

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 999-90003/94008(DRSS)

Docket No. 030-04798 (terminated)

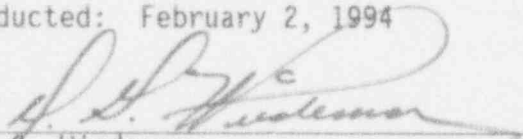
License No. 21-01931-03 (terminated)

Licensee: The Bendix Corporation
Research Laboratories Division
20800 10½ Mile Road
Southfield, Michigan
-and-
12950 W. Eight Mile Road
Oak Park, Michigan

Inspection At: Real Estate Development & Investment Company, Inc. (REDICO)
(a former Bendix Company facility)
20800 Civic Center Drive (formerly known as 10½ Mile Road)
Southfield, Michigan

Inspection Conducted: February 2, 1994

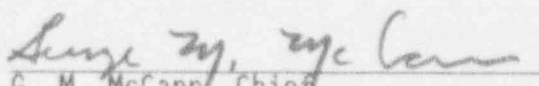
Inspector:


D. G. Wiedeman
Senior Health Physicist

Date

2/15/94

Approved by:


G. M. McCann, Chief
Fuel Facilities and Decommissioning
Section

Date

2/21/94

Inspection Summary

Inspection on February 2, 1994 (Report No. 999-90003/94008(DRSS))

Areas Inspected: This was a special inspection to review the former licensee's activities and to determine if the facilities were adequately decontaminated prior to terminating the license. The inspector conducted independent radiation surveys in the former licensee's research/development laboratory areas. This inspection was part of an NRC project which evaluated approximately 17,000 retired licenses. An NRC contractor, Oak Ridge National Laboratories (ORNL) performed the evaluation. On the basis of the information in the retired license file, such as type and quantity of authorized materials and lack of adequate decontamination documentation, ORNL concluded that these facilities have a potential for residual radioactive contamination.

Results: The NRC inspector did not identify any radiation levels above background in or around the building formerly used by Bendix Corporation in Southfield, Michigan. Based upon the inspection findings, it was concluded that the building and grounds meet the current NRC release criteria for release of facility for unrestricted use.

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DETAILS

1. Persons Contacted

*James L. Jonas, Executive Vice President, REDICO
Jason Horton, REDICO
William Cowell, Maintenance, REDICO
James A. Herman, Director, Environmental Quality, Allied Signal
(Bendix)
Kenneth E. Stroup, Senior Counsel-Environmental, Allied Signal
(Bendix)
Kenneth Coble, Health Physicist, Michigan Department of Health

*Attended the exit meeting conducted on February 2, 1994.

#Telephone conversation on February 14, 1994, regarding the results of laboratory analyses of samples collected at the time of the inspection.

2. Background

AEC License No. 21-01931-03 was issued to Bendix Aviation Corporation on February 20, 1959, based upon their application dated January 9, 1959. The corporation name was subsequently changed to The Bendix Corporation (Attachment A). During the fifteen years that the license was in effect, numerous unsealed and sealed nuclides were added and removed from the license. Authorized activities included research/development, testing and calibration of radiation sensing devices, study of radiation effects on electronic components and motor parts. Licensed activities were authorized for two locations of use, located in Southfield and Oak Park, Michigan. This inspection report covers activities at the Southfield, Michigan facility. For details regarding the Oak Park facility see NRC Inspection Report No. 999-90003/94006(DRSS). The license was superseded by License Nos. 21-01931-04 and 21-01931-05 which both expired on January 31, 1984.

3. Facility Status

REDICO manages the 82,000 ft² building and site for the owner, Allied Kent Joint Venture, who purchased the facilities from J and B Reality Company. J and B Reality Company purchased the building from Bendix Corporation (now known as Allied Signal). Currently several floors of the building are leased to two companies. The remaining areas of the building were vacant. The inspector noted that the occupied areas (leased) portions and some of the non-leased portions of the building had extensive remodeling, e.g., new floor covering, walls, ceilings and light fixtures. The laboratory areas in the basement were essentially unchanged.

4. Independent Measurements

Background radiation measurements were performed in the downtown area of Detroit, Michigan with a Victoreen Model 190 and a Ludlum Model 19 portable survey instrument. Background measured 45-55 counts per minute (cpm) with the Victoreen and 7-15 microroentgens per hour ($\mu\text{R/hr}$) {1.8-3.8 nanocoulomb per kilogram per hour} (nC/kg/h) with the Ludlum instrument.

Independent radiation surveys were performed with a Victoreen Model 190 portable survey instrument with a Model RP-1 pancake probe, NRC Tag No. 0405020, and Ludlum Model 19, NRC Tag No. 015522, both calibrated on July 28, 1993. Prior to the surveys both instruments were checked for accuracy and constancy with dedicated and traceable check sources. Both instruments responded as expected.

The inspector conducted radiation surveys in and around the former research laboratories and processing areas. The areas surveyed included restrooms, hallways, research laboratories, offices, former manufacturing areas, vault areas, parking lots, building down spouts and loading docks. The NRC inspector's survey of the above referenced building, parking lot and adjacent property did not identify any radiation levels above background. Attachment B shows the areas surveyed and the survey results. Several smear tests for removable activity were taken at random locations in the basement. These smear tests were analyzed for gross alpha and beta activity. Analysis results for gross alpha and beta activity were both less than 5 disintegrations per minute (dpm) (0.1 becquerels (Bq))/100 cm² which is below the NRC limit of 1000 dpm (16.6 Bq)/100 cm².

5. Exit Meeting

The NRC inspector met with the individuals identified in Section 1 of this report and summarized the findings of the inspection. The inspector informed the current property owner representative that the survey results indicated that the facility (buildings and grounds) meet the current NRC release criteria for release of facilities for unrestricted use. The release criteria is described in the NRC document titled "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source and Special Nuclear Material," dated August 1987. During the entrance and exit meeting with the current and former property owner, none of the participants indicated to the inspector that any of the inspection findings or documents provided to the inspector were considered proprietary.

Attachments:

- A. AEC license dtd 2-20-69
- B. Survey locations and results

BYPRODUCT MATERIAL LICENSE

Amendment No. 13

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 32, 33, 34, and 35, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below; and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;">Licensee</p> <p>1. The Bendix Corporation Research Laboratories Division 20800 10 1/2 Mile Road Southfield, Michigan 48075</p>	<p>In accordance with application dated January 28, 1969,</p> <p>3. License number 21-01931-03 is amended in its entirety to read as follows:</p> <p>4. Expiration date February 28, 1974</p> <p>5. Reference No.</p>
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6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioac- tivity which licensee may possess at any one time
A. Strontium 90	A. Sealed Sources (3M Custom Sources)	A. 60 millicuries total
B. Promethium 147	B. Sealed Sources (3M Model IF2C)	B. 1 curie total
C. Nickel 63	C. Sealed Sources (New England Nuclear)	C. 135 millicuries total
D. Any byproduct material between Atomic Numbers 3 and 83, inclusive	D. Irradiated Transistors	D. 100 millicuries total

9. Authorized use

- A., B., and C. Calibration and instrument development.
- D. Determination of radiation effects on electrical characteristics.



(Continued)

CONDITIONS

License Number 21-01931-03
Amendment No. 13

10. Byproduct material may only be used at the address in Item 2 above and 12950 W. 8 Mile Road, Oak Park, Michigan.
11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 20, "Standards for Protection Against Radiation."
12. Byproduct material shall be used by, or under the supervision of, Jerome L. Pfeifer, Mark Brooks, Harold L. Chambers, or Richard F. Dudek.
13. A(1) Each sealed source containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, the sealed source shall not be put into use until tested.
 - (2) Notwithstanding the periodic leak test required by the preceding paragraph, any licensed sealed source containing byproduct material is exempted from periodic leak tests provided the quantity of byproduct material contained in the source does not exceed ten times the quantity specified for the byproduct material in Column II, Schedule A, Section 31.100, 10 CFR 31.
 - (3) The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six months prior to the date of use or transfer.
- B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.



Supplementary Sheet

License Number 21-01931-03

Amendment No. 13

13. (Continued)

CONDITIONS

- C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the test with the Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C., 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region III, Division of Compliance, USAEC, 799 Roosevelt Road, Glen Ellyn, Illinois, 60137.
- D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
14. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated January 28, 1969.

For the U. S. Atomic Energy Commission

Robert E. Brinkman

by Isotopes Branch

Division of Materials Licensing
Washington, D. C. 20545

Date FEB 20 1969

K & B



ATTACHMENT A

Page 3 of 3 Pages



KENT BUILDING
SITE PLAN
NO SCALE



Date of Survey - 2/2/94
 Survey Instrument - Victoreen 190 w/pancake probe
 Calibrated - 7/28/93
 Survey Units - Counts/minute (cpm)
 Background - 45-55 cpm
 Survey by - D. G. Wiedeman


Note:
 All microcentgen
 readings with the Ludlum
 MODEL 19 WERE Background
 7-15 uR/hour



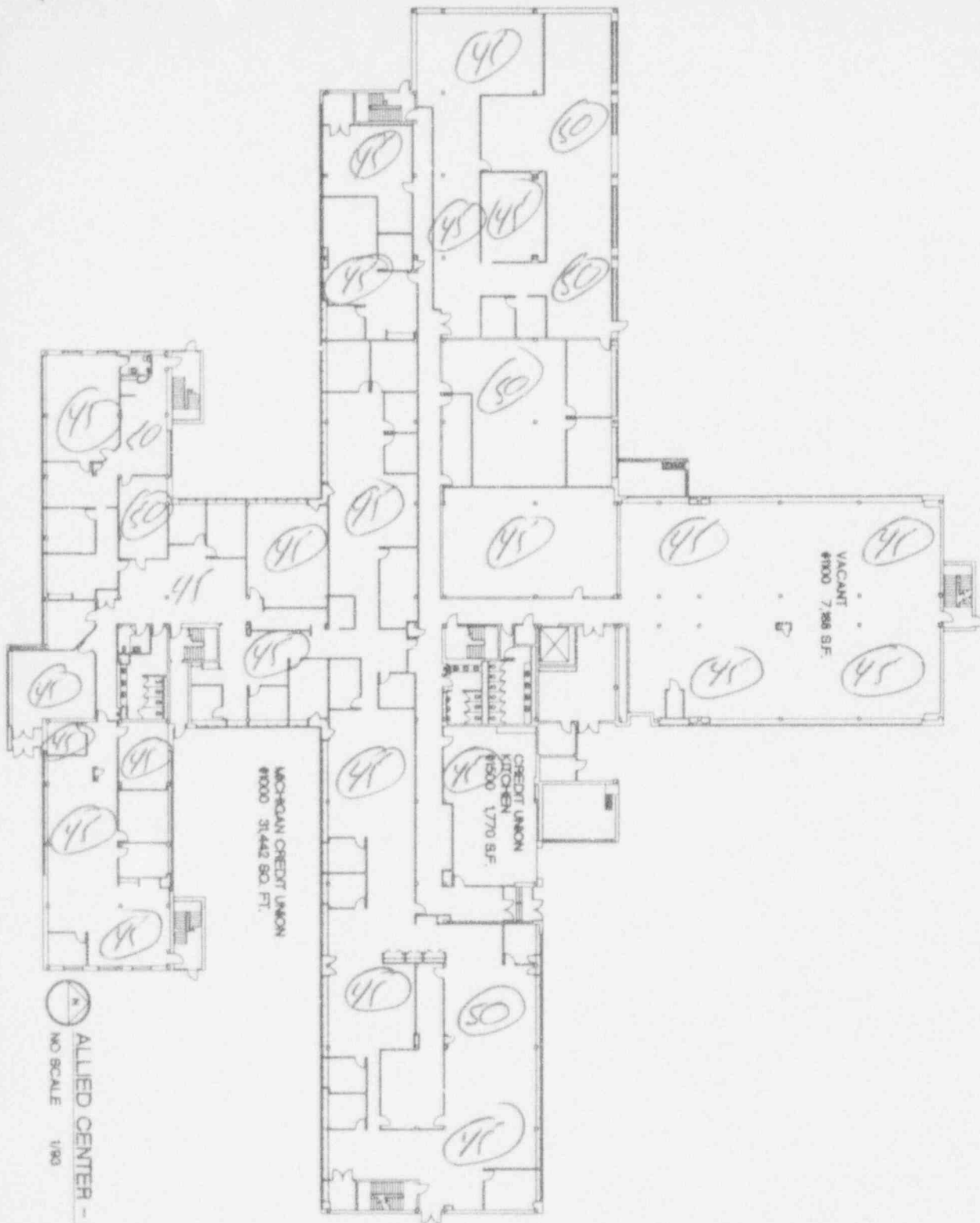

 KENT BUILDING - BASEMENT
 NO SCALE 1/94



Date of Survey - 2/2/94
 Survey Instrument - Victoreen 190 w/panckae probe
 Calibrated - 7/28/93
 Survey Units - Count/minute (cpm)
 Background - 45-55 cpm
 Survey by - D. G. Wiedeman

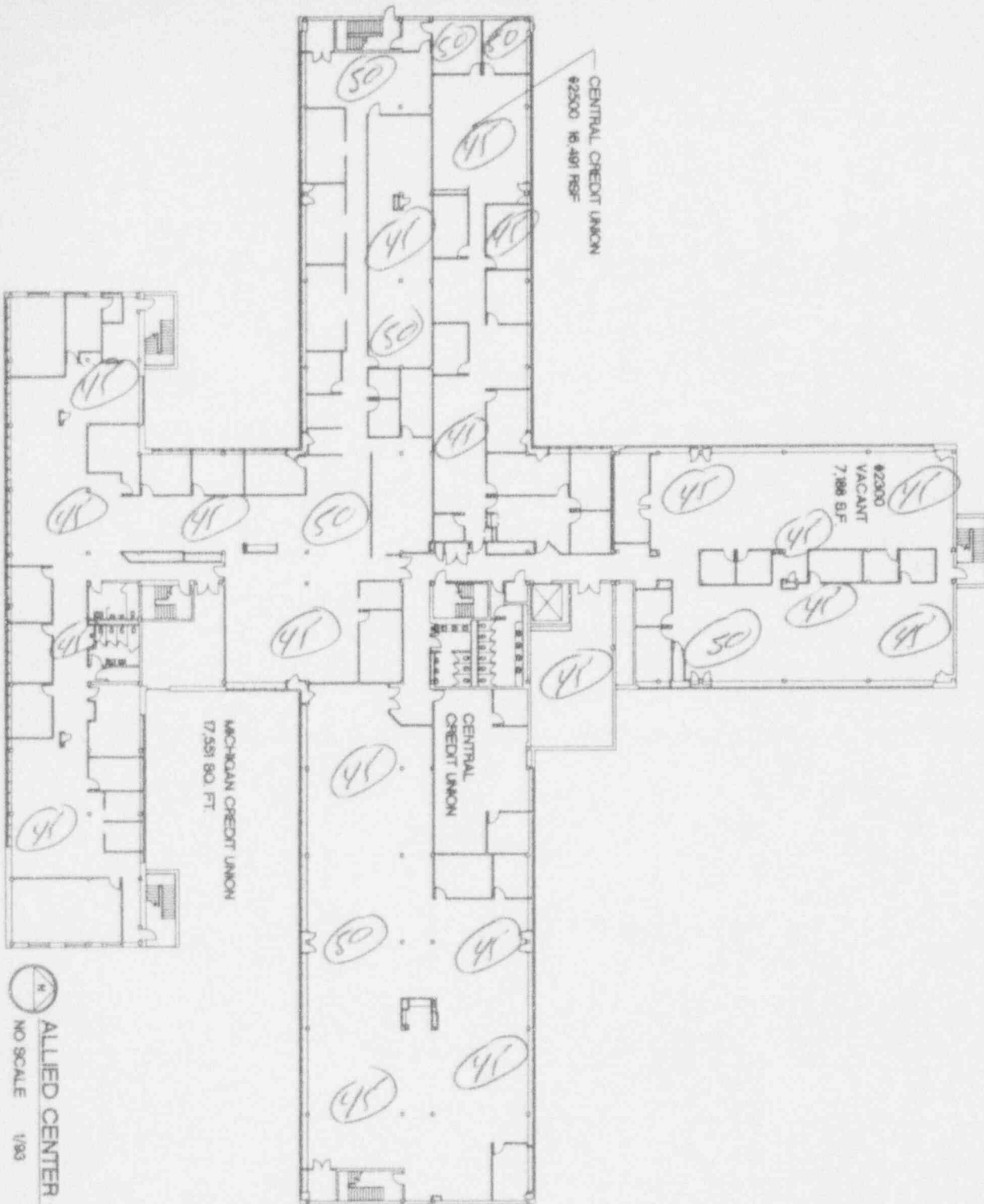
 = SMEAR TEST LOCATIONS





Date of Survey - 2/2/94
 Survey Instrument - Victoreen 190 w/pancake probe
 Calibrated - 7/28/93
 Survey Units - Count/minute (cpm)
 Background - 45-55 cpm
 Survey by - D. G. Wiedeman

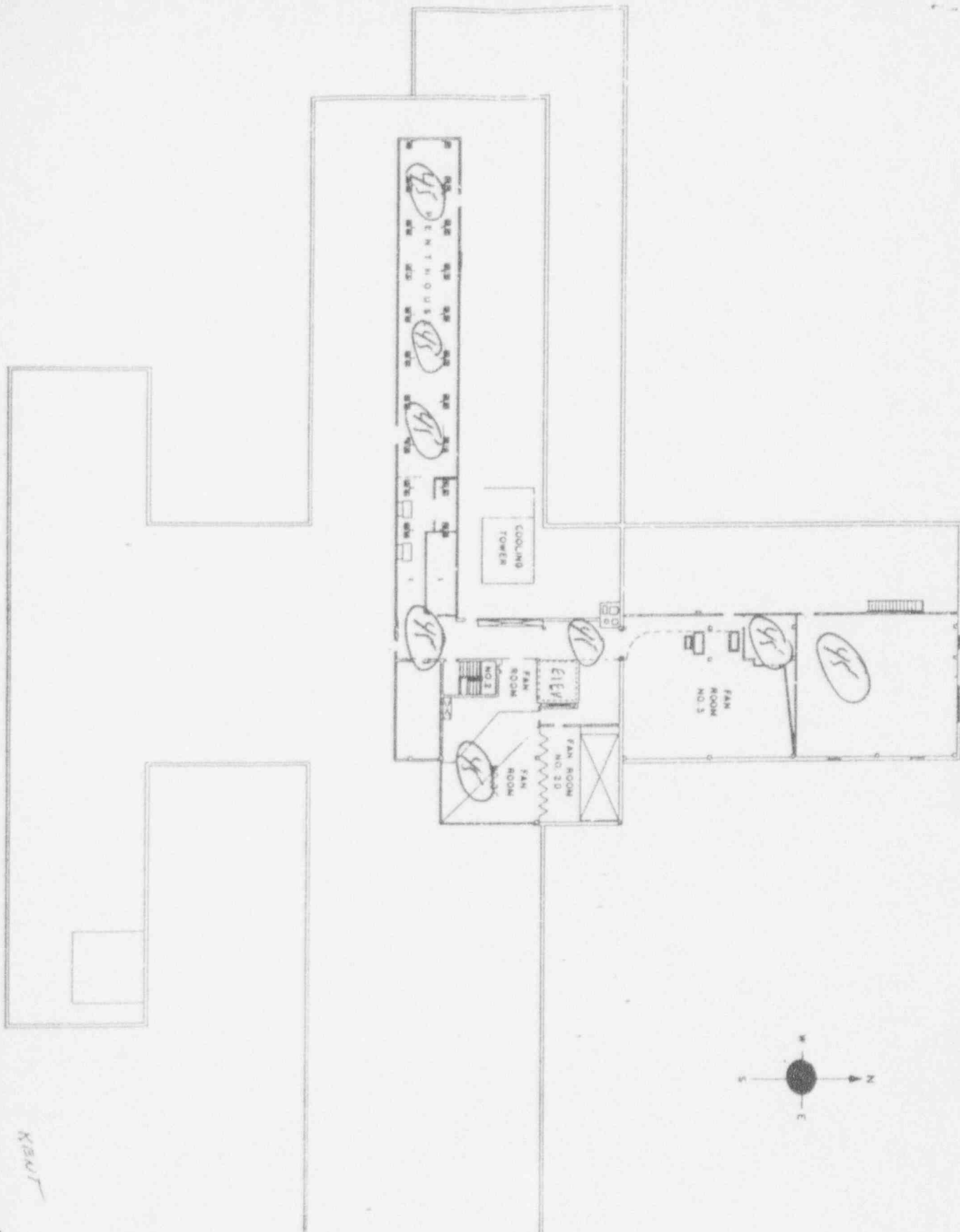




ALLIED CENTER - KENT BUILDING - 2
NO SCALE
1/83

Date of Survey - 2/2/94
 Survey Instrument - Victoreen 190 w/panckae probe
 Calibrated - 7/28/93
 Survey Units - Count/minute (cpm)
 Background - 45-55 cpm
 Survey by - D. G. Wiedeman





PENTHOUSE
K&M

Date of Survey - 2/2/94
 Survey Instrument - Victoreen 190 w/pancake probe
 Calibrated - 7/28/93
 Survey Units - Counts/minute (cpm)
 Background - 45-55 cpm
 Survey by - D. G. Wiedeman

