000	
VENT #05.5		11.			17.
VENT #06		14.	0.05	1500	26.
VENT #07		25.	0.05	1500	31.
VENT #08		4.	0.04	750	11.
VENT #09		14.	0.04	750	22.
VENT #10		114.	2.50	148500	195.
VENT #10 AREA UNDER		100.	0.75	43500	76.
VENT #11		29.	0.05	1500	28.
VENT #12 FILTER		21.			39.
VENT #12 BLACK CYL.		7.			13.
VENT #12 GOLD PIPE		21.			30.
VENT #12 UPR BLK PIPE		4.			145.
VENT #12 LWR BLK PIPE		4.			6.
VENT #12 TOP		39.			43.
VENT #12 BOTTOM		32.			17.
VENT #12 UNDER FILTER		54.			89.
VENT #12			0.08	3000	
VENT #13		64.	0.05	1500	76.
VENT #14		36.	0.03	MDA	28.
VENT #15		11.			124.
VENT #16		4.			7.
VENT #16 AREA UNDER		129.			106.
PIPE #01		504.	4.50	268500	747.
PIPE #02		264.	4.00	238500	295.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 9 Center Roof

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
LARGE VENT A		14.			15.
STRAIGHT PIPE #1		29.			35.
STRAIGHT PIPE #3		21.			7.
GOLD PIPE VENTS		4.			7.
BLACK CROSS PIPE		11.			9.
VENT C		407.			551.
COVERED PIPE #2		4.			13.
FLAT METAL LID #1		MDA			30.
FLAT METAL LID #2		MDA			17.
LARGE VENT B		29.			33.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Canberra/RMC

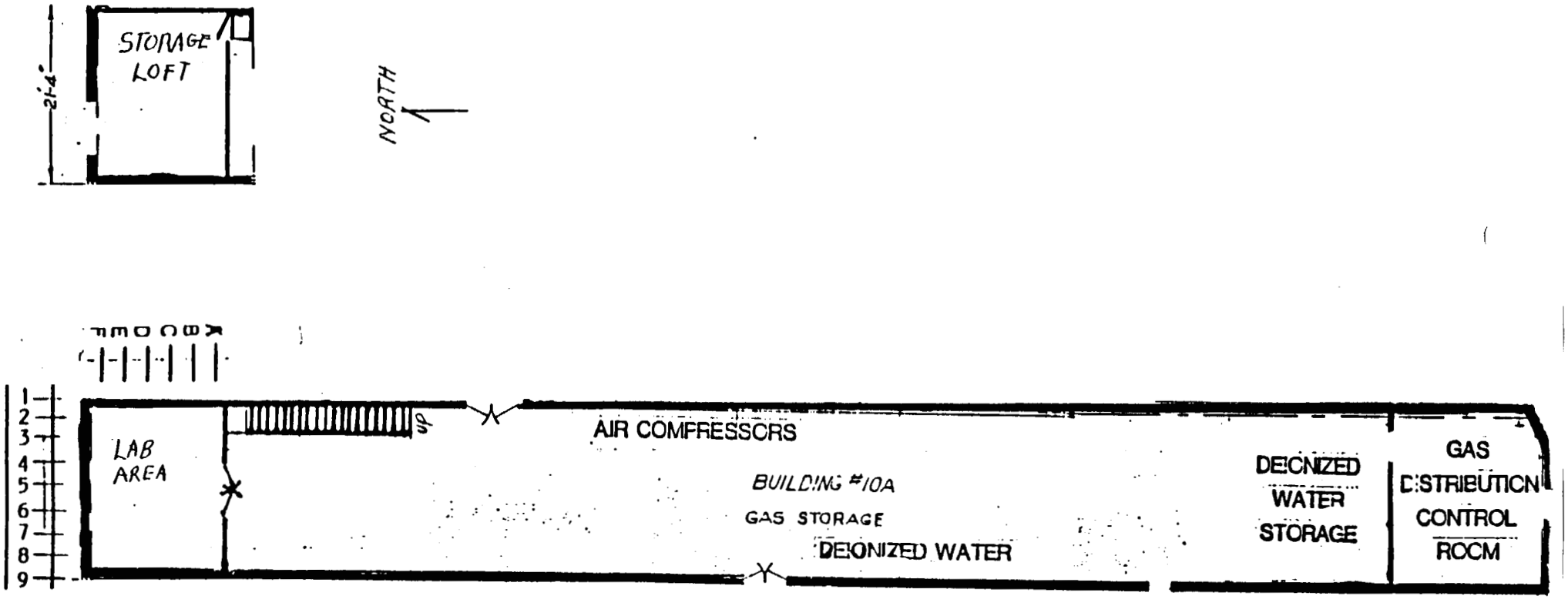
[210,150]055

Surface Contamination Survey
Building 9 East Roof

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
FLOOR AREA (SO.END)			0.04	750	
CROSSOVER PIPE		7.	0.04	750	6.
VERTICAL DUCT INSIDE		29.	0.10	4500	45.
VERTICAL DUCT OUTSIDE		4.	0.05	1500	13.
FLOOR BY DUCT #1			0.13	6000	
FLOOR BY DUCT #1 (CW)			0.08	3000	
DUCT #2 OUTSIDE			0.08	3000	
DUCT #3 OUTSIDE			0.10	4500	
DUCT #1 OPEN SIDE		18.			15.
DUCT #1 TOP		14.			89.
DUCT #1 BOTTOM		18.			6.
DUCT #1 WINDOW SIDE		7.			14.
DUCT #2 WINDOW SIDE		18.			19.
DUCT #2 TOP		4.			MDA
DUCT #2 BOTTOM		4.			19.
DUCT #2 OPEN SIDE		11.			13.
DUCT #3 OPEN SIDE		29.			30.
DUCT #3 WINDOW SIDE		14.			22.
DUCT #3 TOP		7.			35.
DUCT #3 BOTTOM		29.			20.
TALL PIPE OUTSIDE		4.			4.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NOS. 62-63



BUILDING 10A

Surface Contamination Survey
Building 10-A Lab Area

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 01			0.08	3000	
A 02			0.10	4500	
A 03			0.10	4500	
A 04			0.10	4500	
A 05					
A 06			0.10	4500	
A 07			0.09	3900	
A 08			0.11	5100	
A 09			0.06	2100	
A 10			0.04	750	
A 10 @1			0.04	750	
A 10 @2			0.04	750	
B 01			0.10	4500	
B 01 @1			0.13	6000	
B 01 @2			0.10	4500	
B 02			0.13	6000	
B 03			0.09	3600	
B 04		7.	0.09	3600	28.
B 05			0.10	4500	
B 06			0.11	5100	
B 07			0.11	5100	
B 08			0.15	7500	
B 09			0.04	750	
B 10			0.08	3000	
B 10 @1			0.04	750	
C 01			0.18	9000	
C 02			0.16	8100	
C 03			0.16	8100	
C 04			0.18	9000	
C 05 (THORIUM SOURCE)			0.35	19500	
C 06			0.18	9000	
C 07			0.15	7500	
C 08			0.18	9000	
C 09			0.06	2100	
C 10			0.10	4500	
C 10 @1			0.04	750	
D 01			0.18	9000	
D 02			0.13	6000	
D 03		4.	1.25	73500	30.
D 03 (CW)			0.35	19500	
D 04			0.20	10500	
D 04 (CW)			0.15	7500	
DRAIN BTWN D6 & C6			0.15	7500	
DRAIN BTWN D6 & C6 (CW)			0.13	6000	
D 06			0.25	13500	
D 06 (CW)			0.23	12000	
D 08			0.13	6000	
D 09		18.	0.09	3750	15.
D 10			0.06	2100	
D 10 @1			0.04	750	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 10-A Lab Area

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
E 01			0.23	12000	
E 01 (CW)			0.16	8100	
E 01 @1			0.35	19500	
E 01 @1 (CW)			0.35	19500	
E 02			0.16	8100	
E 02 (CW)			0.16	8100	
E 03			0.20	10500	
E 03 (CW)			0.20	10500	
E 04			0.21	11100	
E 04 (CW)			0.18	9000	
E 05			0.25	13500	
E 05 (CW)			0.25	13500	
E 06		118.	0.70	40500	228.
E 06 (CW)			0.35	19500	
E 07			0.45	25500	
E 07 (CW)			0.30	16500	
E 08			0.25	13500	
E 08 (CW)			0.13	6000	
E 09			0.10	4500	
F 01			0.25	13500	
F 01 (CW)			0.25	13500	
F 01 @1			0.55	31500	
F 01 @1 (CW)			0.55	31500	
F 02			0.19	9600	
F 02 (CW)			0.19	9600	
F 03			0.16	8100	
F 03 (CW)			0.14	6600	
F 04		32.	0.19	9600	39.
F 04 (CW)			0.19	9600	
F 05			0.21	11100	
F 05 (CW)			0.13	6000	
F 06			0.16	8100	
F 06 (CW)			0.13	6000	
F 07			0.18	9000	
F 07 (CW)			0.15	7500	
F 08		29.	0.18	9000	35.
F 08 (CW)			0.08	3000	
F 09			0.10	4500	
F 09 (CW)			0.08	3000	
SINK #1		186.	0.16	8100	250.
SINK #1 (CW)			0.09	3750	
SINK #2		36.	0.16	8100	83.
SINK #2 (CW)			0.09	3600	
FURNACE			1.60	94500	
FURNACE VENT		18.			67.
FURNACE HOOD		4.			13.
FURNACE (CW)			0.45	25500	
BENCH #1			0.40	22500	
BENCH #1 (CW)			0.40	22500	
LAB CON (GLOVE MACH)		21.	0.23	12000	13.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 10-A Lab Area

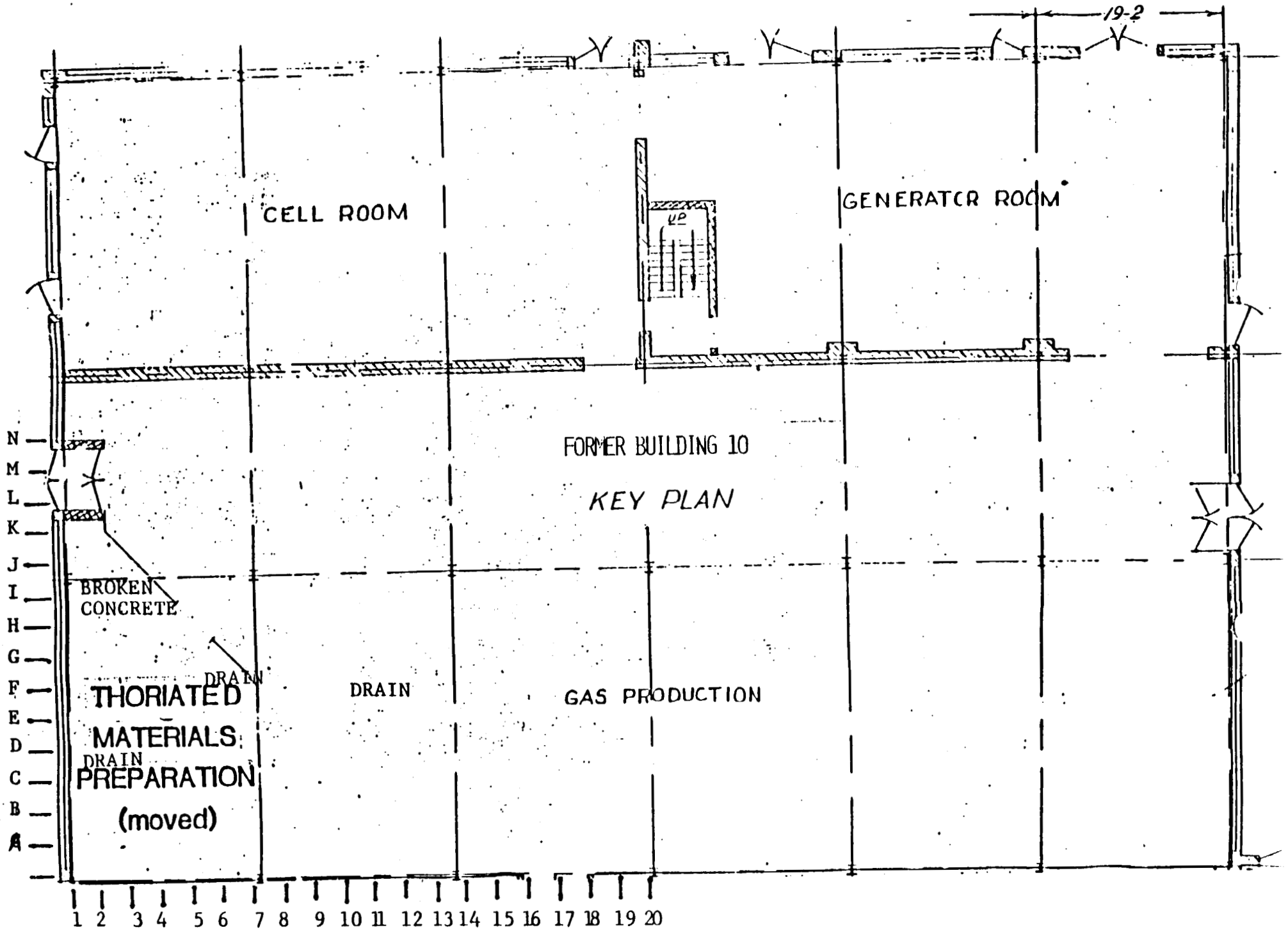
Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
LAB CON (GLOVE MACH) (CW)			0.23	12000	
BENCH #2		29.	0.55	31500	52.
BENCH #2 CW			0.48	27000	
#625 OVEN			2.00	118500	
#625 OVEN INSIDE		1043.			679.
#625 OVEN VENT		29.			39.
#625 OVEN (CW)			0.85	49500	
HOOD #1			0.48	27000	
HOOD #1 FLOOR		414.			482.
HOOD #1 VENT		89.			98.
HOOD #1 (CW)			0.48	27000	
HOOD #2			0.18	9000	
HOOD #2 (CW)			0.12	5700	
TABLE #1		14.	0.12	5700	11.
TABLE #1 (CW)			0.12	5700	
TABLE #2		14.	0.14	6600	33.
TABLE #2 (CW)			0.12	5700	
ELEVATOR		54.	0.13	6000	65.
ELEVATOR (CW)			0.13	6000	
G 02 DUCT WORK		61.	0.25	13500	145.
G 02 DUCT WORK (CW)			0.25	13500	
G 05 DUCT WORK		68.	0.38	21000	63.
G 05 DUCT WORK (CW)			0.38	21000	
G 09 DUCT WORK		57.	0.23	12000	41.
G 09 DUCT WORK (CW)			0.23	12000	
SINK #2 UNDER PIPE		104.	0.12	5400	54.
SINK #2 UNDER PIPE (CW)			0.04	750	
BENCH #1 BOTTOM			0.25	13500	
BENCH #1 BOTTOM (CW)			0.18	9000	
BENCH #2 SCIN.TUBES		13089.	5.50	328500	17107.
BENCH #2 SCIN.TUBES (CW)			3.00	178500	
BENCH #2 BASE			0.13	6000	
BENCH #2 BASE (CW)			0.13	6000	
OUTSIDE LAB (LEFT)		18.			52.
OUTSIDE LAB (RIGHT)		11.			22.
OUTSIDE LAB SHELVES		32.			61.
FURNACE TABLE		221.			428.
FURNACE EXTERIOR		18.			35.
THORIUM ROLLER MACH.		43.			69.
HOOD #1 DUCT		93.			72.
DRUM AT WALL		4.			22.
FLOOR C/D-1		21.			20.
BLANK		4.			46.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 10-A Loft

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
FLOOR S CORNER		32.			39.
FLOOR W CORNER		75.			113.
STOR. BOXES S FENCE		32.			45.
STOR. CAB W WALL		68.			50.
NE CORNER EMPTY DRUMS		250.			223.
LEAD BRICKS BY DOOR		7.			11.

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.



BUILDING 10 FLOOR AREA ONLY

AREA NO. 64

Surface Contamination Survey
Building 10 Concrete Pad

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 01			0.03	MDA	
A 02			0.03	MDA	
A 03			0.02	MDA	
A 04			0.03	MDA	
A 05			0.03	MDA	
A 06			0.03	MDA	
A 07			0.04	600	
A 08			0.03	MDA	
A 09			0.02	MDA	
A 10			0.03	MDA	
A 11			0.03	MDA	
A 12			0.04	900	
A 13			0.02	MDA	
A 14			0.04	900	
A 15			0.05	1500	
A 16			0.03	MDA	
A 17			0.03	MDA	
A 18			0.03	MDA	
A 19			0.02	MDA	
A 20			0.03	MDA	
B 01			0.04	900	
B 02			0.05	1500	
B 03			0.08	3300	
B 04			0.05	1200	
B 05			0.05	1500	
B 06			0.05	1500	
B 07			0.03	300	
B 08			0.04	900	
B 09			0.04	900	
B 10			0.05	1500	
B 11			0.04	600	
B 12			0.03	MDA	
B 13			0.02	MDA	
B 14			0.02	MDA	
B 15			0.03	300	
B 16			0.03	MDA	
B 17			0.04	900	
B 18			0.03	MDA	
B 19			0.03	MDA	
B 20			0.04	600	
C 01 DRAIN			0.03	MDA	
C 02			0.03	MDA	
C 03			0.03	300	
C 04			0.05	1500	
C 05			0.06	2100	
C 06			0.05	1500	
C 07			0.05	1500	
C 08			0.03	MDA	
C 09			0.05	1500	
C 10			0.04	600	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 10 Concrete Pad

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
C 11			0.04	600	
C 12			0.05	1500	
C 13			0.02	MDA	
C 14			0.02	MDA	
C 15			0.04	600	
C 16			0.04	900	
C 17			0.04	900	
C 18			0.03	MDA	
C 19			0.02	MDA	
C 20			0.03	MDA	
D 01			0.03	MDA	
D 02			0.04	600	
D 03			0.03	MDA	
D 04			0.04	600	
D 05			0.03	MDA	
D 06			0.03	MDA	
D 07			0.04	900	
D 08			0.05	1500	
D 09			0.03	MDA	
D 10			0.02	MDA	
D 11			0.03	MDA	
D 12			0.03	300	
D 13			0.03	MDA	
D 14			0.04	600	
D 15			0.04	600	
D 16			0.04	600	
D 17			0.03	MDA	
D 18			0.02	MDA	
D 19			0.03	MDA	
D 20			0.04	600	
E 01			0.04	600	
E 02			0.03	MDA	
E 03			0.03	MDA	
E 04			0.04	600	
E 05			0.04	600	
E 06			0.03	300	
E 07			0.03	MDA	
E 08			0.03	MDA	
E 09			0.03	MDA	
E 10			0.03	MDA	
E 11			0.02	MDA	
E 12			0.02	MDA	
E 13			0.02	MDA	
E 14			0.03	300	
E 15			0.04	900	
E 16			0.02	MDA	
E 17			0.02	MDA	
E 18			0.03	300	
E 19			0.04	600	
E 20			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 10 Concrete Pad

Sample Location		Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
F 01				0.04	900	
F 02				0.05	1500	
F 03				0.05	1200	
F 04	PLUGGED DRAIN			0.03	MDA	
F 05				0.04	600	
F 06				0.03	300	
F 07				0.03	MDA	
F 08				0.04	600	
F 09				0.03	MDA	
F 10	DRAIN			0.04	900	
F 11				0.03	300	
F 12				0.04	900	
F 13				0.04	600	
F 14				0.03	300	
F 15				0.03	MDA	
F 16				0.03	MDA	
F 17				0.03	300	
F 18				0.05	1500	
F 19				0.03	300	
F 20				0.04	600	
G 01				0.04	600	
G 02				0.04	600	
G 03				0.04	900	
G 04				0.02	MDA	
G 05				0.04	900	
G 06				0.04	600	
G 07				0.04	900	
G 08				0.05	1500	
G 09				0.04	600	
G 10				0.03	MDA	
G 11				0.02	MDA	
G 12				0.03	MDA	
G 13				0.02	MDA	
G 14				0.02	MDA	
G 15				0.03	MDA	
G 16				0.03	MDA	
G 17				0.04	600	
G 18				0.04	900	
G 19				0.04	600	
G 20				0.04	600	
H 01	BROKEN CONCRETE			0.02	MDA	
H 02	BROKEN CONCRETE			0.03	MDA	
H 03	BROKEN CONCRETE			0.04	900	
H 04				0.05	1500	
H 05				0.02	MDA	
H 06				0.02	MDA	
H 07				0.03	MDA	
H 08				0.02	MDA	
H 09				0.03	MDA	
H 10				0.04	900	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 10 Concrete Pad

[210,150]085

Sample Location		Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
H 11				0.02	MDA	
H 12				0.03	MDA	
H 13				0.03	MDA	
H 14				0.02	MDA	
H 15				0.02	MDA	
H 16				0.03	MDA	
H 17				0.03	MDA	
H 18				0.03	MDA	
H 19				0.02	MDA	
H 20				0.02	MDA	
I 01	BROKEN CONCRETE			0.02	MDA	
I 02	BROKEN CONCRETE			0.02	MDA	
I 03				0.02	MDA	
I 04				0.02	MDA	
I 05				0.03	MDA	
I 06				0.02	MDA	
I 07				0.03	MDA	
I 08				0.03	MDA	
I 09				0.02	MDA	
I 10				0.03	MDA	
J 01				0.03	MDA	
J 02				0.02	MDA	
J 03				0.03	300	
J 04				0.02	MDA	
J 05				0.03	MDA	
J 06				0.03	MDA	
J 07				0.04	900	
J 08				0.03	MDA	
J 09				0.02	MDA	
J 10				0.03	MDA	
K 01				0.03	300	
K 02				0.02	MDA	
K 03				0.03	MDA	
K 04				0.03	300	
K 05				0.02	MDA	
K 06				0.03	300	
K 07				0.04	600	
K 08				0.03	MDA	
K 09				0.02	MDA	
K 10				0.02	MDA	
L 01				0.02	MDA	
L 02				0.02	MDA	
L 03				0.02	MDA	
L 04				0.02	MDA	
L 05				0.03	MDA	
L 06				0.02	MDA	
L 07				0.02	MDA	
L 08				0.02	MDA	
L 09				0.02	MDA	
L 10				0.03	300	

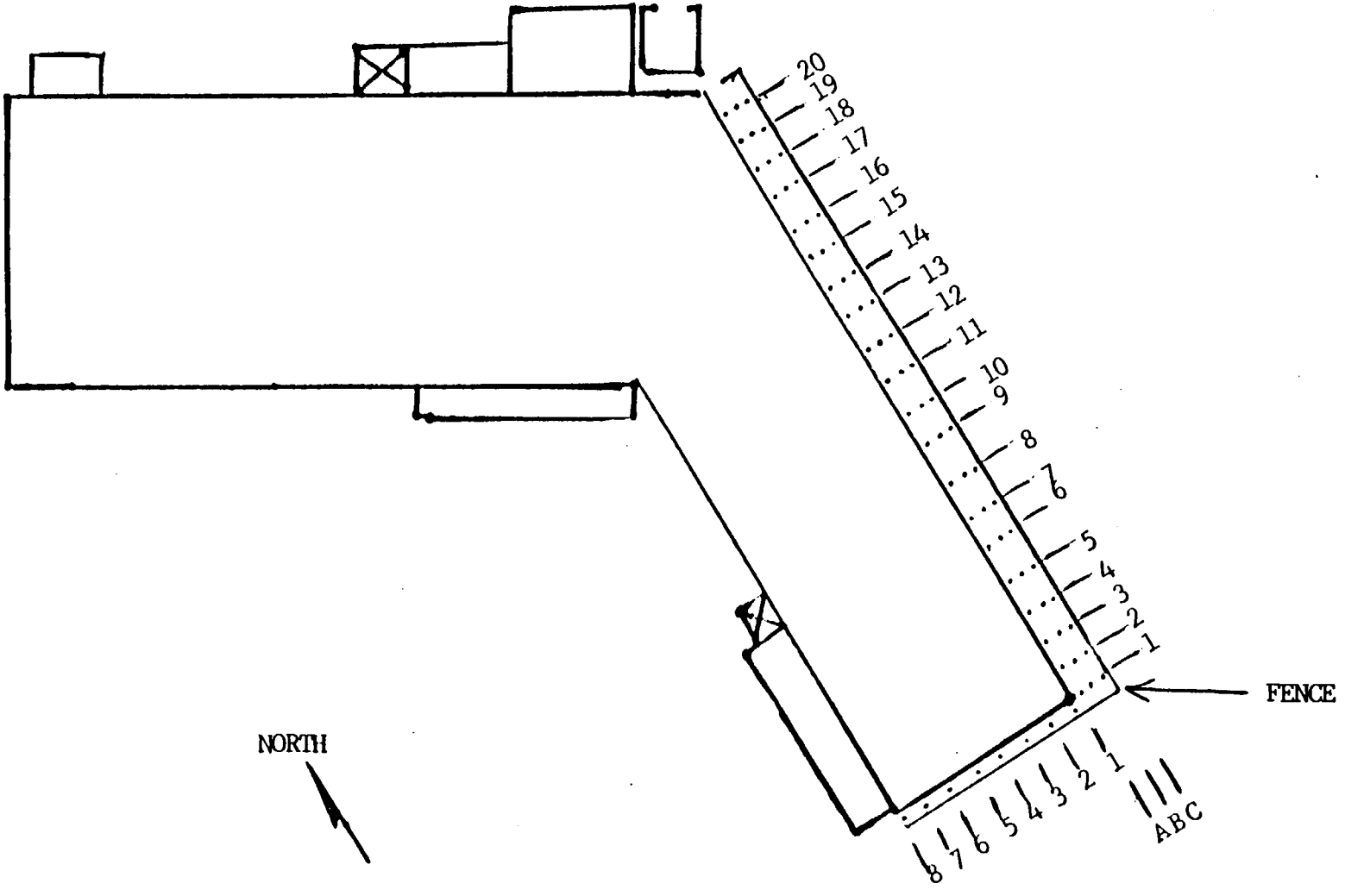
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 10 Concrete Pad

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
M 01			0.03	MDA	
M 02			0.02	MDA	
M 03			0.03	MDA	
M 04			0.03	MDA	
M 05			0.02	MDA	
M 06			0.02	MDA	
M 07			0.03	300	
M 08			0.03	300	
M 09			0.03	MDA	
M 10			0.02	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NOS. 76-77



BUILDING 8 OUTSIDE

Surface Contamination Survey
Building 8, East Side

[210,150]134

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1			0.05	1500	
B 1			0.05	1500	
C 1			0.03	MDA	
A 2			0.03	MDA	
B 2			0.05	1500	
C 2			0.03	MDA	
A 3			0.04	750	
B 3			0.02	MDA	
C 3			0.03	MDA	
A 4			0.04	750	
B 4			0.03	MDA	
C 4			0.03	MDA	
A 5			0.03	MDA	
B 5			0.03	MDA	
C 5			0.03	MDA	
A 6			0.03	MDA	
B 6			0.03	MDA	
C 6			0.03	MDA	
A 7			0.01	MDA	
B 7			0.01	MDA	
C 7			0.03	MDA	
A 8			0.04	750	
B 8			0.03	MDA	
C 8			0.03	MDA	
A 9			0.03	MDA	
B 9			0.04	750	
C 9			0.03	MDA	
A 10			0.03	MDA	
B 10			0.05	1500	
C 10			0.03	MDA	
A 11			0.02	MDA	
B 11			0.04	900	
C 11			0.03	MDA	
A 12			0.03	MDA	
B 12			0.02	MDA	
C 12			0.03	MDA	
A 13			0.03	MDA	
B 13			0.03	MDA	
C 13			0.03	MDA	
A 14			0.05	1500	
B 14			0.03	MDA	
C 14			0.03	MDA	
A 15			0.10	4500	
B 15			0.03	MDA	
C 15			0.03	MDA	
A 16			0.03	MDA	
B 16			0.03	MDA	
C 16			0.03	MDA	
A 17			0.03	MDA	
B 17			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 8, East Side

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
C 17			0.03	MDA	
A 18			0.03	MDA	
B 18			0.03	MDA	
C 18			0.03	MDA	
A 19			0.03	MDA	
B 19			0.03	MDA	
C 19			0.03	MDA	
A 20			0.03	MDA	
B 20			0.03	MDA	
C 20			0.03	MDA	

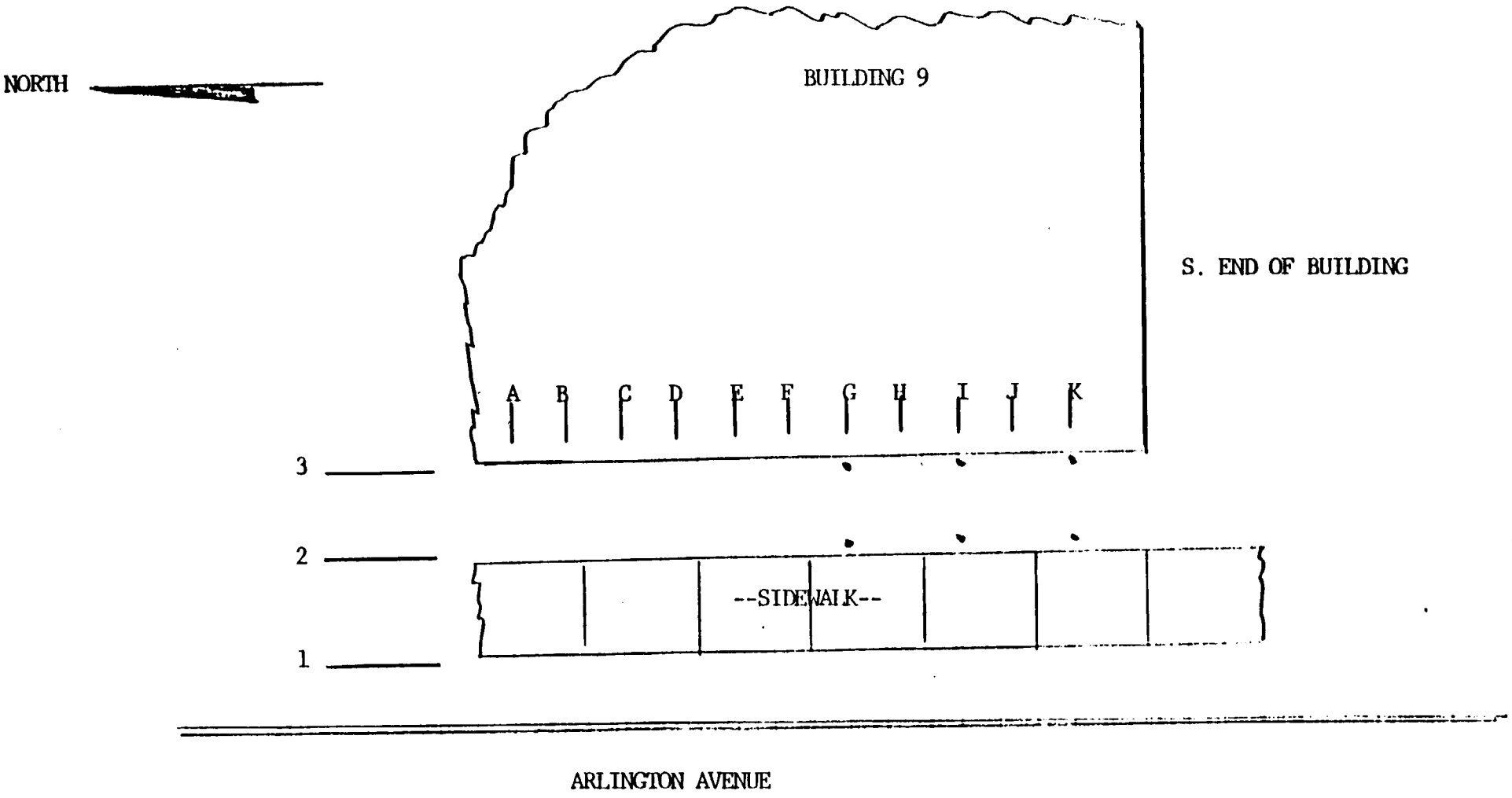
Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

Surface Contamination Survey
Building 8, South Side

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1			0.04	750	
A 2			0.04	750	
A 3			0.04	750	
A 4			0.03	MDA	
A 5			0.03	MDA	
A 6			0.03	MDA	
A 7			0.03	MDA	
A 8			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 80



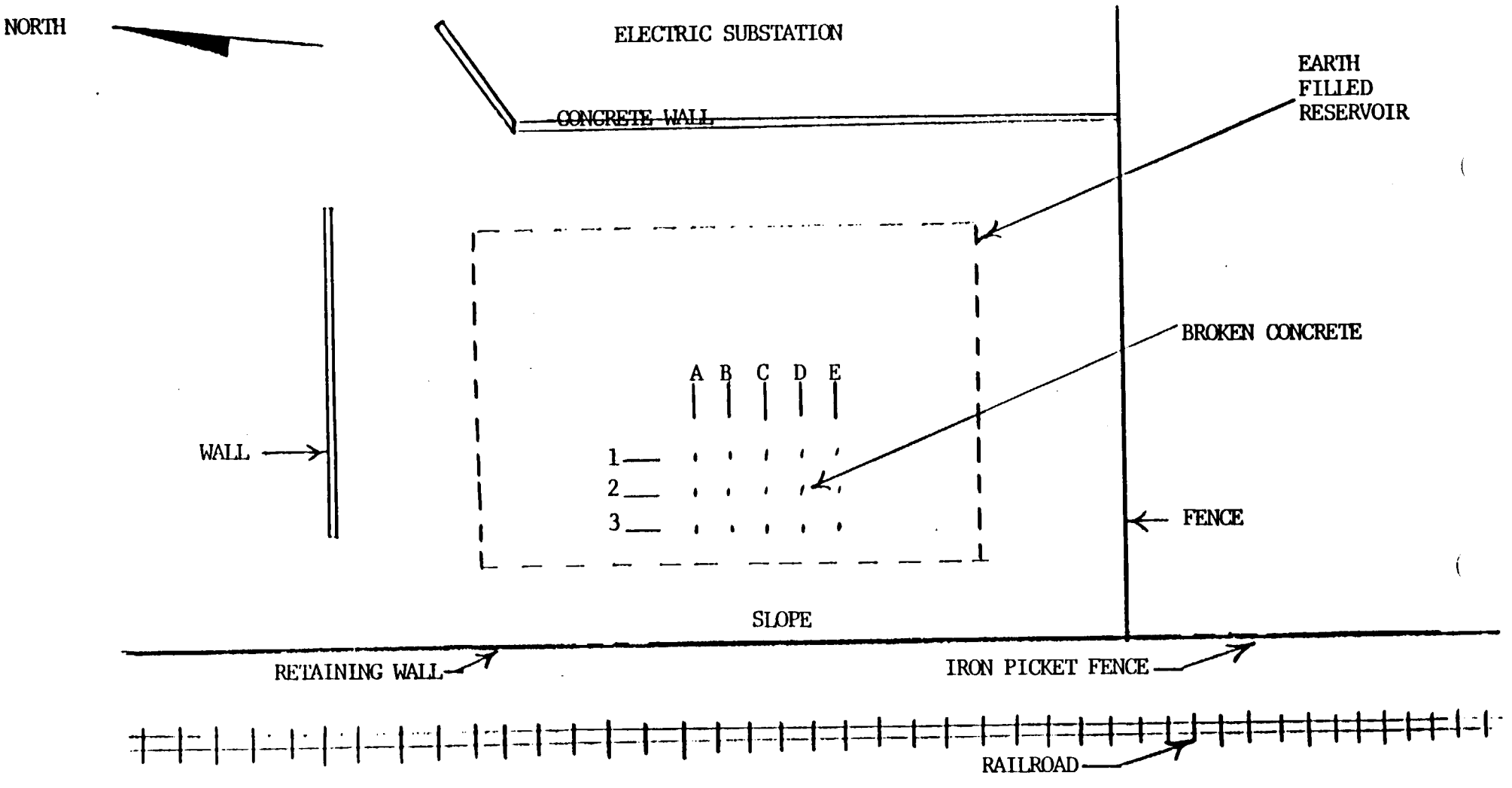
BUILDING 9 OUTSIDE

Surface Contamination Survey
Building 9, Outside West Wall

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 2			0.04	900	
A 3			0.07	2400	
B 2			0.04	600	
B 3			0.03	MDA	
C 2			0.07	2400	
C 3			0.03	MDA	
D 2			0.04	900	
D 3			0.06	2100	
E 2			0.04	900	
E 3			0.04	600	
F 2			0.04	600	
F 3			0.08	3000	
G 1			0.03	MDA	
G 2			0.10	4500	
G 3			0.09	3900	
H 1			0.02	MDA	
H 2			0.05	1500	
H 3			0.08	3000	
I 1			0.02	MDA	
I 2			0.10	4500	
I 3			0.13	6000	
J 1			0.03	300	
J 2			0.04	900	
J 3			0.04	900	
K 1			0.04	600	
K 2			0.04	600	
K 3			0.04	600	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

AREA NO. 81



AREA BEHIND SUBSTATION (SOUTH-WEST CORNER OF PROPERTY)

Surface Contamination Survey
Earth-Filled Resevoir

Sample Location	Alpha Total DPM/100cm^2	Alpha Removable DPM/100cm^2	Beta Total mrad/hr	Beta Total DPM/100cm^2	Beta Removable DPM/100cm^2
A 1			0.03	MDA	
A 2			0.10	4500	
A 3			0.02	MDA	
B 1			0.03	MDA	
B 2			0.04	750	
B 3			0.04	600	
C 1			0.15	7500	
C 2			0.20	10500	
C 3			0.03	MDA	
D 1			0.10	4500	
D 2			0.15	7500	
D 3			0.03	MDA	
E 1			0.03	MDA	
E 2			0.08	3000	
E 3			0.03	MDA	

Note: All samples taken at ground surface, unless otherwise noted. Sample locations shown as @n indicate height of sample location in meters from the ground.

APPENDIX B

GAMMA SPECTROSCOPY SAMPLE ANALYSIS RESULTS

NOTES:

1) NUCLIDE ACTIVITY CONCENTRATION (PCI/G) IS REPORTED FOR ONE OR MORE OF THE FOLLOWING PARENT NUCLIDES: U-238, U-235, TH-232 AND RA-226.

2) U-238 VALUES BASED ON AVERAGE OF TH-234 (93 KEV) AND PA-234 (1001 KEV) PHOTOPEAK CALCULATIONS.

3) TH-232 VALUES BASED ON AVERAGE OF PB-212 (239 KEV) AND AC-228 (911 KEV) PHOTOPEAK CALCULATIONS (EQUILIBRIUM ASSUMED).

4) RA-226 VALUES BASED ON AVERAGE OF PB-214 (352 KEV) AND BI-214 (609 KEV) PHOTOPEAK CALCULATIONS. EQUILIBRIUM WITH RA-226 WAS ASSUMED, HOWEVER ACTUAL ACTIVITY OF RA-226 MAY BE HIGHER THAN THE REPORTED AVERAGE DAUGHTER NUCLIDE ACTIVITY.

5) COUNTS VS. PHOTON ENERGY PLOTS ARE PROVIDED FOR REPRESENTATIVE SAMPLE SPECTRA SHOWING URANIUM, THORIUM AND RADIUM PHOTOPEAKS.

SAMPLE NUMBER	LOCATION/DESCRIPTION	DEPTH	NUCLIDE ACTIVITY CONCENTRATION (pCi/g)			
			U-238	U-235	TH-232	RA-226
001	Bldg. 7, basement, Vapor Lamp Assembly Room (insulation from overhead pipes above P9)	N/A	1.0E 3	7.4E 1		
002	Same as Sample 001 (insulation from pipe above J15)	N/A	3.3E 3	2.2E 2		
003	Bldg. 7, basement, vault (concrete floor chips)	0-1"	1.6E 2	9.4E 1	1.7E 1	
004	Bldg. 7, basement, Life Test Room (loose floor rubble at 17A)	0-1"	9.9E 2	6.8E 1	1.4E 1	
005	Bldg. 7, Room 108 (loose floor tile and rubble at 7A)	0-1"	1.0E 2	6.7E 0	3.5E 0	
006	Bldg. 7, Room 106 (black powder from drum - very high density)	N/A			3E 2	
008	Bldg. 8, 1st floor, drain trench in floor (1 of 2 sludge samples)	0-3"			1.0E 2	
009	Bldg. 8, 1st floor, drain trench in floor (2 of 2 sludge samples)	0-3"			6.1E 0	
011A	Bldg. 2, 2nd floor, Moly-Ribbon Room (floor sweepings)	N/A			3.7E 2	
011B	Bldg. 8, 2nd floor, Room 10 (oil soaked absorbent material)	N/A			6.5E 2	
013	Sump outside Bldg. 3 (wet sludge from sump bottom)	0-3"			4.0E 1	
014	Outside east wall of Bldg. 8 (surface soil)	0-3"			6.8E 1	
015	Outside rear exit of Bldg. 7, under asphalt (soil)	0-6"			1.5E 2	
016	Outside Bldg. 9 south wall (loose sandy material near drain)	0-1"			9.1E 1	

SAMPLE NUMBER	LOCATION/DESCRIPTION	DEPTH	NUCLIDE ACTIVITY CONCENTRATION (pCi/g)			
			U-238	U-235	TH-232	RA-226
017	Outside south wall of Bldg. 8 (pea gravel)	0-3"			9.5E 0	
018	Bldg. 6, 1st floor (soil beneath hole in floor)	8-12"			3.8E 1	
019	Outside south wall of Bldg. 8 (soil/gravel mix)	4-6"			3.7E 0	
020	Outside south wall of Bldg. 8 (pea gravel)	4-6"			4.9E 0	
022A	Bldg. 9, west roof (loose material behind Duct 1)	N/A			8.9E 0	
022B	Bldg. 9, roof, (tar by Duct 1)	N/A			1.6E 1	
024	Outside east wall of Bldg. 8, at location of elevated exposure rate (soil)	0-3"			1.9E 2	
028	Bldg. 9, upper west roof (loose material)	N/A			4.4E 1	
029	Bldg. 9, east roof (loose material)	N/A			1.4E 1	
030	Bldg. 9, upper west roof near Vent 3 (roof tar)	N/A			2.1E 1	
031	Outside east wall of Bldg. 8, at slightly elevated exposure rate location (soil)	0-3"			6.0E 0	
033	Outside of Bldg. 8 west wall by guard shed (soil)	0-3"	4.8E 1	2.4E 0		
034	Same as Sample 033 (soil)	4-6"	9.0E 2	5.9E 1		
035	End of RR spur between corners of Bldgs. 3 & 4 (soil/gravel between rails)	0-3"	5.3E 2	3.4E 1		
036	Same as Sample 035 (soil/ gravel between rails)	4-6"	1.1E 3	6.8E 1		
037	Outside SW wall of Bldg. 9 (soil/cinders)	0-6"			9.3E 0	

SAMPLE NUMBER	LOCATION/DESCRIPTION	DEPTH	NUCLIDE ACTIVITY CONCENTRATION (pCi/g)			
			U-238	U-235	TH-232	RA-226
038	Outside SW wall of Bldg. 9, near sidewalk (soil)	0-6"			7.4E 0	
039	Sump outside NW corner of Bldg. 9 (sludge from sump bottom)	0-6"			3.2E 1	
041	Sluice outside Bldg. 7 (gravel from trough)	N/A				1.2E 1
042	Outside east wall of Bldg. 8 test spot for depth check (soil)	0-3"			5.5E 1	
043	Same as Sample 042 (soil)	12-15"			8E-1	
044	Bldg. 7, roof, storage room by main stairway (loose debris at door)	N/A	9.2E 1	3.3E 0		
045	Bldg. 7, roof, storage room by main stairway (material in corner)	N/A	4.3E 1	1.4E 0		
046	Bldg. 7, roof, storage room by main stairway (loose material from center of floor)	N/A	1.2E 2	5.7E 0		
047	Bldg. 7, roof, pipe enclosure (wall scrapings)	N/A	8.1E 2	4.6E 1	6.3E 1	
048	Garage basement at pit (soil)	0-3"	1.1E 2	6.9E 0	1.5E 0	
049	Garage basement at wall near steps (soil)	0-3"	7.5E 1	5.3E 0	9.0E-1	
050	Earth-filled resevoir behind substation (1 of 3 soil samples)	0-3"	7.6E 1			4.9E 0
051	Outside SW wall of Bldg. 9, location A near sidewalk (soil)	0-3"			1.5E 0	
052	Same as Sample 051, location A2 near sidewalk (soil)	0-3"			1.1E 0	
053	Same as Sample 050 (2 of 3 soil samples)	0-3"				3.5E 1

SAMPLE NUMBER	LOCATION/DESCRIPTION	DEPTH	NUCLIDE ACTIVITY CONCENTRATION (pCi/g)			
			U-238	U-235	TH-232	RA-226
054	Same as Sample 050 (3 of 3 soil samples)	0-3"				3.6E 1
055	Outside SW wall of Bldg. 9 - location C1 near sidewalk (soil)	0-3"			5.9E 0	
056	Outside SW wall of Bldg. 9 location C2 near sidewalk (soil)	0-3"			5.5E 0	
057	Loading Dock - Building 5 (oil from one of three 20 gallon tubs)	N/A	2.0E 0		5.0E-1	
058	Building 8 - High Temp Lab (wall tile)	N/A	3.2E 2	2.1E1		
059	Driveway Between Bldgs. 1 and 2 (crushed asphalt)				1.3E 0	
060	Building 6 (broken bricks from trash drum)				1.1E 1	1.9E 1
061	Building 3 Lab Wall (plaster)				1.0E 0	7.0E-1

[100-100]058

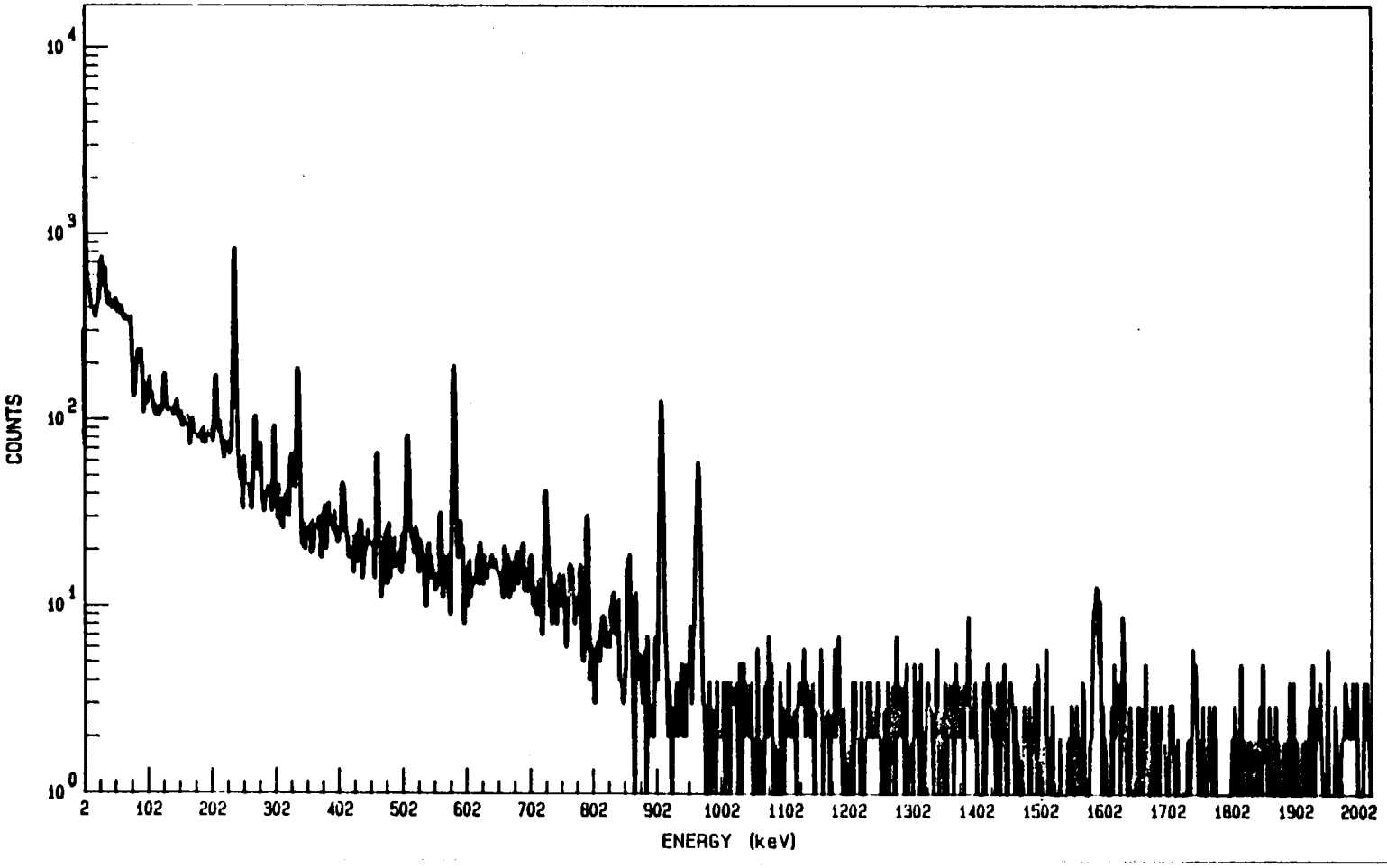
Canberra/RMC-MWRO HPGE S/N: 21-P-735C

Sample: TH-232 190 pCi/g

Location: (024) Outside East Wall of Building 8

File: [300,001]000205

Start Date: 10-JUL-86 Time: 11:58:17



10-JUL-86 16:03

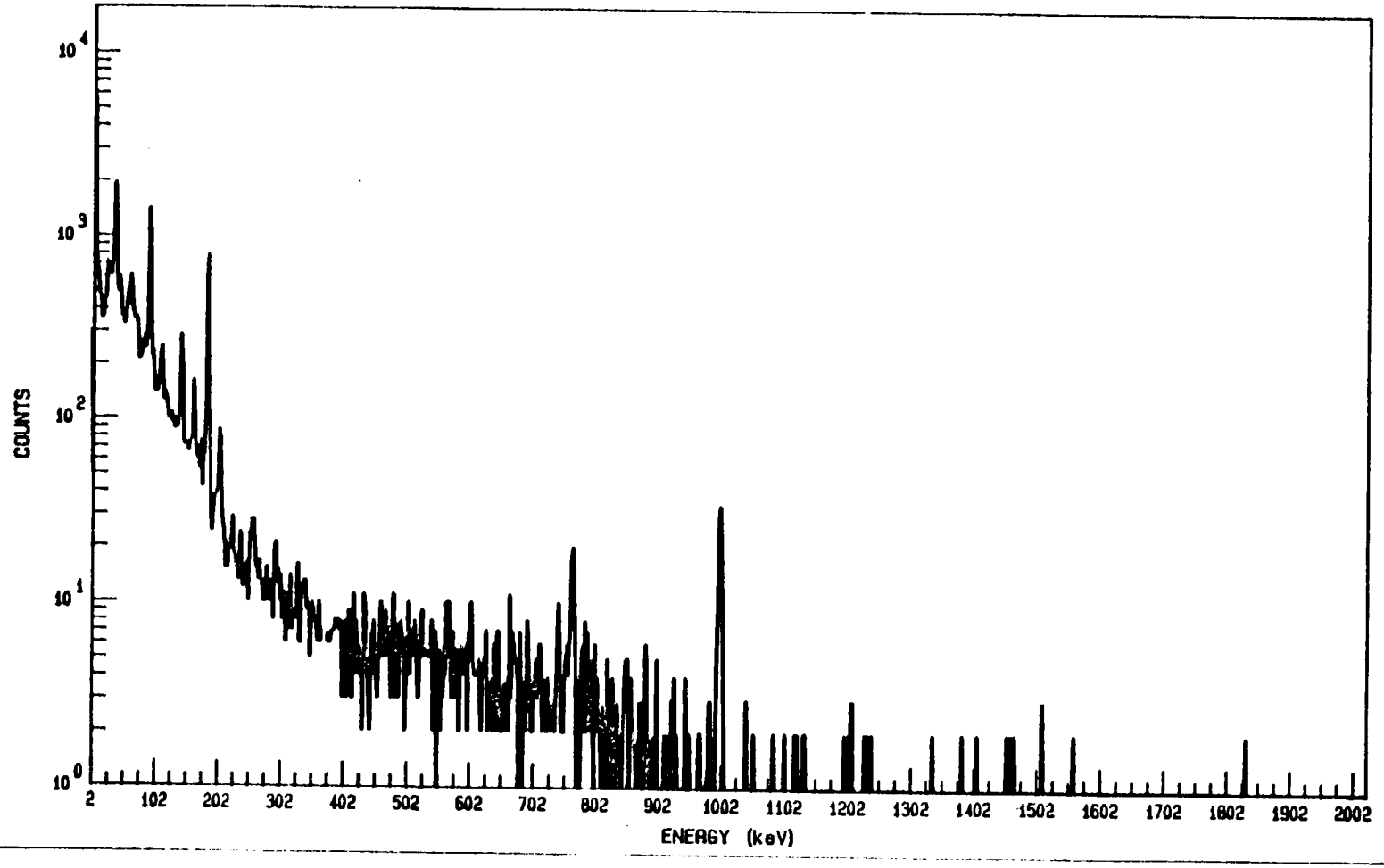
Canberra/RMC-MWRO CIMPA-HP V02.2

Canberra/RMC-MWRO HPGE S/N: 21-P-735C

Sample: U-238 900 pCi/g
U-235 59 pCi/g
File: [300,001]000204

Location: (034) End of Railroad Spur

Start Date: 10-JUL-86 Time: 11:50:36



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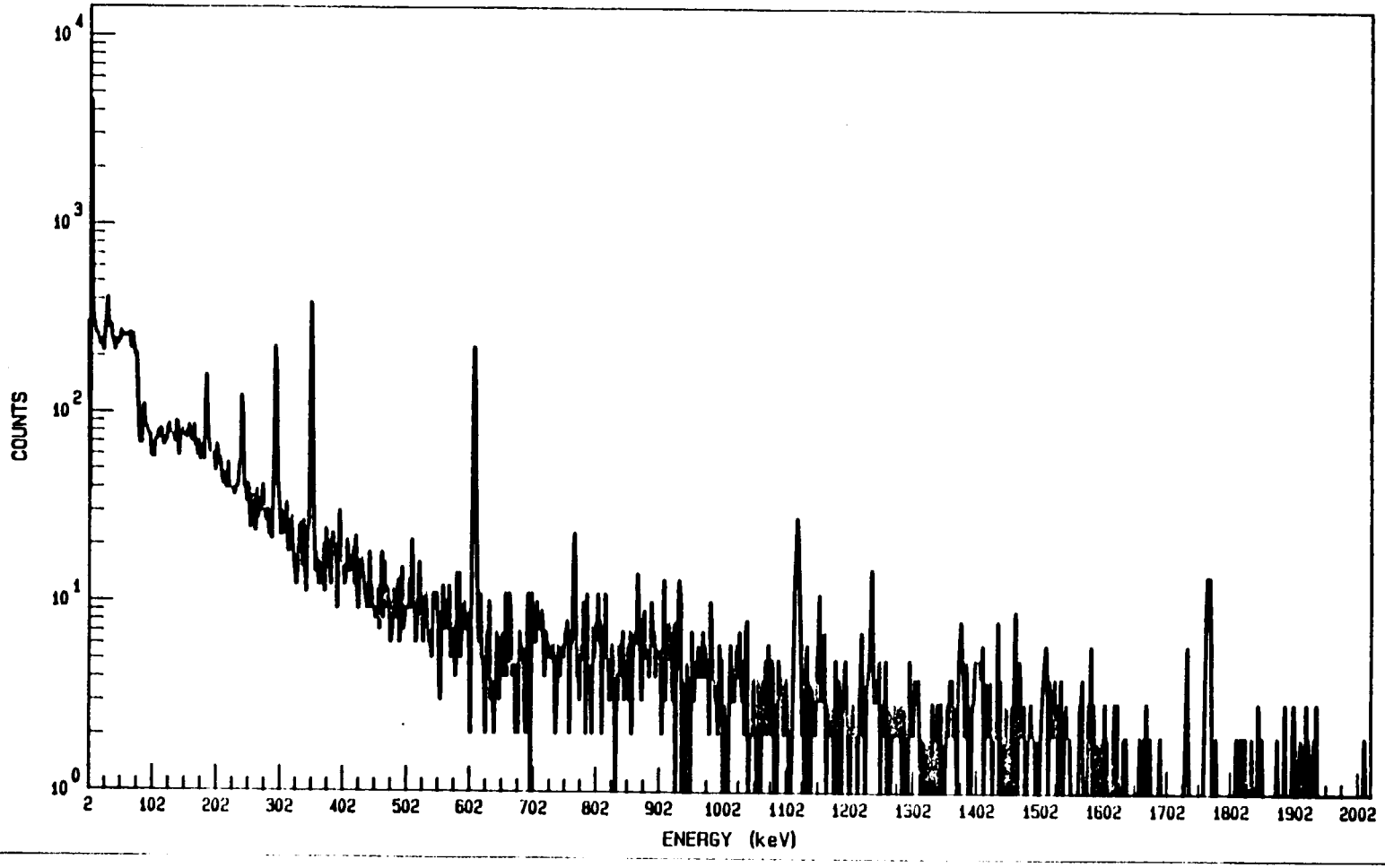
Canberra/RMC-MWRO HPGE S/N: 21-P-735C

Sample: RA-226 36 pCi/g

Location: (054) Earth-Filled Resevoir

File: [300,001]000206

Start Date: 10-JUL-86 Time: 12:08:06

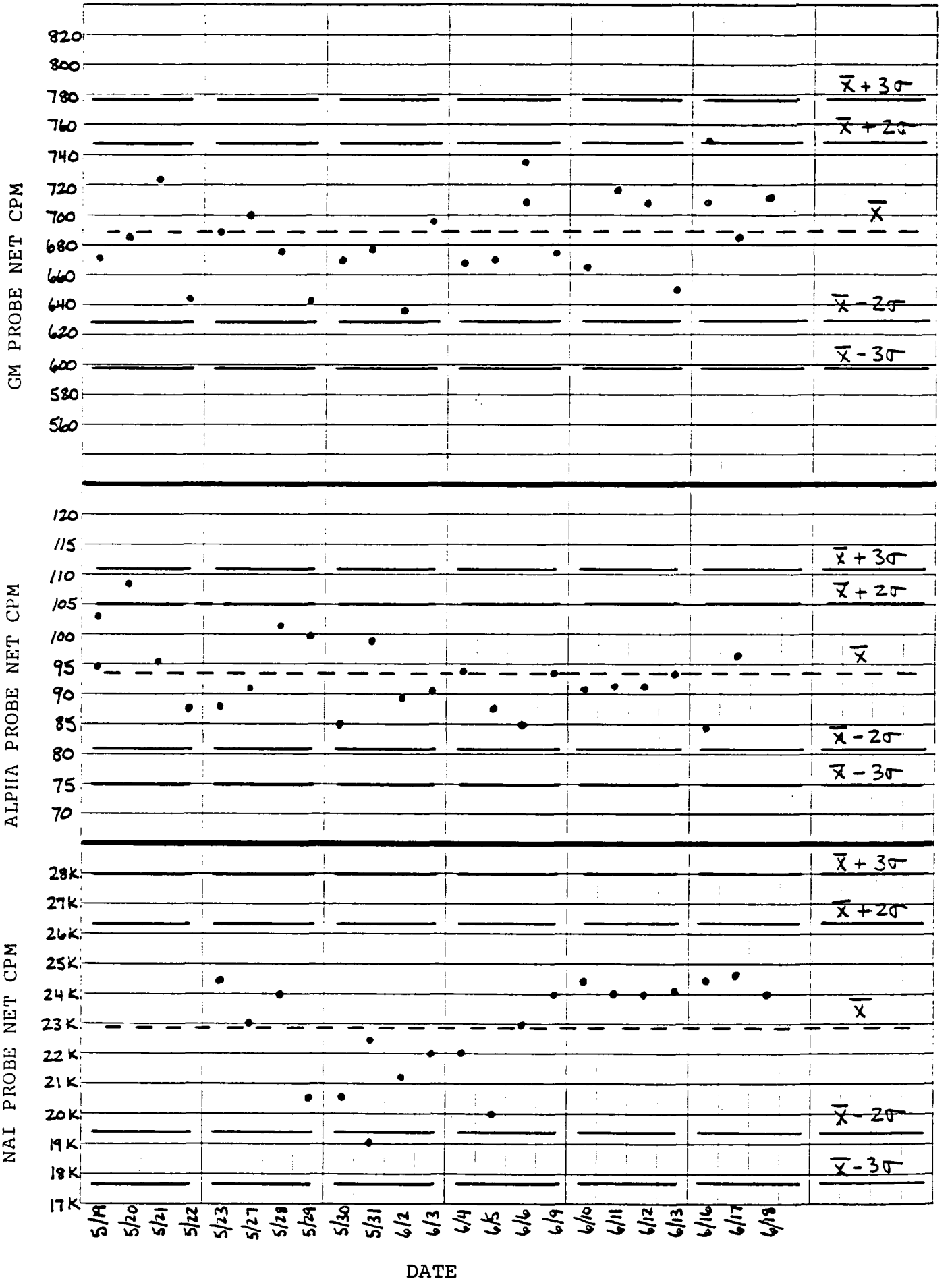


Canberra/RMC-MWRO CIMPA-HP V02.2 10-JUL-86 16:22

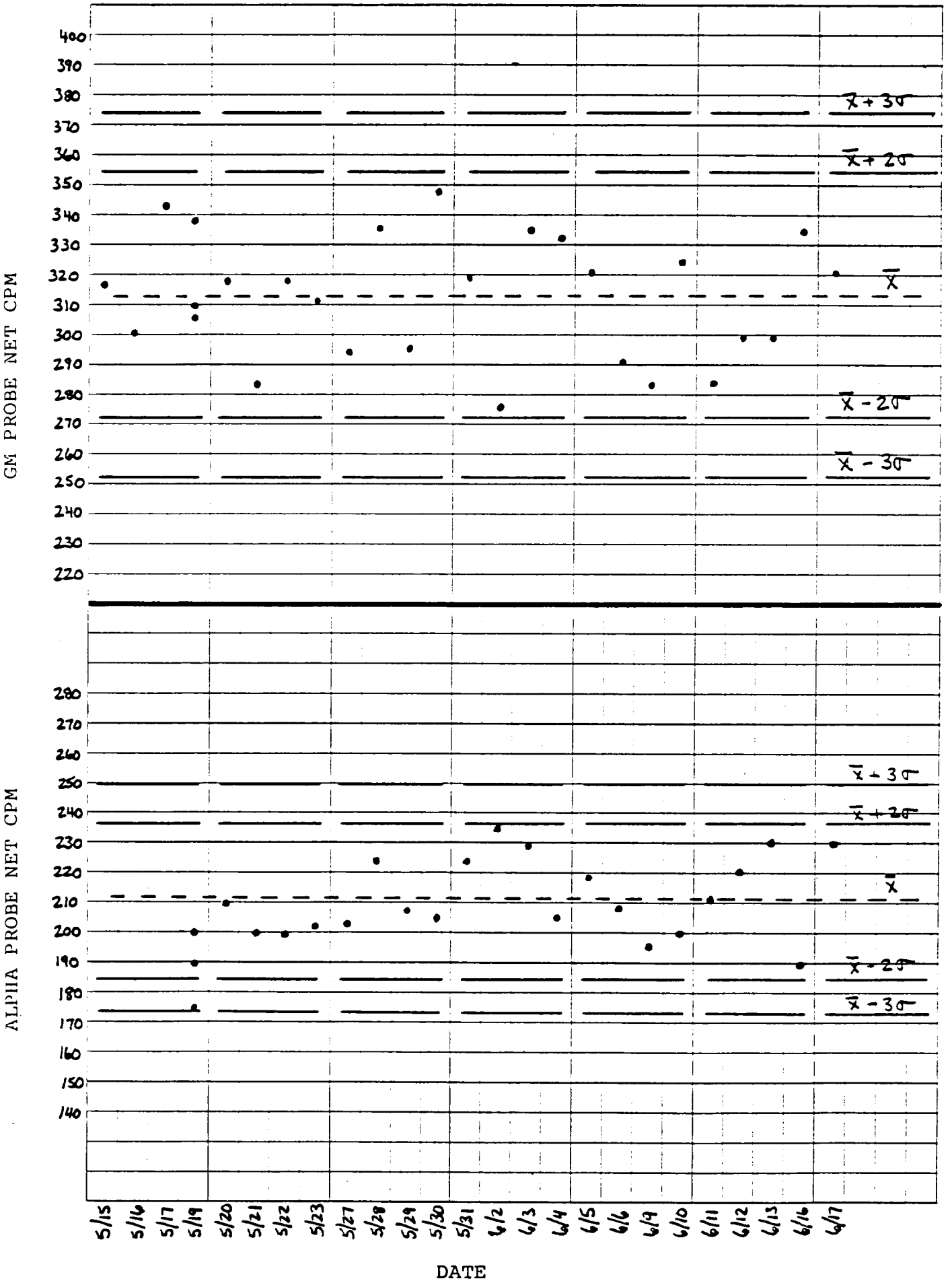
APPENDIX C

SURVEY INSTRUMENT QUALITY CONTROL CHARTS

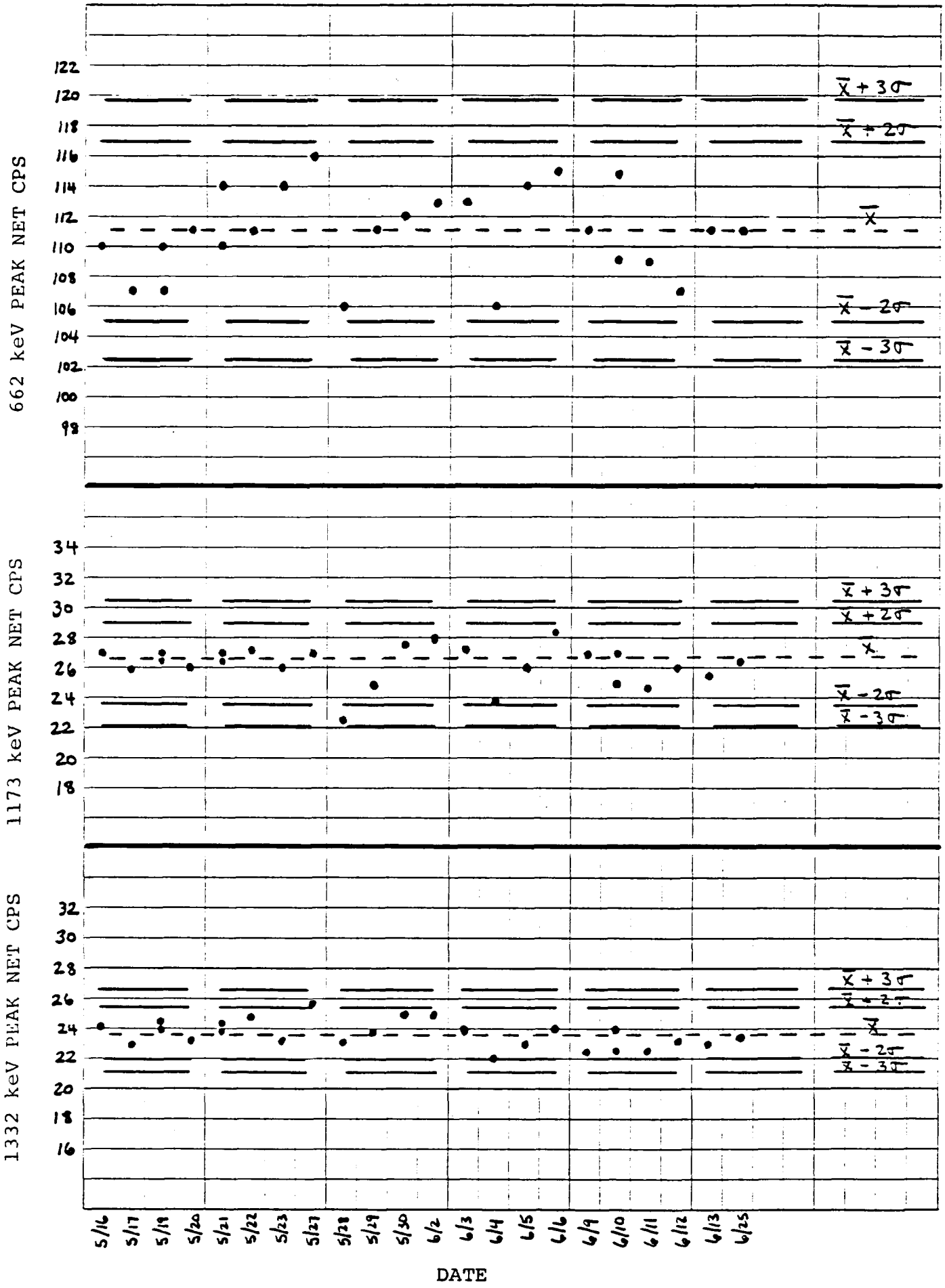
QC DATA SUMMARY--SURVEY INSTRUMENT KIT #1 (GSM-10S s/n 2699,
GM PROBE s/n RMC-B-1, ALPHA PROBE s/n 1083, NAI PROBE s/n 1082)



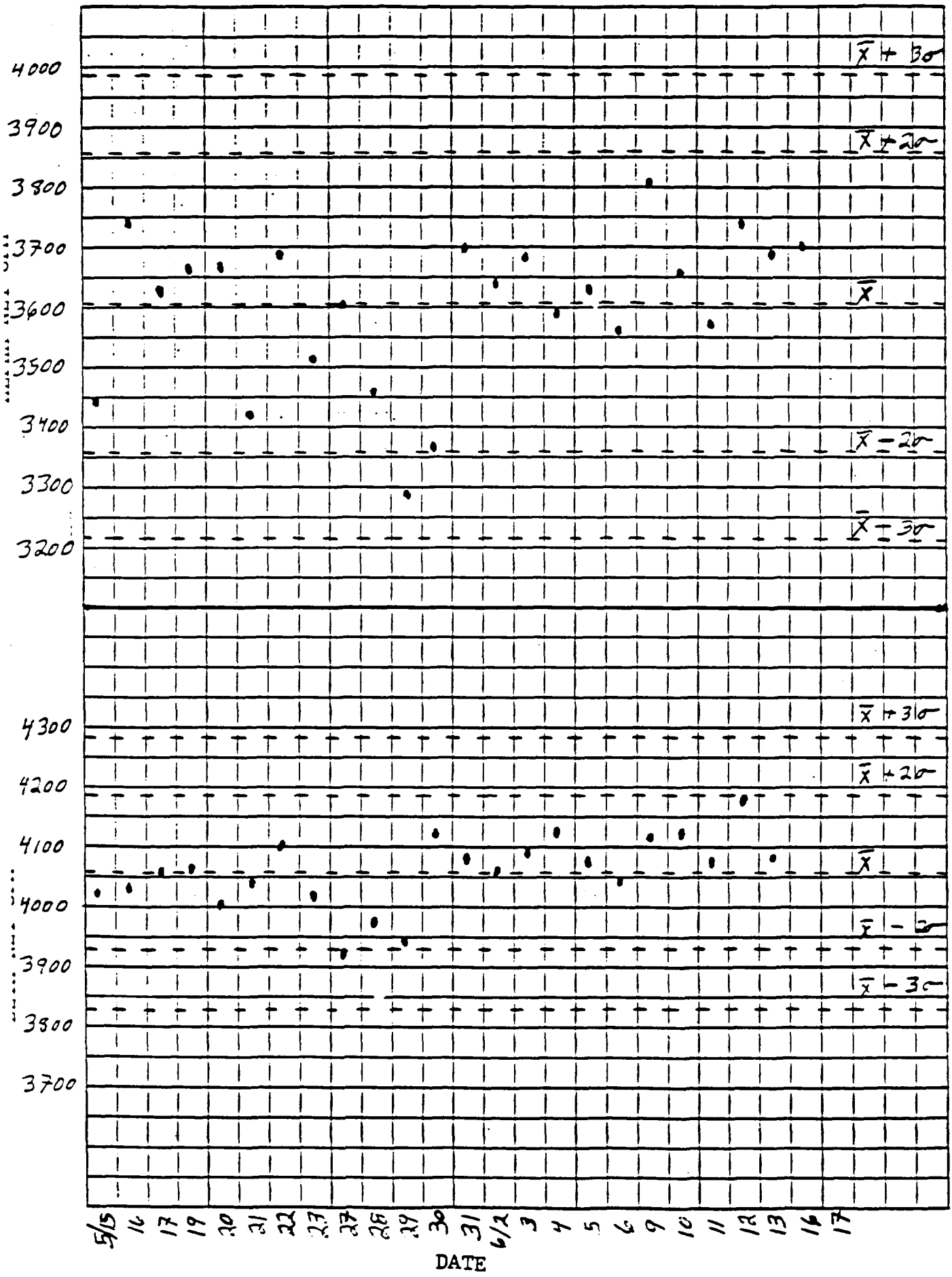
QC DATA SUMMA' --SURVEY INSTRUMENT KIT #: 'GSM-5 s/n 2610,
GM PROBE s/n 50195, ALPHA PROBE s/n RMC-A-3)



QC DATA SUMMA --GAMMA SPECTROSCOPY SYSTI (IG DETECTOR s/n 21-P-735C, TN 1750 MCA s/n 981136)



QC DATA SUM RY FOR G-4000, S/N-101, G. IA PRODUCTS
GAS PROPORTIONAL COUNTER



APPENDIX D

ACCEPTABLE SURFACE CONTAMINATION LEVELS

NUCLIDES[a]	AVERAGE[b c f]	MAXIMUM[b d f]	REMOVABLE[b e f]
U-nat, U-235, U-238, and associated decay products	5,000 dpm α/100 cm^2	15,000 dpm α/100 cm^2	1,000 dpm α/100 cm^2
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm^2	300 dpm/100 cm^2	20 dpm/100 cm^2
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1000 dpm/100 cm^2	3000 dpm/100 cm^2	200 dpm/100 cm^2
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above.	5000 dpm βγ/100 cm^2	15,000 dpm βγ/100 cm^2	1000 dpm βγ/100 cm^2

[a]Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

[b]As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[c]Measurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

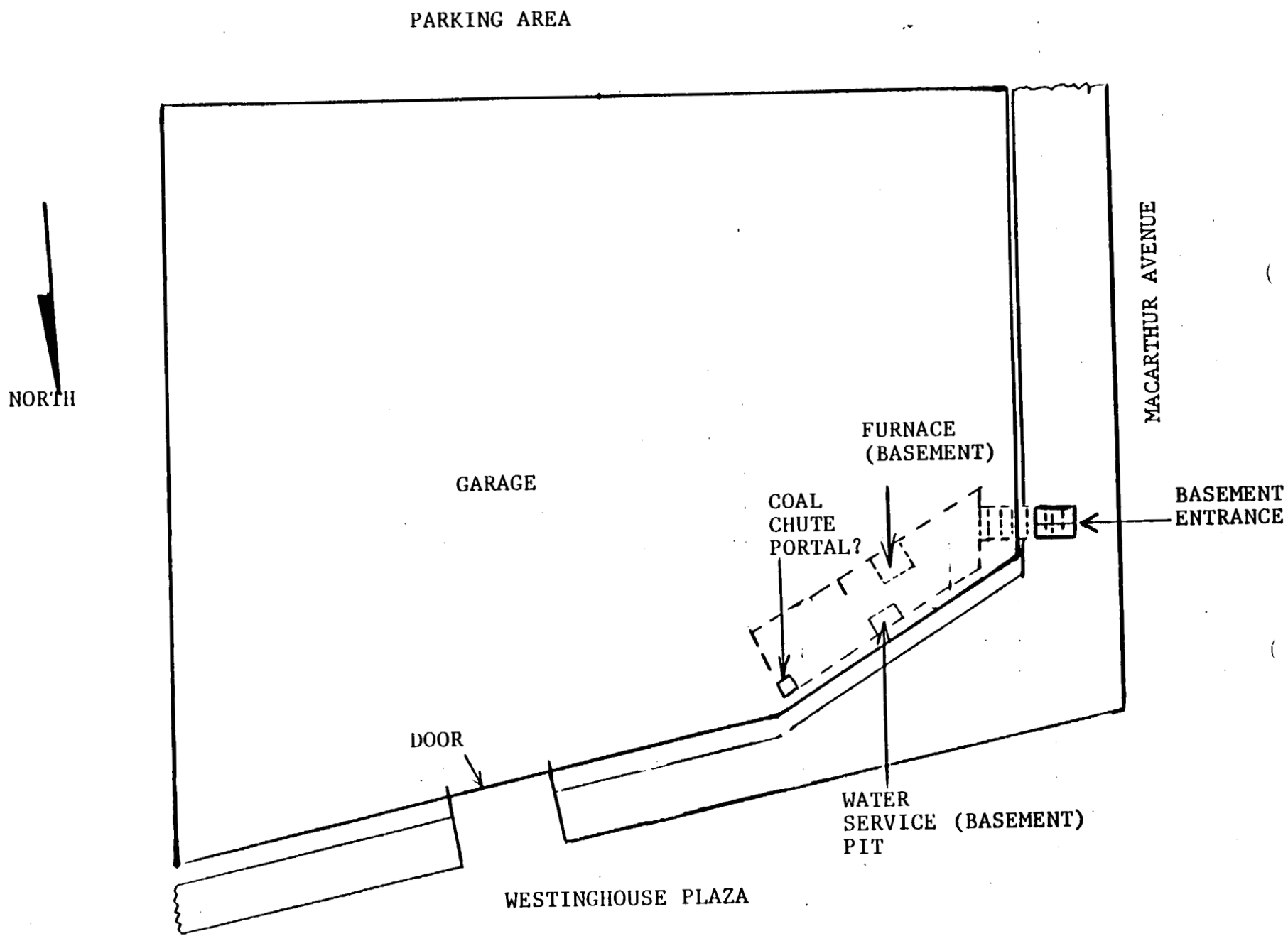
[d]The maximum contamination level applies to an area of not more than 100 cm^2.

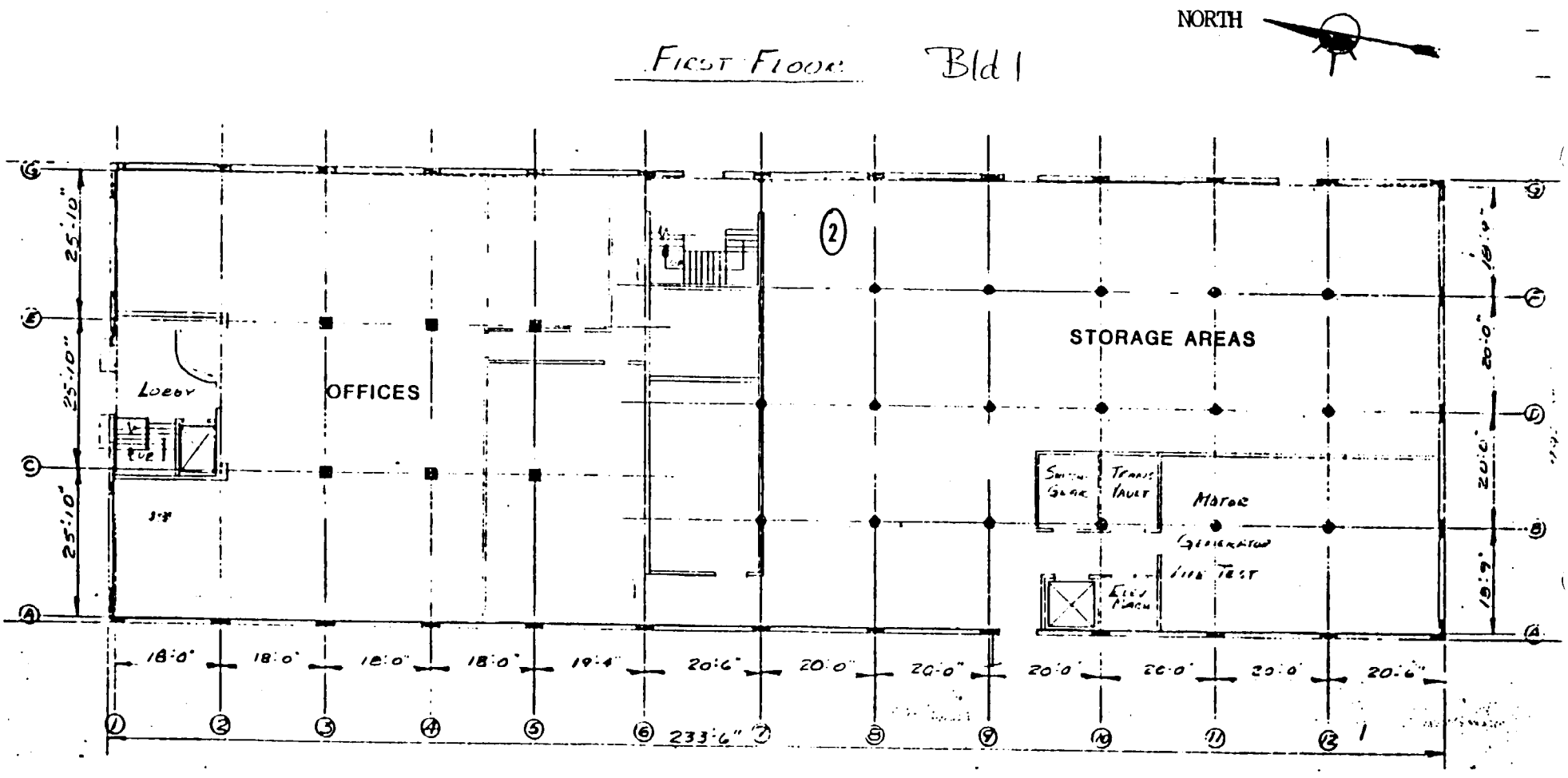
[e]The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.

[f]The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

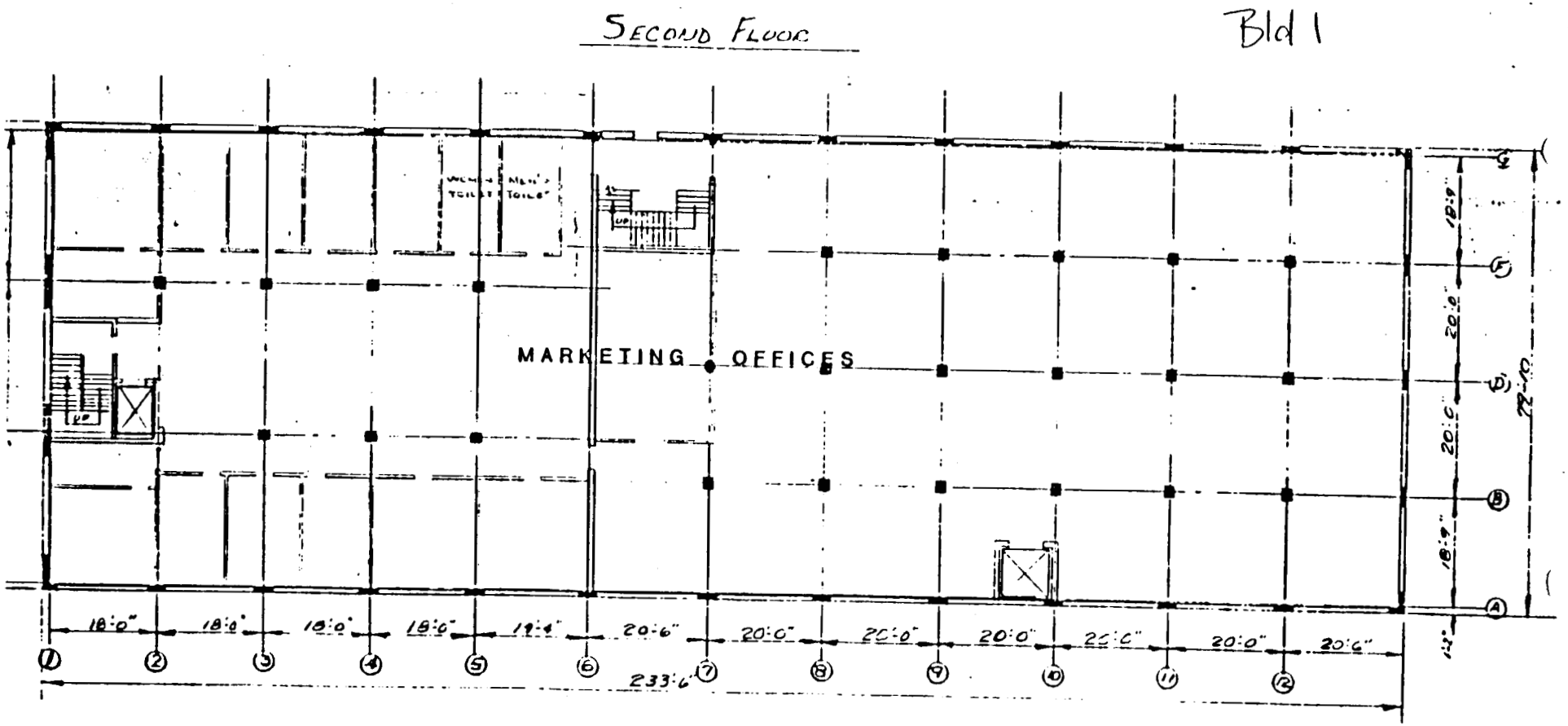
APPENDIX E

BUILDING DRAWINGS

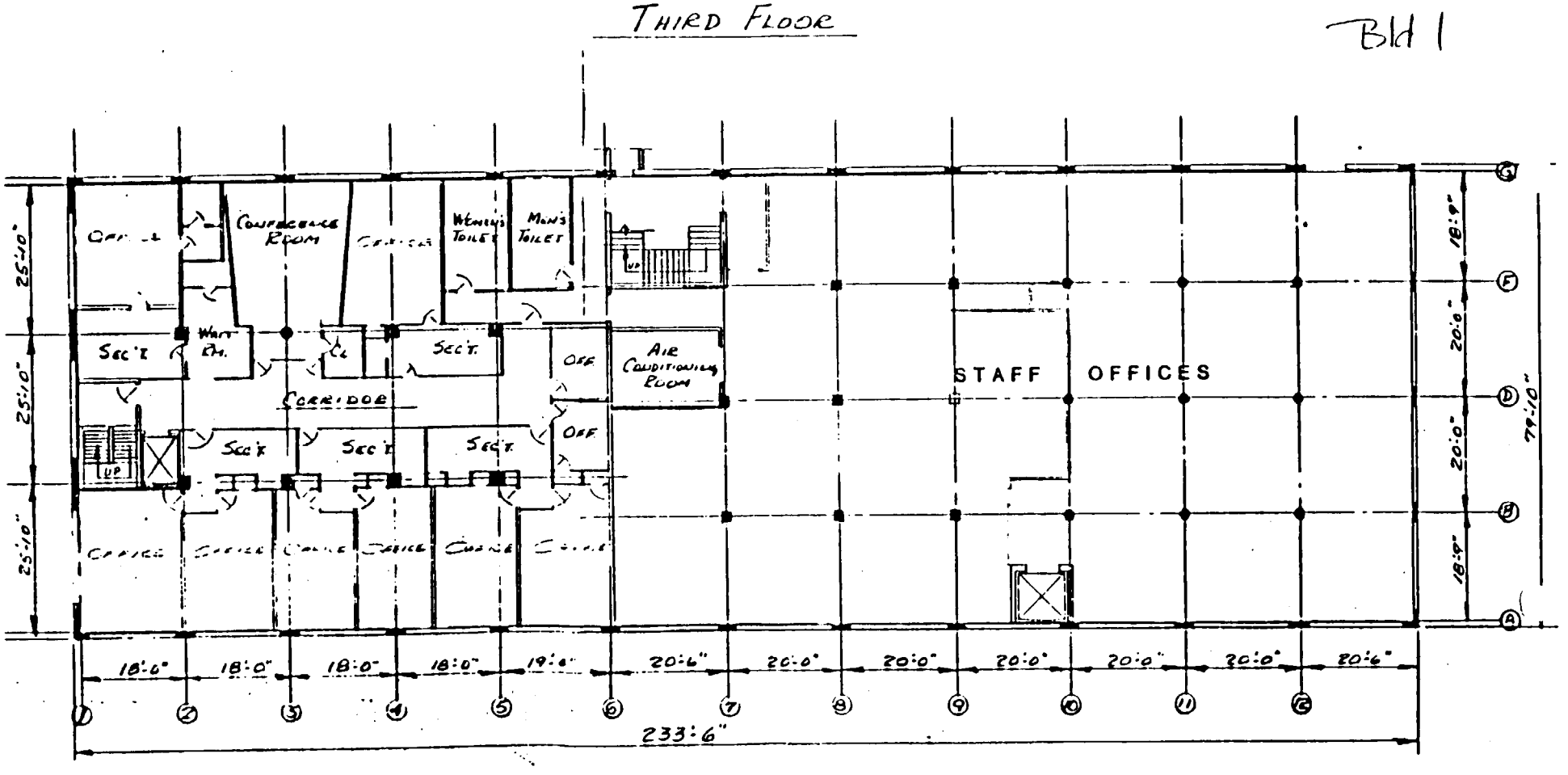

PARKING AREA
NORTH
GARAGE
FURNACE
(BASEMENT)
COAL
CHUTE
PORTAL?
BASEMENT
ENTRANCE
MACARTHUR AVENUE
DOOR
WATER
SERVICE (BASEMENT)
PIT
WESTINGHOUSE PLAZA



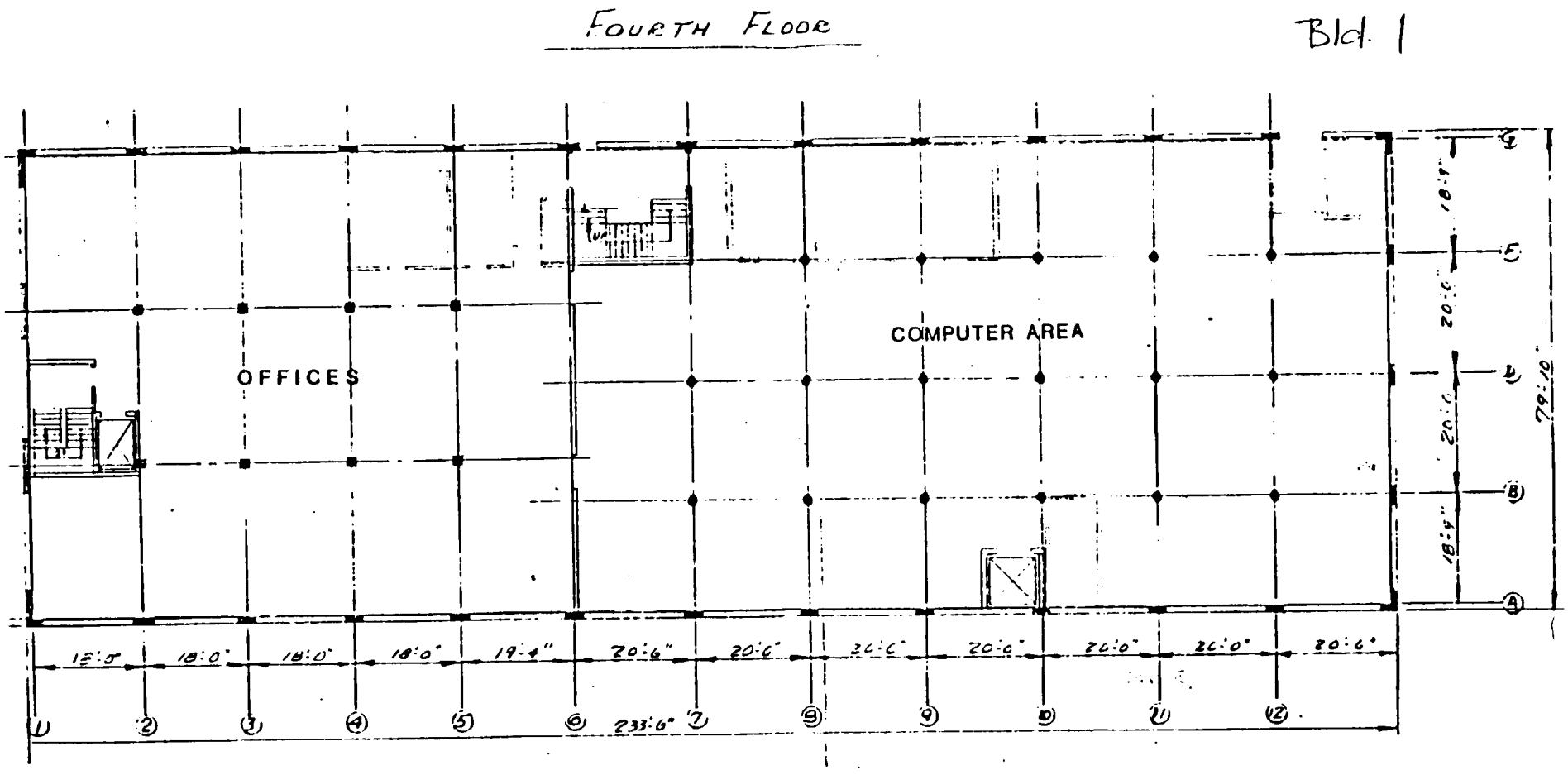
BUILDING 1, FIRST FLOOR



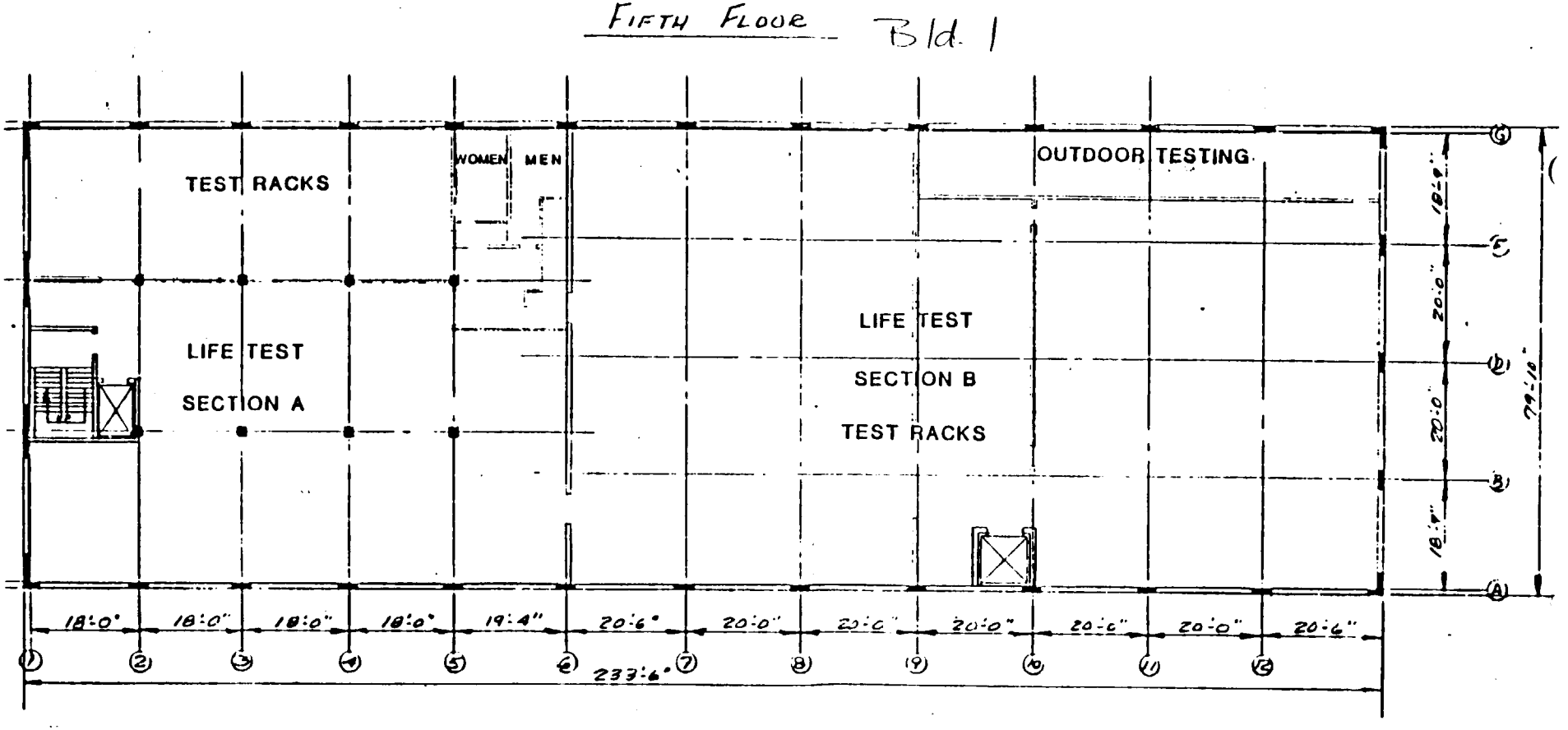
BUILDING 1, SECOND FLOOR



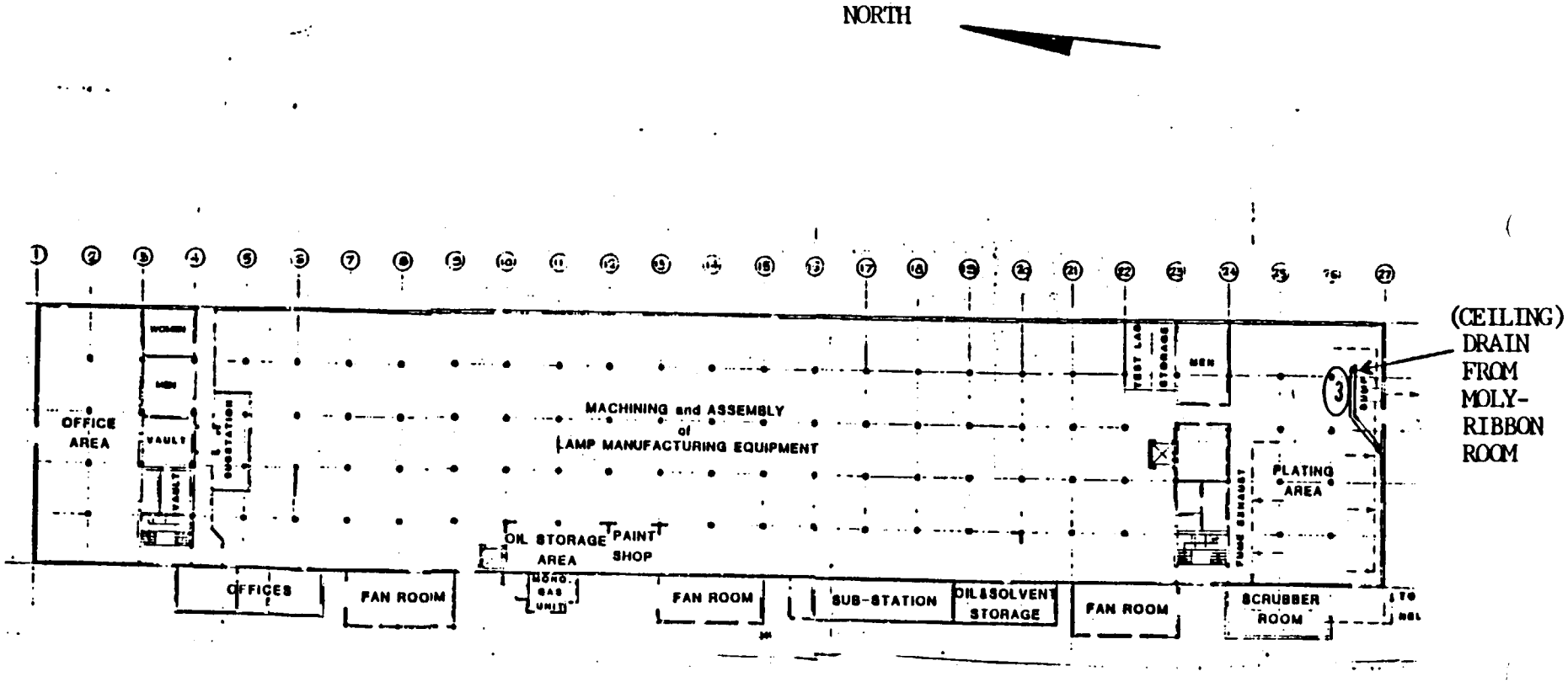
BUILDING 1, THIRD FLOOR



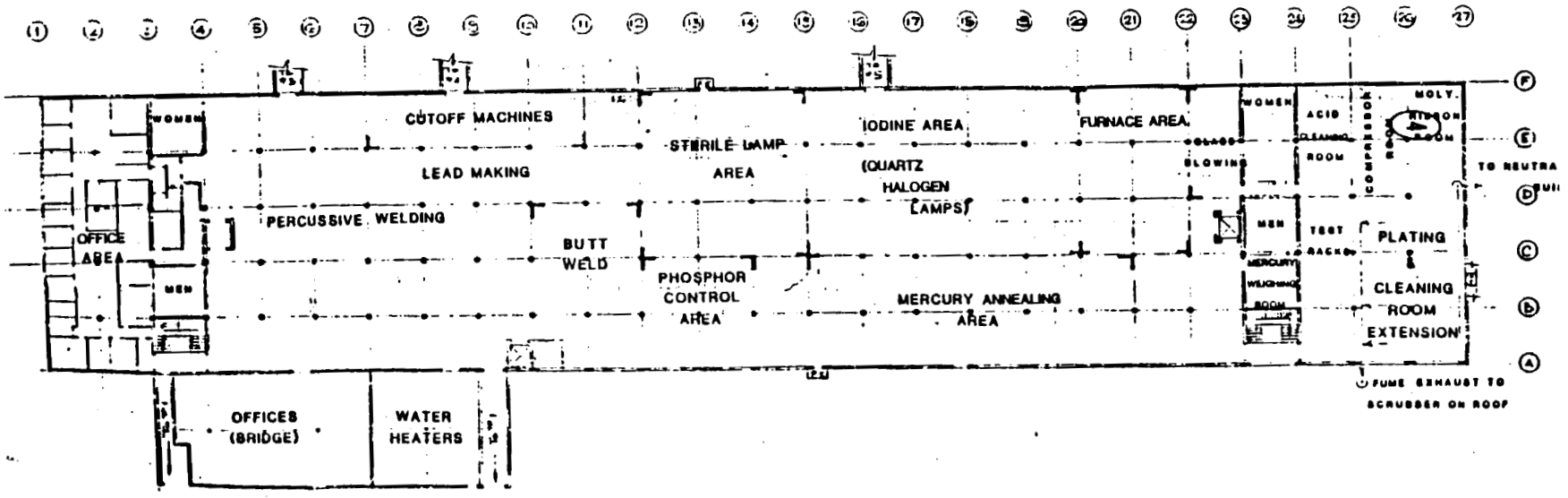
BUILDING 1, FOURTH FLOOR



BUILDING 1, FIFTH FLOOR



BUILDING 2, FIRST FLOOR



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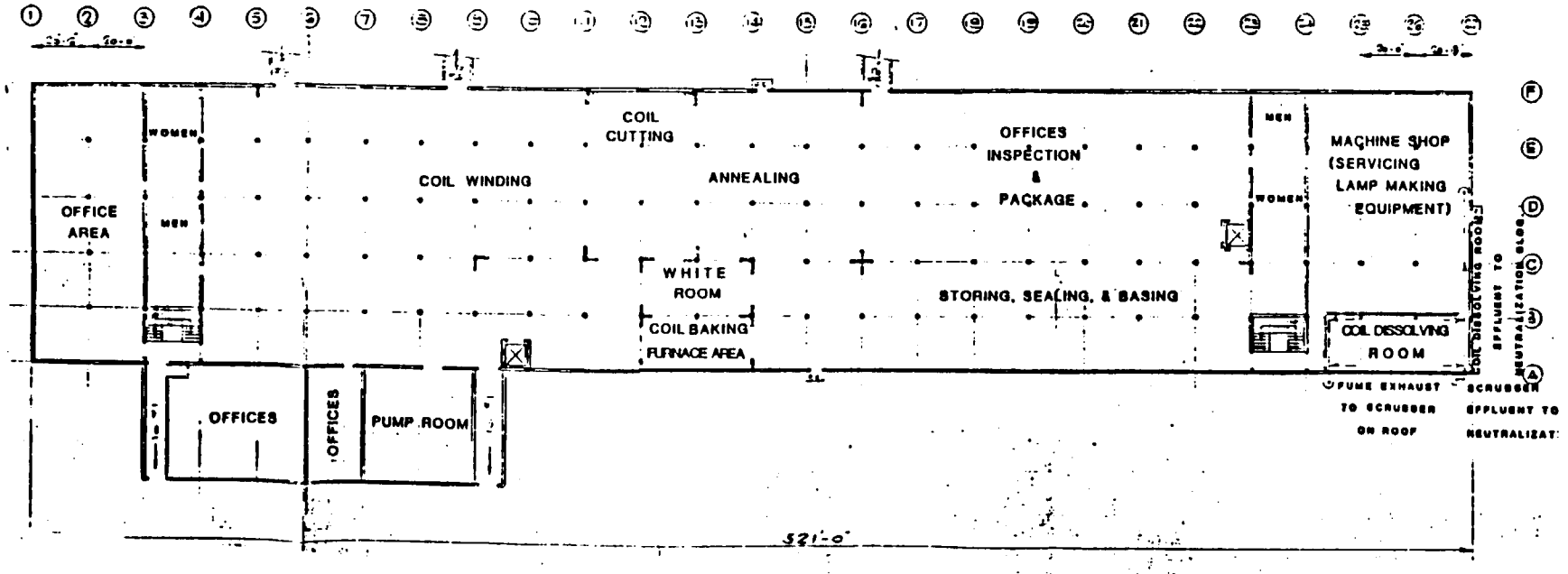

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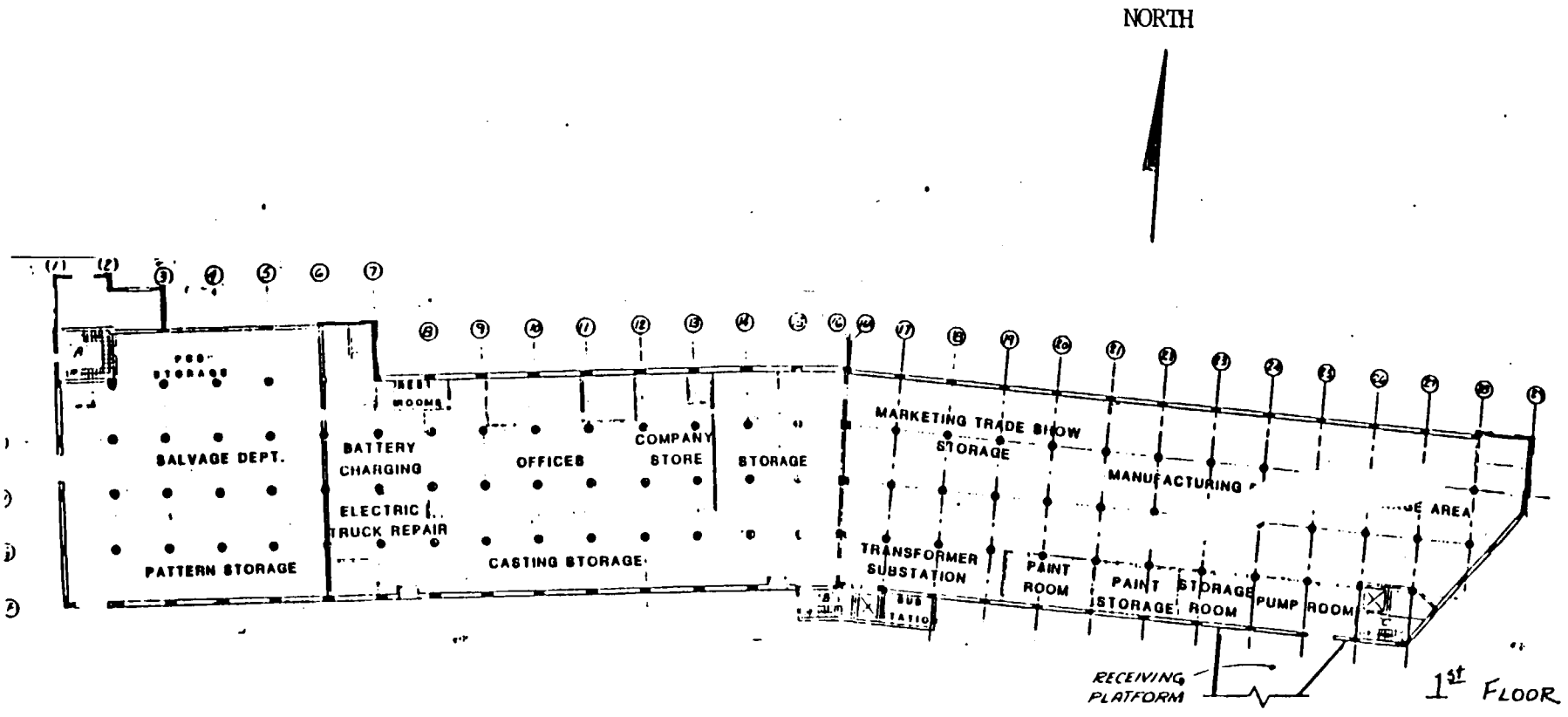

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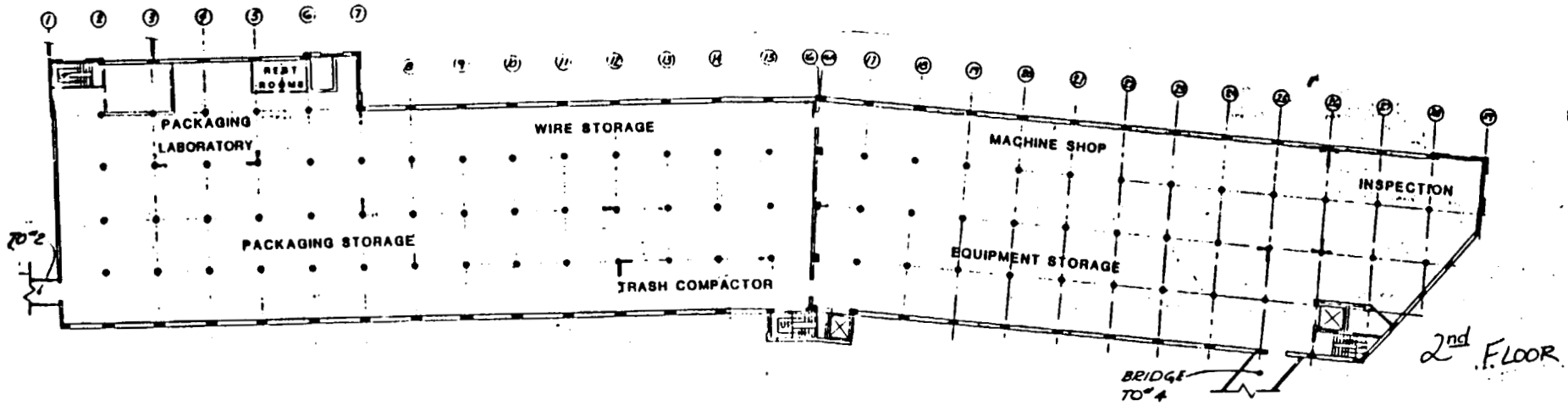

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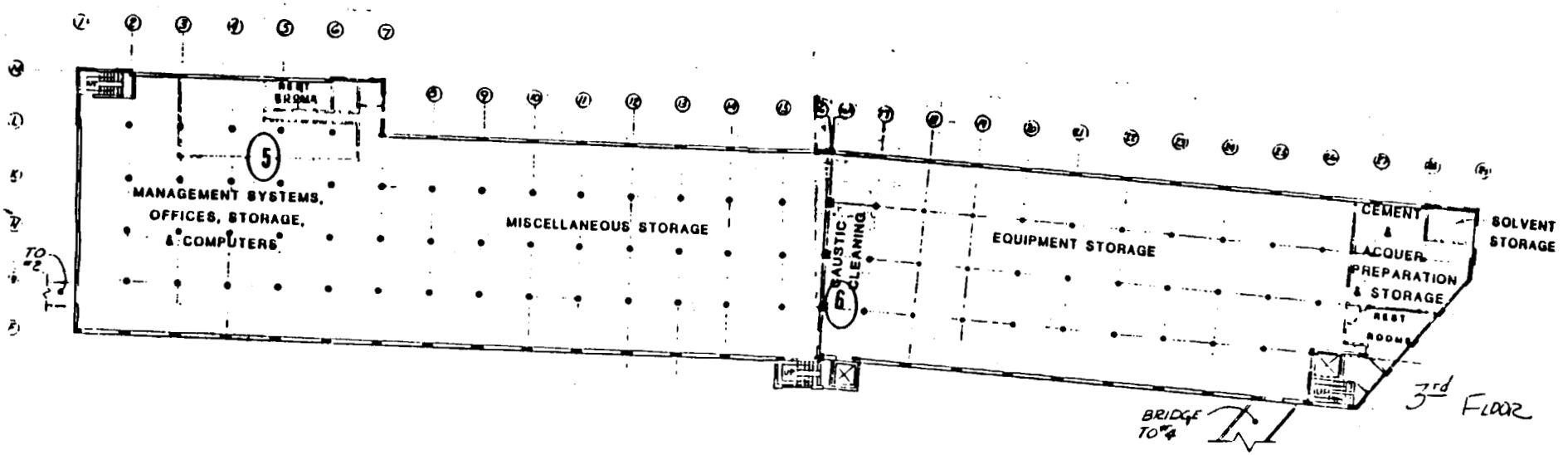
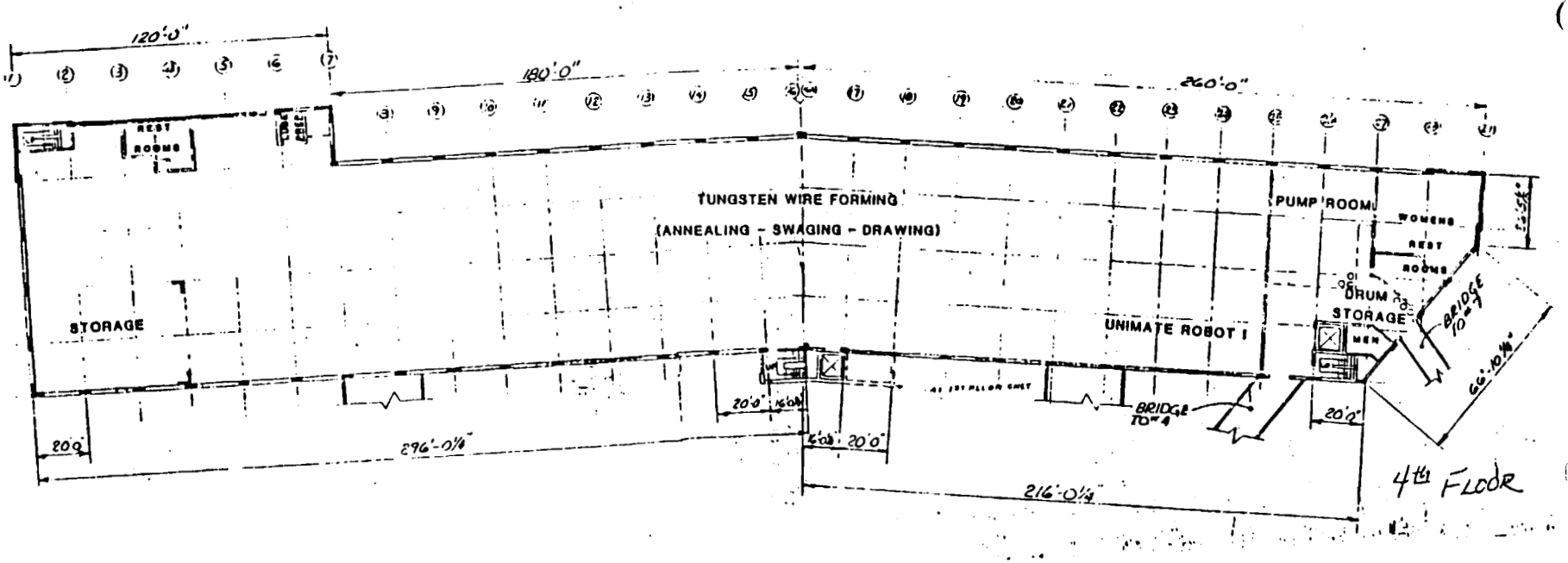
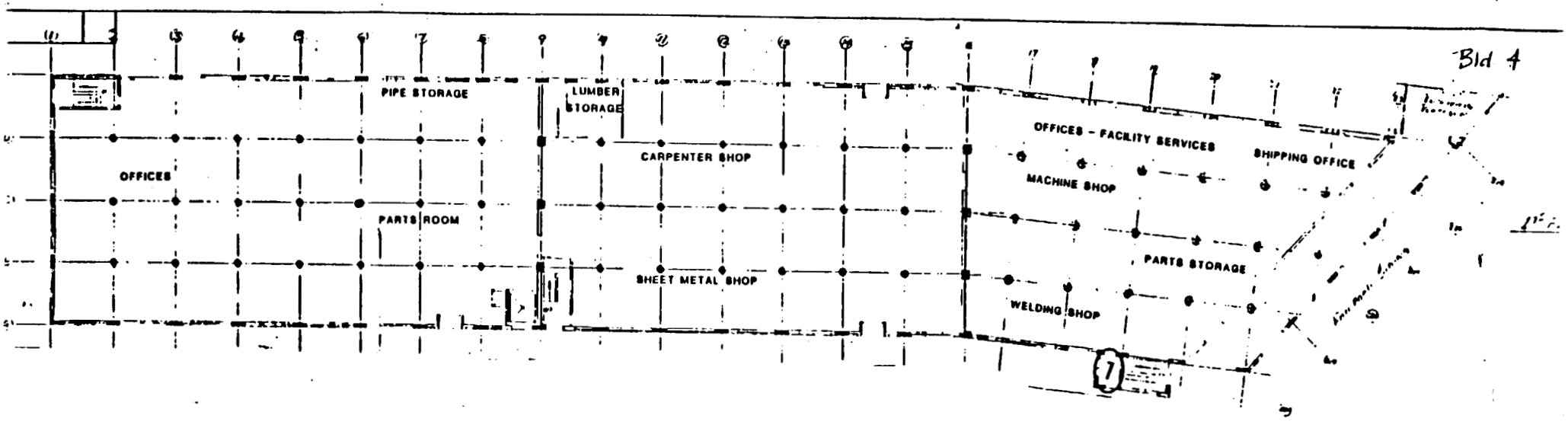


BUILDING 3, THIRD FLOOR

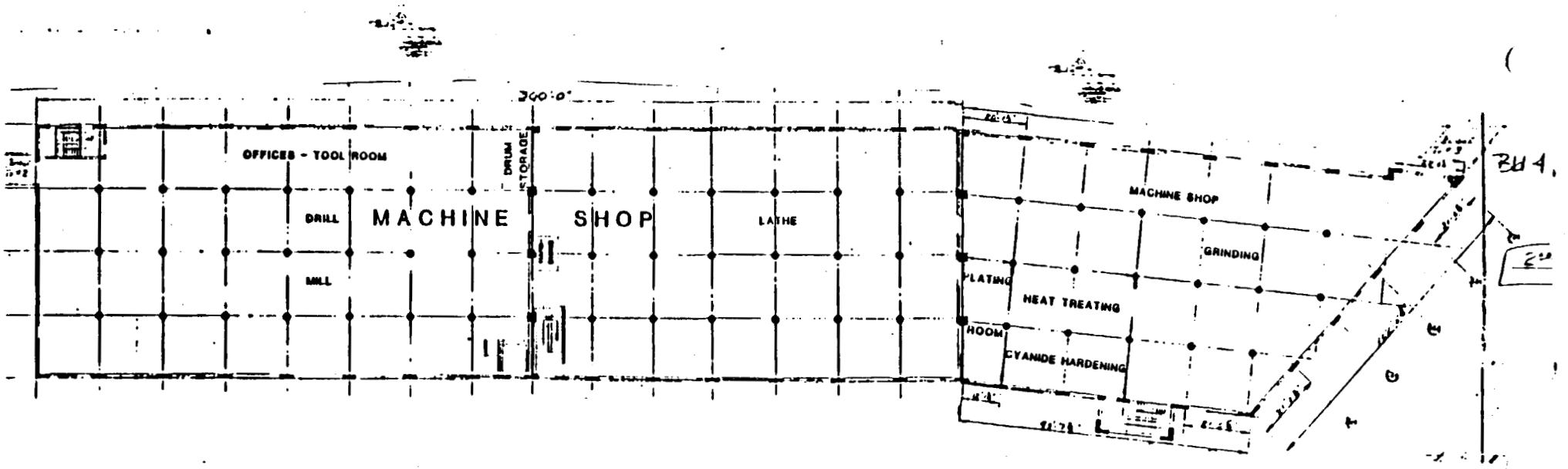


BUILDING 3, FOURTH FLOOR

NORTH



BUILDING 4, FIRST FLOOR



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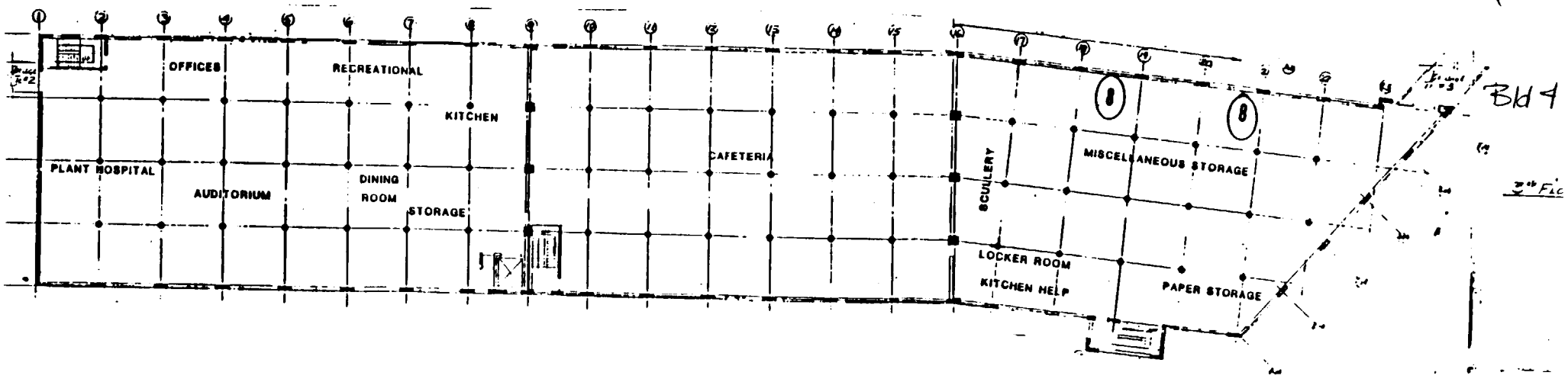

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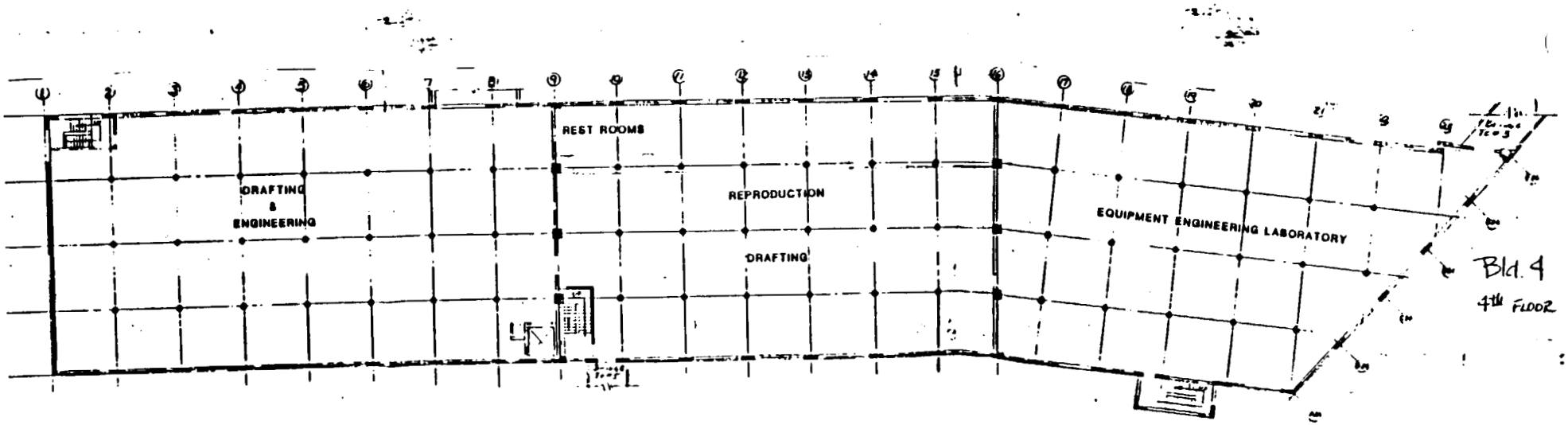

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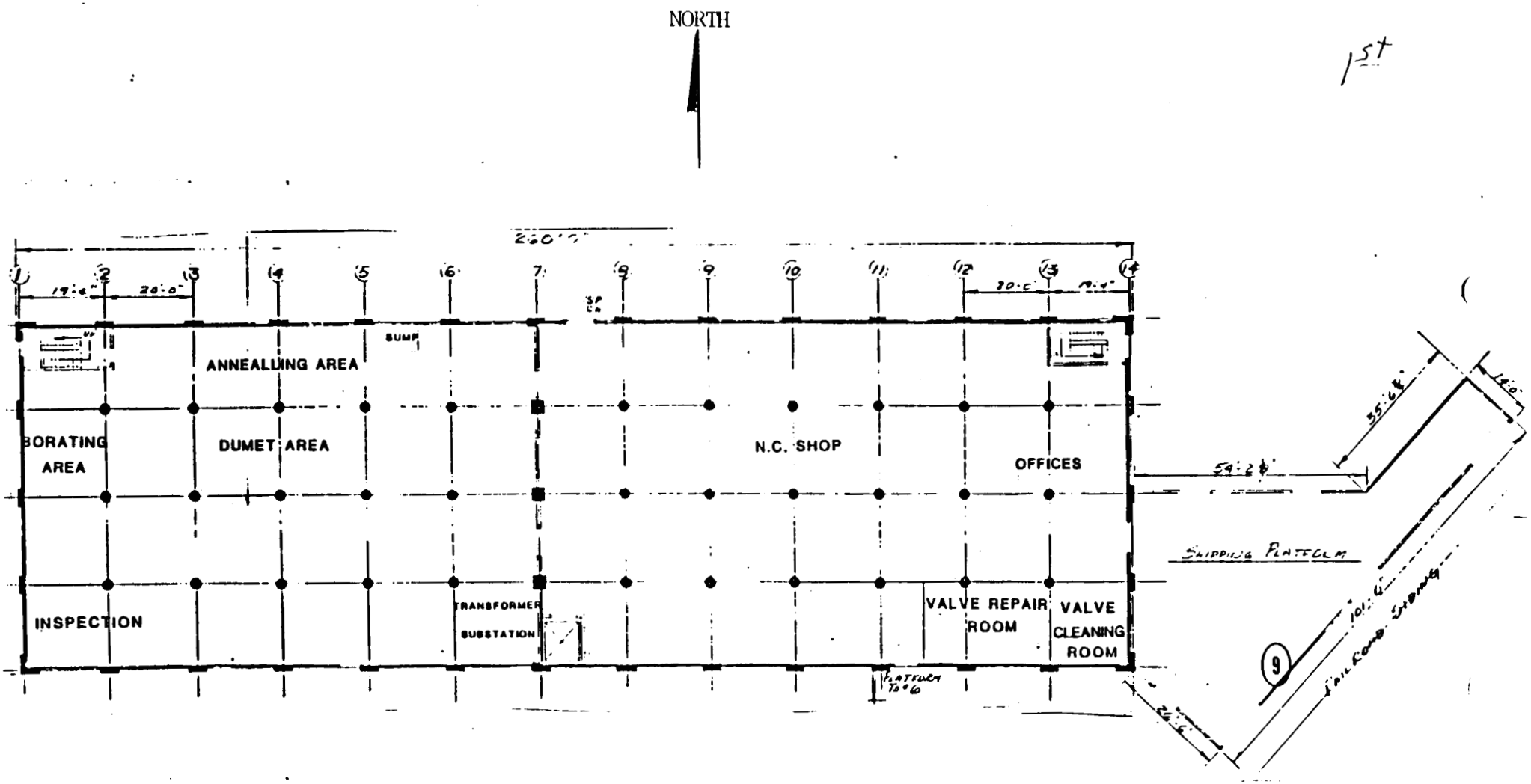

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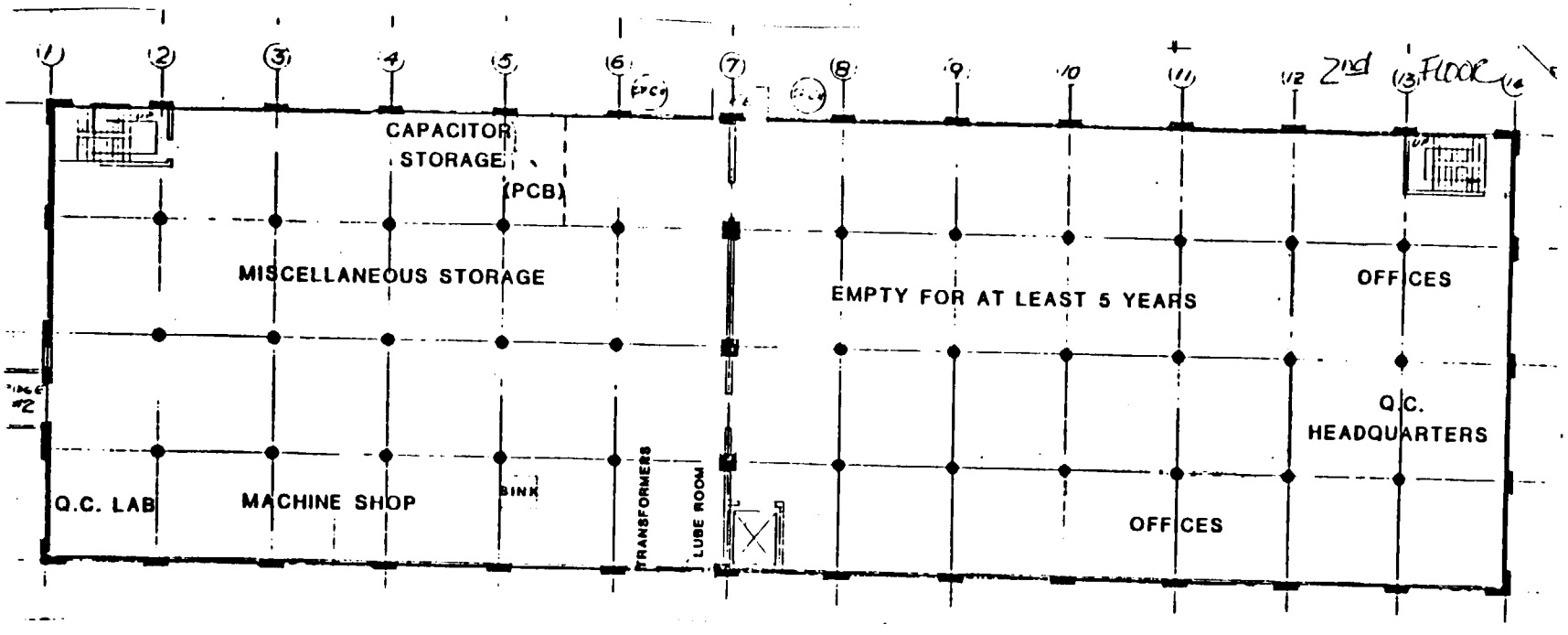
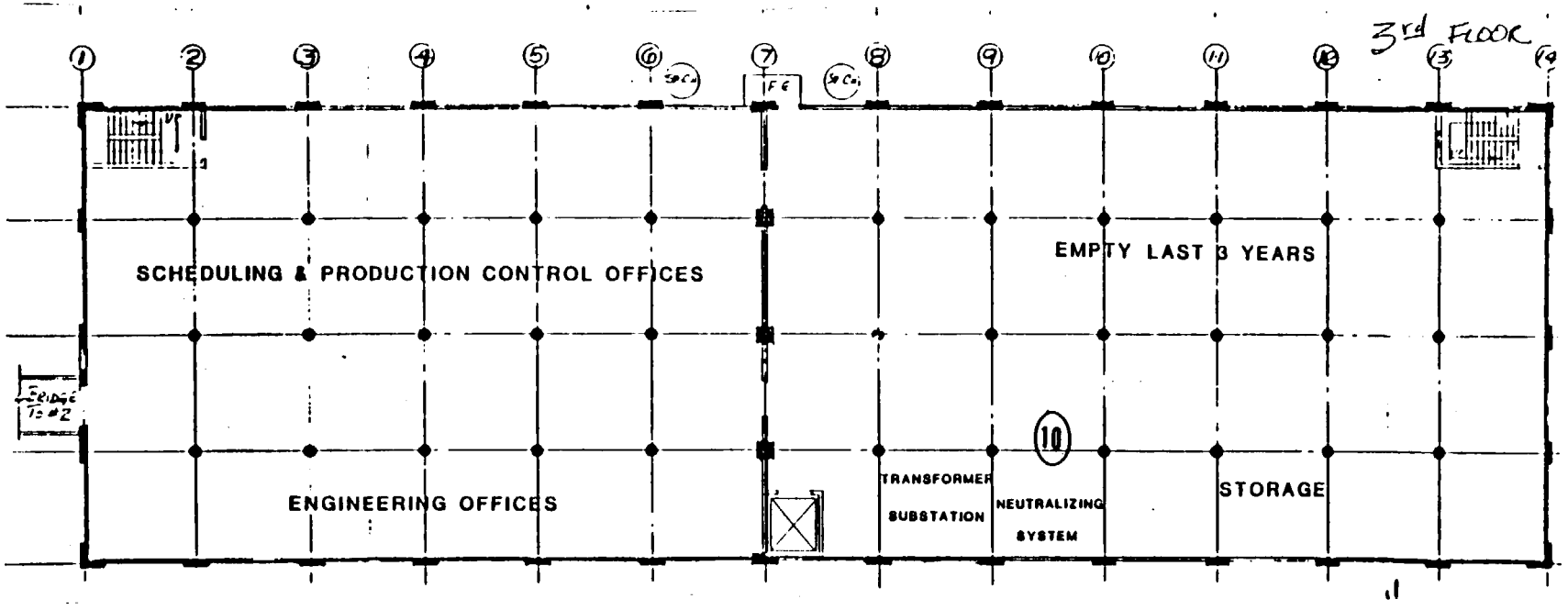
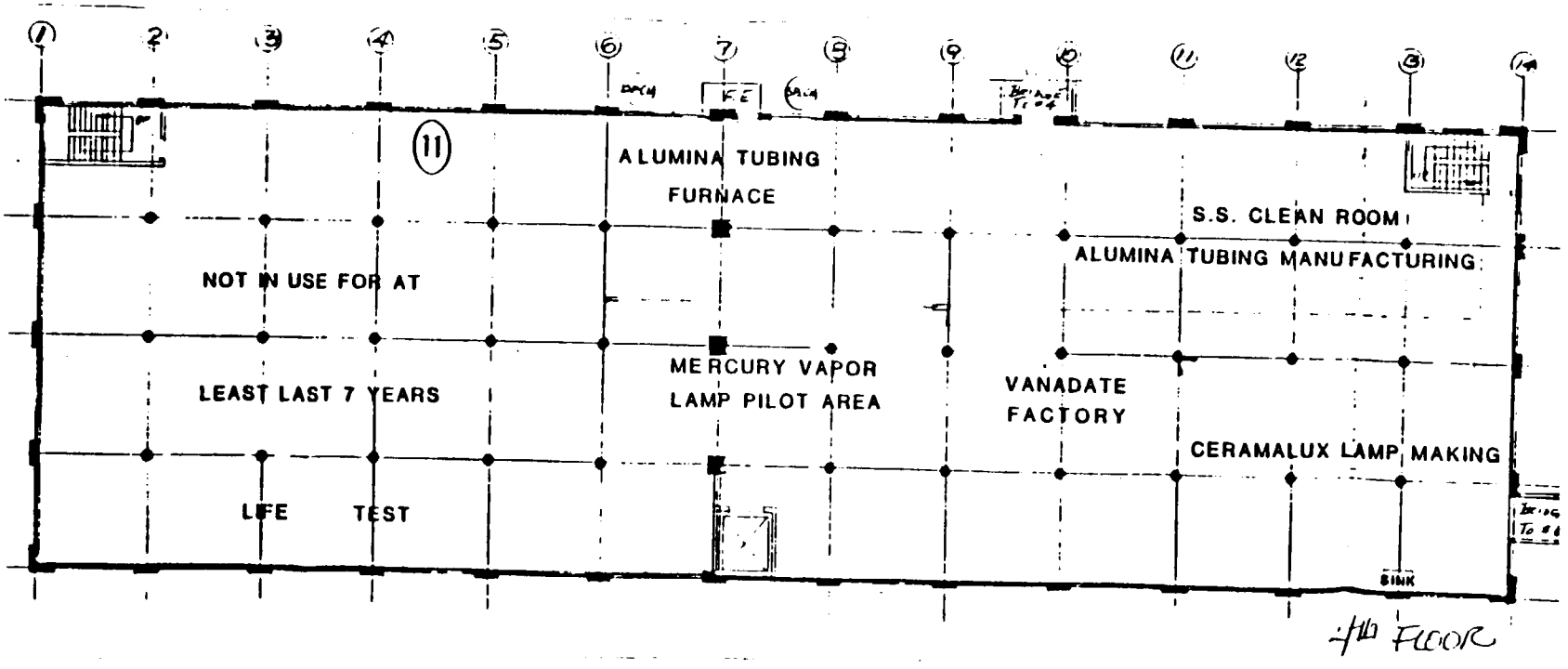


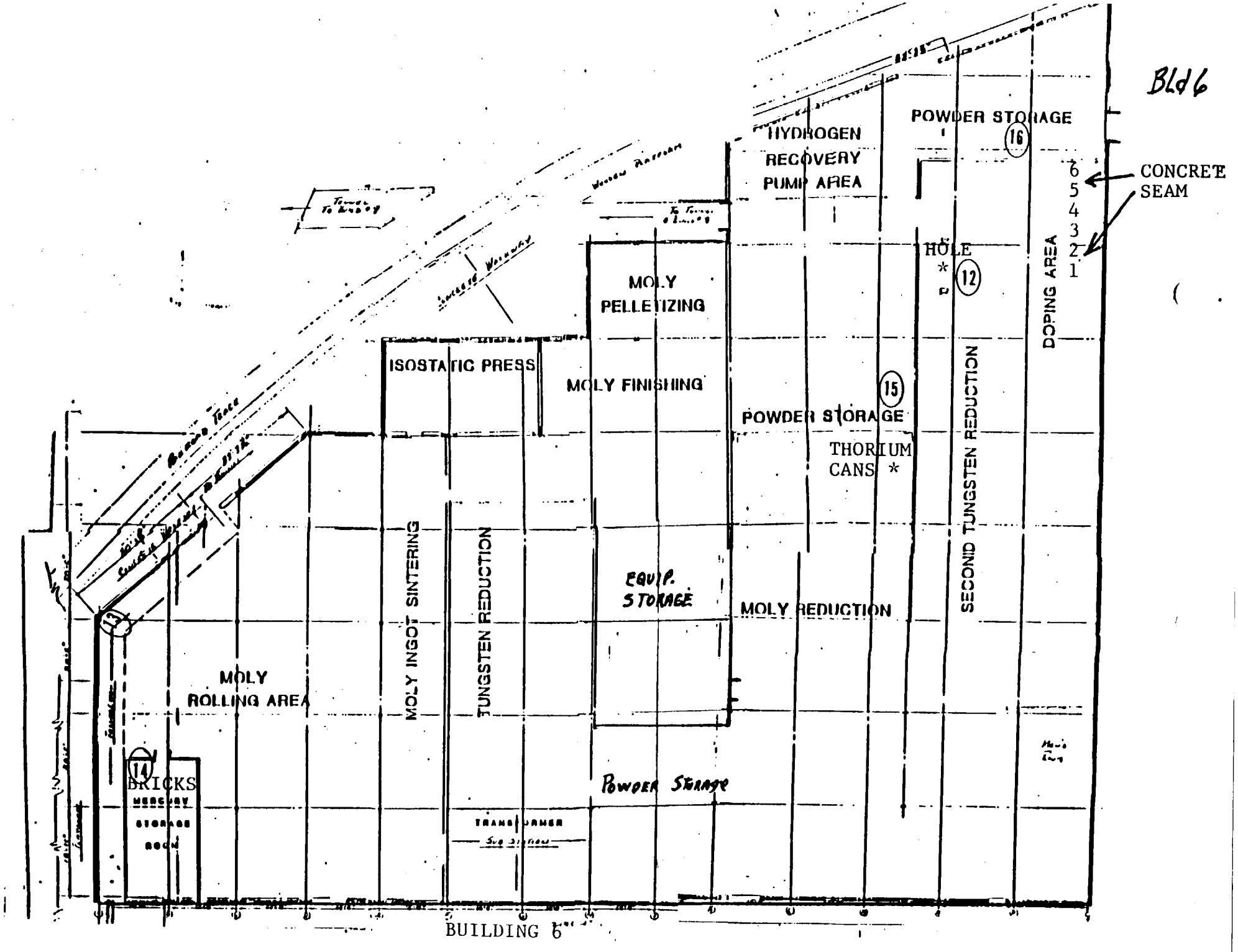
BUILDING 5, SECOND FLOOR



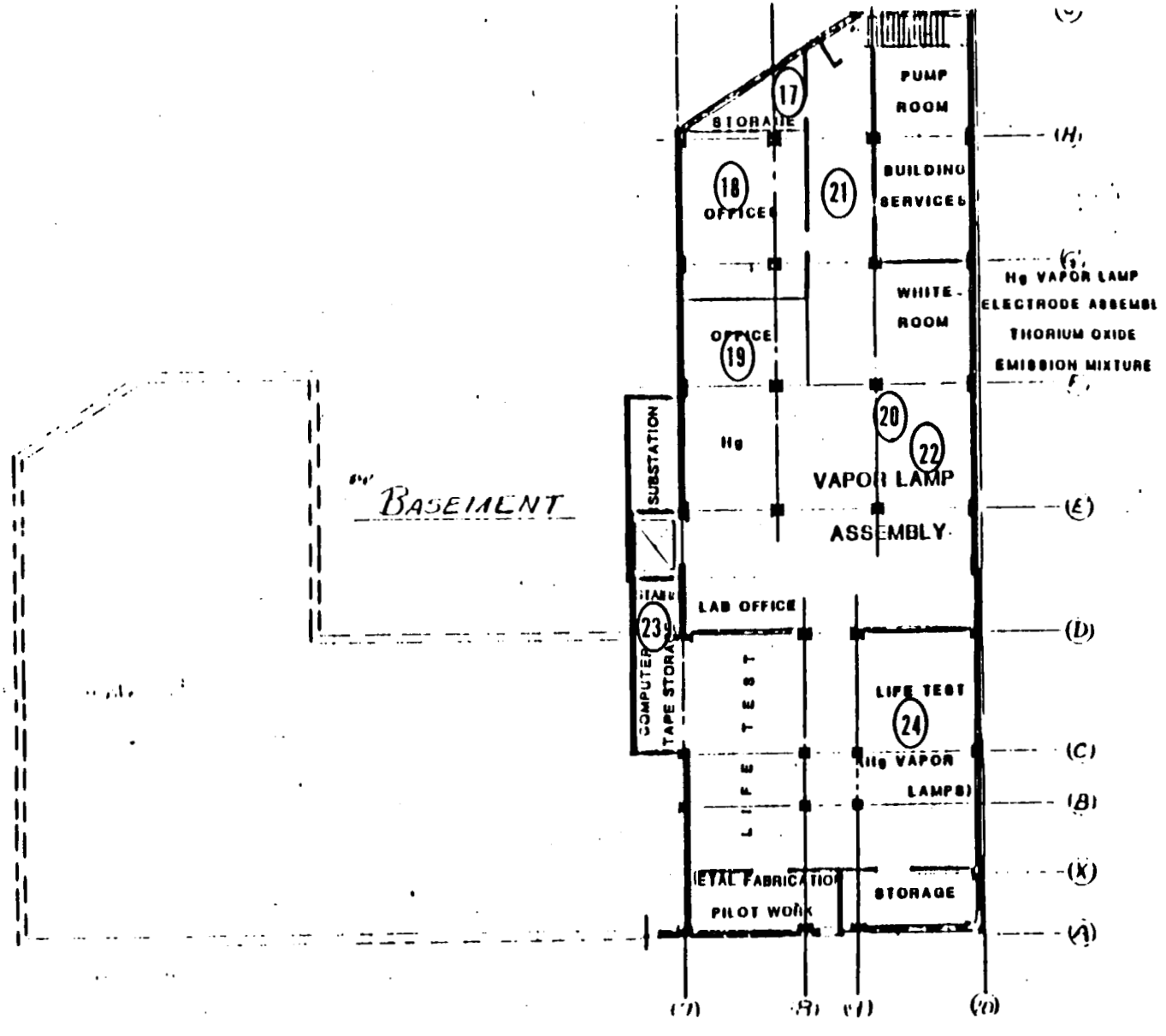
BUILDING 5, THIRD FLOOR



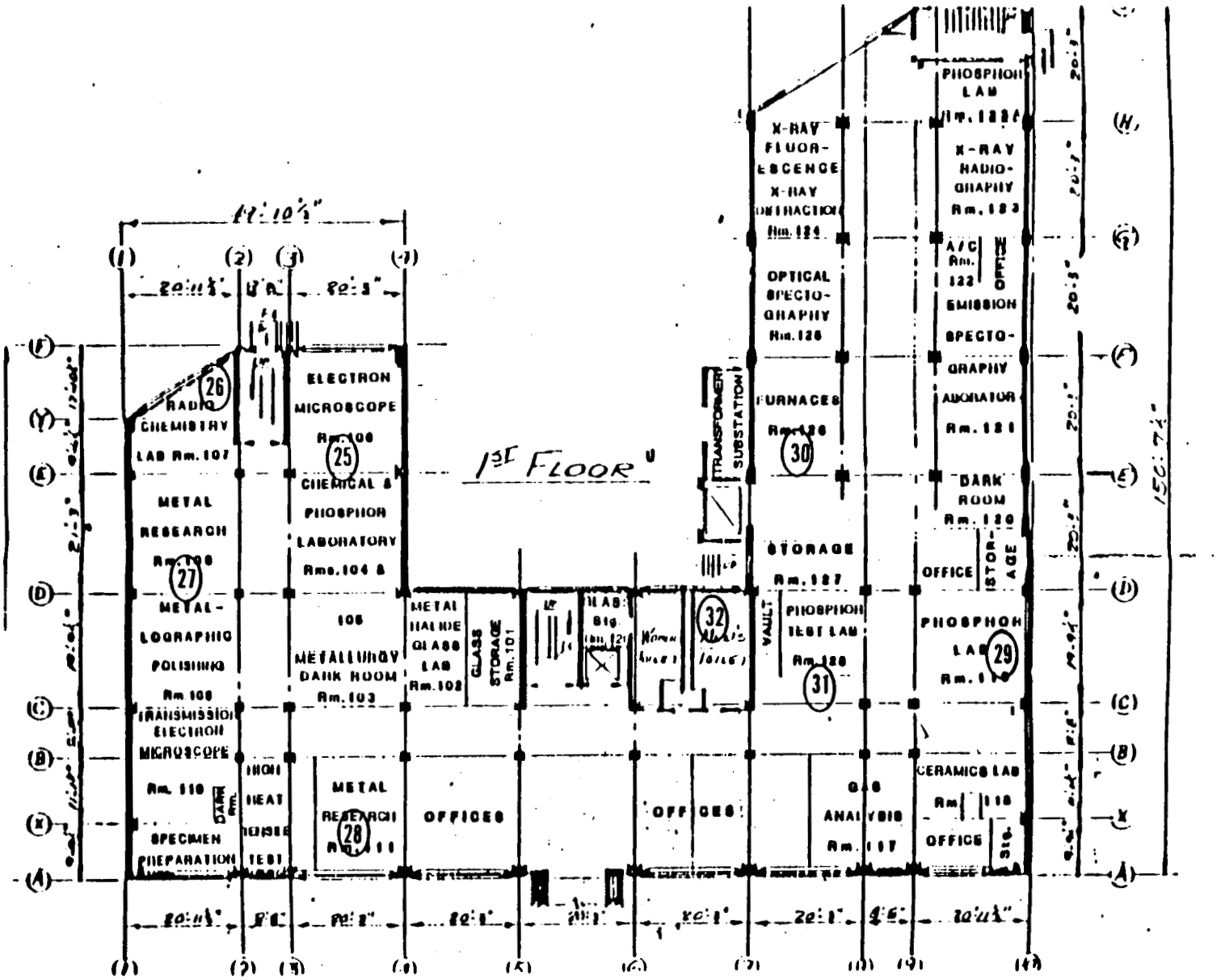
BUILDING 5, FOURTH FLOOR


Bld 6
POWDER STORAGE
16
HYDROGEN
RECOVERY
PUMP AREA
6
5
4
3
2
1
CONCRETE
SEAM
HOLE
*
12
DOPING AREA
MOLY
PELLETIZING
ISOSTATIC PRESS
MOLY FINISHING
15
POWDER STORAGE
THORIUM
CANS *
SECOND TUNGSTEN REDUCTION
MOLY INGOT SINTERING
TUNGSTEN REDUCTION
EQUIP.
STORAGE
MOLY REDUCTION
13
MOLY
ROLLING AREA
14
BRICKS
MERCURY
STORAGE
ROOM
POWDER STORAGE
TRANSFORMER

BUILDING 6



BUILDING 7, BASEMENT



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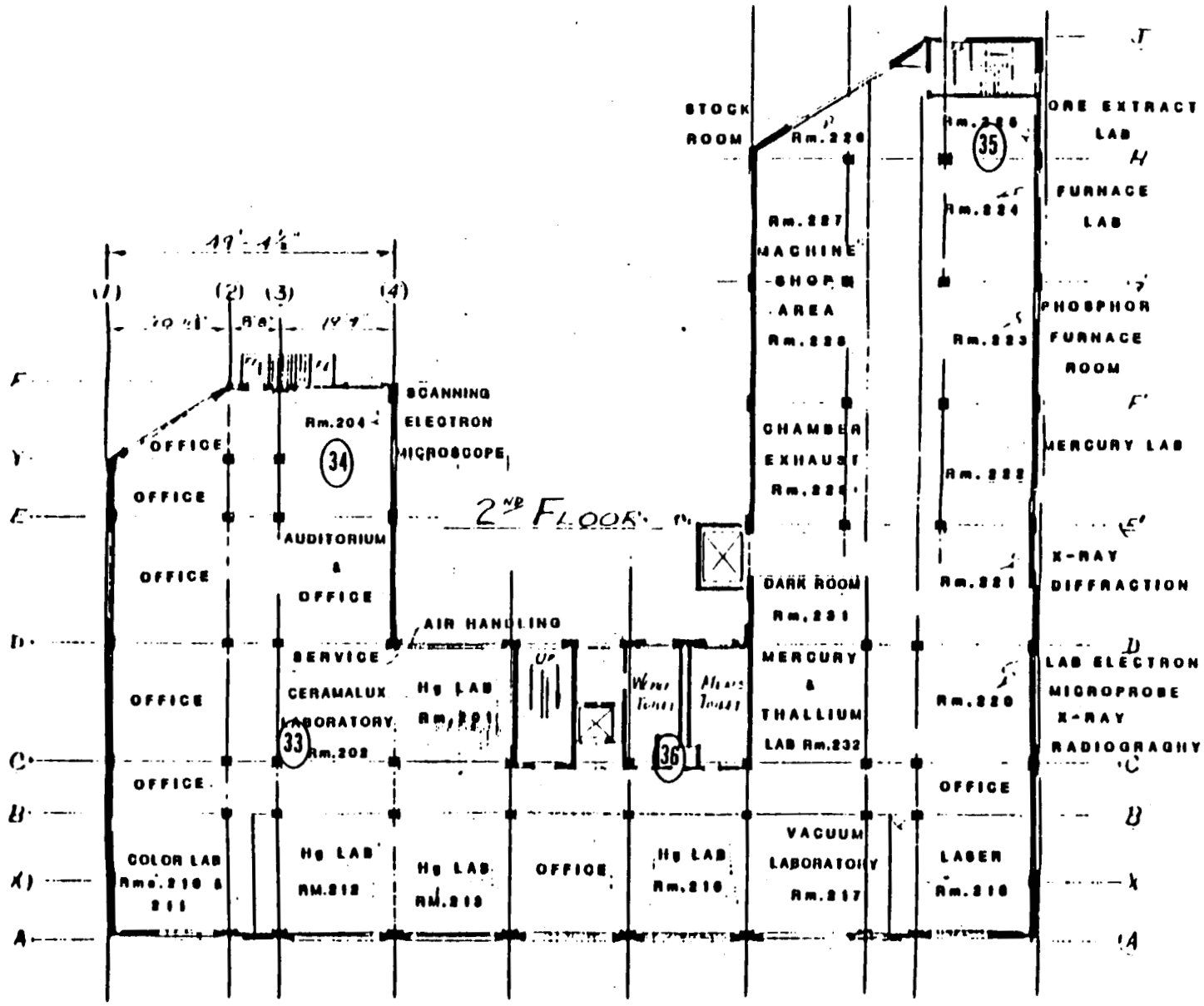
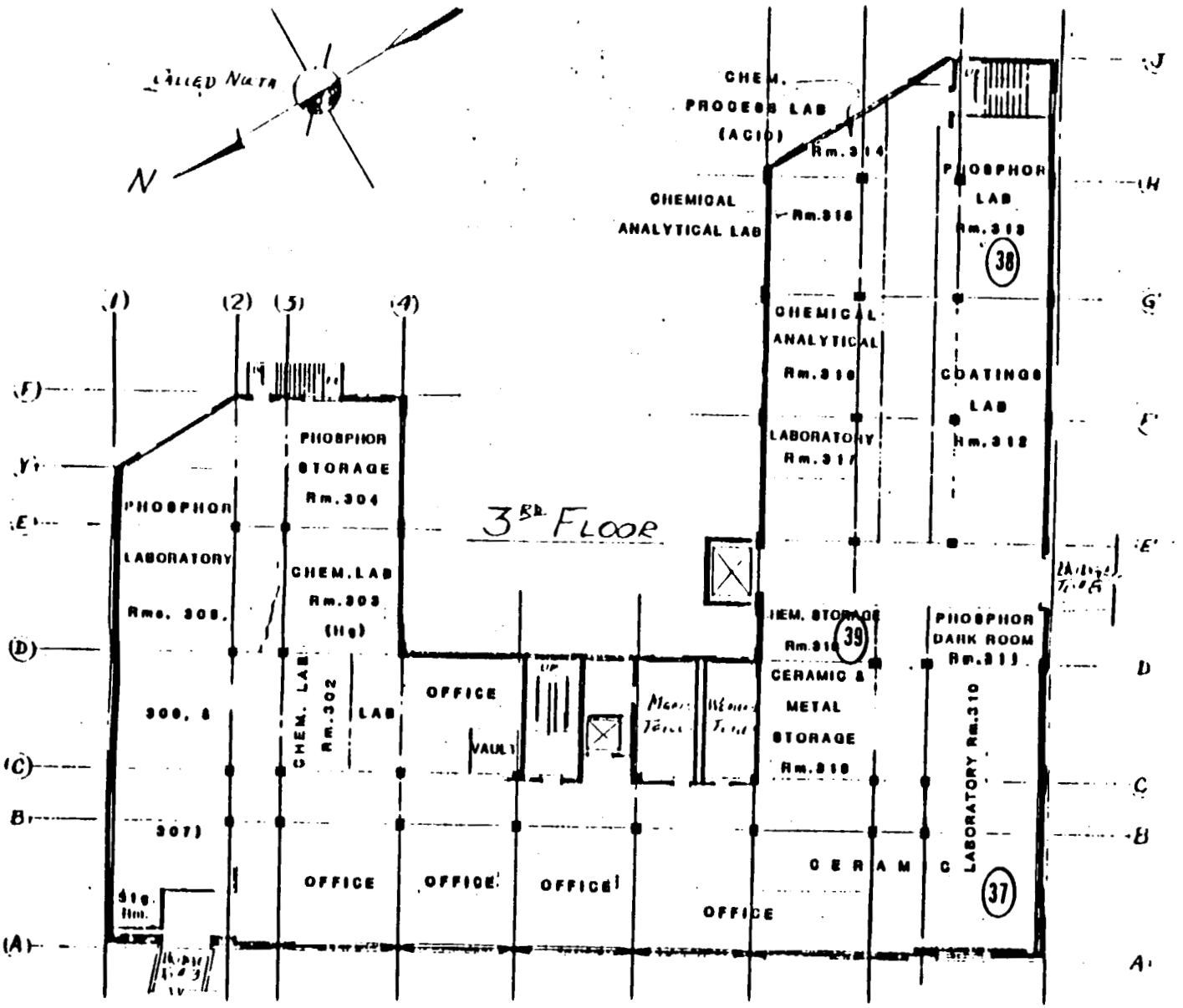
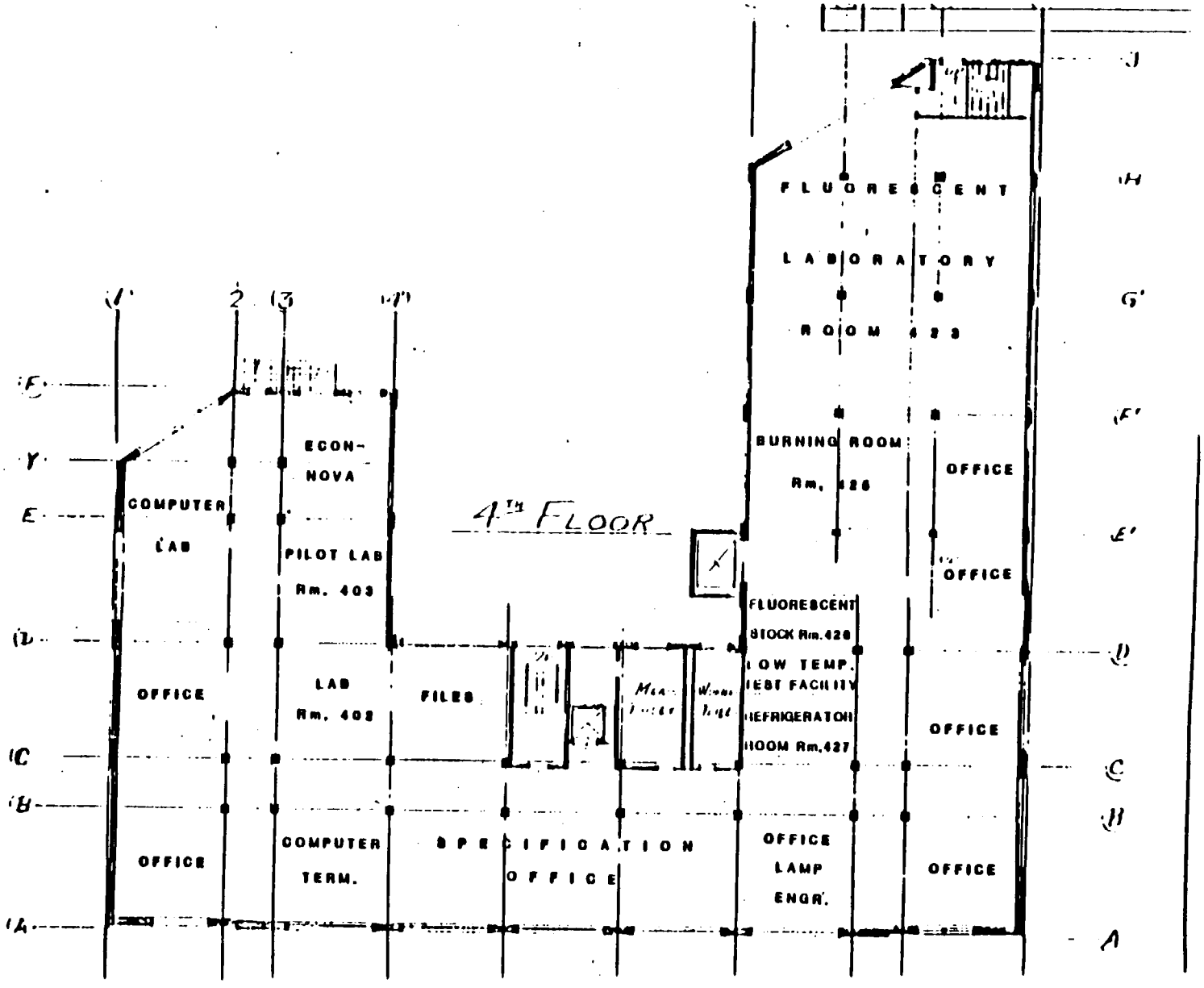


BUILDING 7, SECOND FLOOR



BUILDING 7, THIRD FLOOR



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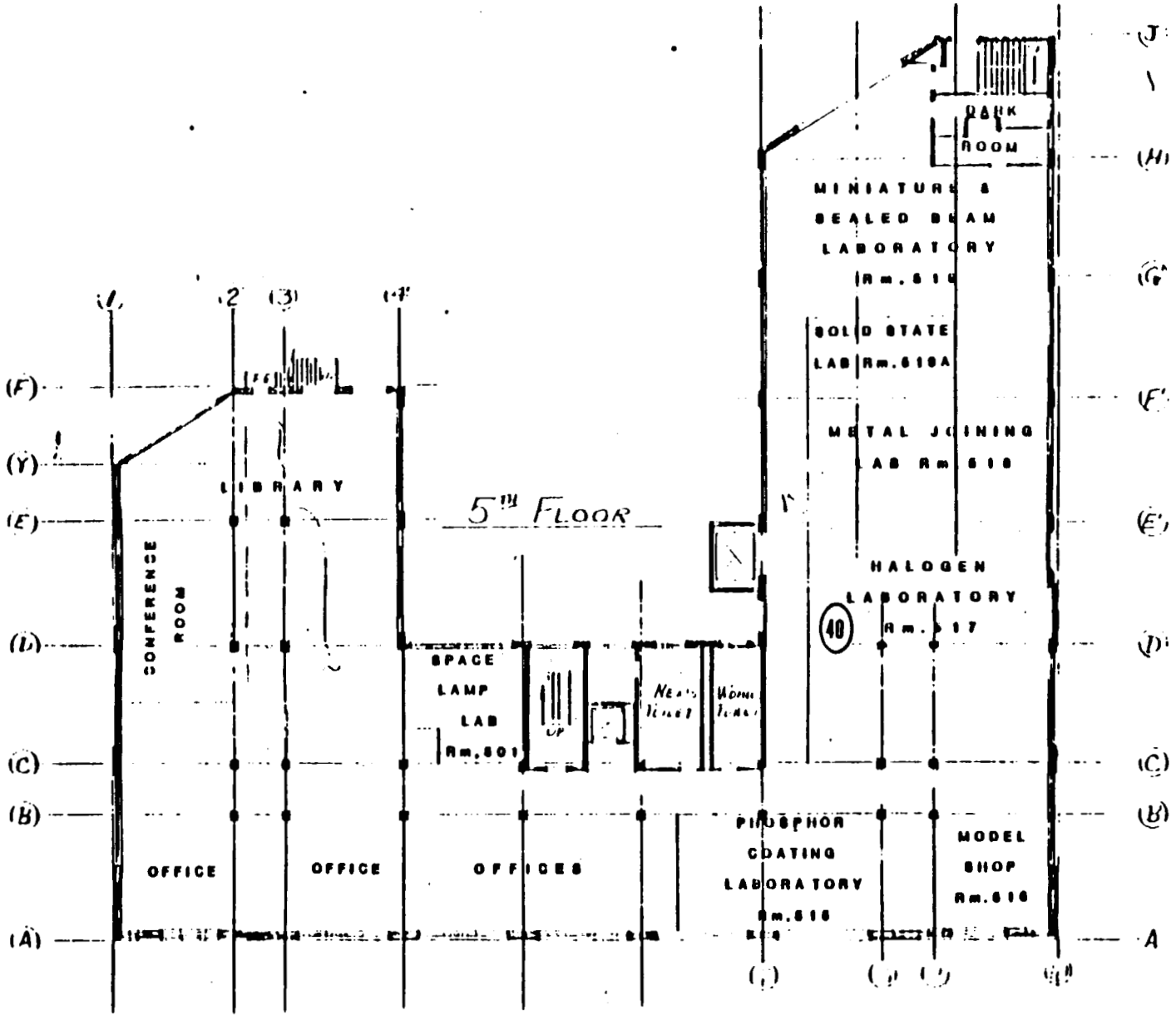
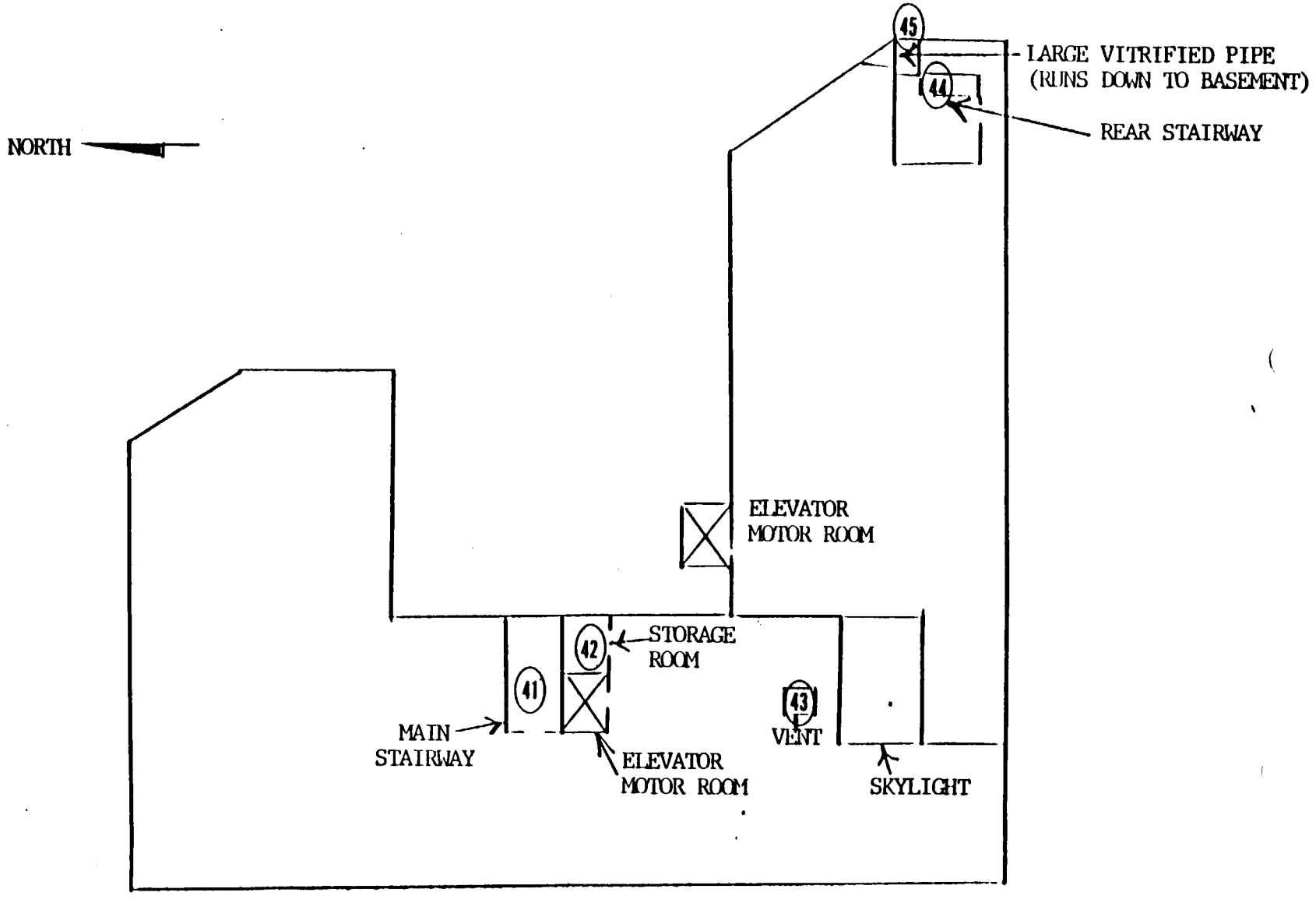
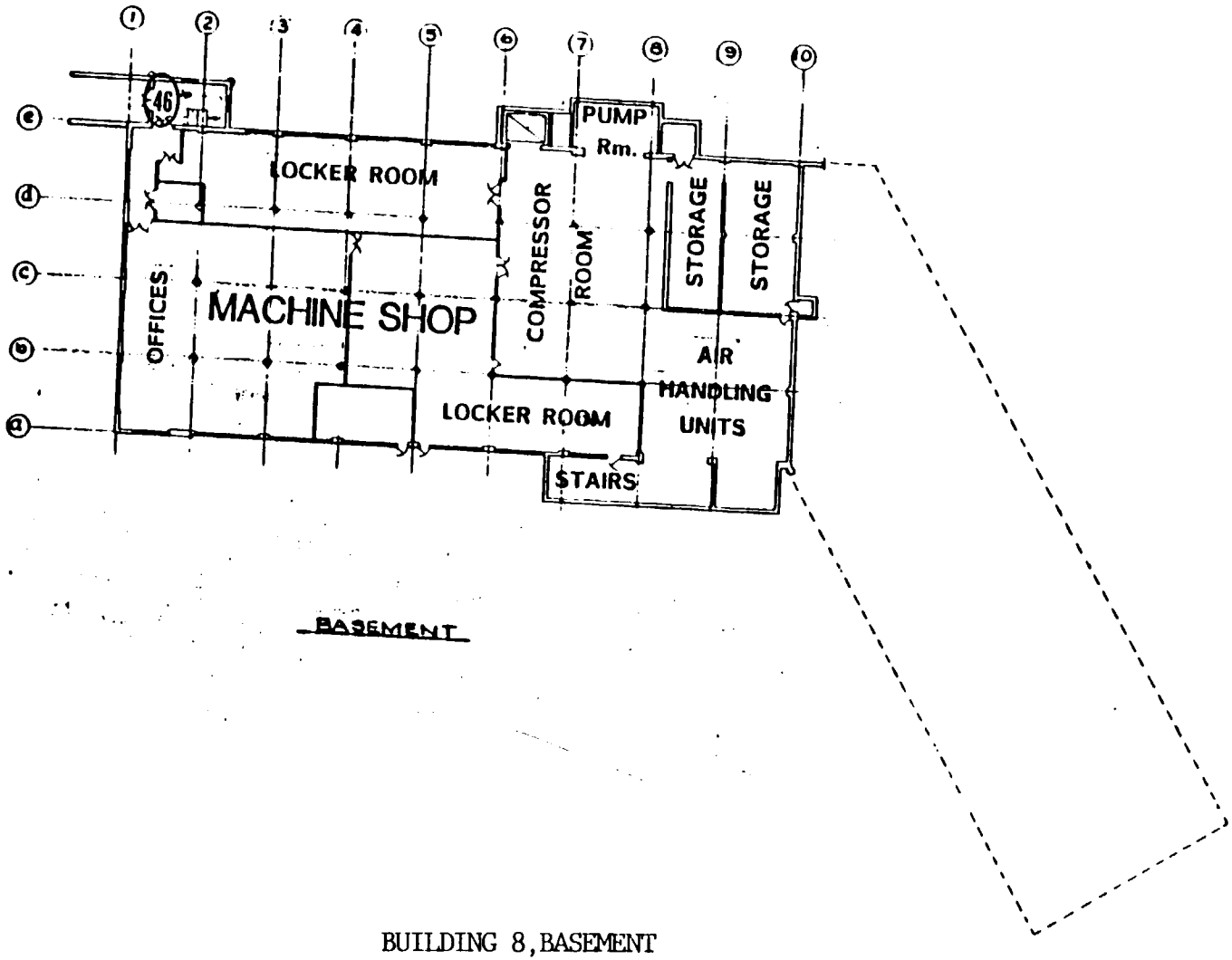


BUILDING 7, FIFTH FLOOR



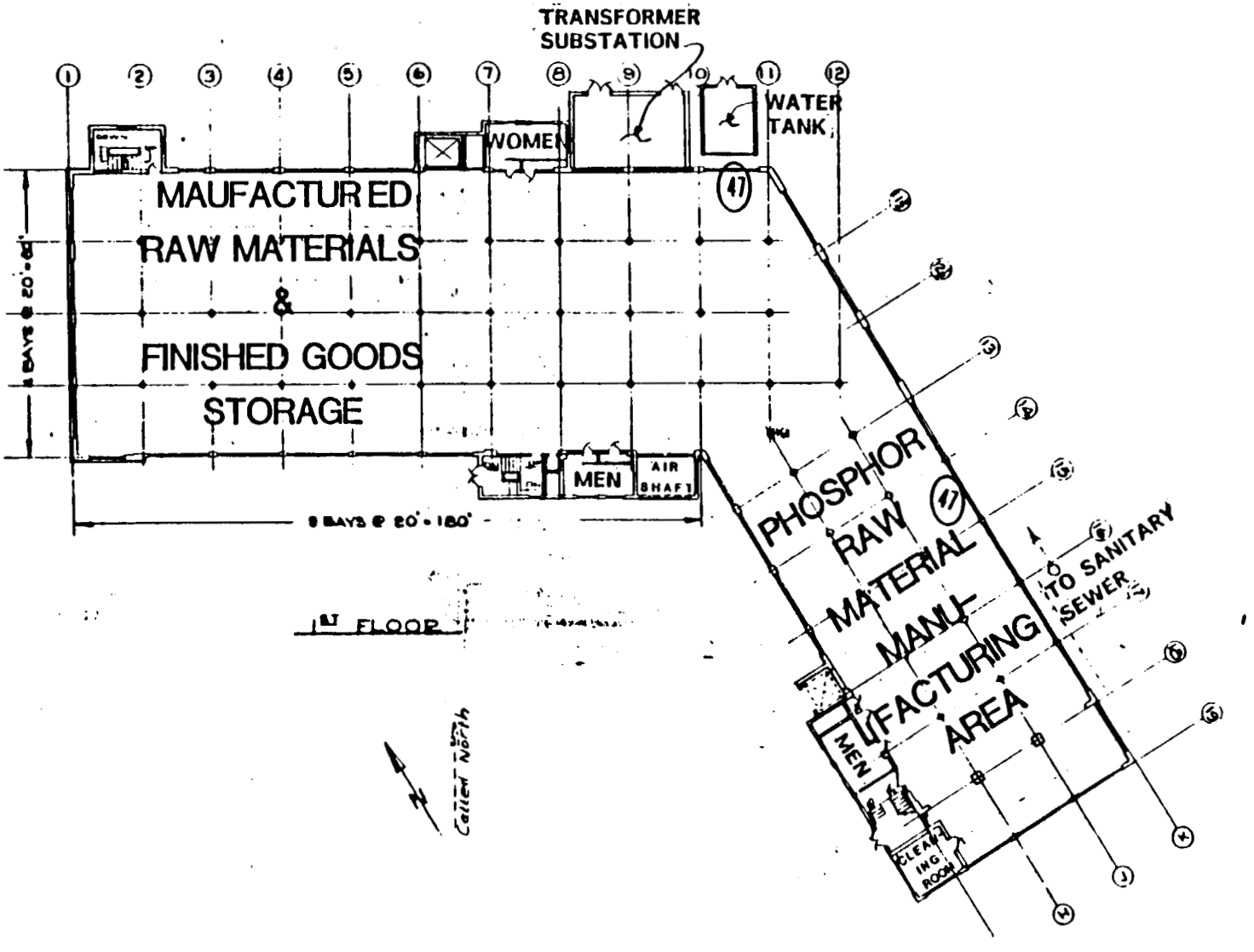
BUILDING 7 ROOFTOP

Bld. 8



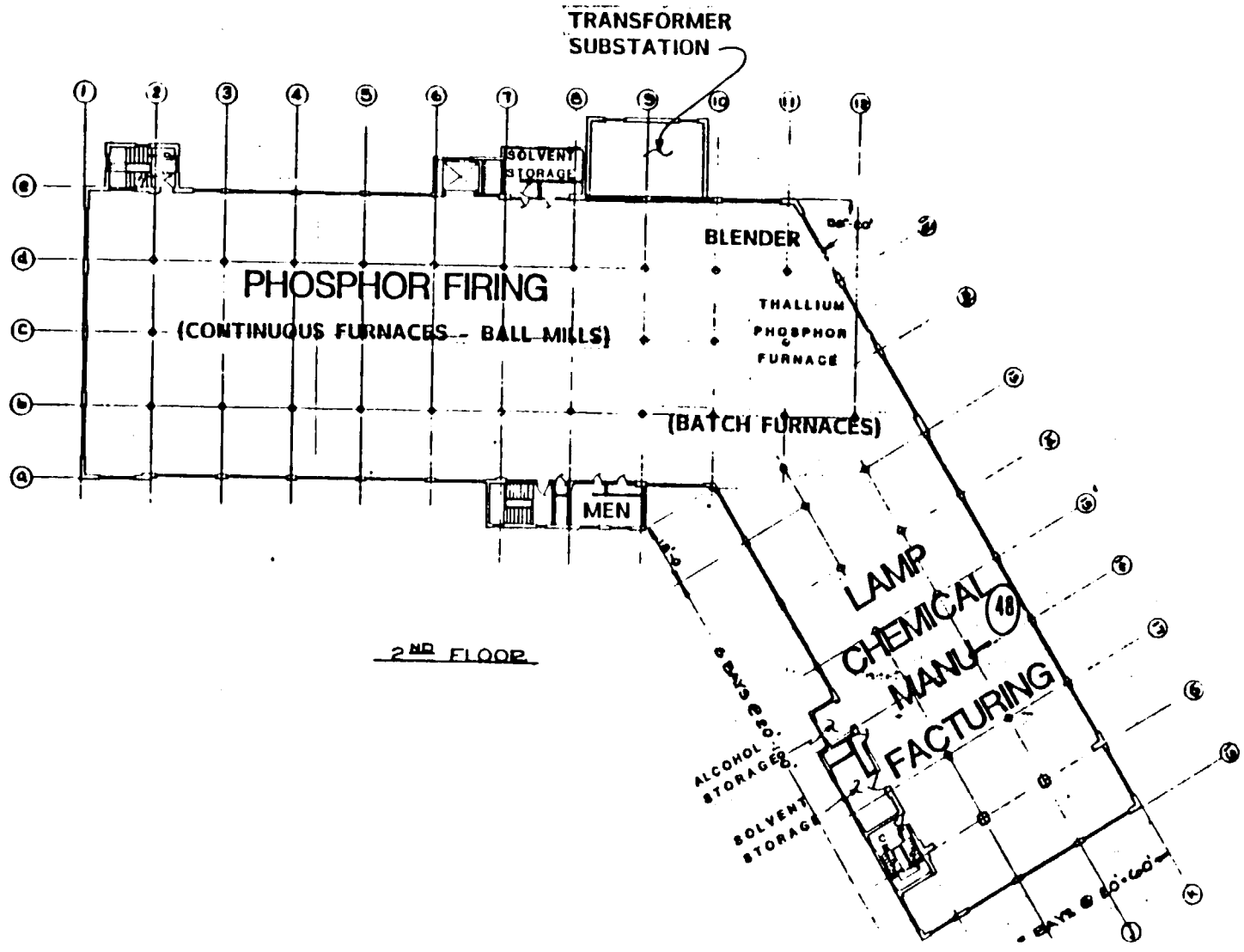
BUILDING 8, BASEMENT

Bld. 8



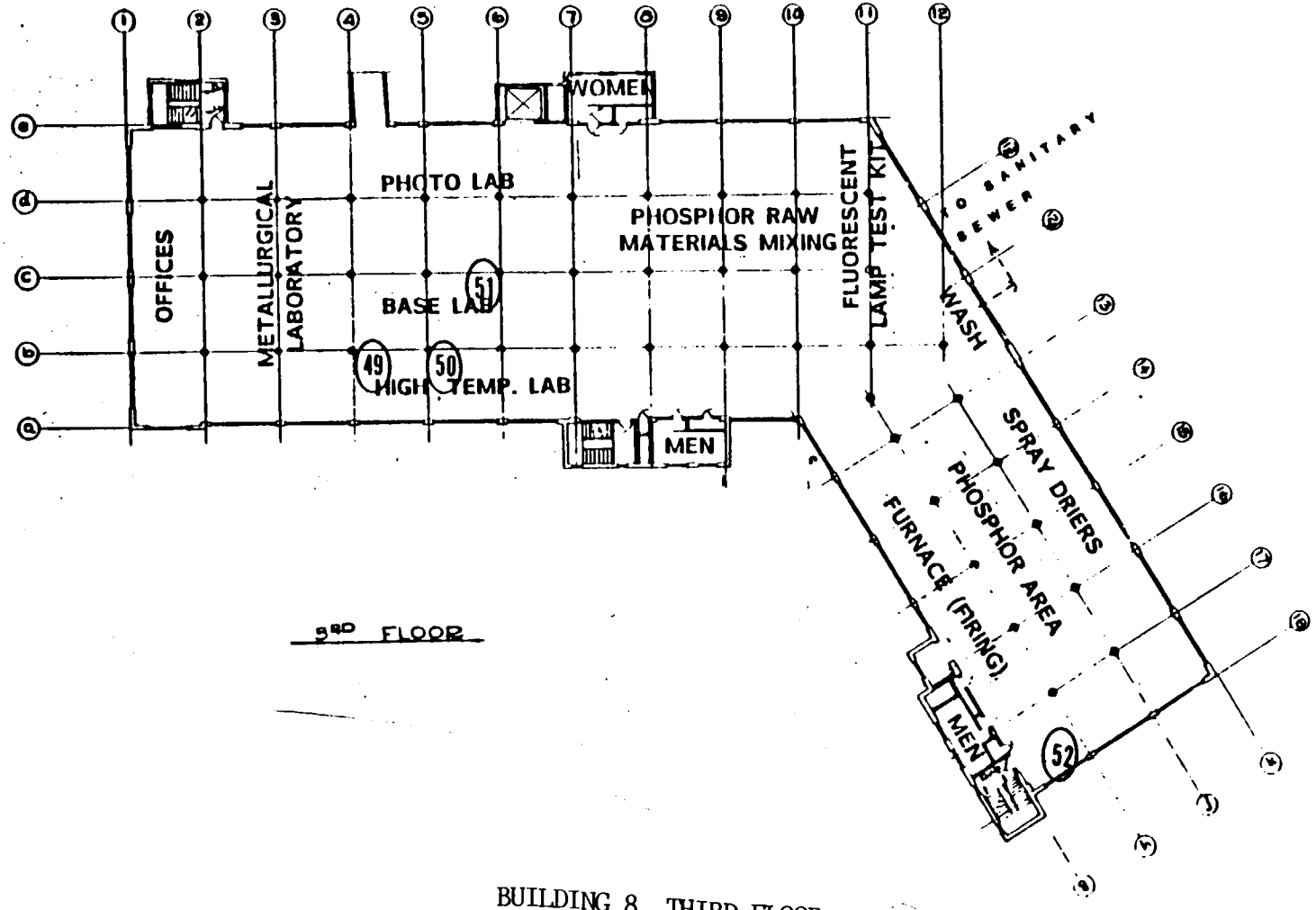
BUILDING 8, FIRST FLOOR

Bld. 8



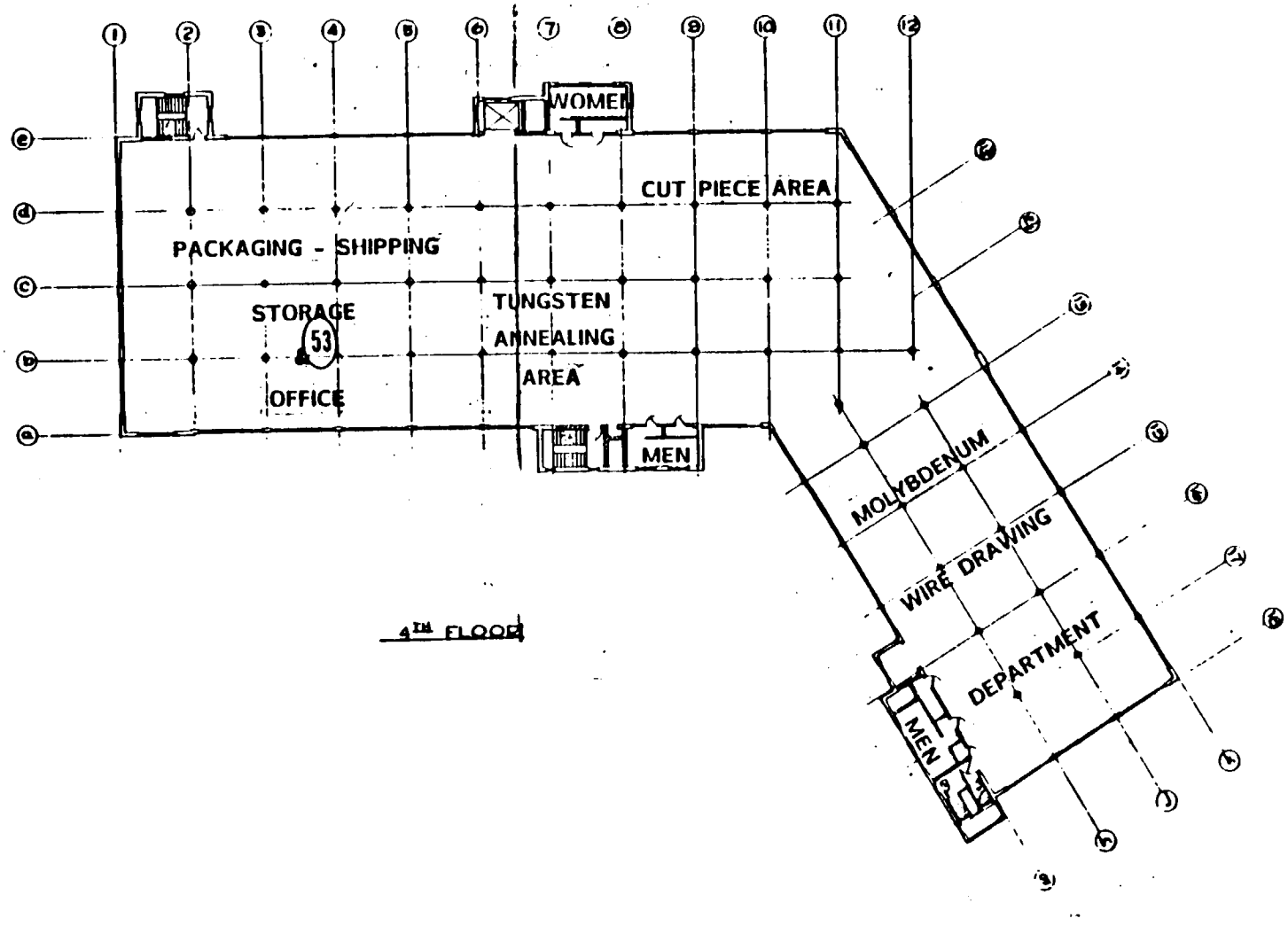
BUILDING 8, SECOND FLOOR

Bld. 8



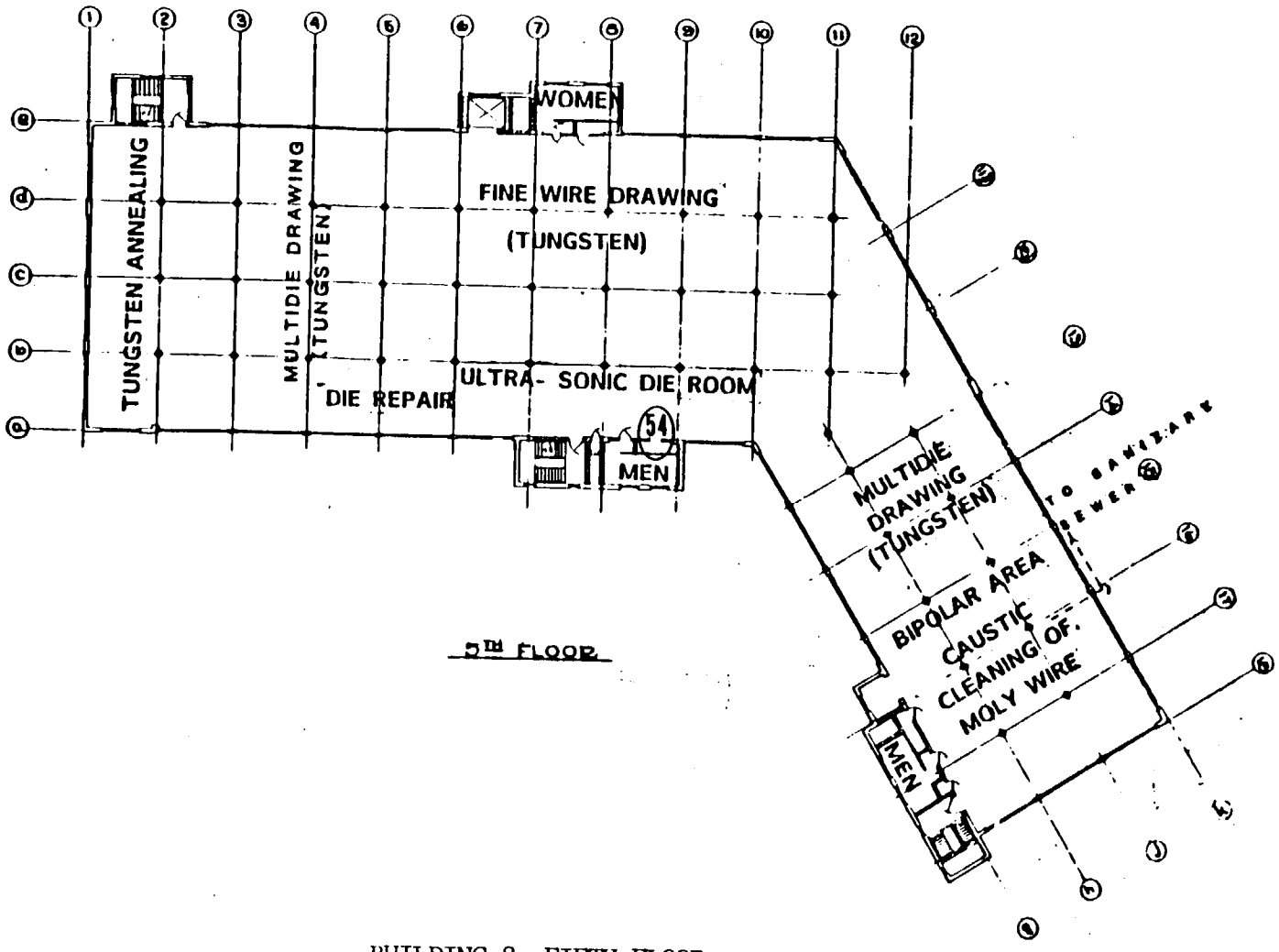
BUILDING 8, THIRD FLOOR

Bld. 8

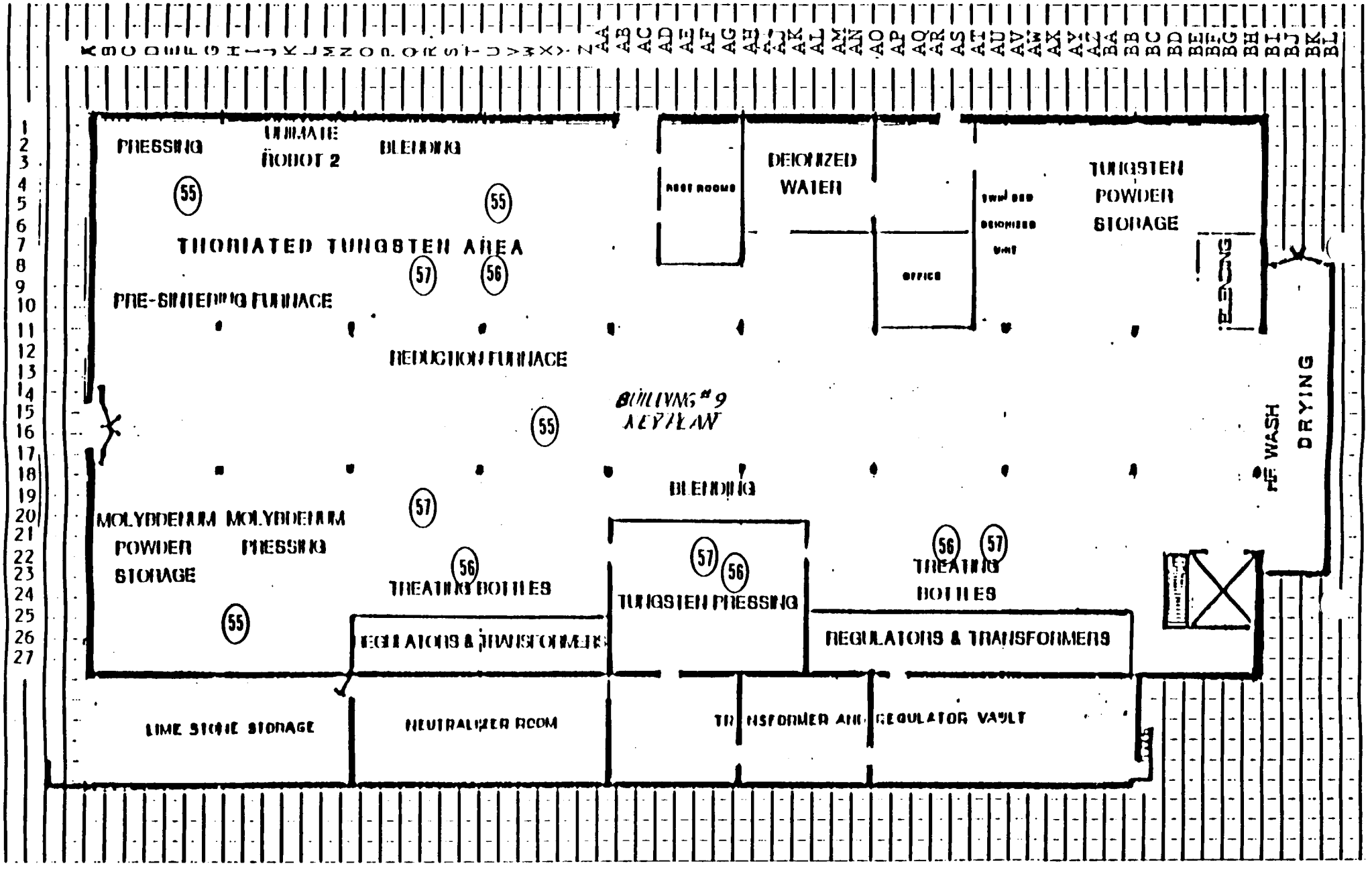


BUILDING 8, FOURTH FLOOR

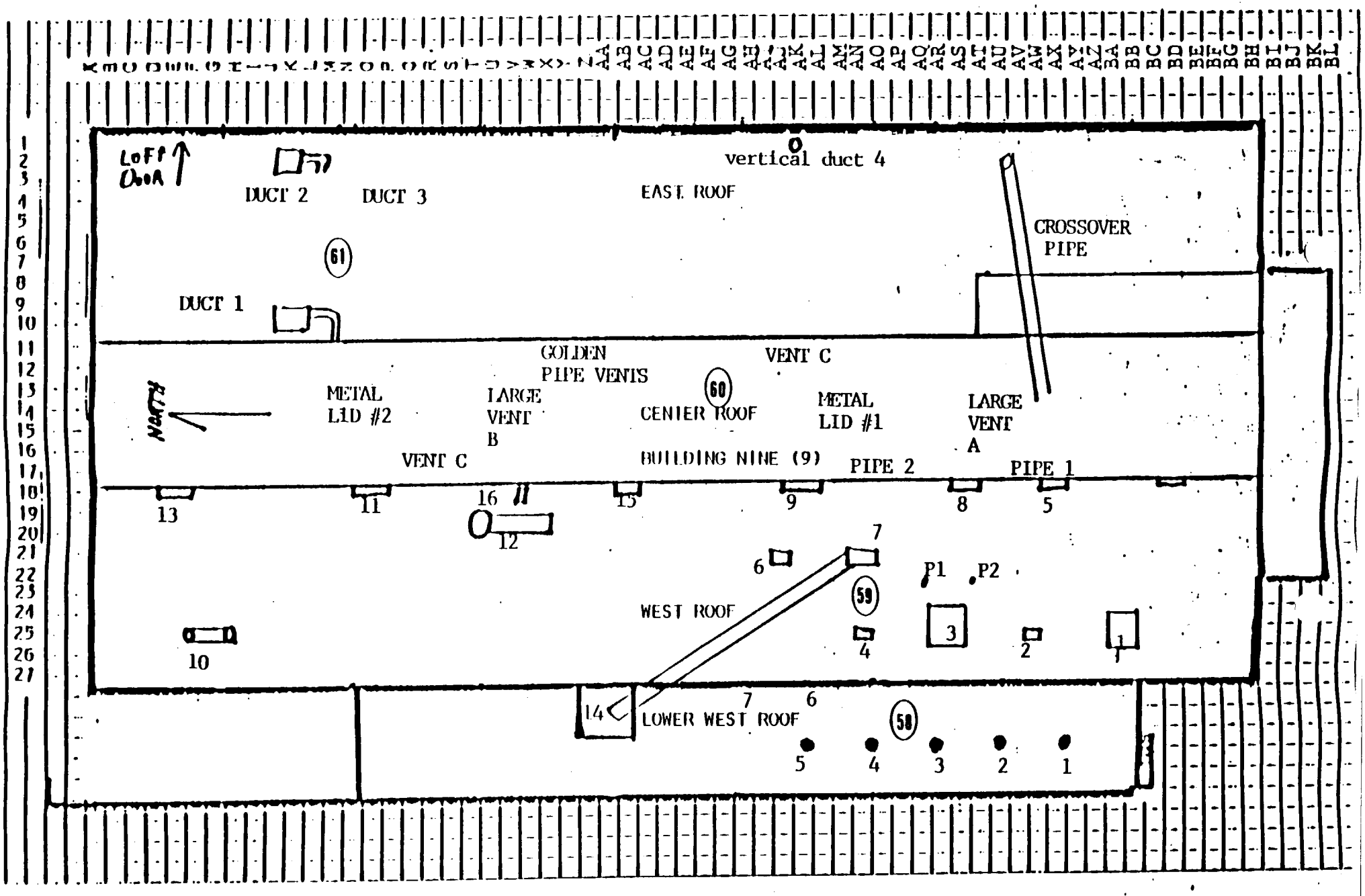
Bld. 8



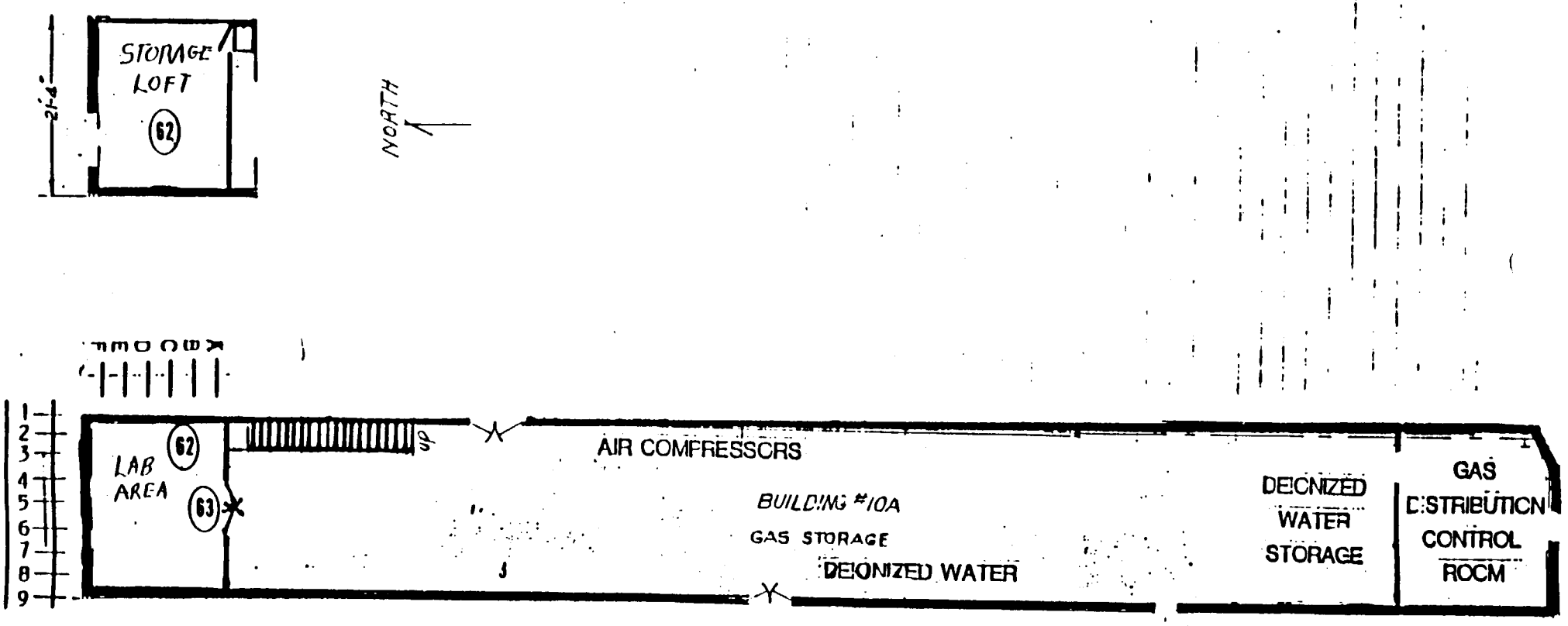
BUILDING 8, FIFTH FLOOR

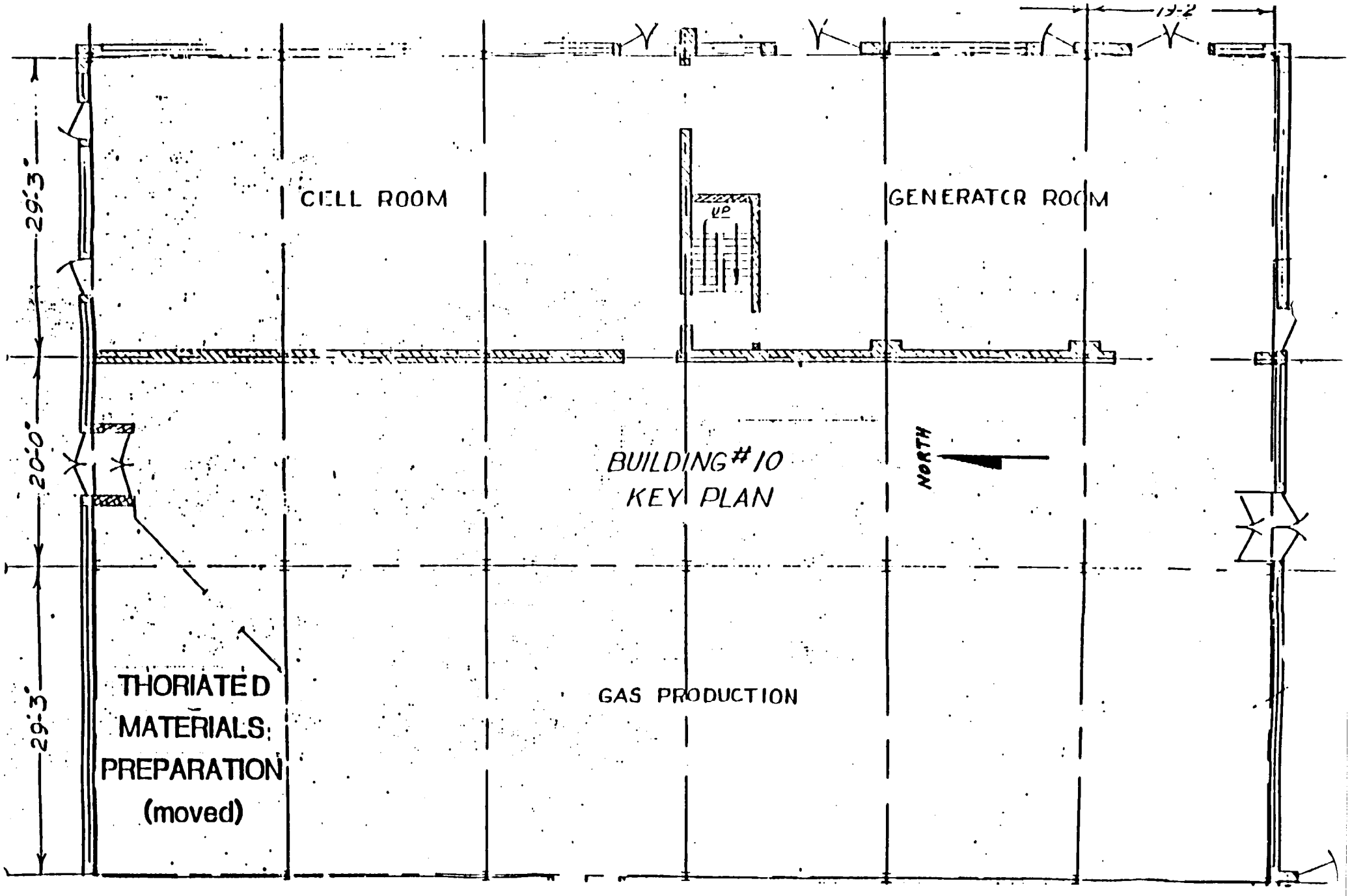


BUILDING 9 INSIDE

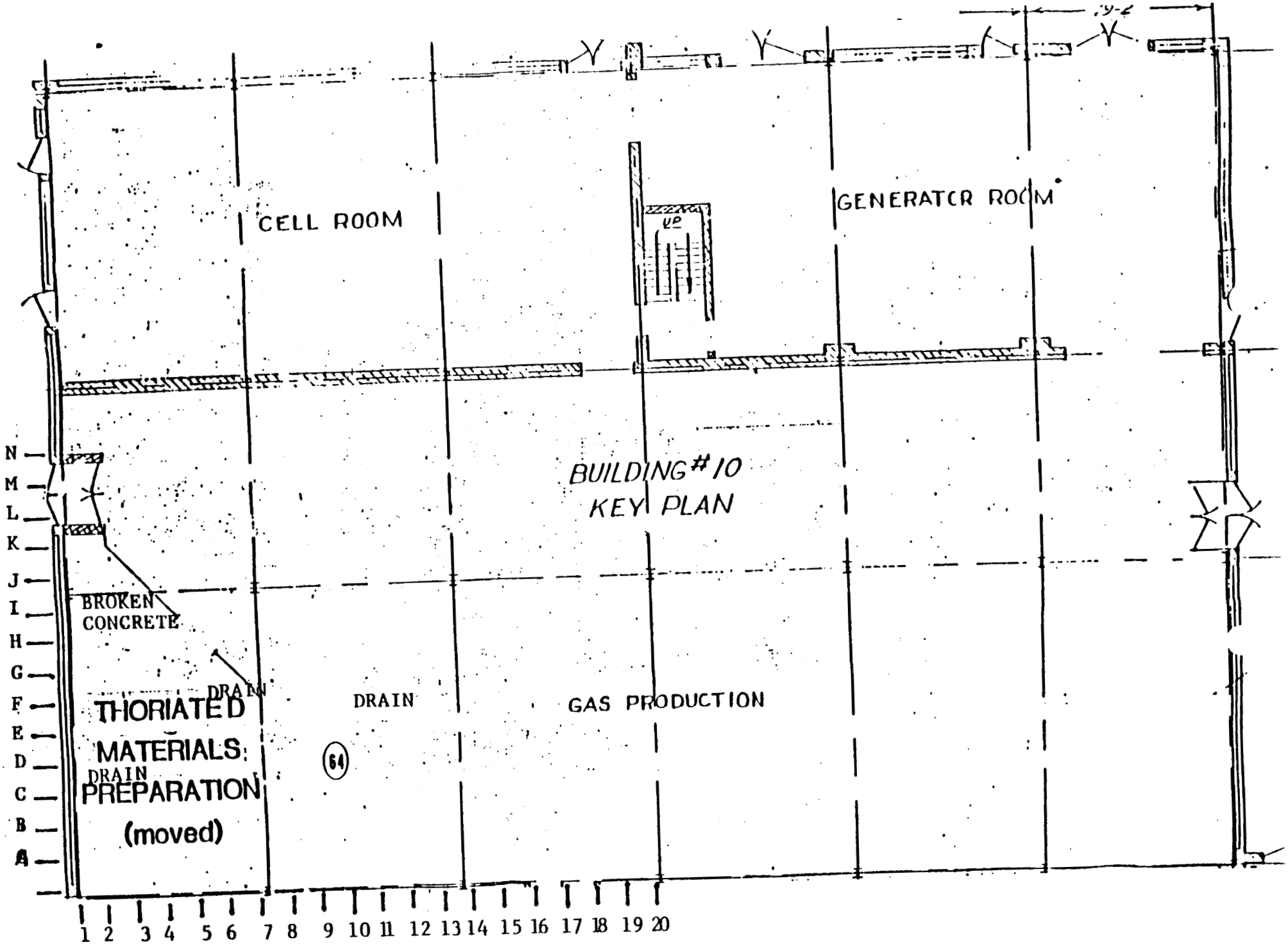


BUILDING 9 ROOFTOP

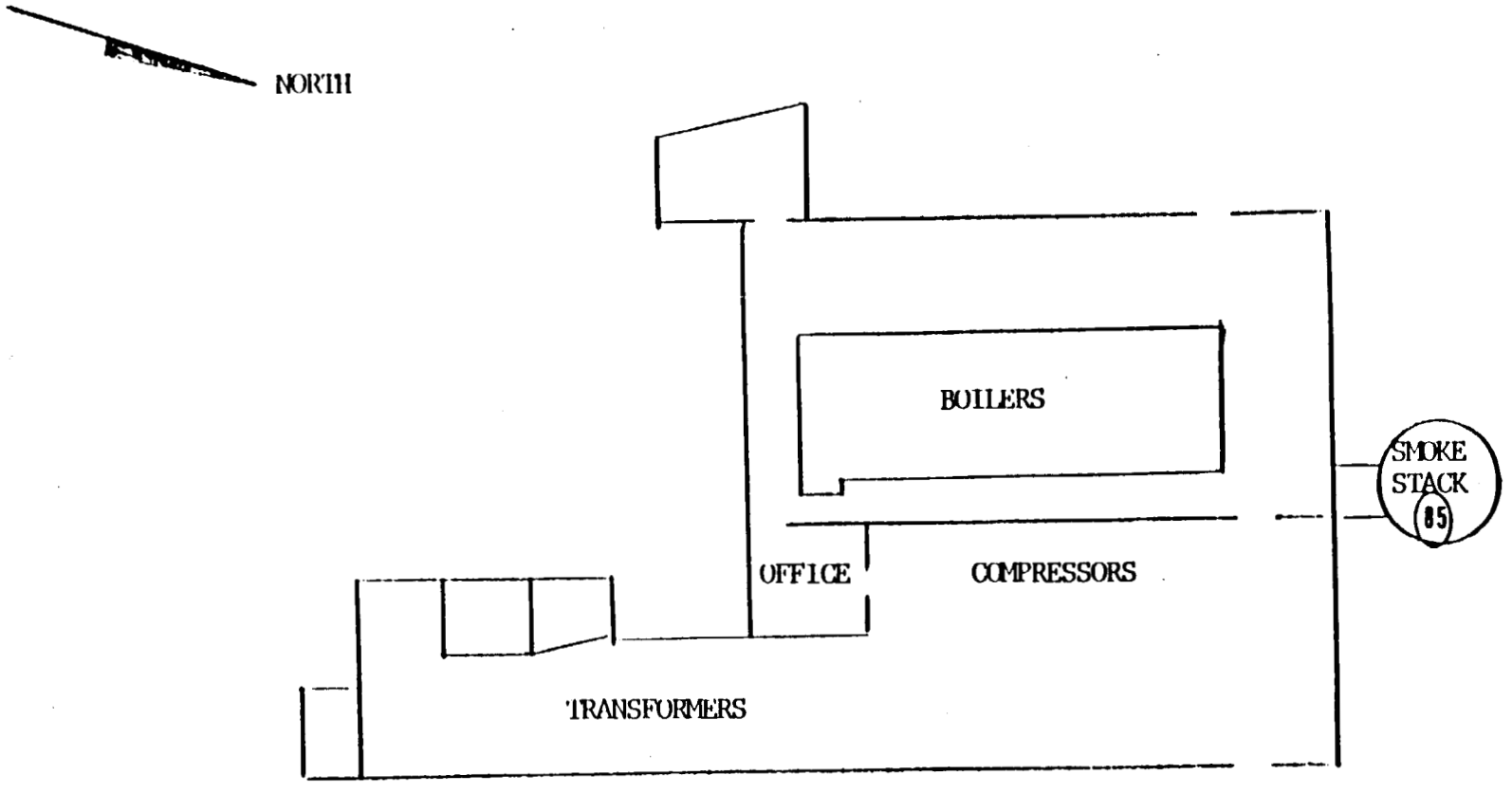

STORAGE LOFT
62
21'-4"
NORTH
LAB AREA
62
63
UP
AIR COMPRESSORS
BUILDING #10A
GAS STORAGE
DEIONIZED WATER
DEIONIZED WATER STORAGE
GAS DISTRIBUTION CONTROL ROOM
1
2
3
4
5
6
7
8
9



BUILDING 10 (PREVIOUSLY DEMOLISHED)



BUILDING 10 FLOOR AREA ONLY



BUILDING 11, (HEAT & POWER)

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Attachment 2

Letter Dated September 23, 1988

Documenting Walkthrough Survey

and Source Material Inventory

CANBERRA
RMC
Radiation Management Corporation, 1175 Tower Road, Schaumburg, IL 60173 (312) 310-8650

SEP 28 1988

September 23, 1988

Mr. Wayne Bickerstaff
WESTINGHOUSE ELECTRIC CORP.
Westinghouse Building
Gateway Center
Pittsburgh, Pennsylvania 15222

Dear Mr. Bickerstaff,

Attached is our brief report of the walk-through survey and source material inventory at the Bloomfield, NJ facility. If you have questions or need additional information, please call.

Sincerely,

David Groff

David Groff
Health Physicist

DG:pw

Enclosure

WALK-THROUGH RADIOLOGICAL SURVEY AND SOURCE MATERIAL INVENTORY RESULTS AT THE WESTINGHOUSE BLOOMFIELD, NJ FACILITY SEPTEMBER 19-21, 1988

CANBERRA RMC

WALK-THROUGH RADIOLOGICAL SURVEY AND SOURCE MATERIAL INVENTORY RESULTS AT THE WESTINGHOUSE BLOOMFIELD, NJ FACILITY SEPTEMBER 19-21, 1988

Report Prepared by:

Radiation Management Corporation

September 22, 1988

[100,100]410

I. INTRODUCTION

A radiological survey was performed by Radiation Management Corporation (RMC) at the Westinghouse Bloomfield, NJ facility on September 19-21, 1988. This survey was intended to evaluate the changes (if any) in the radiological status of the facility which may have occurred during clean up activities between July, 1986 and the present. A detailed inventory of radioactive source material in the Building 10A storage area was also performed. Survey and inventory results are summarized below.

II. SURVEY METHODS

RMC had performed a comprehensive radiological survey of the entire facility during the summer of 1986. During this 1986 survey, 86 separate areas in the facility were identified with elevated radiation levels and were evaluated using intensive survey procedures. Various cleaning, equipment removal, and materials relocation operations were in progress in some of the areas during the intensive surveys. In order to determine the effects on the radiological status of the facility which these operations and subsequent clean-up activities may have caused, RMC performed a follow-up survey on September 19-21, 1988.

This follow-up survey was limited to a systematic walk-through of previously characterized areas to identify obvious changes, if any, from conditions observed in 1986. Exposure rate measurements, using a sensitive NaI detector or GM probe and a gross count rate meter, were performed throughout the areas of concern. Survey measurement results are summarized in Table 1.

III. SOURCE MATERIAL INVENTORY

A detailed inventory of radioactive source materials stored in Building 10A was performed to estimate total mass and activity values of materials for licensing purposes. Most of these materials were stored in a second-floor loft area at the north end of the building. Several additional items stored in the lab area directly below the loft were included in this inventory. Individual items and estimated quantities are shown in Table 2. With one exception (a single Ra-226 source), all source material is believed to be thorium in solid (powder or metal) form. Samples were taken from two different unidentified materials, and analyzed at the RMC Schaumburg office. These analyses confirmed that thorium (Th-232 and daughter nuclides) was the contaminant of concern in these materials.

IV. CONCLUSIONS

The follow-up survey performed by RMC on September 19-21 confirms that no significant changes in the radiological status of the Bloomfield facility have occurred since the completion of the comprehensive 1986 survey. Several contaminated items were detected at locations not previously identified, but these materials can easily be relocated and/or packaged for disposal. Nothing was detected during this follow-up survey which would necessitate a change in the estimated level of effort required for radiological clean up of the Bloomfield facility. The final RMC report of survey results and proposed clean up plan, dated 12/22/87,

is believed to adequately describe the current status of this facility.

A detailed inventory of the radioactive source materials stored in Building 10A was performed. A total mass of 260 kg was estimated for thorium materials, with a maximum estimated activity of 28 mCi Th-232. Also, a single Ra-226 source with 1 uCi activity is present. These are the only isotopes and materials found at the Bloomfield facility.

TABLE 1

SUMMARY OF WALK-THROUGH SURVEY RESULTS

Survey Area	Comments
Building 2, all floors	No significant changes detected
Building 3, all floors	No significant changes detected
Building 4, all floors	No significant changes detected
Building 5, all floors	No significant changes detected
Building 6	Single cardboard drum (approx. 25 kg, included in inventory) of thorium material found in loading area among pallets of other materials. No other significant changes detected.
Building 7, all floors and roof	No significant changes detected
Building 8, 1st floor	Two 5-gallon pails of viscous liquid (oil?) with elevated exposure rate at contact.
Building 8, 2nd floor	Glass bowl containing thorium metal strip found in Room #1.
Building 8, 3rd floor	Work table found with misc. contaminated items, including 200 ml jar of radioactive liquid.
Building 8, 4th floor	File cabinet found, marked with "Radioactive White I" label, with thorium material in drawers.
Building 9	Approx. 36 30-gallon cardboard drums of waste material and floor sweepings. This material should be included in waste disposal volume estimates. No other significant changes detected.
Building 10A	No significant changes detected. Detailed inventory of material performed (see Table 2).

TABLE 2

RADIOACTIVE SOURCE MATERIALS INVENTORY

Notes:

1) Items 1 - 24 marked with numbered labels, present in Bldg 10A loft.

2) Item 25 present in Bldg 6 loading area.

3) Items 26 - 35 present in area below 10A loft.

Item No.	Description
1	Glass jar thorium nitrate (3 kg)
2-7	Glass jars, "emission mixture lifeguard materials" (43 kg)
8	Glass jars, Tungsten Products Powder (1 kg)
9-10	Glass jars, "emission mixture lifeguard materials", (13 kg)
11	5-gal pails, TNS metal material (90 kg)
12-15	Containers with thorium powder (11 kg)
16-18	Thorium metal plates and shavings (6 kg)
19-22	Glass jars with thorium oxide, thorium nitrate, and "emission mixture lifeguard materials" (16 kg)
23	Thorium metal pieces in plastic bag (1kg)
24	Miscellaneous solid materials (waste) in cardboard drum
25	Thorium oxide in cardboard drum (25 kg)
26-34	Various containers with solid thorium materials (46 kg)
35	Ra-226 source (1 uCi)

Attachment 3

Decommissioning Plan

WESTINGHOUSE ELECTRIC CORPORATION
Bloomfield, NJ Facility

FACILITY DECOMMISSIONING PLAN

Objective:

Westinghouse Electric Corporation intends to decommission its Bloomfield, NJ facility, terminate the Radioactive Materials License, and release the property for unrestricted use. This is to be accomplished in accordance with the requirements of the U.S. Nuclear Regulatory Commission.

Scope of Work:

An extensive survey of the entire site has already been conducted to document the existing levels of radiation and define the remediation effort required (see Attachment 1). In addition, a recent walk-through survey (see Attachment 2) was conducted to establish that no significant changes have occurred since the earlier survey. All facilities and land on the site will be decontaminated and decommissioned as appropriate for release of the entire site for unrestricted use. (See Figure 1, Site Pilot Plan). After completion of the remediation work, a final site survey of the buildings and land will be conducted to confirm that the release criteria have been met, and a final report prepared and submitted to the USNRC to support the termination of the license.

Material, Equipment, and Facility Release:

Based on the preliminary survey and assessment, uncontaminated items and items found contaminated then cleaned-up to the required standards will be buried in authorized landfills or released for unrestricted use. Buildings will be decontaminated and released for unrestricted use. Contaminated items not successfully decontaminated, or items judged uneconomic to decontaminate will be transferred to an authorized disposal site. Each shipment will be documented by shipping manifest which records the radiation survey of the loaded vehicle.

Facility Preparation:

The preliminary radiological survey of the buildings, equipment or other facilities was conducted to determine where contamination was present, followed by an assessment to determine which items will require decontamination and whether they should be disassembled or decontaminated in-place. The assessment considered the history of the use of the item, the probability of past contamination, the materials and configuration of the item, the accessibility of contaminated parts, the difficulty of dismantling, and the health physics and industrial safety aspects.

Decontamination Processes:

Decontamination will be accomplished first by removal of discrete contaminated parts, if possible, releasing the remainder as uncontaminated. The contaminated items and parts will be cleaned by appropriate methods such as wiping, vacuuming, rinsing, washing with detergent, washing with selected solvents, sanding, planing, or stripping, after taking into consideration age, materials, texture, and configuration. Wastes from the process will be controlled for proper disposal.

Criteria for Release for Unrestricted Use:

All materials, equipment and facilities to be released for unrestricted use will be surveyed to demonstrate compliance with "USNRC Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of License" for surface contamination and "Disposal or Onsite Storage of Residual Thorium or Uranium" (either as Natural Ores or Without Daughters Present) from Past Operations (SECY 81-576) for soil contamination.

Final Radiological Sampling & Measurements:

The final radiation survey will be conducted on the equipment and in areas of the facility requiring decontamination, as described in the Preliminary Survey Report, Section IIA, "Radiological Survey Methodology, Protocol" (see Attachment 1).

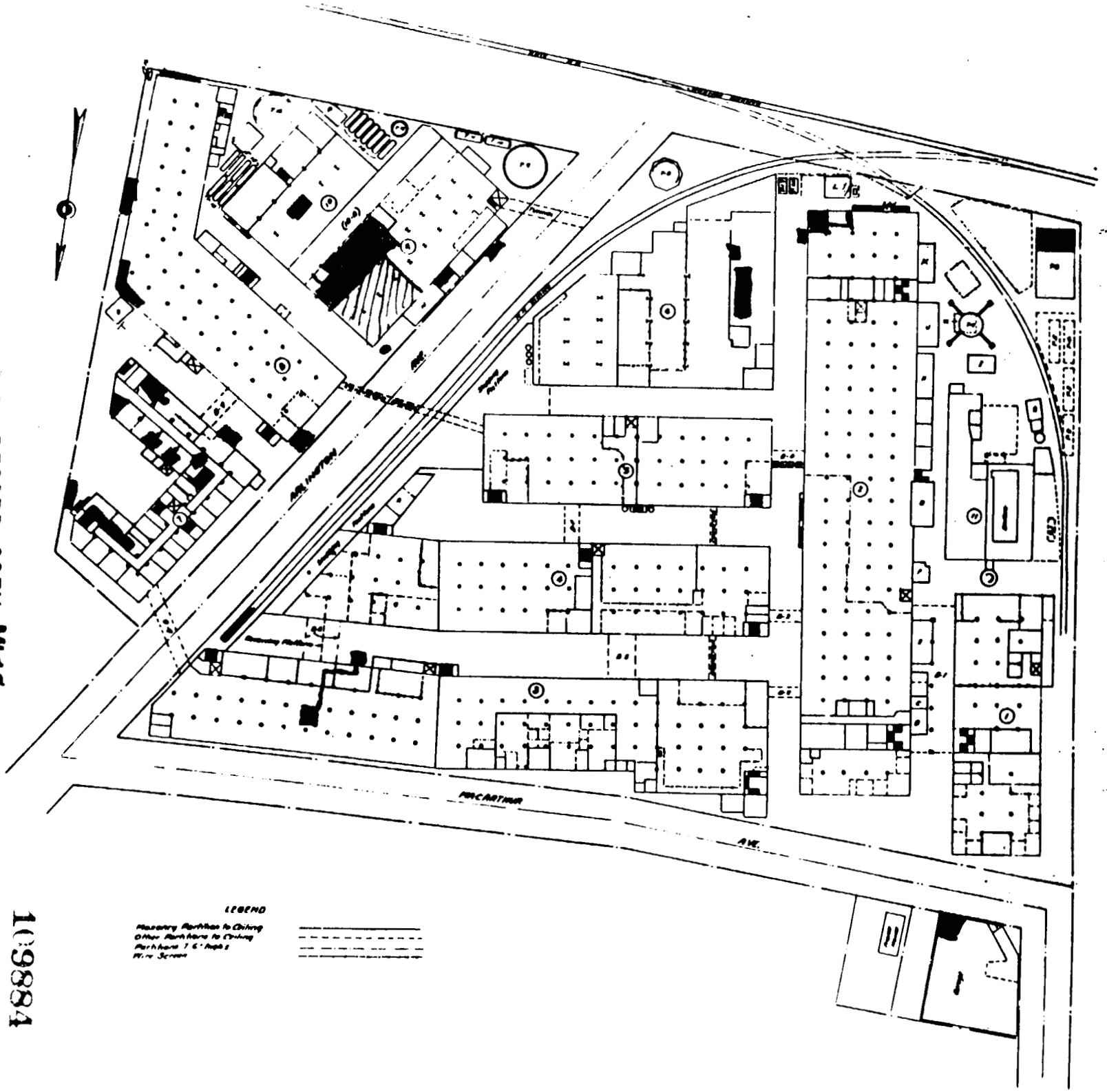

Figure 1
SITE PLOT PLAN

Note: Shaded areas designate those areas which require remediation.

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