



March 15, 1984

Procedure #30Waste Consolidation in Labyrinth Area

Consolidation of waste in the Labyrinth area shall be initiated to remove low-level waste from the Enclosure area & to centralize high-level waste in one shielded container. Designation of low-level & high-level waste will be as follows:

Low-level waste consolidation shall consist of placing all materials & equipment, which shall not be necessary for any future operations, into 55 gallon waste drums. The criteria for low-level shall be a dose rate at the surface of drum (200 mr/hr on contact). This material shall be shipped by Teledyne Isotopes in non-exclusive use shipments.

High-level waste consolidation shall consist of placing all materials into a concrete shielded 55 gallon drum having a dose rate reading above 200 mr/hr on contact. At the current time four items are located within the labyrinth area that meet this criteria. This high-level drum will remain inside the labyrinth until it has been completely utilized & prepped for shipment.

- I.) Personnel shall be equipped as in Procedure #23 with the exception of the following:
 - A.) Each individual shall wear a wrist badge underneath the primary layer.
 - B.) Leather gloves shall be worn over the rubber gloves to prevent abrasion.
- II.) Procedures will not be initiated without proper Ventilation system operation & prior review by operational personnel as a rehearsal. Procedures #24, #25, & #26 will already have been completed.
- III.) Inside the Enclosure personnel will provide access to the Labyrinth area near the cask storage area by removing the shielding block necessary. Access area will be adequate for the easy passage of 55 gallon drums & individuals in & out of the area. Block removed from the area will be placed in the void area at the position of the original Labyrinth Entrance area.
 - A.) After Completion of entrance way the concrete shielded 55 gallon drum shall be removed to the front of the labyrinth.
 - B.) A survey shall be performed to ascertain the location of all items to be placed into the shielded drum. (In excess of 200 mr/hr on contact).

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PDR FOIA
TERPILAB4-763 PDR

BJT/lnm

INTERNATIONAL NUTRONICS, INC.

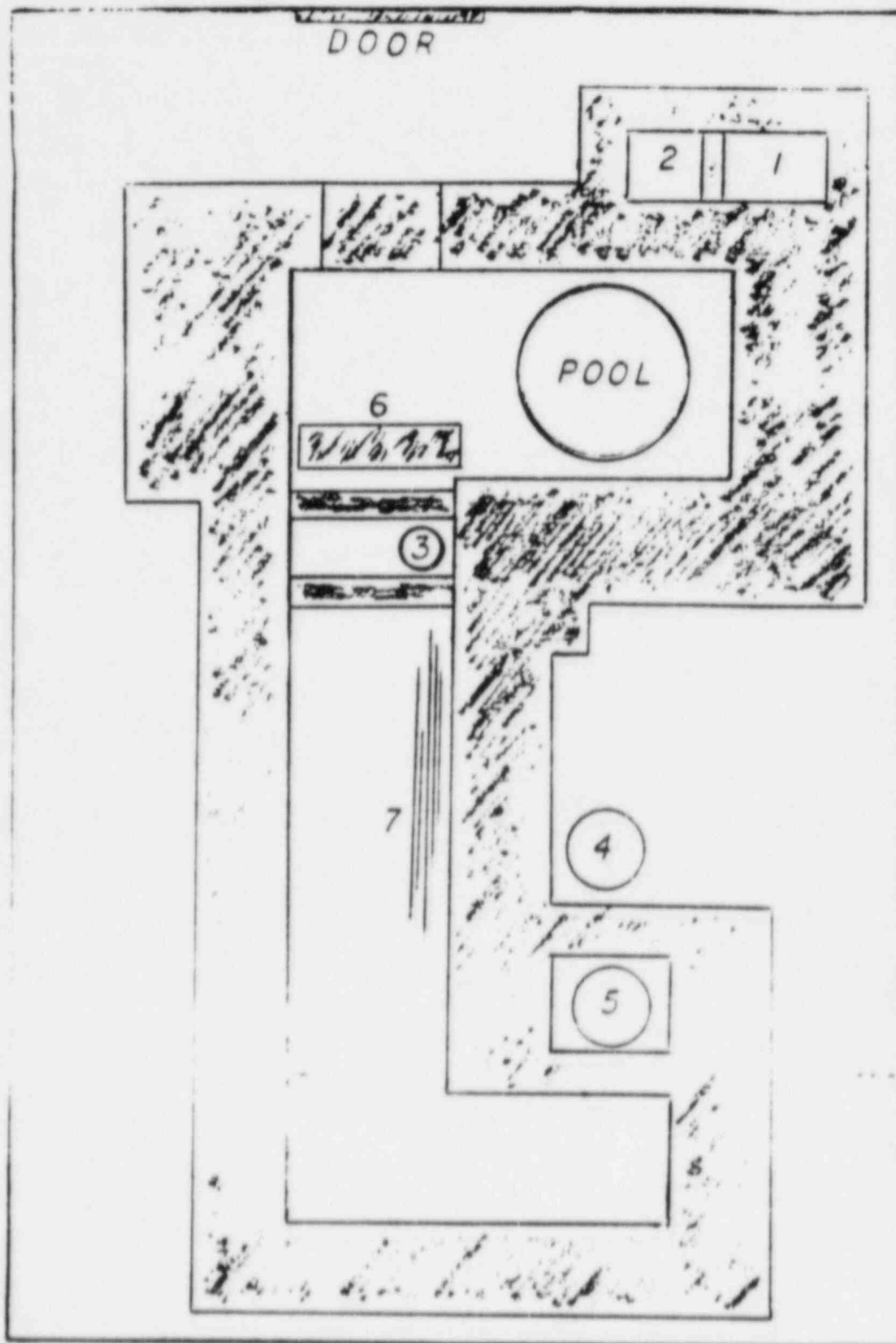
- C.) An electric flood light will be installed in the Labyrinth area to provide illumination for operating personnel. This light system is already in the Enclosure.
- D.) The 55 gallon Shielded drum will be moved & positioned at the Southwest Corner of the Labyrinth. Once in position a hip-high shield will be constructed around it utilizing block already positioned in the Labyrinth. (Refer to Diagram)
- E.) Four items are known to be in the Labyrinth which will be placed into this shielded drum: Lead drum item #3, two small buckets, & the base of the source rack.
 - 1.) The Source rack will be cut by means of a hacksaw & the base placed into the cavity of the drum first.
 - 2.) Two individuals will then remove the Lead drum & place it into the shielded drum.
 - 3.) The two smaller buckets will then be placed into the cavity of the Lead drum.
 - 4.) At the completion of placing these items into the shielded drum, a lead slab will be placed over the drum to provide shielding in the area where personnel will perform operation to consolidate low-level waste.
 - 5.) Time & distance principles will be used to minimize exposure to personnel during this operation.
 - 6.) Approximate estimate of personnel exposure is 50-70 mr for this portion of the procedure based on dose rates & time duration necessary to perform tasks.
- F.) Dose rates in the areas where personnel will perform on going operations will be expected to be 20-30 mr/hr.
- G.) The next operation will be to sort through the Tool area at location #7 & place in waste drums any materials or tools which are not necessary for on going operations. As necessary items will be cut by hacksaw to fit the 55 gallon drums used.
- H.) At the completion of low-level waste consolidation the shielding block previously enclosing the Lead drum at location #3 will be removed & placed along the South wall of the Labyrinth.
- I.) The mobile filtration system will then be located in the labyrinth along side the shielded drum in the Southwest Corner.
- J.) At the completion of these procedures a survey shall be made with the Eberline meter to ascertain the dose rates in the labyrinth & verify dose rate near the entrance way. If necessary shielding will be added to the Southwest Corner of the labyrinth to reduce the dose rate at the exterior of the Enclosure to less than 2 mr/hr.

INTERNATIONAL NUTRONICS, INC.

With the shielding & positioning of consolidated waste in the Labyrinth, an accessible entrance for personnel & access into the cell area to begin decon & cask preparation procedures will be facilitated. All operations performed will be recorded in the Operations Log Book including: time duration spent in enclosure, Xetec readings, & Air sample records.

ENCLOSURE

SHADING - SHIELDED AREAS

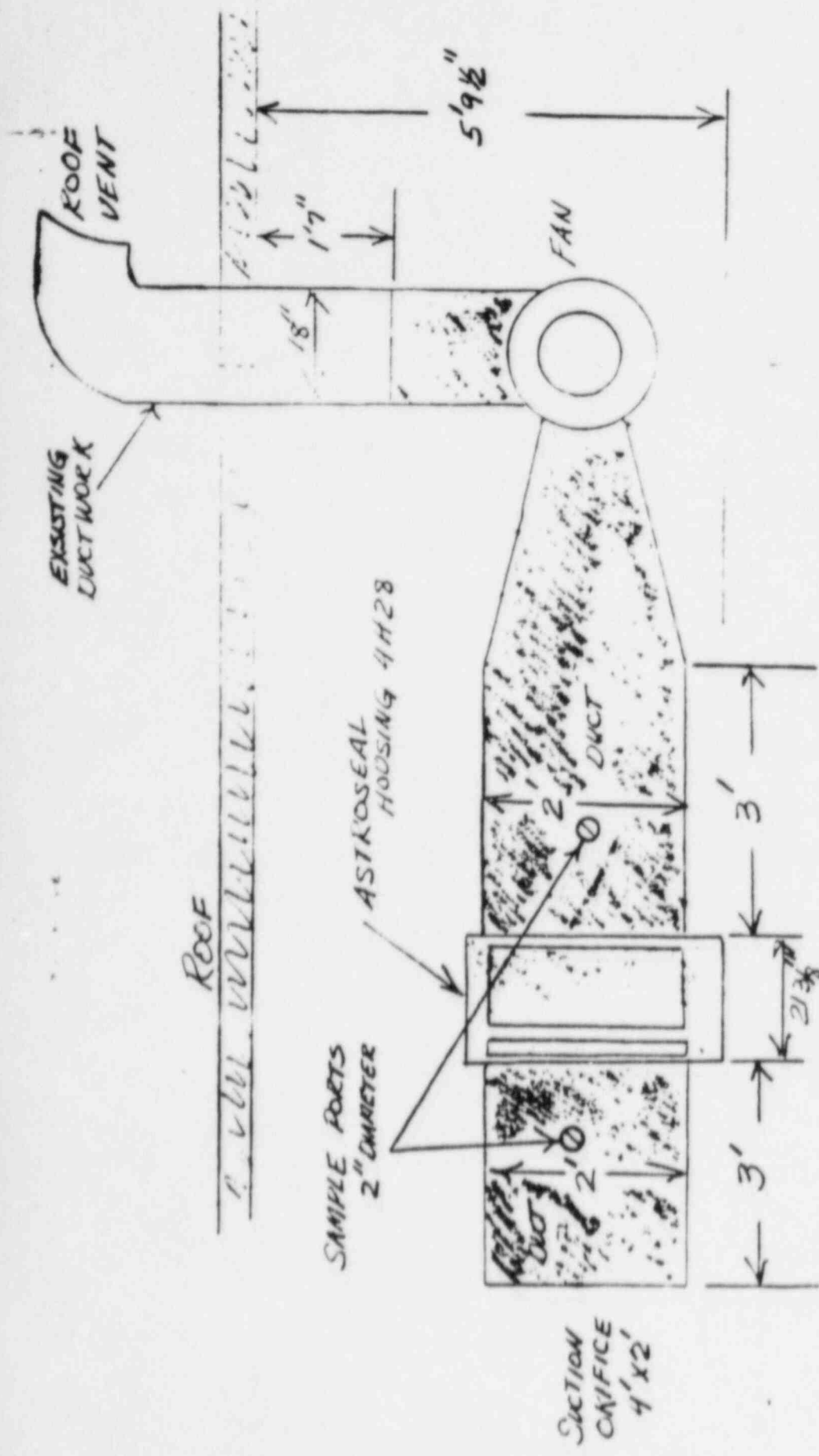


- 1 - PUMP ROOM
- 2 - WST STORAGE
- 3 - LEAD DRUM
- 4 - SS & DRUM

- 5 - CASK
- 6 - FILTRATION SYSTEM
- 7 - TOOLS

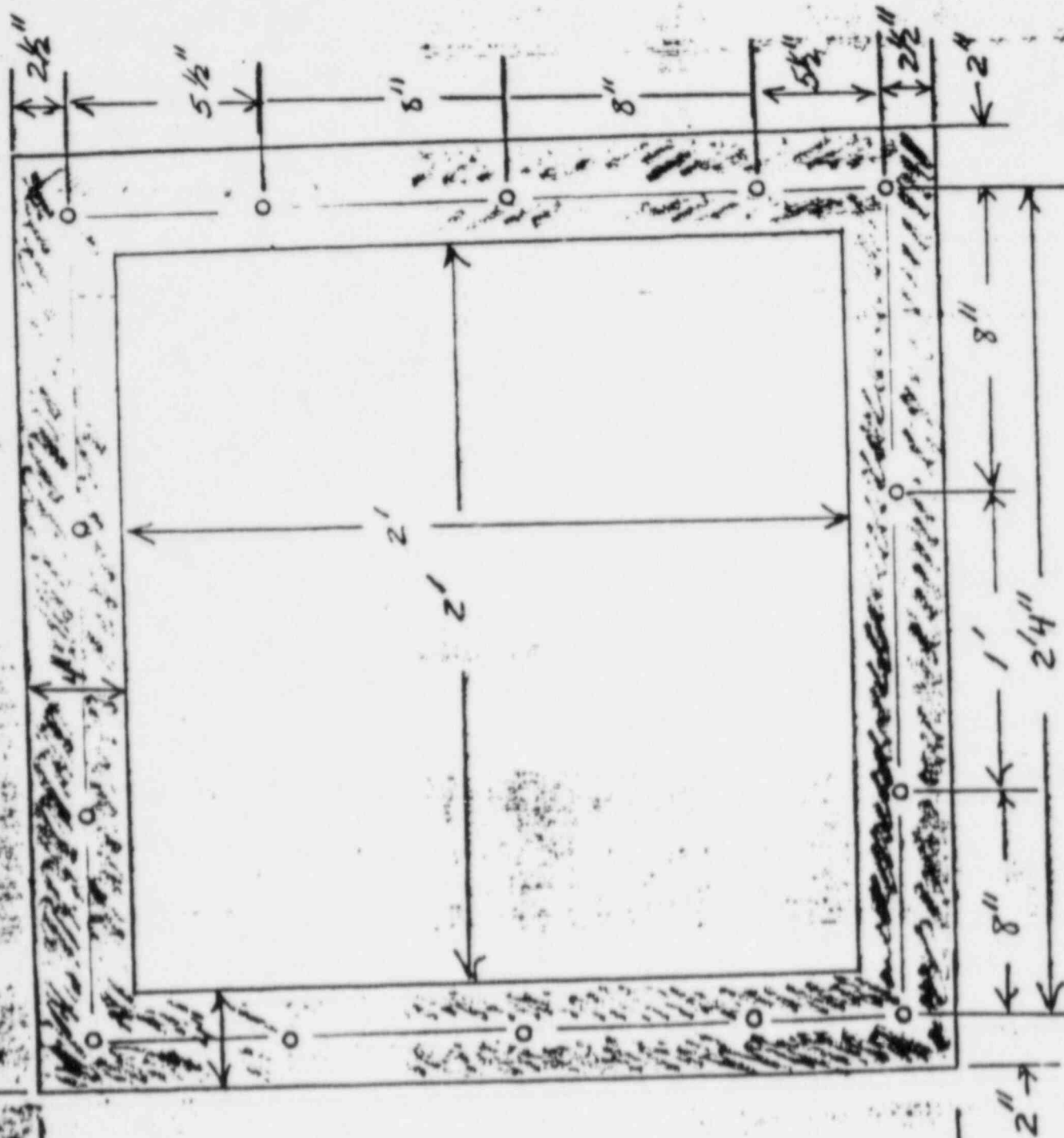
N
-W E-
S
I

300



BUILDING INFORMATION

3000 CFM UNIT INDUSTRIAL 500 4H28 HEPA



HOUSING
HEIGHT

CELL UNIT
1500 CFM/UNIT

FLANGE MOUNT
SUCTION SIDE
ASTROSEAL-500
2H28 HOUSING



March 15, 1984

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INTERNATIONAL NUTRONICS, INC.

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INTERNATIONAL NUTRONICS, INC.

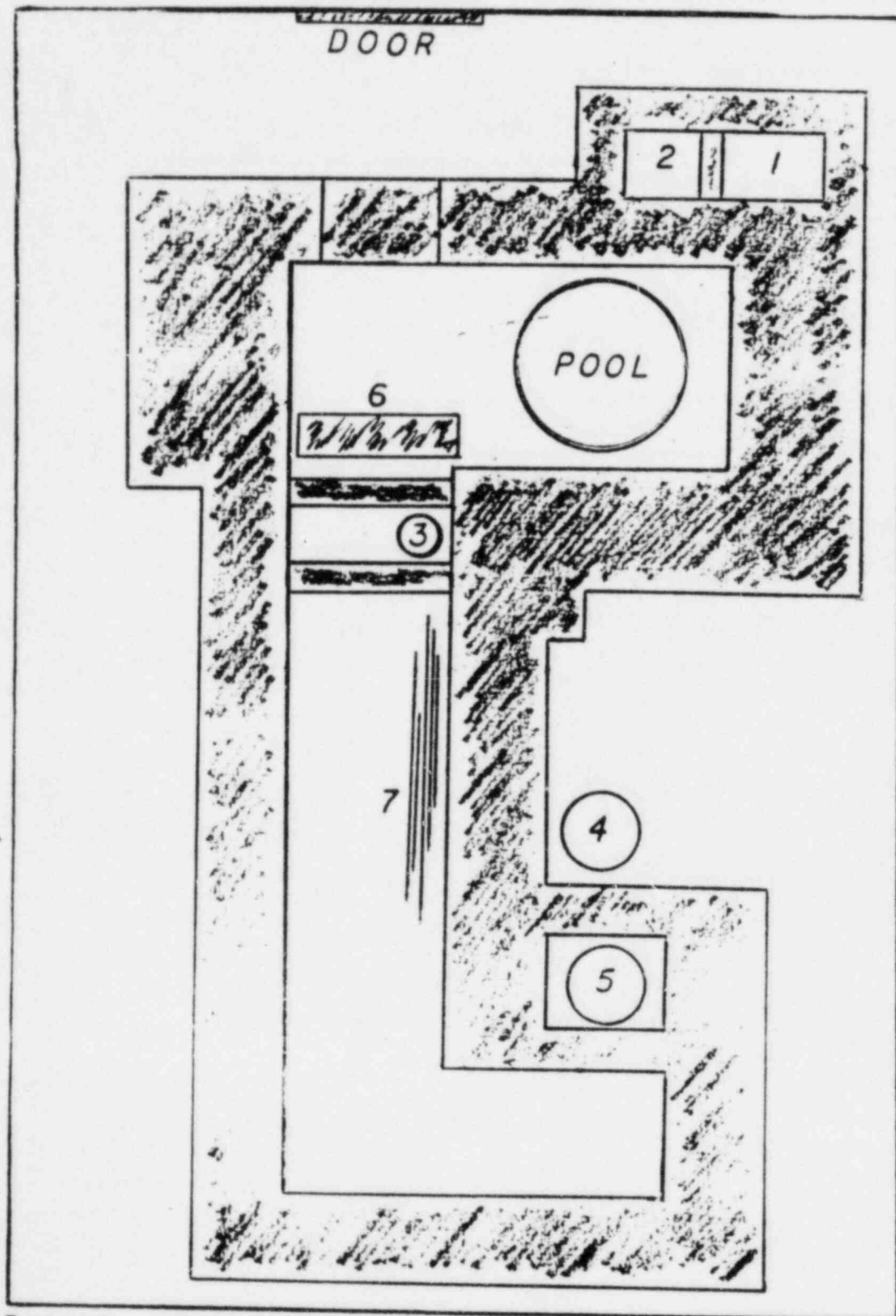
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Page 3 of 3

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ENCLOSURE

SHADING — SHIELD AREAS

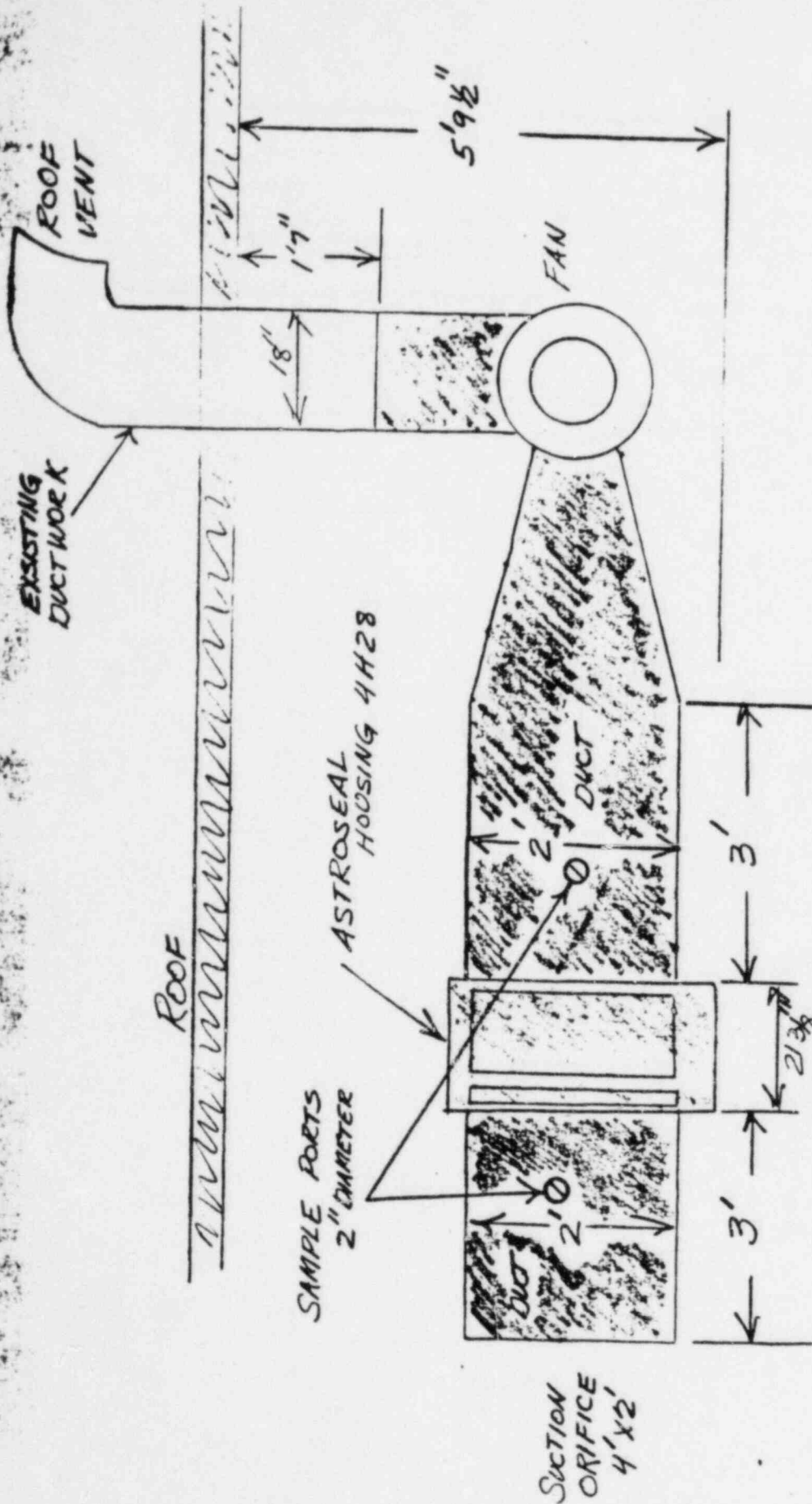


- 1 — PUMP ROOM
- 2 — WST STORAGE
- 3 — LEAD DRUM
- 4 — 55 G. DRUM

- 5 — CASK
- 6 — FILTRATION SYSTEM
- 7 — TOOLS

319

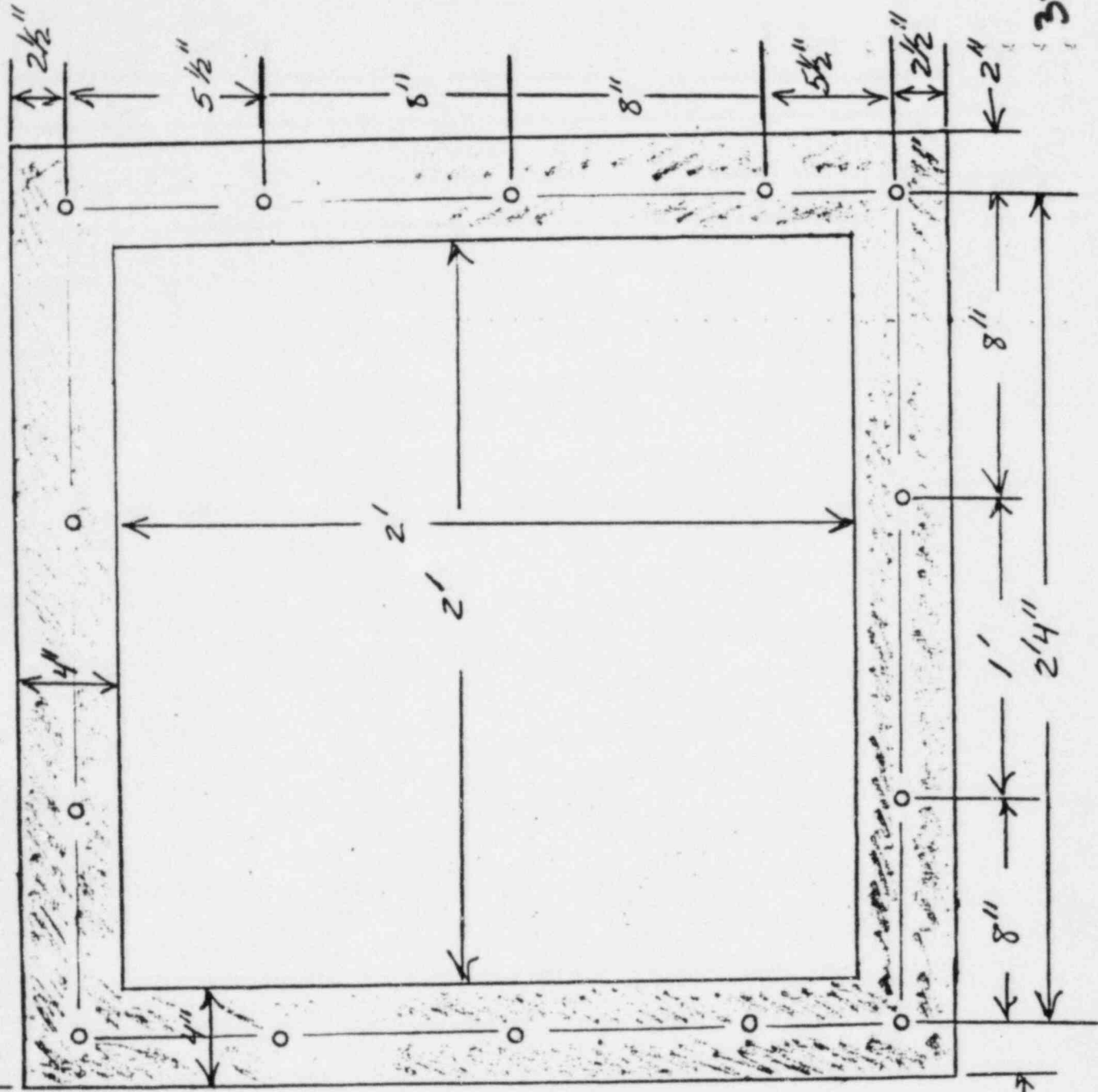
N
-W E-
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BUILDING SYSTEM
3000 CFM UNIT ASTROSEAL 500 4H28 HEPA

HOUSING WIDTH

2'8"

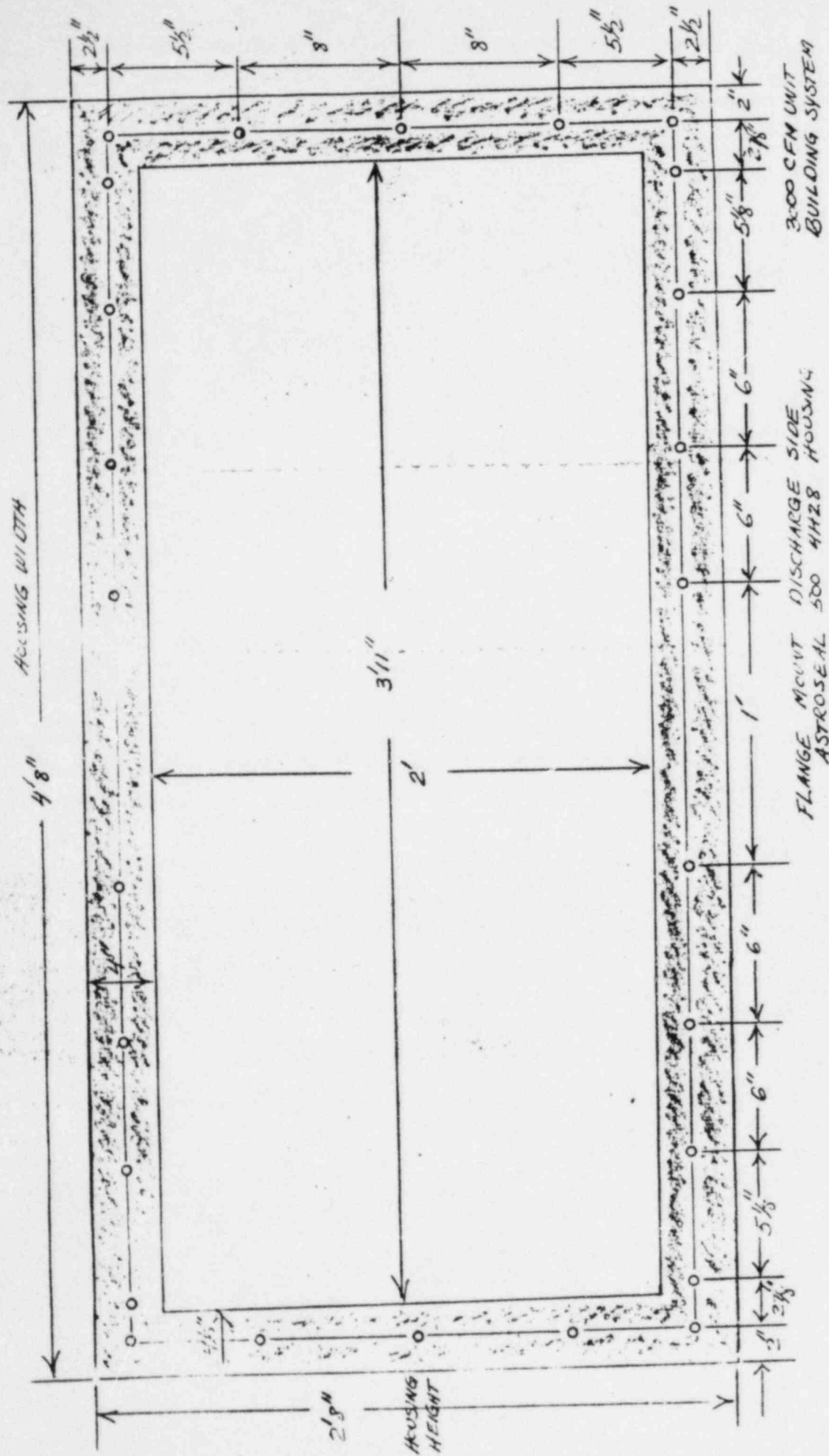


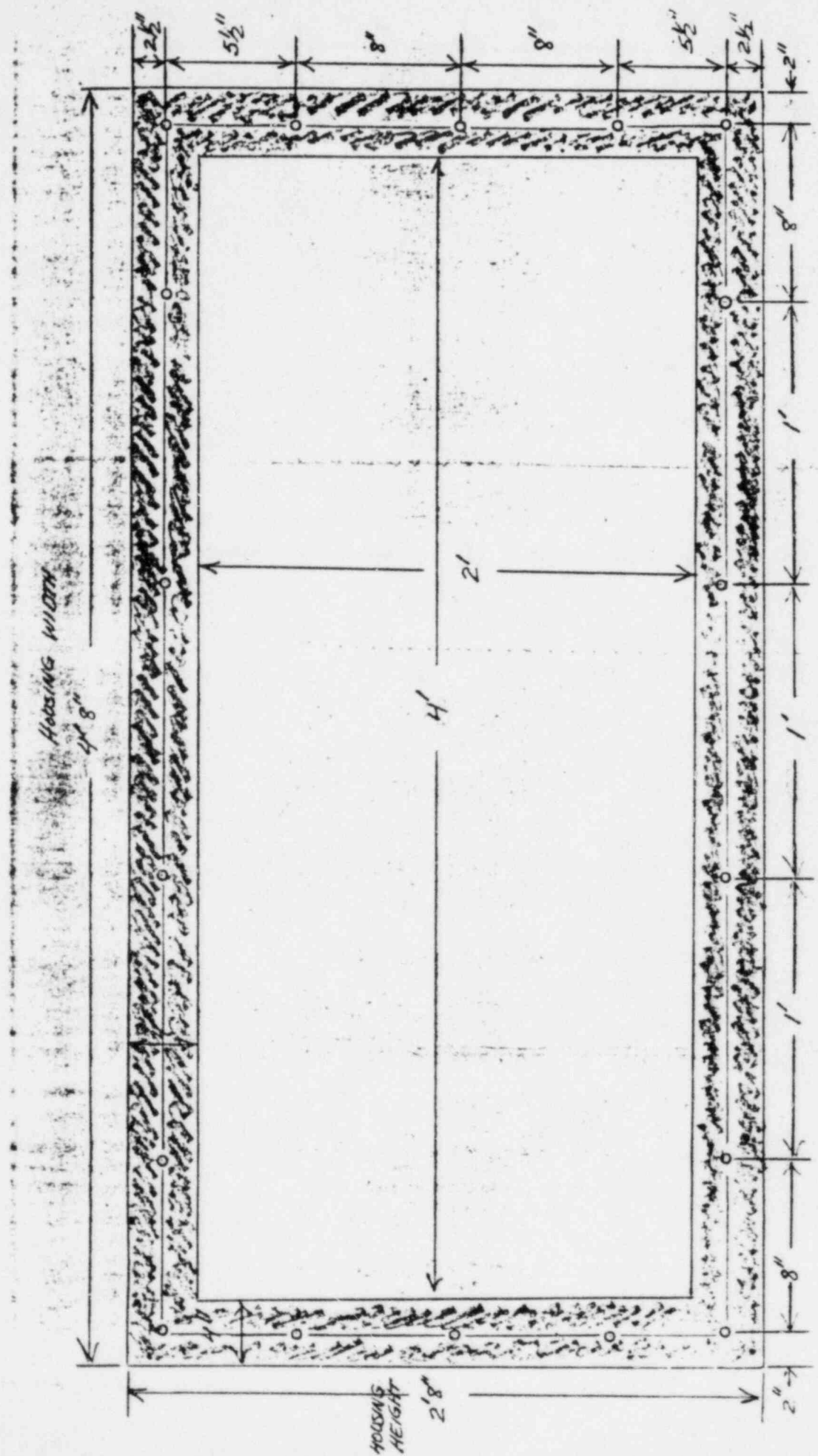
HOUSING
HEIGHT

2'8"

CHD OF FLANGE UNIT
1500 OF 500

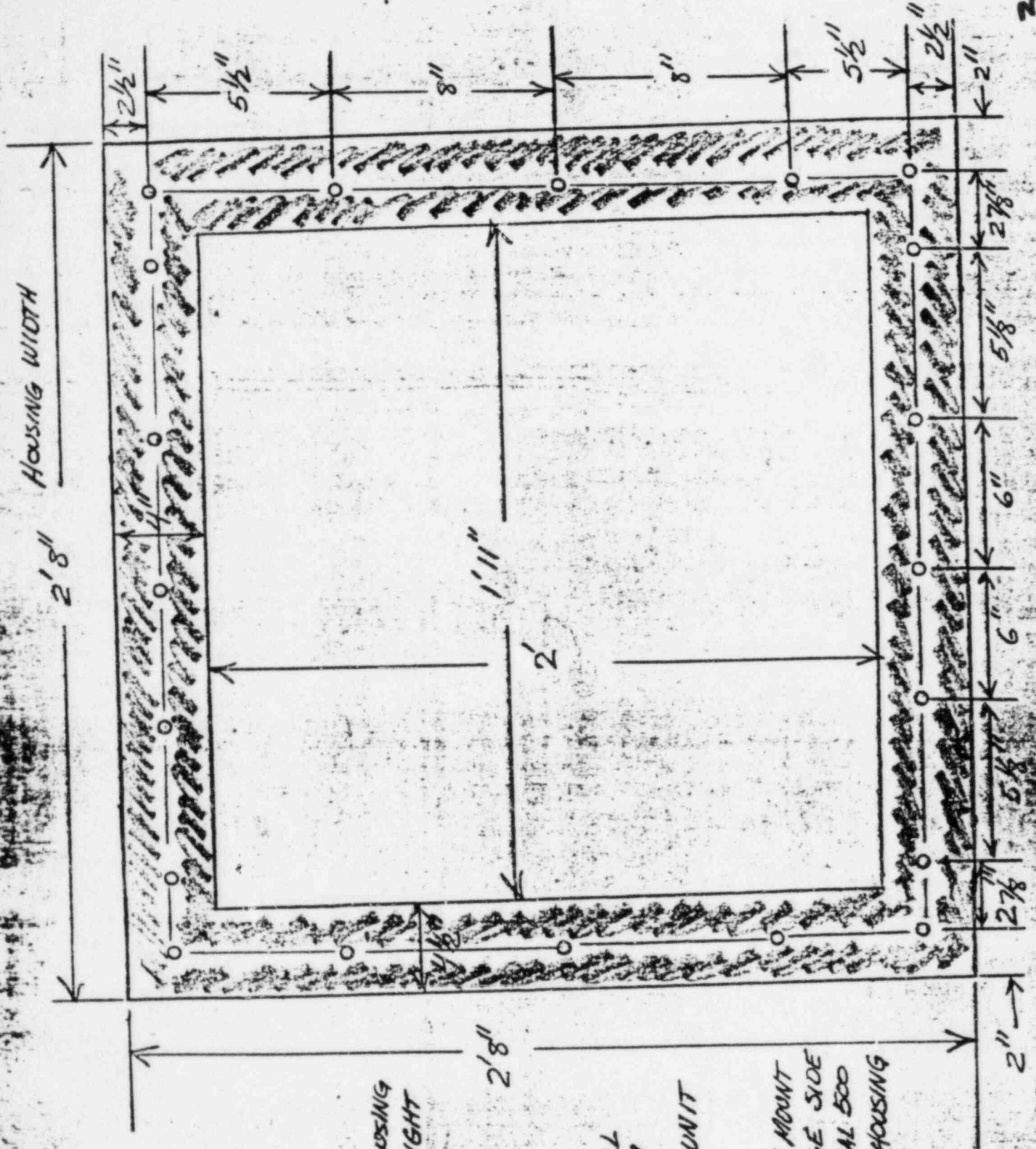
FLANGE MOUNT
SUCTION SIDE
ASTROSEAL-500
2H28 HOUSING





3000 CFM UNIT
BUILDING SYSTEM

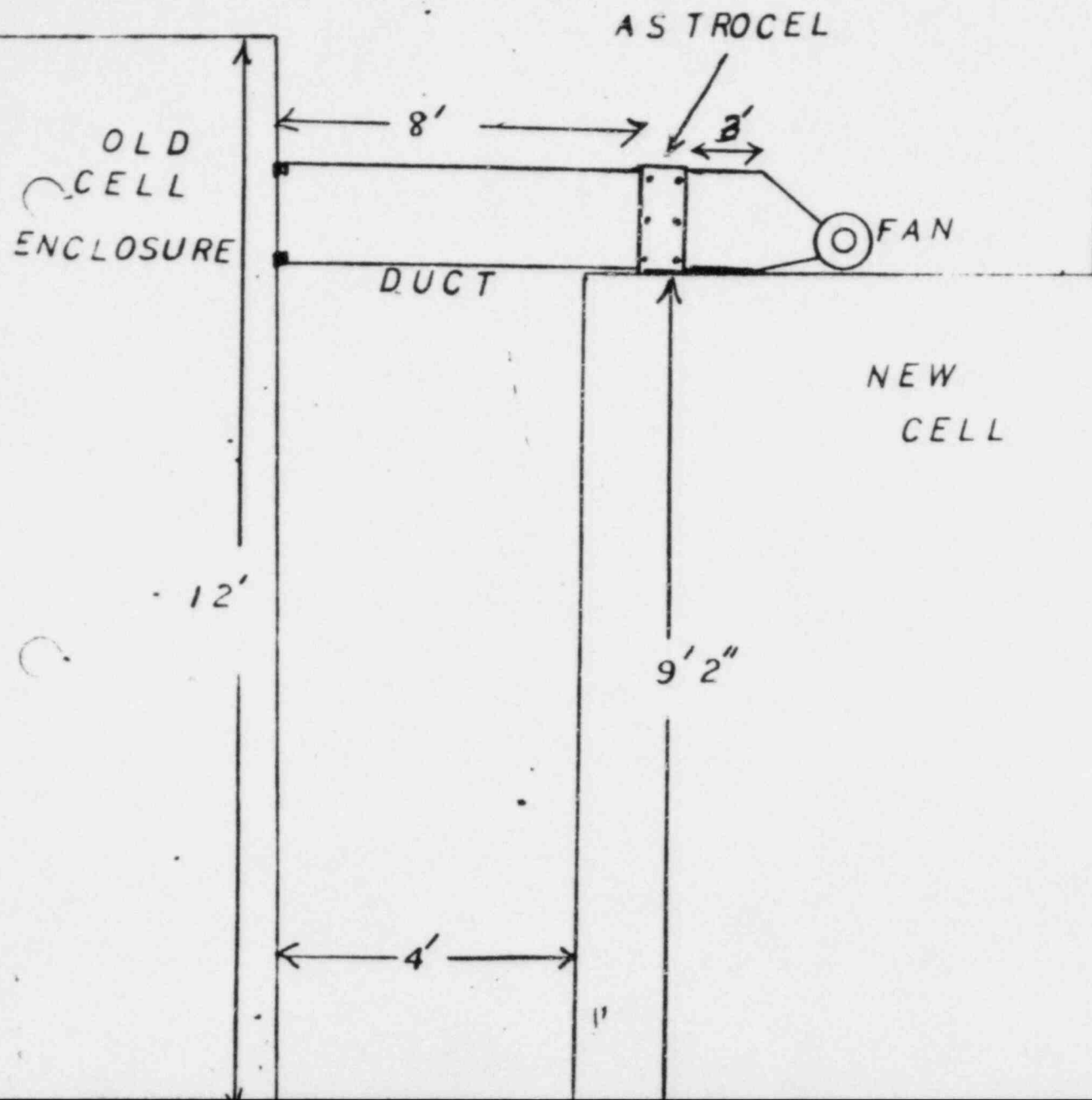
FLANGE MOUNT SUCTION SIDE
ASTRO SEAL HOUSING



OLD CELL
SYSTEM

1500 CFM UNIT

FLANGE MOUNT
DISCHARGE SIDE
ASTROSEAL 500
2H 28 HOUSING



DUCT 2' X 2'
FAN SUCTION 10"

NRC FORM 218 (4-76) NRCM 0240		U.S. NUCLEAR REGULATORY COMMISSION		DATE 4/10/87	
TELEPHONE OR VERBAL CONVERSATION RECORD				TIME 2:10 ☐ AM ☒ PM	
☒ INCOMING CALL		☐ OUTGOING CALL		☐ VISIT	
PERSON CALLING JIM PARKER		OFFICE/ADDRESS INI		PHONE NUMBER EXTENSION	
PERSON CALLED JOHN GREEN		OFFICE/ADDRESS RI		PHONE NUMBER EXTENSION	
CONVERSATION					
SUBJECT DISPOSAL OF MATERIAL FROM INI DOVER					
SUMMARY MR. PARKER CALLED TO INFORM ME THAT THEY HAVE CONTACTED CHEM NUCLEAR TO REMOVE THE PACKAGED WASTE FROM DOVER AS SOON AS POSSIBLE. SAID THEY NOW HAVE MONEY. HE INDICATED THAT NEUTRON PRODUCTS HAS BEEN CONTACTED REGARDING REMOVAL OF THE CO-60 SOURCES FROM THE POOL.					
REFERRED TO: Friedman, Joyner, Allan, Gutierrez				☐ ADVISE ME OF ACTION TAKEN.	
ACTION REQUESTED FYI				INITIALS	
ACTION TAKEN				DATE	
				INITIALS	
				DATE	

NRC FORM 218 (4 78) NRCM 0240		U.S. NUCLEAR REGULATORY COMMISSION		DATE 4/10/84	
TELEPHONE OR VERBAL CONVERSATION RECORD				TIME 5:30 ☐ AM ☒ PM	
☒ INCOMING CALL		☐ OUTGOING CALL		☐ VISIT	
PERSON CALLING BRUCE THOMAS		OFFICE/ADDRESS INI - DOVER		PHONE NUMBER EXTENSION	
PERSON CALLED JOHN GLENN		OFFICE/ADDRESS RI		PHONE NUMBER EXTENSION	
CONVERSATION					
SUBJECT DISPOSAL & CLEANUP AT INI - DOVER					
SUMMARY BRUCE REPORTED POSITIVE MOVEMENT IN SEVERAL AREAS: 1. WASTE STORED IN NEW CELL AREA WILL BE SHIPPED IN MAY - HOPEFULLY EARLY IN MAY. 2. ~~NEUTRON~~ PRODUCTS HAS INDICATED THAT THEY ARE WILLING TO REMOVE THE 1974 COBALT-60 AT NO COST EXCEPT THE OWNERSHIP OF THE SOURCES. THEY WILL ALSO MAKE QUOTE ON RECOVERY AND RE-ENCAPSULATION OF 1970 SOURCES, (THE 1970 SOURCES ARE THE DAMAGED ONES) 3. AIR SAMPLES IN THE CONTAMINATED CELL HAVE NOT EXCEEDED 5×10^{-10} ^{uCi/ml} SINCE THE VENTILATION SYSTEM WAS STARTED.					
REFERRED TO: FRIEDMAN, JOYNER, ALLAN, BUTLER				☐ ADVISE ME OF ACTION TAKEN.	
ACTION REQUESTED FYI				INITIALS	
ACTION TAKEN				DATE	
				INITIALS	
ACTION TAKEN				DATE	
				INITIALS	



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
831 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

Docket No. 030-07026

License No. 29-13848-01

International Nutronics, Inc.
ATTN: Bruce Thomas
Plant Manager
U.S. Highway 46 & Schley Street
Dover, New Jersey 07801

Gentlemen:

Subject: Inspection Report No. 030-07026/83-01

This refers to the special safety inspection conducted by Laurence F. Friedman, Ph.D., C.H.P., Ms. Jenny M. Johansen, and Mr. Samuel Z. Jones of this office on September 30, 1983, October 1, 1983, October 6-7, 1983, October 21, 1983, October 26-27, 1983, November 30, 1983, December 1, 1983, December 7, 1983, December 14, 1983, and December 21, 1983, of activities authorized by NRC License No. 29-13848-01 and to the discussions of our findings held by Dr. Friedman with yourself at the conclusion of the inspection.

Areas examined during this inspection are described in the NRC Region I Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, measurements made by the inspector, and observations by the inspector.

Based on the results of this inspection, it appears that certain of your activities were not conducted in full compliance with NRC requirements, as set forth in the Notice of Violation, enclosed herewith as Appendix A. These violations have been categorized by severity level in accordance with the NRC Enforcement Policy (10 CFR 2, Appendix C) published in the Federal Register Notice (47 FR 9987) dated March 9, 1982. You are required to respond to this letter and in preparing your response, you should follow the instructions in Appendix A.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room unless you notify this office, by telephone, within ten days of the date of this letter and submit written application to withhold information contained therein within thirty days of the date of this letter. Such application must be consistent with the requirements of 2.790(b)(1). The telephone notification of your intent to request withholding, or any request for an extension of the 10-day period which you believe necessary, should be made to the Supervisor, Files, Mail and Records, USNRC Region I, at (215) 337-5223.

The responses directed by this letter and the accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Your cooperation with us in this matter is appreciated.

Sincerely,

Thomas T. Martin, Director
Division of Engineering and
Technical Programs

Enclosures:

1. Appendix A, Notice of Violation
2. NRC Region I Inspection Report Number 030-07026/83-01

cc w/encl:

Public Document Room (PDR)
Nuclear Safety Information Center (NSIC)
State of New Jersey

Town of Dover

ATTN: Don Costanzo
Health Officer
37 North Sussex Street
Dover, New Jersey 07801

Town of Dover

ATTN: Aldo Cicchetti
Mayor
37 North Sussex Street
Dover, New Jersey 07801

APPENDIX A
NOTICE OF VIOLATION

International Nutronics, Inc.
Dover, New Jersey 07801

Docket No. 030-07026
License No. 29-13848-01

As a result of the inspection conducted on September 30, 1983, October 1, 1983, October 6-7, 1983, October 21, 1983, October 26-27, 1983, November 30, 1983, December 1, 1983, December 7, 1983, December 14, 1983, and December 21, 1983, and in accordance with the NRC Enforcement Policy (10 CFR 2, Appendix C), the following violations were identified:

- A. 10 CFR 30.34(c) requires that each licensee confine his possession and use of byproduct material to the purposes authorized by the license.

Conditions 6, 7, and 9 of License Number 29-13848-01 authorize the possession of cobalt-60 only in sealed sources for the irradiation of materials.

Contrary to the above, from 1974 to the present, the license stored cobalt-60 in unsealed form in the irradiation facility.

This is a Severity Level III violation (Supplement VI).

- B. Condition 20 of License Number 29-13848-01 requires that cleanup operations in the source pool be performed in accordance with the "Procedures for Source Pool Cleanup Using Hydro-Vacuum System" submitted with the letter dated November 5, 1982.

Paragraph 4.6(b) of these procedures requires that, during dewatering operations, the pump discharge line remain at least 10 feet under water.

Contrary to the above, on or about November 12, 1982, filters were dewatered with the pump discharge line above the pool surface.

This is a Severity Level IV violation (Supplement VI).

- C. Condition 19 of License No. 29-13848-01 requires that licensed material be possessed and used in accordance with statements, representations and procedures contained in application dated October 30, 1980.

Item 13 d., e., f of this application requires that, during irradiation of materials, radioactive sources be supported in a source capsule which is described in detail in the application, and that a pool cover be in place.

Contrary to the above, from December 27, 1982, to January 2, 1983, irradiations were performed with the sources in a bail assembly, not the required source capsule, and no pool cover was in place.

This is a Severity Level III violation (Supplement VI).

- D. 10 CFR 20.203(c)(6)(iii) requires that, when the shield for a stored irradiator source is a liquid, means shall be provided to monitor the integrity of the shield and to signal, automatically, the loss of adequate shielding.

Contrary to the above, from February 1983, to the present, the source pool water level was not monitored by a low water level alarm system.

This is a Severity Level II violation (Supplement VI).

- E. 10 CFR 20.201(b) requires that each licensee make such surveys as may be necessary to comply with all sections of Part 20. As defined in 10 CFR 20.201(a), "survey" means an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions.

1. Contrary to the above, no surveys were made to assure compliance with 10 CFR 20.106, which limits the yearly average concentration of cobalt-60 contained in water discharged to unrestricted areas. Specifically, no evaluations were made of water released to the outside and below floor areas of the building following a spill of source-pool water on December 4, 1982.
2. Contrary to the above, as of October 10, 1983, no surveys were made to determine that individuals who worked in the restricted area were not exposed to airborne concentrations of cobalt-60 exceeding the limits specified in 10 CFR 20.103.

These are Severity Level III violations (Supplement IV).

3. Contrary to the above, no evaluations were made to assure compliance with 10 CFR 20.303, which limits the disposal of licensed material by release to a sanitary sewerage system. Specifically, no evaluation was made of the releases to the sewerage system in December 1982, of waste generated in the cleanup of the spill which occurred on December 4, 1982.

This is a Severity Level IV violation (Supplement IV).

- F. 10 CFR 20.403(b) requires that each licensee report to the appropriate NRC Regional Office within 24 hours any incident involving licensed material which may have caused or threatens to cause a loss of one day or more of the operation of any facilities affected or damage to property in excess of \$2,000.

Contrary to the above, a spill of radioactive source-pool water containing cobalt-60 which occurred on December 4, 1982, and which caused the loss of the use of the facility for more than one day, and property damage in excess of \$2,000 was not reported as required.

This is a Severity Level II violation (Supplement VII).

- G. 10 CFR 20.105(b) requires that radiation levels in unrestricted areas be limited so that an individual who was continuously present in the area could not receive a dose in excess of 2 millirems in any hour or 100 millirems in any seven consecutive days.

Contrary to the above from October 17, 1983, to December 7, 1983, radiation levels of 13 milliroentgen per hour existed on the roof of the facility, an unrestricted area.

This is a Severity Level IV violation (Supplement IV).

Pursuant to the provisions of 10 CFR 2.201, International Nutronics, Inc., is hereby required to submit to this office within thirty days of the date of the letter which transmitted this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Where good cause is shown, consideration will be given to extending this response time.

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 030-07026/83-01

Docket No. 030-07026

License No. 29-13848-01 Priority I Category E3

Licensee: International Nutronics, Inc.

U.S. Highway 46 & Schley Street

Dover, New Jersey 07801

Facility Name: International Nutronics, Inc.

Inspection At: Dover, New Jersey

Inspection Conducted: September 30, 1983, October 1, 1983, October 6-7, 1983,
October 21, 1983, October 26-27, 1983, November 30, 1983,
December 1, 1983, December 7, 1983, December 14, 1983,
and December 21, 1983,

Inspectors:

Laurence F. Friedman, Ph.D., C.H.P.
Senior Radiation Specialist

_____ date

Jenny M. Johansen
Radiation Specialist

_____ date

Samuel Z. Jones
Radiation Specialist

_____ date

Approved by:

John E. Glenn, Ph.D., Chief
Nuclear Materials Section B
Nuclear Materials and Safeguards
Branch

_____ date

Inspection Summary:

Special Safety Inspection Conducted September 30, 1983, October 1, 1983,
October 6-7, 1983, October 21, 1983, October 26-27, 1983, November 30, 1983,
December 1, 1983, December 7, 1983, December 14, 1983, and December 21, 1983,
(Report No. 030-07026/83-01)

Areas Inspected: Allegation of spill of contaminated water and investigation of circumstances surrounding the spill, radiation protection procedures, materials, facilities, and instruments, control of high radiation area, personnel protection - internal, effluent control, waste disposal, notifications and reports, and confirmatory measurements. The inspection involved inspector hours on site time by three NRC inspectors.

Results: Nine apparent violations were identified: Possession of unauthorized radioactive material, improper procedures during decontamination operations, unauthorized use of licensed material, no monitor of integrity of liquid shield, no surveys of effluents released from the facility, no surveys of airborne exposures, no surveys of releases to sewer, failure to report incident, excessive radiation levels in an unrestricted area.

DETAILS

1. Persons Contacted

*Bruce Thomas, Plant Manager
Larry Mayfield, Operator
James Welch, Radiation Safety Officer

*Denotes those present at exit interview.

2. Allegation and Incident

spill pool
On September 30, 1983, Region I received an allegation that International Nutronics had suffered a pump malfunction that had resulted in the pumping out of the source ~~into~~ onto the facility floor. The alleged stated that the pool had been pumped nearly dry. He further stated that some of the spill water had been released from the facility, resulting in contamination in the walls and external to the facility. This inspection and a subsequent investigation has essentially substantiated this allegation.

the sit. The alleged further stated: A second leaking source ^{*in addition to the one discovered in 1974*} was identified during cleanup operations. This information was already available to the NRC and had been reported by the licensee. Two filters remaining from ~~a~~ ^{*the*} cleanup of ~~a~~ ^{*the*} leaking source in 1974 were found at the bottom of the pool during cleanup operations in 1982. This allegation has been substantiated. ~~The~~ ^{*the*} product to be irradiated was stacked along the walls of the building to conceal the effects of the above mentioned spill. This allegation is still under investigation. During cleanup operations, contaminated water was dumped into a shower in the office building section of the licensee's facility. This violation has been substantiated. Irradiation of product was continued during a period when the NRC believed the facility to be shutdown. This allegation has been substantiated.

The contamination of the source pool at this facility is the result of a leaking source which was discovered in 1974, and reported to the NRC at that time. In an attempt to cleanup residual contamination from this leaking source, the licensee contracted with Chem-Nuclear in mid-1982 to perform cleanup operations in the pool. The spill mentioned above occurred during licensee cleanup operations after Chem-Nuclear had left. #

Violations associated with the above are detailed in subsequent sections of this report.

3. Radiation Protection Procedures

Chem-Nuclear performed cleanup operations of the licensee's facility under the licensee's license, by special condition added to that license. This condition incorporated by reference the procedures that would be used by Chem-Nuclear during the cleanup. The Chem-Nuclear operation included hydrovac_{ing} the pool using filters contained in 55-gallon drums shielded

with concrete. One of the operations involved dewatering the filters after use by blowing air back through the filter. The licensee's procedures required that the exit hose from the filter be at least 10 feet below the surface of the source pool during dewatering operations. Because of turbulence created in the pool during this operation, the operation was actually conducted with the exit hose above the surface of the pool. This produced a fine mist which appears to have spread contamination throughout the interior of the shield. ~~During~~ During a survey of the facility roof during the last week in November, the licensee discovered an area where radiation levels of 13 mr/hr existed at the surface of the roof. This condition was reported to an NRC inspector on December 7, 1983, at which time the area was posted as a restricted area at the inspector's request. The condition had existed since October 17, 1983, when parts of the radiation shield surrounding the old irradiator ~~had been~~ ^{was} rearranged.

The finding that dewatering of filters ~~had been~~ ^{was} conducted with the exit hose from the filter above the surface of the pool is a violation of License Condition 20.

The finding that radiation levels of 13 mr/hr existed on the roof of the licensee's facility, an unrestricted area, is a violation of 10 CFR 20.105(b).

4. Materials, Facilities and Instruments

During cleanup operations in November 1982, two truck oil filters were discovered in the pool which read approximately 1 roentgen per hour at one foot. These filters appear to be left over from cleanup operations conducted in 1974, following a source rupture. ~~These filters appear to~~ ^{They} contain mini pellets from the ruptured source, and other loose cobalt-60. The filters were removed from the pool and placed in 55-gallon drums shielded with concrete.

From December 27, 1982, to January 2, 1983, the licensee irradiated product for customers using sealed sources supported in bail assemblies. The sources are normally mounted in a special source capsule during irradiations. During the period when these irradiations were conducted, the NRC believed that the facility had been shut down to permit decontamination operations to proceed.

The finding that the licensee possessed cobalt-60 in unsealed form is a violation of 10 CFR 30.34(c) and license conditions 6, 7, and 9.

The finding that the licensee conducted irradiations with the sources supported in a bail assembly is a violation of license condition 19.

5. Control of High Radiation Area

The licensee is no longer conducting irradiation^s at ~~his~~ ^{its} facility. At the time a new irradiator was constructed in February 1983, the vacuum switch which monitors the water level in the old irradiator was disconnected and

the instrumentation used for the water level alarm in the new cell. Consequently, from February 1983^x to the present, there has not been any system that would automatically detect a low water condition in the old pool in which the sources are stored. ←

The finding that the source pool, in which sources are stored, is not monitored by a low water level alarm is a violation of 10 CFR 20.203(c)(6)(iii).

6. Personnel Protection - Internal

→ In June 1983^x the licensee began systematic surveys for removable contamination in his facility. These surveys disclosed significant removable contamination, which reappeared within two weeks of cleaning. This lead licensee personnel to suspect a significant airborne contamination problem, and air sampling was begun on August 29, 1983. These surveys revealed airborne contamination levels close to the maximum permissible concentration for a restricted area. The licensee enclosed the old cell area, the suspected source of the contamination, in plastic, and began a systematic cleanup of the rest of the facility to remove all traces of loose contamination from all surfaces including beams and rafters. In response to an order from the NRC, the licensee also conducted whole body counting for all personnel who worked in the facility during the period of suspected contamination. The maximum body burden detected in any one person was estimated to result from 19 mpc-hours exposure to cobalt-60. =/y

Licensee personnel informed the NRC that evidence of airborne contamination was recognized by the licensee as early as 1976, but no steps were taken at that time to quantify the extent of the airborne contamination problem.

The finding that no surveys were done to quantify airborne contamination is a violation of 10 CFR 20.201(b).

7. Effluent Control, Waste Disposal

On December 1, 1982, the licensee was conducting a hydrovac^cing operation using an auxilliary pump and filter system. The system was permitted to run overnight. The discharge line from the pump became unseated, and almost the entire contents of the source shielding pool was pumped out onto the floor of the facility. The extent of the spill is evidenced by licensee records showing the floor surface that was covered with water, and notations that ozone was detectable in the facility. This would indicate that the sources were exposed to air. The water in the pool was contaminated with cobalt-60. NRC inspectors detected radiation levels along the inside of the walls of the facility as high as 5 milliroentgen per hour and outside the facility as high as 1.5 milliroentgen. Subsequent surveys outside the facility showed soil contamination as high as 270 picocuries per gram, and contamination under the floor of the facility as high as 3,800 picocuries per gram of soil. The licensee sunk four test wells outside his facility. No evidence of ground water contamination has been detected. There is no indication that the licensee made any attempt to quantify the extent of these releases to the environment prior to being ordered to do so by the NRC. ←

During the cleanup effort following the spill, the licensee poured some of the cleanup water into a stall shower located in the office building in the front of his facility. No attempt was made by the licensee to estimate the amount of radioactive material that was being discharged to the sewer.

The finding that no surveys were made to quantify releases of radioactive material to the environment is a violation of 10 CFR 20.201(b).

The finding that the licensee discharged radioactive material to the sewer without making an attempt to quantify the amount of material being released is a violation of 10 CFR 20.201(b).

8. Notifications and Reports

Licensee representatives stated that a management decision was made following the December 4, 1982, spill, not to report the spill to the NRC on the grounds that it was not reportable. It is apparent, however, that the spill has caused the loss of use of the facility for more than 24 hours, and that the cleanup expenses will exceed \$2,000 by a considerable amount. ←

The finding that the licensee failed to report, within 24 hours, an incident which caused a loss of use of his facility for more than 24 hours and caused property damage in excess of \$2,000 is a violation of 10 CFR 20.403(b).

9. Confirmatory Measurements

In addition to the surveys made by the NRC referred to in previous sections of this report, the NRC also made measurements of airborne contamination on December 14, 1983, in the licensee's facility. The results of these measurements indicate that airborne contamination levels are ~~at~~ approximately 10^{-13} microcuries per milliliter of cobalt-60. This is several orders of magnitude below levels acceptable in an unrestricted area. ←

No violations of NRC rules, regulations or license conditions were identified. ↗

10. Exit Interview

The results of the inspection were discussed with the licensee representatives denoted in section 1.

During the inspection the results of certain analyses made by the NRC were transmitted to the licensee by letter dated December 27, 1983. No other written information was given to the licensee during the inspection.



May 1, 1984

Max J. Gwertzman
Gwertzman, Pfeffer, Toker & Lefkowitz
115 Broadway
New York, NY 10006

Dear Mr. Gwertzman:

It has been two weeks since I wrote you regarding our claim and a month since my letter to Ms. Frances Johnson.

I have just contacted Dr. John Glenn's office at the NRC, and I have been informed that you have not contacted him.

I am at a loss as to how to get your attention focused on this matter. All we have received are excuses or no response at all to our enquiries.

If we do not receive acceptance of this claim by May 18, 1984, we intend to seek relief in court. There is no excuse for the delays we have suffered and the damage we have incurred as a result of those delays.

This is a simple claim that could have been handled in an expeditious and satisfactory manner months ago. It has now cost us far too much and we cannot wait any longer.

Very truly yours,

Gregory A. Parker
Corporate Counsel

GAP:mc

cc: Bruce Thomas
John Glenn
Jay Gutierrez
Lillian Cuoco
Robert Mogg

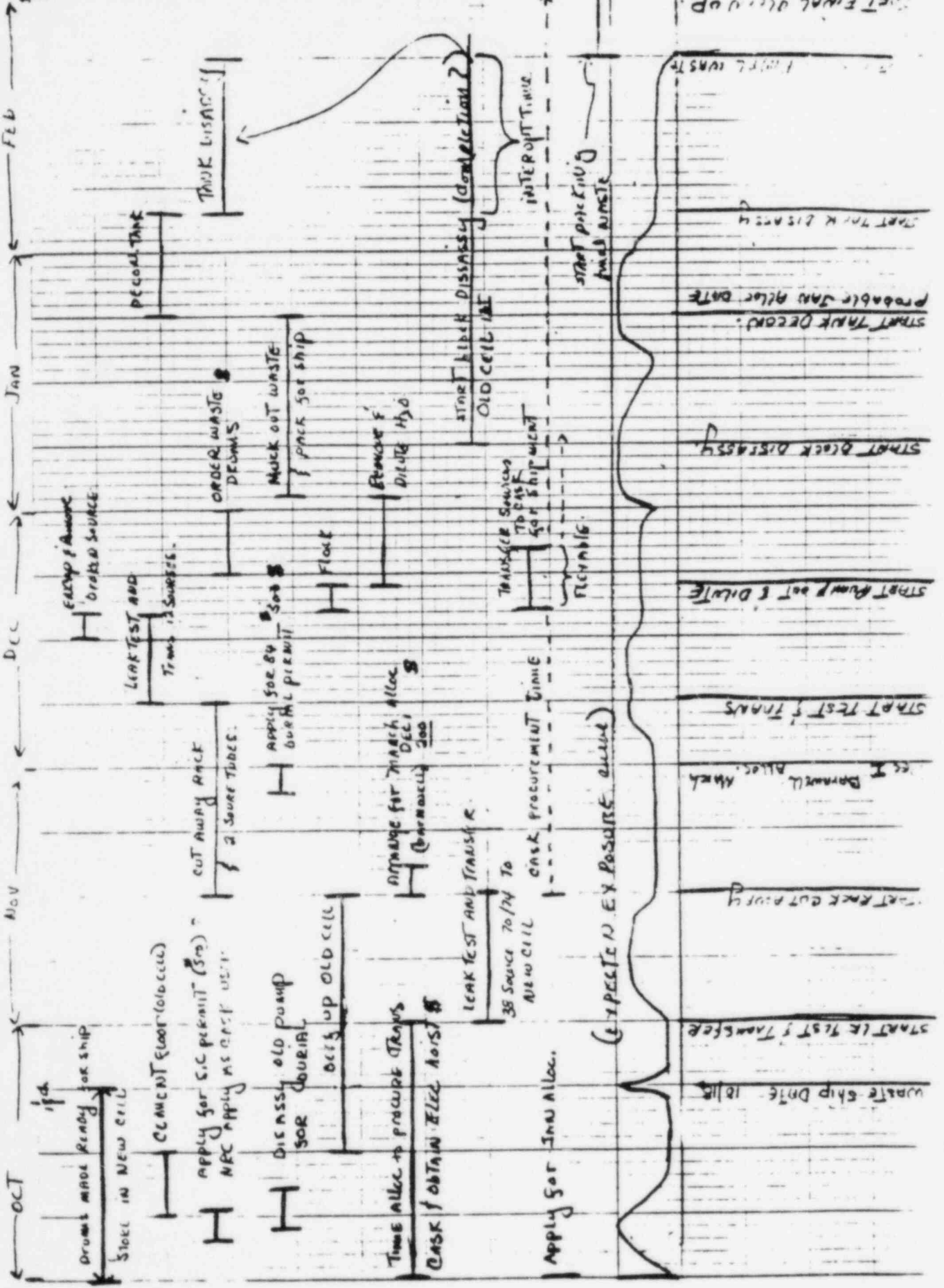
The map of the spill
is representative of
the ^{outer} dirt boundary where
the water had^{forced the dirt} spilled out, when it

Did you know that the amount (volume)
of H₂O which was mopped up
immediately after the anti-spill
was less than 3 gallons?
This water was ~~return~~ returned
to the irradiator well.

They lost ~ 400 gallons
but only mopped up
< 3 gallons

Has any soil ^{or macadam} been removed? To what? survey?
check cell out effluent, is there filter? samples.

removable in cell?
floor cleaning?



START FINAL CLEAN UP

START TANK DECONTAMINATION

START TANK DECONTAMINATION

START TANK DECONTAMINATION

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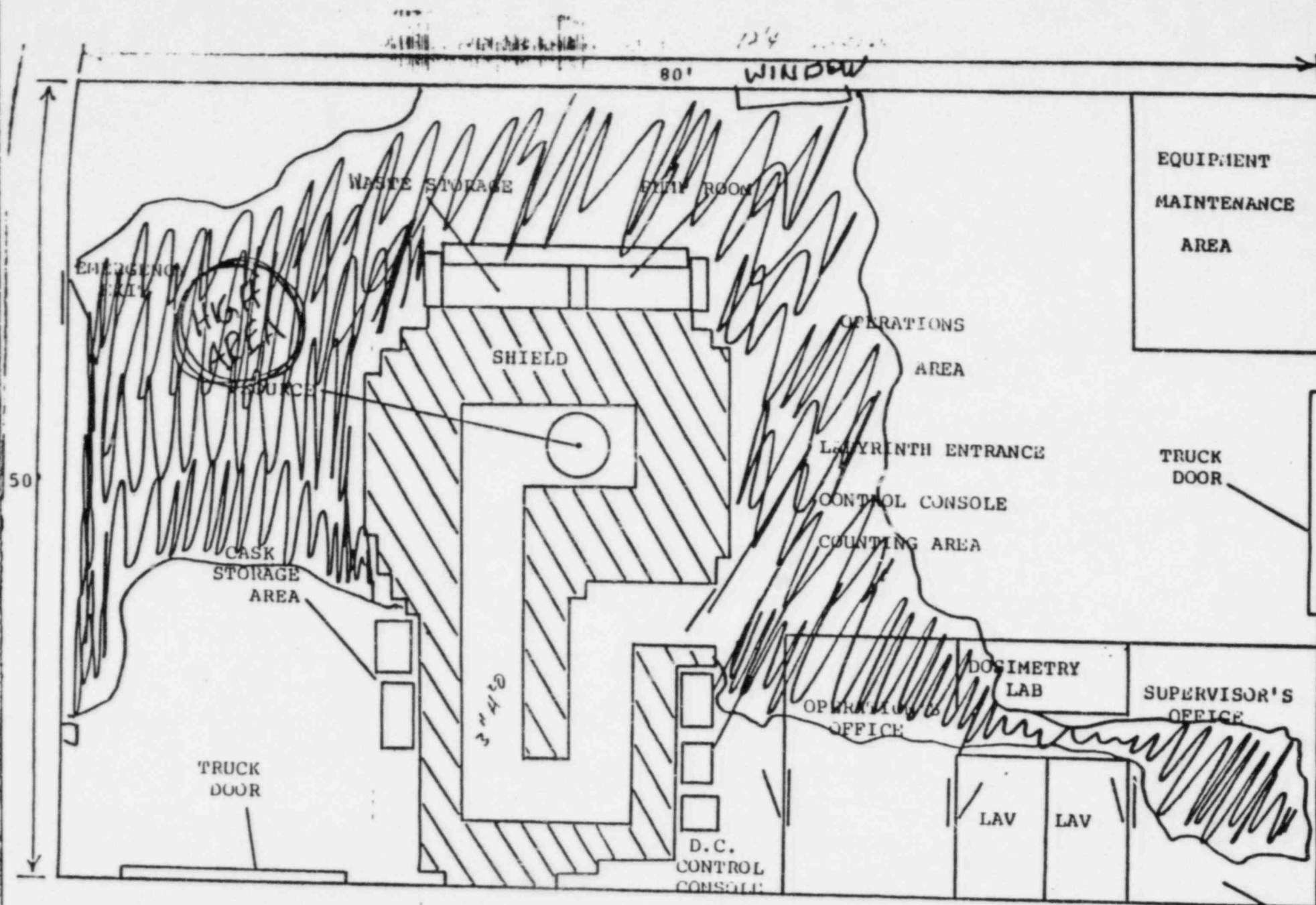
START TANK DECONTAMINATION

START TANK DECONTAMINATION

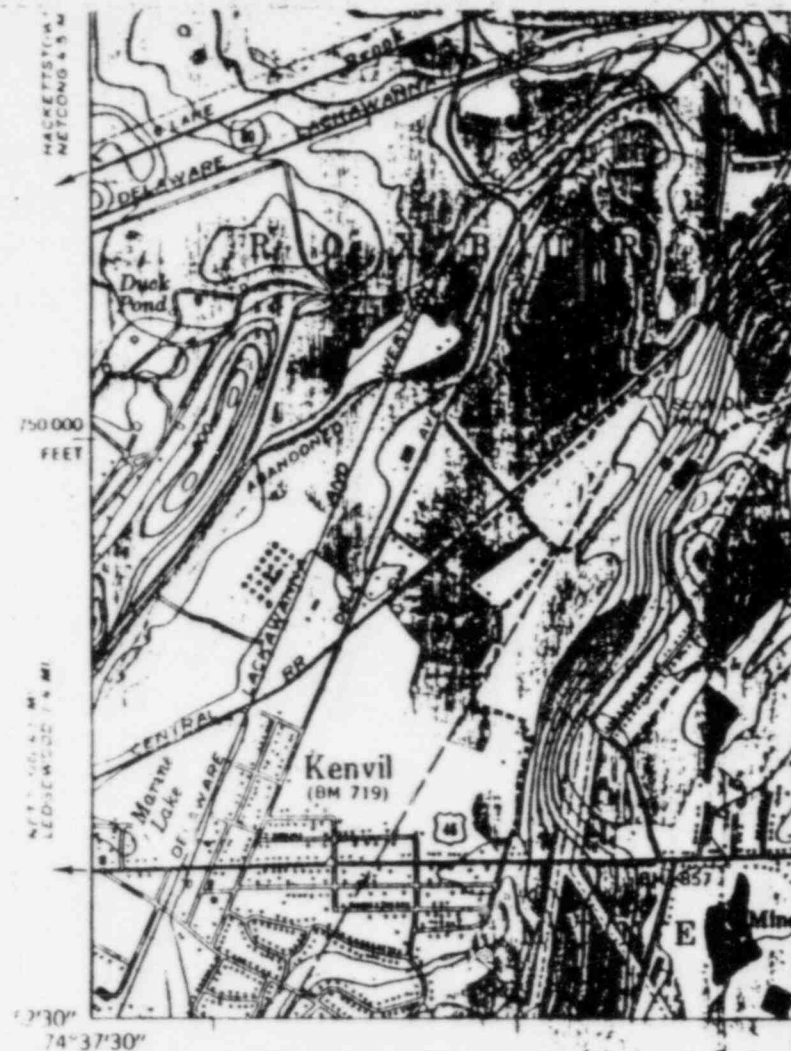
START TANK DECONTAMINATION

START TANK DECONTAMINATION

START TANK DECONTAMINATION



(FACILITY LAYOUT)
FIGURE 3



Mapped by the Army Map Service
 Edited and published by the Geological Survey
 Control by USC&GS and New Jersey Geodetic Survey
 Topography from aerial photographs by photogrammetric methods. Aerial photographs taken 1942-1943. Field check 1943. Culture revised by the Geological Survey 1954.
 Polyconic projection. 1927 North American datum.
 10,000 foot grid based on New Jersey coordinate system.
 1000 meter Universal Transverse Mercator grid ticks, zone 18, shown in blue.
 Red tint indicates areas in which only landmark buildings are shown.



202000 FEET

35'

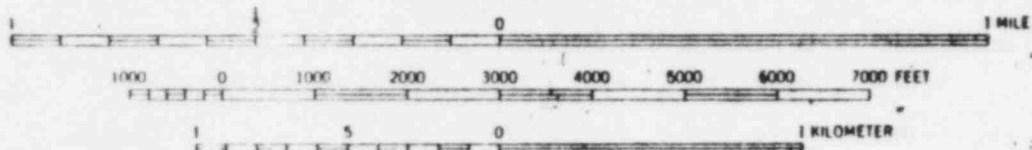
1.8 MI TO N. J. 10
NETCONG 8.8 MI

(513)

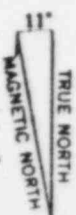
(MENDHAM)

32°30'

SCALE 1:24000



CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL



APPROXIMATE MEAN
DECLINATION, 1954



QUADRANGLE LOCATION

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

309

