121 1+5

FOREWORD

In November of 1973, Todd Research & Technical Division undertook the decontamination of a Nuclear Fuels Fabrication Facility for Union Carbide Corporation. The building, identified as No. 10, is located on the grounds of their Carbon Products Division in Lawrenceburg, Tennessee.

The complete decontamination, to the specifications set down in "'Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for By-Product Source or Special Nuclear Material' - USAEC May 3, 1973", took a matter of six weeks. A major portion of the involved time was spent in surveying equipment and preparing radioactive waste for shipment.

This purpose of this report is to present the gathered survey data in an effort to gain unconditional release of the facility.

A/132

I. Introduction

Under 'Union Carbide Corporation (UCC) Letters of Intent' and Contract No. 70-743-1 Todd Research & Technical Division (TRT) undertook the decontamination of UCC's Building 10 at their Lawrenceburg, Tennessee Facility. The building had been previously used for Nuclear Fuel Fabrication and as such was considered to be moderately contaminated with uranium, an alpha emitter.

II. Initial Surveys

After arrival at the site and setup of equipment an initial survey of the facility was started. All interior and exterior areas were surveyed and preparations made for decon. In general, all walking areas, the office area and high bay were found to be free of contamination.

The incinerator on the west side of the building was found free of loose contamination, however; the fixed levels exceeded 2×10^6 dpm/100cm^2 on the fire bricks.

The working areas of the building itself were moderately contaminated 1000 - 10000 dpm/100cm^2 loose mostly in the overhead areas. The fixed levels in those areas ranged from 100 on up to 2×10^5 dpm/100cm^2. Equipment found in the work areas ran from one extreme to the other, i.e., either no contamination (loose or fixed) on most free items too heavy 1×10^4 dpm/100cm^2 and greater in the glove boxes.

The ventilation system was not as bad as was expected. The major contamination was confined to the directional louvers and the return ducts from the high bay area.

Prior to starting actual decon, all free material in the building was surveyed. Those items found clean were moved outside for UCC reclamation or disposal. Those for which decon was deemed too costly were set aside in two rooms for packaging as radioactive waste.

The other team started independently in the work areas. By this time most of the free clean material had been moved outside thus decon began in earnest.

In the Ashing Room the supporting structures for the furnace and ion exchange columns were cut down and removed as scrap. The glove boxes which could not be saved were filled with waste and welded shut. A few areas of deck tile had to be removed as even blasting would not help. Decon was slow but eventually completed when the room was completely striped.

The Machining Room was equally slow as one new stainless steel fume hood had to be arced down and removed. Upon completion a Lindburg Horizontal Furnace and a safe storage rack remained, both were deconed to written specifications.

The drain pipes from the janitor's sink were broken at all joints, surveyed and found to be free of contamination. The drains in the Lab and Inspection Room were clean also. As with the Ashing and Machining Rooms decon was started at the top with the duct exteriors and beams and cleaned up with vacuuming and some scrubbing.

In the Coating Room the overhead areas were found to be clean but the heavy dust deposits were vacuumed up to be on the safe side. All furnaces were removed and disassembled, all but one were clean to begin with, the other cleaned up easily with sandblasting.

The Maintenance and Batching Rooms were completely striped prior to surveying. The Maintenance Room required only superficial vacuuming and mopping prior to release. The Batching Room, however needed intensive sandblasting and scrubbing to meet specifications.

The safe storage racks in the vault were left in place for the most part. A few of the shelves had to be disposed of along with one loose cement block divider. The remainder of the room cleaned up on the first try.

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III. Decontamination

"Specifications for Decon 'Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for By-Product Source or Special Nuclear Material' USAEC, Division of Materials Licensing, May 3, 1973."

For the major portion of the task to be accomplished two decon-survey teams were set up, each headed up by a TRT Technician and staffed by subcontractor personnel.

One team was set to the ventilation system. The starting point for this system was the penthouse. By the time the filter containers were ready the penthouse had been vacuumed and no major loose surface contamination remained. At this point the filters were removed and placed in the containers in as near the same array in which they were used as possible. The remainder of the penthouse including the fan was steam sprayed and in some instances, i.e., the fan cowl and shaft, sandblasted. About half of the flow directing louvers upstream of the cooling and heating coils were removed and disposed of as radioactive waste.

The supply side of the system, i.e., downstream of the filters was released after the first survey. The filters, although badly placed, had done their intended job.

The return ducts from the high bay area proved to be the toughest to decon. All surfaces came clean however, after sandblasting.

The main work area return ducts cleaned up easily with a simple vacuuming in most cases. A few spots notably over the Ashing and Machining Rooms had to be sandblasted but it was relatively small area. All but two of the intake louver plates were disposed of as radioactive waste.

The Forming Room due to raw size and extensive overhead contamination had to be steam cleaned. This removed all the loose contamination. A few areas of external duct and building structure had to be sandblasted to bring the fixed contaminates into specifications.

One upright press, a mixer and a fume hood were left in the room upon completion along with some large boxes which had been stored in the room.

All drain lines in the building were checked and found to be within release specifications. A few required decon around the mouth. After intensive internal checks were made the contaminates were determined to have been tracked or otherwise transferred from other surfaces.

The main hall required only superficial dusting and wiping to meet specifications.

IV. Waste Material

An estimated 400 grams of uranium entirely the form of contaminates was disposed of as radioactive waste. This was loaded in 114 containers, for a total of 3,663.35 cubic feet. This was transferred from UCC to TRT and then on the Chem Nuclear System in four batches of 150, 132.5, 103.4 and 14.1 grams SNM respectively. Transfer records are included as attachment 1 to this report.

V. Exposure

Whole body exposure for all TRT and subcontractor personnel as measured by film dosimetry was nondetectable. Internal deposits of alpha contaminates was minimal, i.e., nondetectable as measured by urinalysis.

At no time, during the performance of this task, was any hazardous airborne contamination recorded.

VI. Final Surveys

All release or final surveys are included in this report as attachment 2.

VII. Recommendations

Although specific recommendations would depend upon future site usage TRT prefers the following general recommendations:

1. You might consider using standard prefilters (as were in the system) for the ventilation system as the fixtures were left in place.
2. If nuclear work is anticipated restructing of the ventilation system to put the absolute filters upstream of the blower would make the system much more accessible.

T. J. Keane, Superintendent
Nuclear Services Dept.

TRANSFER RECORDS

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Page 1 - 4.....1st Shipment

Page 5 - 10.....2nd Shipment

Page 11 - 16.....3rd Shipment

Page 17 - 20.....4th Shipment

RADIOACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
Union Carbide Corporation	Todd Research & Technical Div @ Union Carbide - Carbon Products Div
ADDRESS: Hwy 43 S	ADDRESS: Hwy 43 S
CITY: Lawrenceburg; STATE: Tenn; ZIP:	CITY: Lawrenceburg; STATE: Tenn; ZIP:
LICENSE NO.: ; AGENCY:	LICENSE NO.: 8-371; AGENCY: Tenn

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
SA 10	all <.1	C	1171.5 cu ft	Radioactive Waste		

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	CURIE CONTENT	CHECK LABEL (S) APPLIED
III	Dep U, NAT U, 235 U	150 grams	☐ I ☐ II ☐ III

SEALS IN PLACE ☒ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

SOLE USE SHIPMENT ☐ YES ☒ NO — MAXIMUM SURFACE CONTAMINATION ON VEHICLE BED: BEFORE LOADING µCi/100 cm² AFTER UNLOADING µCi/100 cm²

SURVEY RESULTS MREM / HR								INSTRUMENT USED
LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'	SER. NO.
TOP OF VEHICLE	N/A	N/A	N/A	R. SIDE	N/A			CAL. DATE
BOTTOM OF VEHICLE		N/A	N/A	L. SIDE				VECH. IDENT
FRONT				OCCUPIED AREA MAX. SCAN				OWNER
BACK				SURVEYED BY:				DATE

REMARKS:

The above materials (listed by item on following transfer/shipment forms) are administratively accepted by TRT prior to loading for shipment to Chem-Nuclear Systems for burial

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
RADIATION CONTROL		AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT REP.		OTHER	

DISTRIBUTION:

SHIPMENT FILE 3.15	ORIGINAL	1
GATE PASS	CARBON	1
MATERIAL CONTROL	CARBON	2

ACKNOWLEDGEMENT OF RECEIPT

NAME [signature] DATE 11-10-85 0630

ORGANIZATION TRT

SALES ORDER AND SHIPPING REPORT

TODD SHIPYARDS CORPORATION
~~(GALVESTON DIVISION)~~
GALVESTON, TEXAS 77551

NUMBER	
DATE PREPARED	
TODD ORDER NUMBER	
TODD REQUISITION NO.	
CUSTOMER ORDER NO.	

SOLD TO: [illegible] Hwy 61 [illegible] Lancaster, S.C.

TO BE SHIPPED FROM: [illegible]

SHIP TO: SAME

SHIPPING INSTRUCTIONS (CHECK APPLICABLE BOX)

EXP.	FRT.	P.P.	P.U.	O.T.	COLL.	P.P.D.	$
☐	☒	☐	☐	☐	☒	☐	

OTHER	F.O.B. POINT	TERMS
Sale Use		

TYPE OF TRANSACTION

RETURN OF: OVER SHIPMENT ☐ DAMAGED MATERIAL ☐ INCORRECT MATERIAL ☐ CUSTOMER MATERIAL ☐

SALE OF: SURPLUS INVENTORY ☐ PLANT EQUIPMENT ☐ SCRAP METAL ☒ OTHER

QUANTITY	UNIT	DESCRIPTION AND MATERIAL CODE	UNIT PRICE	AMOUNT
10	ea	LSA Containers of		
		Radioactive Waste		
		[illegible]		
		[illegible]		
		[illegible]		
		[illegible]		
		[illegible]		
		[illegible]		
		[illegible] Customer Provided		
		Waste Material - LSA		
		No Labels Required		
		Placards Required		

SHIPPING CLERK TO COMPLETE THE FOLLOWING

COMPLETE ☐ PARTIAL ☐	NO. OF PACKAGES OR CARTONS 10	SHIPMENT/SALE APP'D BY [signature] DATE 11-15-83
CARRIER [illegible]	WEIGHT OF SHIPMENT ~20,000#	
SHIPMENT BY (SHIPPING CLERK) DATE	CAR, WAYBILL EXPRESS OR OTHER NUMBER	MAT'L REC'D IN GOOD ORDER BY [signature] DATE REC'D

DEPARTMENT AUTHORIZING SHIPMENT

TODD RESEARCH & TECHNICAL DIVISION

RADIOACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
Todd Research & Technical Div Union Carbide - Carbon Products Div	Chem-Nuclear Systems Inc
ADDRESS: Hwy 43 S	ADDRESS: Hwy 64
CITY: Lawrenceburg STATE: Tenn ZIP:	CITY: Barnwell STATE: S.C. ZIP:
LICENSE NO. / AGENCY	LICENSE NO. / AGENCY

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
LSA	<.1 mrem	<	1171.5 cu ft	Rad Waste		

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	~~CURIE CONTENT~~	CHECK LABEL(S) APPLIED
III	235 U	150 grams SNM	☐ I ☐ II ☐ III N/A

SEALED IN PLACE ☑ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

"USE" SHIPMENT ☐ YES ☐ NO — MAXIUM SURFACE CONTAMINATION ON VEHICLE USED: BEFORE LOADING <.5 pCi/100 cm² AFTER UNLOADING pCi/100 cm²

SURVEY RESULTS MREM / HR

LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'
OUTSIDE VEHICLE	<.1	N/A	N/A	R. SIDE	<.1		
TOP OF VEHICLE	↓	N/A	N/A	L. SIDE	↓		
FRONT	↓			OCCUPIED AREA MAX. SCAN	<.1		
REAR	↓			SURVEYED BY:	Keane		

INSTRUMENT USED: E-120
SER. NO.: 2494
CAL. DATE: 11-5-93
VEHICLE IDENT: 471
OWNER: TRI-STATE
DATE: 11-16-93

REMARKS:

RADIOACTIVE - LSA NO LABELS REQ'D

PLACARDS REQUIRED

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
TRANSPORTATION CONTROL: Keane	11-16-93	AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT MGR. Keane	11-16-93	OTHER	

DISTRIBUTION:
SHIPMENT FILE 3.15 — ORIGINAL 1
GATE PASS — CARBON 1
MATERIAL CONTROL — CARBON 2

ACKNOWLEDGEMENT OF RECEIPT
NAME: X [illegible] DATE: [illegible]
ORGANIZATION: TRI-STATE

Chem-Nuclear Services, Inc.

RADIOACTIVE SHIPMENT RECORD FORM

RCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

per Todd Research & Technical Division Date 11-16 19 73.

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn. Page 1 of ..... pages.

INSTRUCTIONS

ase complete this form and distribute as follows:
Mail original and Pink copy to Chem-Nuclear Services Inc.
P.O. Box 6868, Columbia, S.C. 29206
Hand Gold copy to truck driver.
Retain Canary copy

ase enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the isotope column.

st the isotopes mentioned in 2 above on the shipping label.

or Inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:
Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.

Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (4).

Each package has been monitored by radiation survey instruments at surface (3 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

Disclaimer: Title to all materials, whether or not they were previously Government-owned, contained in waste furnished for disposal under this contract (except material which is required by Section 52 of the Atomic Energy Act of 1954, as amended, to be owned by the Government) shall be deemed to be vested in Chem-Nuclear Services, Inc. immediately upon acceptance of such material by Chem-Nuclear Services, Inc. from the shipper or from the common carrier. The Government or shipper shall have no right to the recovery of any materials contained in such waste nor any credit for their potential value.

Pkg. No.	Mr hr Surface	Mr hr One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
2	less than .5	less than .1	< 1000 dpm α & βγ	^{235}U	N/A	15	N/A	397.0	N/A	7000	✓
3						15		471.0		5000	✓
4						15		2.5		100	✓
23						15		22.5		1000	✓
28						15		7.0		100	✓
29						15		7.0		100	✓
30						15		40.5		1000	✓
31						15		12.0		1000	✓
51						15		84.0		1000	✓
52						15		128.0		1000	✓

TODD RESEARCH & TECHNICAL DIVISION

RADIOACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
Union Carbide Corporation	Todd Research & Technical Div. (c/o Union Carbide - Carbon Products Div.)
ADDRESS: Hwy 43 S	ADDRESS: Hwy 43 S
CITY: Laurenceburg STATE: Tenn ZIP:	CITY: Laurenceburg STATE: Tenn ZIP:
LICENSE NO.: AGENCY:	LICENSE NO.: 8-8371 AGENCY: Texas

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
LSA (54)	all < .1	C	810.4 cu ft	Radioactive Waste		

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	CURIE CONTENT	CHECK LABEL (S) APPLIED
III	Dep U Nat U 235 U	132.5 grams	☐ I ☐ II ☐ III

SECURED SEALS IN PLACE ☒ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

VEHICLE USE SHIPMENT ☐ YES ☐ NO — MAXIUM SURFACE CONTAMINATION ON VEHICLE BED: BEFORE LOADING μ Ci/100 cm² AFTER UNLOADING μ Ci/100 cm²

SURVEY RESULTS MREM / HR — INSTRUMENT USED

LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'	SER. NO.
TOP OF VEHICLE	N/A	N/A	N/A	R. SIDE	N/A			CAL. DATE
BOTTOM OF VEHICLE		N/A	N/A	L. SIDE				VECH. IDENT
FRONT				OCCUPIED AREA MAX. SCAN				OWNER
BACK				SURVEYED BY:				DATE

REMARKS:

The above materials (listed by item on following transfer/shipment forms) are administratively accepted by TRT prior to loading for shipment to Chem-Nuclear Systems for burial

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
RADIATION CONTROL		AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT MGR.		OTHER	

DISTRIBUTION:

SHIPMENT FILE S/S ____ ORIGINAL 1
GATE PASS ____ CARBON 1
MATERIAL CONTROL ____ CARBON 2

ACKNOWLEDGEMENT OF RECEIPT

NAME [signature] DATE 1000 11-16-73

ORGANIZATION

T. J. Cove | UCC - Decon | 12

SALES ORDER AND SHIPPING REPORT

TODD SHIPYARDS CORPORATION
~~(GALVESTON DIVISION)~~ R-T
GALVESTON, TEXAS 77551

NUMBER	[illegible]
DATE PREPARED	
TODD ORDER NUMBER	
TODD REQUISITION NO.	
CUSTOMER ORDER NO.	

SOLD TO: [illegible] Southern Inc
[illegible] St (Co [illegible])
Spartanburg, S. C.

TO BE SHIPPED FROM: [illegible] Corp
[illegible]
[illegible]
[illegible]

SHIP TO: Same

SHIPPING INSTRUCTIONS (CHECK APPLICABLE BOX)

EXP.	FRT.	P.P.	P.U.	O.T.	COLL.	P.P.D.
☐	☒	☐	☐	☐	☒	☐ $

OTHER: Sole Use | F.O.B. POINT: | TERMS:

TYPE OF TRANSACTION

RETURN OF: OVER SHIPMENT ☐ DAMAGED MATERIAL ☐ INCORRECT MATERIAL ☐ CUSTOMER MATERIAL ☐

SALE OF: SURPLUS INVENTORY ☐ PLANT EQUIPMENT ☐ SCRAP METAL ☒ OTHER

QUANTITY	UNIT	DESCRIPTION AND MATERIAL CODE	UNIT PRICE	AMOUNT
54	EA	LSA Contained of Radioactive		
		Waste		
		The Shipment Contains Radioactive		
		Waste Material - LSA -		
		US Limited Qty		
		"Personal Effects"		

SHIPPING CLERK TO COMPLETE THE FOLLOWING

COMPLETE ☐ PARTIAL ☐

CARRIER: [illegible] State

NO. OF PACKAGES OR CARTONS: 54

WEIGHT OF SHIPMENT: [illegible]

SHIPMENT BY (SHIPPING CLERK) DATE: [illegible]

CAR, WAYBILL EXPRESS OR OTHER NUMBER:

SHIPMENT/SALE APP'D BY: [illegible] DATE: 11-[illegible]

MAT'L REC'D IN GOOD ORDER BY: [illegible] DATE REC'D

TODD RESEARCH & TECHNICAL DIVISION

RADIOACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
Todd Research & Technical Div. & Union Carbide - Carbon Products Div	Chem Nuclear Systems
ADDRESS: Hwy 43 S	ADDRESS: Hwy 64
CITY: Lawrenceburg STATE: Tenn ZIP:	CITY: Snelling STATE: S.C ZIP:
LICENSE NO. / AGENCY:	LICENSE NO. / AGENCY:

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
LSA-5	<.1	C	810.4 cu ft	Radioactive Material		

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	CURIE CONTENT	CHECK LABEL (S) APPLIED
III	^{235}U	132.5 grams	☐ I ☐ II ☐ III N/A

REQUIRED SEALS IN PLACE ☑ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

"SOLE USE" SHIPMENT ☑ YES ☐ NO

MAXIUM SURFACE CONTAMINATION ON VEHICLE BED BEFORE LOADING < 50 μCi/100 cm² AFTER UNLOADING μCi/100 cm²

SURVEY RESULTS MREM / HR

INSTRUMENT USED E-120

LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'
TOP OF VEHICLE	<.1	N/A	N/A	R. SIDE	<.1		
BOTTOM OF VEHICLE		N/A	N/A	L. SIDE			
FRONT				OCCUPIED AREA MAX. SCAN			
BACK				SURVEYED BY:			

SER. NO.	2474
CAL. DATE	11-5-93
VEHICLE IDENT	999
OWNER	TRI STATE
DATE	11-16-93

REMARKS:

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
RADIATION CONTROL	11-16-93	AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT REP.	11-16-93	OTHER	

DISTRIBUTION:

SHIPMENT FILE 3.15	ORIGINAL	1
GATE PASS	CARBON	1
MATERIAL CONTROL	CARBON	2

ACKNOWLEDGEMENT OF RECEIPT

NAME X DATE 1400 11-16-93

ORGANIZATION TRI STATE

Chem-Nuclear Services, Inc.

RADIOACTIVE SHIPMENT RECORD FORM

URCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

ipper Todd Research & Technical Division Date 11 - 16 19 73.

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn Page 1 of 3 pages.

INSTRUCTIONS

Please complete this form and distribute as follows:

a. Mail original and Pink copy to Chem-Nuclear Services Inc.
P.O. Box 6231, Columbia, S.C. 29206

b. Hand Gold copy to truck driver.

c. Retain Canary copy

Please enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the Isotope column.

List the isotopes mentioned in 2 above on the shipping label.

Your inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:

a. Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.

b. Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (4).

c. Each package has been monitored by radiation survey instruments at surface (2 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

Disclaimer: Title to all materials, whether or not they were previously Government-owned, contained in waste furnished for disposal under this contract (except material which is required by Section 52 of the Atomic Energy Act of 1954, as amended, to be owned by the Government) shall be deemed to be vested in Chem-Nuclear Services, Inc. immediately upon acceptance of such material by Chem-Nuclear Services, Inc. from the shipper or from the common carrier. The Government or shipper shall have no right to the recovery of any materials contained in such waste nor any credit for their potential value.

Pkg. No.	Mr hr Surface	Mr hr One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
6	less than .5	less than .1	< 10 dpm α & β	^{235}U ^{238}U	N/A	2.5	N/A	62.5	N/A		K
9						2.5		6.5			K
16						2.5		17.0			K
20						2.5		5.5			K
21						2.5		16.0			K
22						2.5		12.5			K
24						2.5		6.5			K
25						2.5		4.5			K
26						2.5		52.5			K
33						2.5		8.0			K
34						2.5		6.0			K
35						2.5		2.5			K
36						2.5		20.0			K
37						2.5		11.0			K
38						2.5		8.0			K
39						2.5		8.0			K
40						2.5		6.0			K
41						2.5		1.0			K
42						2.5		27.0			K

Chem-Nuclear Services, Inc.

RADIOACTIVE SHIPMENT RECORD FORM

URCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

Shipper Todd Research & Technical Division Date 11-16-73 19 73

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn. Page 2 of 3 pages.

INSTRUCTIONS

Please complete this form and distribute as follows:

a. Mail original and Pink copy to Chem-Nuclear Services Inc.
P.O. Box 6446, Columbia, S.C. 29206

b. Hand Gold copy to truck driver.

c. Retain Canary copy

Please enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the isotope column.

List the isotopes mentioned in 2 above on the shipping label.

Your inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:

a. Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.

b. Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (4).

c. Each package has been monitored by radiation survey instruments at surface (0 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

Disclaimer: Title to all materials, whether or not they were previously Government-owned, contained in waste furnished for disposal under this contract (except material which is required by Section 52 of the Atomic Energy Act of 1954, as amended, to be owned by the Government) shall be deemed to be vested in Chem-Nuclear Services, Inc. immediately upon acceptance of such material by Chem-Nuclear Services, Inc. from the shipper or from the common carrier. The Government or shipper shall have no right to the recovery of any materials contained in such waste nor any credit for their potential value.

Pkg. No.	Mr/hr Surface	Mr/hr One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
44	less than .5	less than .1	< 1000 dpm α & β γ	nat U DU 235U	N/A	2.5	N/A	18.0	N/A		K
46						2.5		27.0			K
49						2.5		4.0			K
50						2.5		4.5			K
54						2.5		12.0			K
55						2.5		10.0			K
57						2.5		8.0			K
58						2.5		8.0			K
63						2.5		64.0			K
56						2.5		7.5			K
D-1						2.5		7.35			K
D-2						2.5		7.35			K
D-3						2.5		7.35			K
D-4						2.5		7.35			K
D-9						2.5		7.35			K
D-10						2.5		7.35			K
D-11						2.5		7.35			K
D-12						2.5		7.35			K
D-20						2.5		7.35			K

RADIOACTIVE SHIPMENT RECORD FORM

RCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

per Food Research & Technical Division Date 11-16-93 19 93.

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn Page 3 of 3 pages.

INSTRUCTIONS

ase complete this form and distribute as follows:
Mail original and black copy to Chem-Nuclear Services Inc.
P.O. Box 6336, Columbia, S.C. 29206
Hand Gold copy to truck driver.
Retain Canary copy

ase enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the Isotope column.

the isotopes mentioned in 2 above on the shipping label.

r Inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:
Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.

Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (4).

Each package has been monitored by radiation survey instruments at surface (2 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

claimer: Title to all materials, whether or not they were previously Government-owned, contained in waste furnished for disposal under this contract (except material which is quired by Section 52 of the Atomic Energy Act of 1954, as amended, to be owned by the Government) shall be deemed to be vested in Chem-Nuclear Services, Inc. immediately upon ceptance of such materiti by Chem-Nuclear Services, Inc. from the shipper or from the common carrier. The Government or shipper shall have no right to the recovery of any aterials contained in such waste nor any credit for their potential value.

Seq. No.	Meter Surface	Meter One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
36	less than .5	less than .1	< 1000 dpm α & β	^{235}U ^{238}U	N/A	2.5	N/A	7.35	N/A		K
37						2.5					K
38						2.5					K
39						2.5					K
40						2.5					K
41						2.5					K
42						2.5					K
43						2.5					K
44						2.5					K
45						2.5					K
46						2.5					K
47						2.5					K
48						2.5					K
49						2.5					K
50						2.5					K
—						2.5		471			K

Shipper

Received by

TODD RESEARCH & TECHNICAL DIVISION

RADIOACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
Union Carbide Corporation	Todd Research & Technical Div @ Union Carbide - Carbon Products Div
ADDRESS: Hwy 43 S	ADDRESS: Hwy 43 S
CITY: Laporte / STATE: Texas / ZIP:	CITY: Laporte / STATE: Texas / ZIP:
LICENSE NO.: / AGENCY:	LICENSE NO.: 8-8371 / AGENCY: Texas

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
SA (94)	all <0.1	C	15%Mo Fe Radioactive Waste			

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	CURIE CONTENT	CHECK LABEL(S) APPLIED
III	Dep U / NAT U / 235 U	103.4 grams	☐ I ☐ II ☐ III

REQUIRED SEALS IN PLACE ☒ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

SOLE USE SHIPMENT ☐ YES ☐ NO — MAXIMUM SURFACE CONTAMINATION ON VEHICLE BED: BEFORE LOADING µCi/100 cm² AFTER UNLOADING µCi/100 cm²

SURVEY RESULTS MREM / HR

LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'	INSTRUMENT USED
TOP OF VEHICLE	N/A	N/A	N/A	R. SIDE	N/A			SER. NO.
BOTTOM OF VEHICLE		N/A	N/A	L. SIDE				CAL. DATE
FRONT				OCCUPIED AREA MAX. SCAN				VEHI. IDENT
BACK				SURVEYED BY:				OWNER
								DATE

REMARKS:

The above materials (listed by item on following transfer/shipment forms) are administratively accepted by TRT prior to loading for shipment to Chem-Nuclear Systems for burial

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
RADIATION CONTROL		AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT MGR.		OTHER	

DISTRIBUTION:

SHIPMENT FILE 3.15	ORIGINAL	1
GATE PASS	CARBON	1
MATERIAL CONTROL	CARBON	2

ACKNOWLEDGEMENT OF RECEIPT

NAME [signature] DATE 1430 11-16-83

ORGANIZATION [illegible]

[illegible]	[illegible]	[illegible]

SALES ORDER AND SHIPPING REPORT

TODD SHIPYARDS CORPORATION
~~(GALVESTON DIVISION)~~
GALVESTON, TEXAS 77551

NUMBER	[illegible]
DATE PREPARED	
TODD ORDER NUMBER	
TODD REQUISITION NO.	
CUSTOMER ORDER NO.	

SOLD TO
[illegible]
[illegible], S.C.

TO BE SHIPPED FROM
[illegible]

SHIP TO
SAME

SHIPPING INSTRUCTIONS (CHECK APPLICABLE BOX)

EXP.	FRT.	P.P.	P.U.	O.T.	COLL.	P.P.D.	$
☐	☒	☐	☐	☐	☒	☐	

OTHER	F.O.B. POINT	TERMS
Shop Use		

TYPE OF TRANSACTION

RETURN OF: OVER SHIPMENT ☐ DAMAGED MATERIAL ☐ INCORRECT MATERIAL ☐ CUSTOMER MATERIAL ☐

SALE OF: SURPLUS INVENTORY ☐ PLANT EQUIPMENT ☐ SCRAP METAL ☒ OTHER

QUANTITY	UNIT	DESCRIPTION AND MATERIAL CODE	UNIT PRICE	AMOUNT
[illegible]	ea	L.S.A. Packaged [illegible] Radiator		
		Core		
		The Sunset Cooler Radiator		
		Core Will [illegible] - LSA -		
		[illegible]		
		"Peaches Reduced"		

SHIPPING CLERK TO COMPLETE THE FOLLOWING

COMPLETE ☒	PARTIAL ☐	NO. OF PACKAGES OR CARTONS	14
CARRIER: TRI STATE		WEIGHT OF SHIPMENT	≈ 40,000 #
SHIPMENT BY (SHIPPING CLERK): Dick Rall	DATE	CAR, WAYBILL EXPRESS OR OTHER NUMBER	

SHIPMENT/SALE APP'D BY: [illegible] DATE

MAT'L REC'D IN GOOD ORDER BY: Dick Rall DATE REC'D

DEPARTMENT AUTHORIZING PURCHASE

TODD RESEARCH & TECHNICAL DIVISION

RADIOACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
TODD RESEARCH & TECHNICAL DIV Union Carbide Corp (Carbon Products Div	CHEM NUCLEAR SYSTEMS
ADDRESS: Hwy 43 So	ADDRESS: Hwy 64
CITY: Lawrenceburg STATE: Tenn ZIP:	CITY: Swelling STATE: S.C. ZIP:
LICENSE NO. / AGENCY	LICENSE NO. / AGENCY

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
LSA-~~SC~~ 44	<1	C.	1590.6 cft	R/A Waste		

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	CURIE CONTENT	CHECK LABEL (S) APPLIED
III	235 U	192.4 gr	☐ I ☐ II ☐ III

REQUIRED SEALS IN PLACE ☑ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

SOLE USE SHIPMENT ☑ YES ☐ NO | MAXIUM SURFACE CONTAMINATION ON VEHICLE USED BEFORE LOADING <50 pCi/100 cm² AFTER UNLOADING pCi/100 cm²

SURVEY RESULTS MREM / HR — INSTRUMENT USED E-120

LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'	
TOP OF VEHICLE	<1	N/A	N/A	R. SIDE	<1			SER. NO. 2474
BOTTOM OF VEHICLE		N/A	N/A	L. SIDE	<1			CAL. DATE 11-15-73
FRONT				OCCUPIED AREA MAX. SCAN	<1			VEHICLE IDENT 528
BACK				SURVEYED BY: K				OWNER TRI STATE
								DATE 11-19-73

REMARKS:

· LSA - NO LABELS REQ'D.

PLACARDS REQUIRED

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
RADIATION CONTROL [signature]	11-19-73	AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT MGR. [signature]	11-19-73	OTHER	

DISTRIBUTION: ✓
SHIPMENT FILE 3.15 — ORIGINAL 1
DATE PASS — CARBON 1
MATERIAL CONTROL — CARBON 2

ACKNOWLEDGEMENT OF RECEIPT
NAME [signature] DATE 1200 11-17-73
ORGANIZATION VF 1

Chem-Nuclear Services, Inc.

RADIOACTIVE SHIPMENT RECORD FORM

SRCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

pper Todd Research & Technical Division Date ..... 19 73.

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn Page 1 of 3 pages.

INSTRUCTIONS

lease complete this form and distribute as follows:
. Mail original and Pink copy to Chem-Nuclear Services Inc.
P.O. Box 6304, Columbia, S.C. 29206
. Hand Gold copy to truck driver.
. Retain Canary copy

lease enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the isotope column.

ist the isotopes mentioned in 2 above on the shipping label.

our inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:

. Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.

b. Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (4).

c. Each package has been monitored by radiation survey instruments at surface (2 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

Disclaimer: Title to all materials, whether or not they were previously Government-owned, contained in waste furnished for disposal under this contract (except material which is required by Section 52 of the Atomic Energy Act of 1954, as amended, to be owned by the Government) shall be deemed to be vested in Chem-Nuclear Services, Inc. immediately upon acceptance of such material by Chem-Nuclear Services, Inc. from the shipper or from the common carrier. The Government or shipper shall have no right to the recovery of any materials contained in such waste nor any credit for their potential value.

Pkg. No.	Mr/hr Surface	Mr/hr One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
-5	less than .5	less than .1	<1000 dpm α & β/γ	nat U, depl U, enr U	N/A	2.35	N/A	7.35	N/A		X
-6											X
-7											X
-8											X
-13											X
-14											X
-15											X
-16											X
-17											X
-18											X
-19											X
-21											X
-22											X
-23											X
-24											X
[illegible]											[illegible]
-26											X
-27											X
-28											X

[signature] Shipper [signature] Received by

Page 14

Chem-Nuclear Services, Inc.

RADIOACTIVE SHIPMENT RECORD FORM

RCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

per Food Research & Technical Division Date 19 73

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn Page Dot 3 pages

INSTRUCTIONS

ase complete this form and distribute as follows:
Mail original and Pink copy to Chem-Nuclear Services Inc.
P.O. Box 6[illegible], Columbia, S.C. 29206
Hand Gold copy to truck driver.
Retain Canary copy

ase enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the isotope column.

st the isotopes mentioned in 2 above on the shipping label.

or Inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:
Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.
Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (4).
Each package has been monitored by radiation survey instruments at surface (2 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

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Pkg. No.	Mr hr Surface	Mr hr One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
29	less than .5	less than .1	< 100 cpm α & β	^{235}U ^{238}U	N/A	2.35	N/A	7.35	N/A		K
30											K
31											K
32											K
33											K
34											K
35											K
1								397.0			K
[redacted]											
[redacted]											
8								40.5			K
10								20.0			K
11								31.5			K
12								12.0			K
13								8.5			K
15								21.0			K
17								58.5			K
18								15.0			K

Chem-Nuclear Services, Inc.

RADIOACTIVE SHIPMENT RECORD FORM

SOURCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

Shipper Todd Research & Technical Division Date ..... 19 73.

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn. Page 3 of 3 pages.

INSTRUCTIONS

Please complete this form and distribute as follows:

1. Mail original and Pink copy to Chem-Nuclear Services Inc. P.O. Box 2861, Columbia, S.C. 29206
2. Hand Gold copy to truck driver.
3. Retain Canary copy

Please enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the isotope column.

List the isotopes mentioned in 2 above on the shipping label.

Your inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:

a. Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.

b. Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (2).

c. Each package has been monitored by radiation survey instruments at surface (3 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

Disclaimer: Title to all materials, whether or not they were previously Government-owned, contained in waste furnished for disposal under this contract (except material which is required by Section 52 of the Atomic Energy Act of 1954, as amended, to be owned by the Government) shall be deemed to be vested in Chem-Nuclear Services, Inc. immediately upon acceptance of such material by Chem-Nuclear Services, Inc. from the shipper or from the common carrier. The Government or shipper shall have no right to the recovery of any materials contained in such waste nor any credit for their potential value.

Pkg. No.	Mr. hr Surface	Mr. hr One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
19	less than .5	less than .1	<100 dpm/in α & βγ	^{235}U	N/A	2.35	N/A	5.0	N/A		X
27						2.35		9.0			X
[redacted]						2.35		[redacted]			
43						2.35		18.0			X
45						2.35		16.0			X
47						2.35		12.0			X
[redacted]						2.35		[redacted]			
52						2.35		75.0			X
53						2.35		11.5			X
59						2.35		47.0			X
[redacted]						2.35		[redacted]			
61						2.35		128.0			X
64						2.35		72.5			X

TODD RESEARCH & TECHNICAL DIVISION

RADIOACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
Union Carbide Corporation	Todd Research & Technical Div @ Union Carbide Corporation
ADDRESS: Hwy 43 S	ADDRESS: Hwy 43 S
CITY: Longview STATE: Texas ZIP:	CITY: Longview STATE: Texas ZIP:
LICENSE NO.: AGENCY:	LICENSE NO.: 8-8371 AGENCY: Texas

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
SA-6	all <.1	C	110.25 cu ft	Radioactive Waste		

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	CURIE CONTENT	CHECK LABEL (S) APPLIED
U1	Nap 0 Nat 0 Ass 0	14.1 grams	☐ I ☐ II ☐ III

SEALED SEALS IN PLACE ☒ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

SOLE USE SHIPMENT ☐ YES ☐ NO | MAXIMUM SURFACE CONTAMINATION ON VEHICLE BED BEFORE LOADING μCi/100 cm² AFTER UNLOADING μCi/100 cm²

SURVEY RESULTS MREM / HR — INSTRUMENT USED

LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'	
TOP OF VEHICLE	N/A	N/A	N/A	R. SIDE	N/A			SER. NO.
BOTTOM OF VEHICLE		N/A	N/A	L. SIDE				CAL. DATE
FRONT				OCCUPIED AREA MAX. SCAN				VECH. I DENT
REAR				SURVEYED BY:				OWNER
								DATE

REMARKS:

The above materials (listed by item on following transfer/shipment forms) are administratively accepted by TRT prior to loading for shipment to Chem-Nuclear Systems for bond &

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
RADIATION CONTROL		AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT MGR.		OTHER	

SHIPMENT FILE SYS ——— ORIGINAL 1
DATE PAID ——— CARBON 1
MATERIAL CONTROL ——— CARBON 2

ACKNOWLEDGEMENT OF RECEIPT

NAME [signature] DATE 1-17-93

SALES ORDER AND SHIPPING REPORT

TODD SHIPYARDS CORPORATION
(GALVESTON DIVISION)
GALVESTON, TEXAS 77551

NUMBER	[illegible]
DATE PREPARED	
TODD ORDER NUMBER	
TODD REQUISITION NO.	
CUSTOMER ORDER NO.	

SOLD TO

[illegible]

TO BE SHIPPED FROM

[illegible]

SHIP TO

[illegible]

SHIPPING INSTRUCTIONS (CHECK APPLICABLE BOX)

EXP. ☐ FRT. ☐ P.P. ☐ P.U. ☐ O.T. ☑ COLL. ☐ P.P.D. ☐ S

OTHER: S.A. [illegible]

F.O.B. POINT:

TERMS:

TYPE OF TRANSACTION

RETURN OF: OVER SHIPMENT ☐ DAMAGED MATERIAL ☐ INCORRECT MATERIAL ☐ CUSTOMER MATERIAL ☐

SALE OF: SURPLUS INVENTORY ☐ PLANT EQUIPMENT ☐ SCRAP METAL ☑ OTHER

QUANTITY	UNIT	DESCRIPTION AND MATERIAL CODE	UNIT PRICE	AMOUNT
6		LSA [illegible] as S/A		
		WASTE		
		Rubb Rods		

SHIPPING CLERK TO COMPLETE THE FOLLOWING

COMPLETE ☒ PARTIAL ☐

CARRIER: [illegible]

NO. OF PACKAGES OR CARTONS: 6

WEIGHT OF SHIPMENT: [illegible]

SHIPMENT BY (SHIPPING CLERK) DATE: [illegible]

CAR, WAYBILL EXPRESS OR OTHER NUMBER:

SHIPMENT/SALE APP'D BY: [illegible] DATE: [illegible]

MAT'L REC'D IN GOOD ORDER BY: [illegible] DATE REC'D: [illegible]

RAD. ACTIVE SHIPMENT/TRANSFER RECORD

FROM	TO
Tom Research & Technical Div @ Union Carbide - Carbon Products Div	Chem-Nuclear Systems Inc
ADDRESS: Hwy 43 - S	ADDRESS: Hwy 64 So
CITY: Lawrenceburg STATE: Tenn ZIP:	CITY: Swelling STATE: S C ZIP:
LICENSE NO. / AGENCY	LICENSE NO. / AGENCY

CONTAINER (TYPE)	RADIATION LEVEL MREM/HR	AT (DISTANCE)	QUANT.	MATERIAL	RADIATION LEVEL MREM/HR	AT (DISTANCE)
SA - 6	< .1	C	110.85 Cu Ft.	Radioactive Waste	—	—

TRANSPORT GROUP (S)	RADIONUCLIDE (S)	CURIE CONTENT	CHECK LABEL (S) APPLIED N/A
III	MFP	14.1 gr	☐ I ☐ II ☐ III

SEALS IN PLACE ☑ YES ☐ NO IF NOT EXPLAIN UNDER REMARKS

"EXCLUSIVE USE" SHIPMENT ☑ YES ☐ NO — MAXIUM SURFACE CONTAMINATION ON VEHICLE BED: BEFORE LOADING < 50 μCi/100 cm² AFTER UNLOADING μCi/100 cm²

SURVEY RESULTS MREM / HR — INSTRUMENT USED E-120

LOCATION	CONTACT	6'	15'	LOCATION	CONTACT	6'	15'	
TOP OF VEHICLE	< .1	N/A	N/A	R. SIDE	< .1			SER. NO. 2474
BOTTOM OF VEHICLE		N/A	N/A	L. SIDE	< .1			CAL. DATE 11-5-93
FRONT				OCCUPIED AREA MAX. SCAN	< .1			VEHICLE IDENT D-HAUL
BACK				SURVEYED BY:	T Keane			OWNER "
								DATE 11-17-93

REMARKS:

RADIOACTIVE LSA - No Lables Req'd

PLACARDS Req'd

APPROVALS TO SHIP	DATE	APPROVALS TO SHIP	DATE
RADIATION CONTROL T Keane	11-17-93	AUTHORIZED GATE PASS	
MATERIAL CONTROL		OTHER	
PROJECT REP. T Keane	11-17-93	OTHER	

DISTRIBUTION:
SHIPMENT FILE 3.15 — ORIGINAL 1
GATE PASS — CARBON 1
MATERIAL CONTROL — CARBON 2

ACKNOWLEDGEMENT OF RECEIPT
NAME M McCord DATE 11/18/93
ORGANIZATION Chem-Nuclear Systems

IC-ND-37 (REV. 3-22-71)

RADIOACTIVE SHIPMENT RECORD FORM

RCE: Union Carbide Corporation - Carbon Products Division - Lawrenceburg Plant

per Todd Research & Technical Division Date 11-17 19 73.

Union Carbide - Carbon Products Division - Lawrenceburg, Tenn. Page 1 of 1 pages.

INSTRUCTIONS

ase complete this form and distribute as follows:
Mail original and Pink copy to Chem-Nuclear Services Inc.
P.O. Box 6804, Columbia, S.C. 29206
Hand Gold copy to truck driver.
Retain Canary copy

ase enter each isotope known to be present in a container (up to three) on separate lines. For three or more isotopes or mixed fission products, enter MFP in the isotope column.

t the isotopes mentioned in 2 above on the shipping label.

or Inspector or a Chem-Nuclear Services, Inc. employee must initial the last column after inspection in accordance with Title 10 CFR Part 20, as follows:
Each package is marked with

CAUTION — RADIOACTIVE MATERIAL

see paragraph 20.203, (f) (1). Markers will be supplied by Chem-Nuclear Services, Inc., on request.

Each package is marked to show the isotopes, microcurie quantities, and date of measurement, see paragraph 20.203 (f) (4).

Each package has been monitored by radiation survey instruments at surface (2 in.) and one meter (39.4 in.) and smeared. Enter smear results in Column No. 4.

sclaimer: Title to all materials, whether or not they were previously Government-owned, contained in waste furnished for disposal under this contract (except material which is quired by Section 52 of the Atomic Energy Act of 1954, as amended, to be owned by the Government) shall be deemed to be vested in Chem-Nuclear Services, Inc. immediately upon ceptance of such material by Chem-Nuclear Services, Inc. from the shipper or from the common carrier. The Government or shipper shall have no right to the recovery of any materials contained in such waste nor any credit for their potential value.

Pkg. No.	Mr hr Surface	Mr hr One Meter	Smear Results	Isotopes	By products Millicurie	SNM Grams	Source Pounds	Cubic Feet	Gallons	Container Weight	Monitor
	less than .5	less than .1	< 1000 dpm α < 3 β	natU depU 235U	N/A	~~[illegible]~~	N/A		N/A		✓
7						2.35		36.0			✓
1						2.35		27.5			✓
2						2.35		9.0			✓
5						2.35		9.0			✓
0						2.35		12.0			✓
-25						2.35		7.35			✓
						14.1					
								110.85		≈500#	

Page 20

Shipper ..... Received by .....

FINAL SURVEYS

INDEX

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Although each survey form has space for instrument type, the following may be considered to be a part of each survey to account for any missing information:

I. Alpha Surveys - All alpha surveys were conducted with either

A. Eberline Model PAC-ISA Portable Alpha Counter which is coupled with a Model AC-3 Alpha Scintillation Detector.

B. Ludlum Model 12 or 16 Count Rate Meter coupled with their Model 43-4 Air Proportional Detector.

Both instrument types were used direct on the surface for fixed activity and in conjunction with a swipe for loose activity.

II. Beta-Gamma Surveys

A. Fixed activity surveys were conducted direct on the surface with an Eberline Model E-120 Meter coupled with their Model HP-177B side shield Beta-Gamma Probe.

B. Loose activity surveys were conducted by swiping the surface and counting the swipes on

1. Nuclear Chicago Model 8775 Scaler-Timer coupled with an Eberline Model HP-210 Detector.

2. Eberline Model E-120 Meter coupled with an Eberline Model HP-210 Detector.

III. Recording - Data derived in the surveys of the Nuclear Fuels Building are recorded as follows:

Alpha Loose - dpm/100cm^2

Alpha Fixed - dpm/100cm^2

Beta-Gamma Loose - dpm/100cm^2

Beta-Gamma Fixed - mrad/hr

IV. Results - The following survey sheets show the building to be within the specifications set forth in "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for By-Product Source or Special Nuclear Material", USAEC May 3, 1973.

pe Survey: Swipe in pCi/100 cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-27-73	Time:
ken by: PRUETT		Location: INCENERATOR PAD.	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

α Fixed High — 5000 d/m
Fixed Average — 2000 d/m
Loose — < 100 d/m

β-γ Max Fixed < .1 mrad/hr
Loose < 50 d/m

Roof - Inside — < 100 d/m
Outside — < 100 d/m

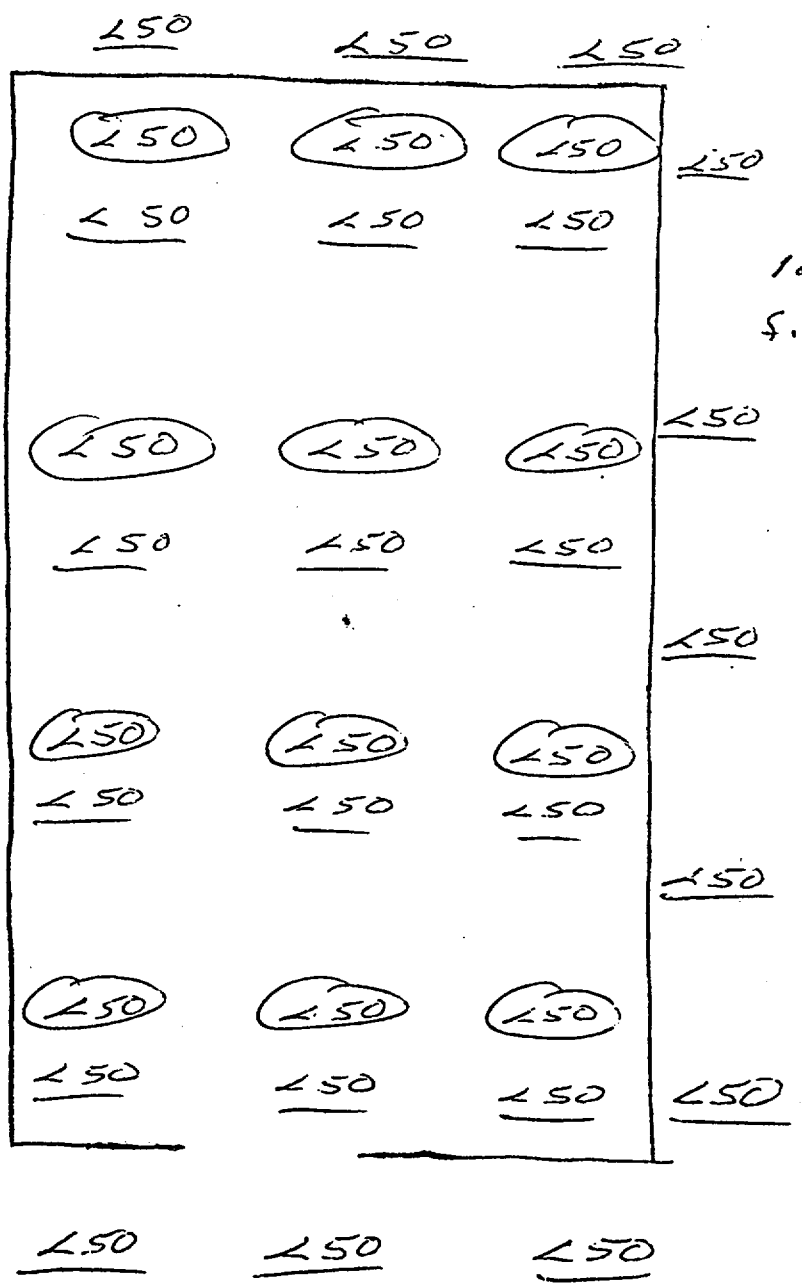
Support Beams — < 100 d/m

RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/100cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-27-73	Time:
Taken by: Keane		Location: STORAGE AREA	
Inst. Type: LUDLUM 16	Ser. No.:	Scaler:	Bgr: c/m
Probe: 43-4	Cal. Date:	Eff.: %	Eff. Date:

○ α loose d/m/100cm²

— α fixed d/m/100cm²



β-γ

loose < 100 d/m/100cm²

fixed < .1 mrad/hr

Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mrem/hr ☐		Date: 11-27-73	Time:
Taken by: PRUETT / KEALE		Location: Outside Doors	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

ENTRANCE

MAIN ——— < 50 DPM

BATCHING ——— < 50 DPM

FORMING Single ——— < 50 DPM

FORMING DOUBLE ——— 100 DPM

MAINTENANCE ——— < 50 DPM (SEE SURVEY FOR DRIVEWAY

MACHINING ——— < 50 DPM

ASHING ——— 300 DPM

INSPECTION ——— < 50

LAB ——— < 50

COATING - N ——— < 50

COATING - S ——— < 50

RADIOLOGICAL SURVEY FORM

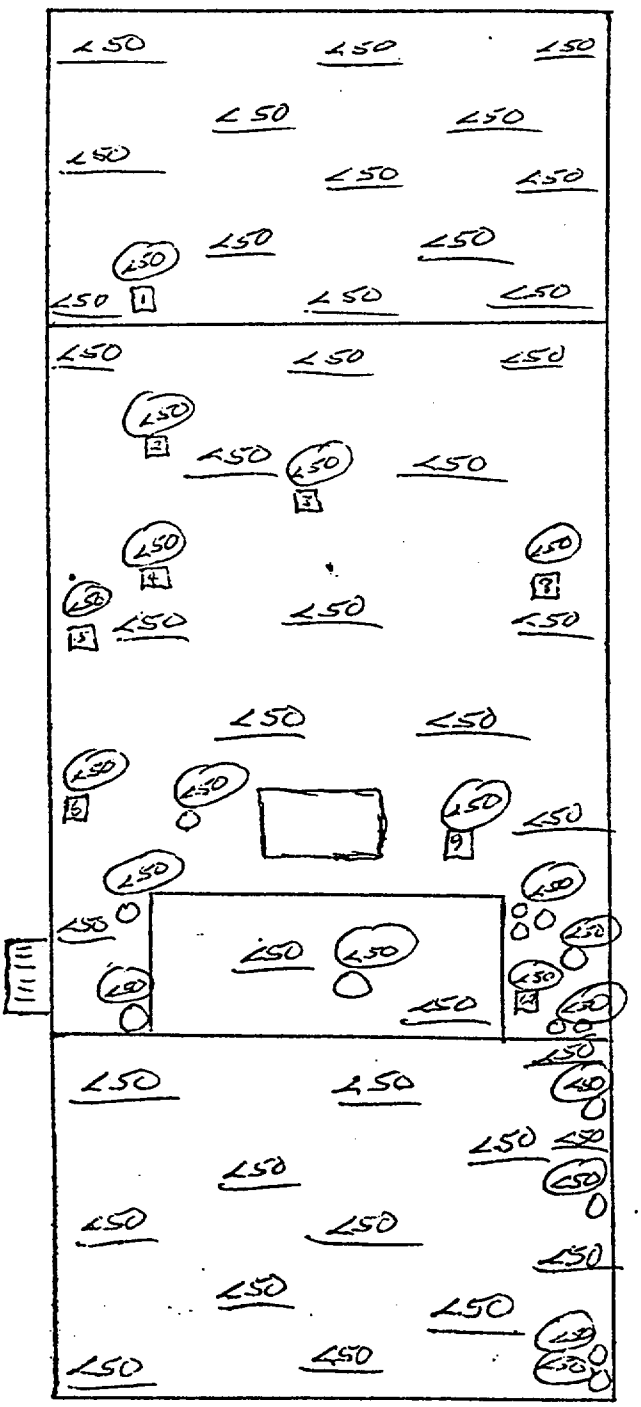
pe Survey: Swipe in pCi/ 100cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-27-73	Time:
ken by: Reeve		Location: Roof of Facilities	
st. Type: London 16	Ser. No.:	Scaler:	Bgr: c/m
obe: 43-4	Cal. Date:	Eff.: %	Eff. Date:

[1] NUMBERED ROOF VENTS

O UNNUMBERED ROOF VENTS

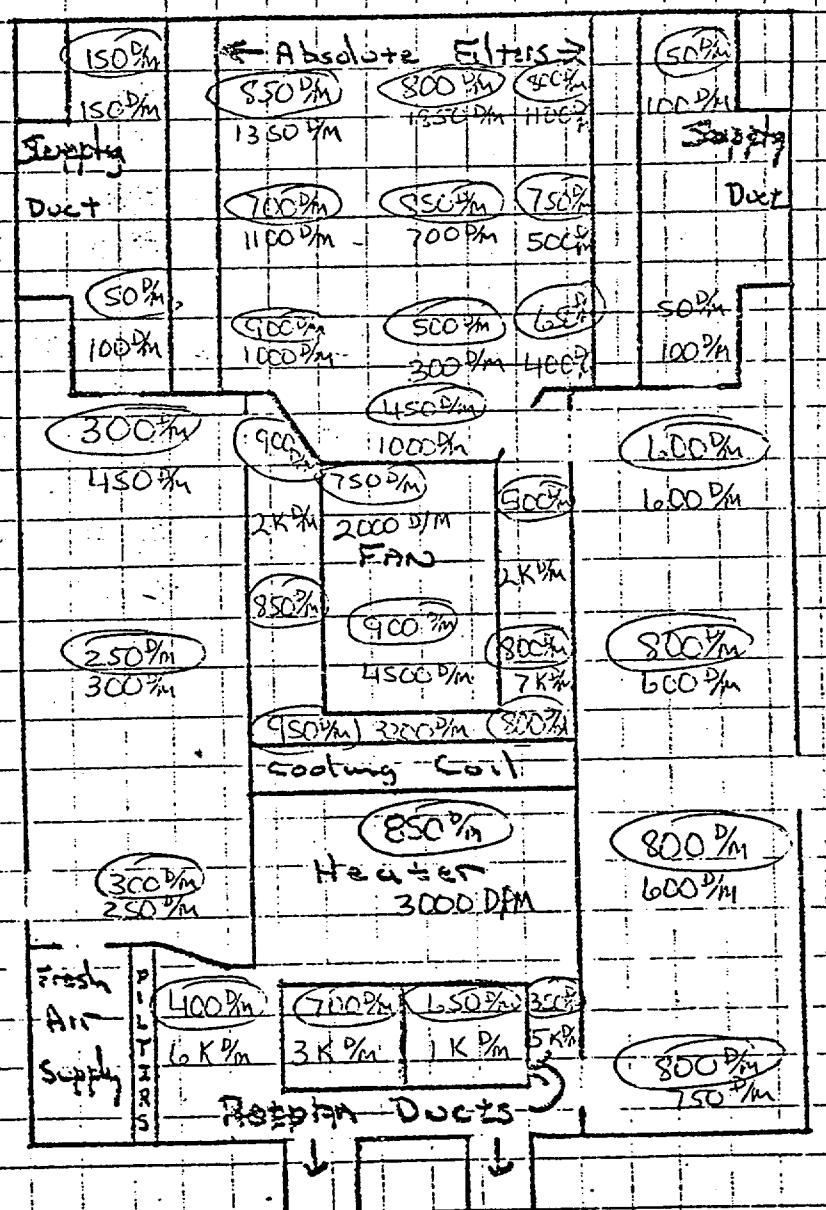
FIXED ACTIVITY DPM/100cm

LOOSE ACTIVITY DPM/100cm



TSC NO. 68

e Survey: Swipe in pCi/100cm² ☐ Dose Rate in mR/hr ☐		Date: 11-25 73	Time:
en by: ARMSTRONG		Location: PENTHOUSE	
t. Type:	Ser. No.:	Scaler:	Bgr: c/m
ba:	Cal. Date:	Eff.: %	Eff. Date:



LOOSE ACTIVITY SWIPE IN dpm/100cm²

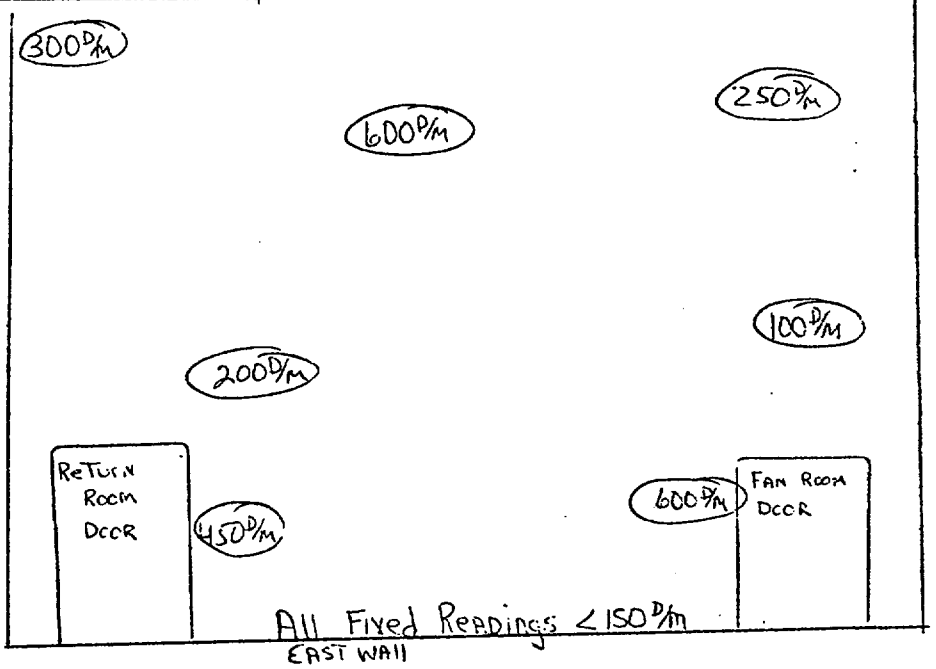
Fixed Activity in dpm/100cm²

B-γ

< .1 mrad/hr fixed

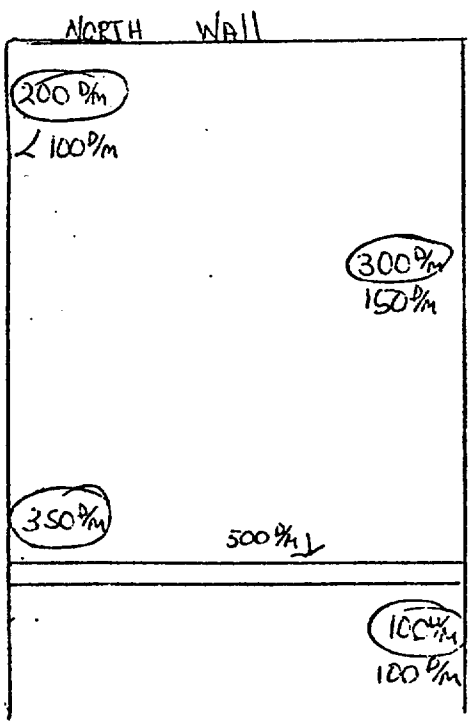
< 100 dpm/100cm² la

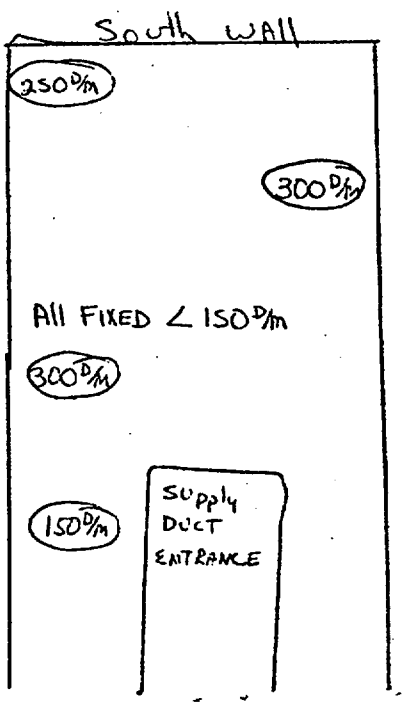
pe Survey: Swipe in pCi/100cm² ☐ Dose Rate in m. m/hr ☐		Date: 11-25-73	Time:
ken by: Armstrong		Location: West Clean Area - Penthouse	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:



Loose Activity Swipe in DPM/100cm²

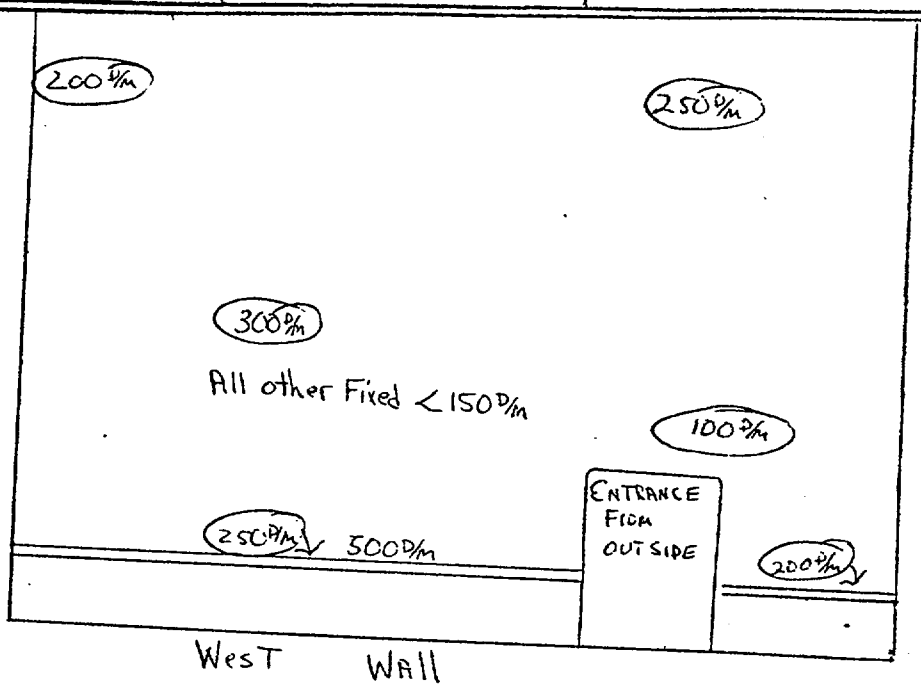
Fixed Activity IN DPM/100cm²





TODD NUCLEAR DIVISION – RADIOLOGICAL SUR' 'Y FORM

pe Survey: Swipe in pCi/100cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time:
ken by: Armstrong		Location:	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
be:	Cal. Date:	Eff.: %	Eff. Date:

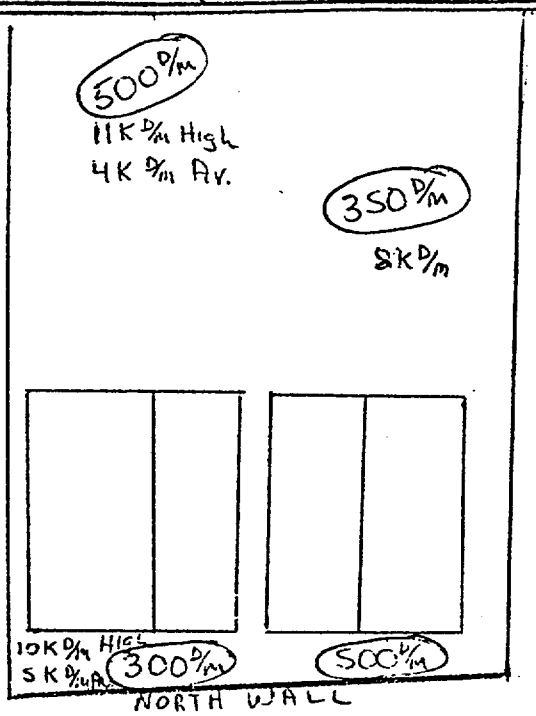


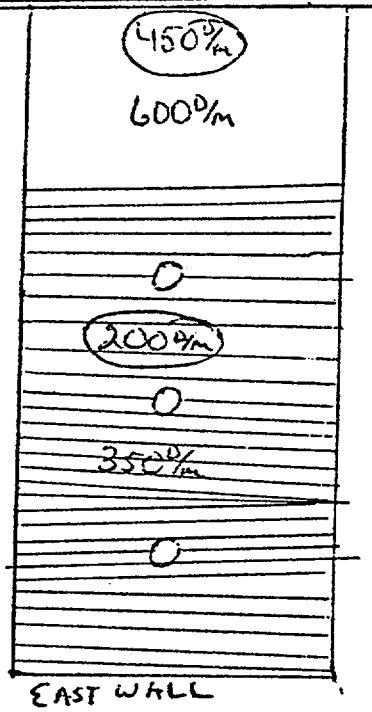
○ Loose Activity
Swipe in DPM/100cm2

Fixed Activity
IN DPM/100CM2

TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

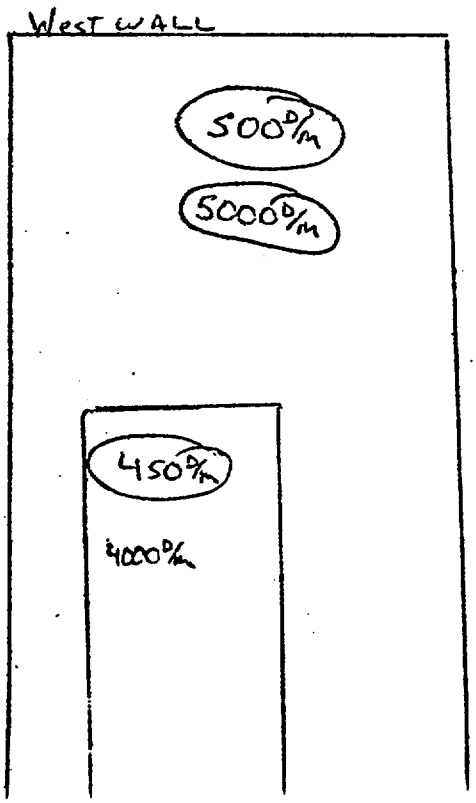
pe Survey: Swipe in pCi/ 100cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time:
ken by: Armstrong		Location: Heater & Cooling coil Room	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
ube:	Cal. Date:	Eff.: %	Eff. Date:

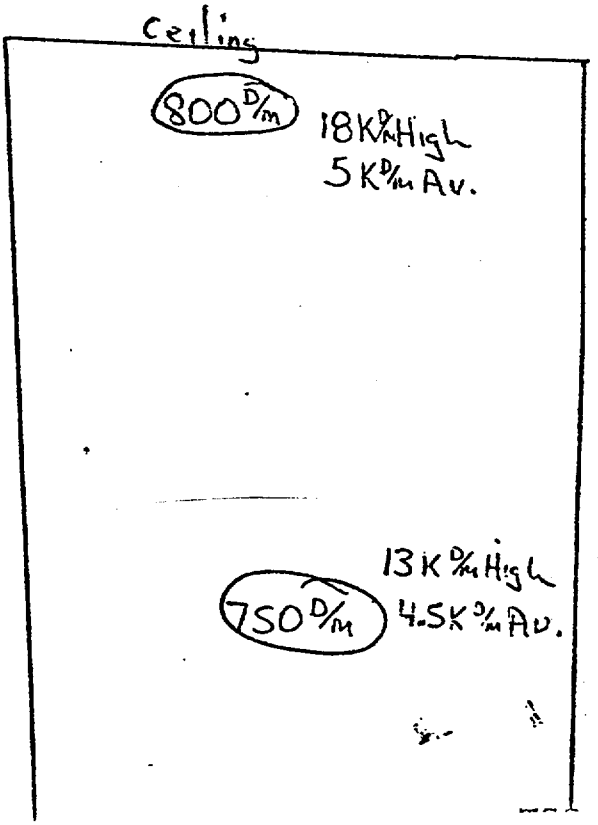




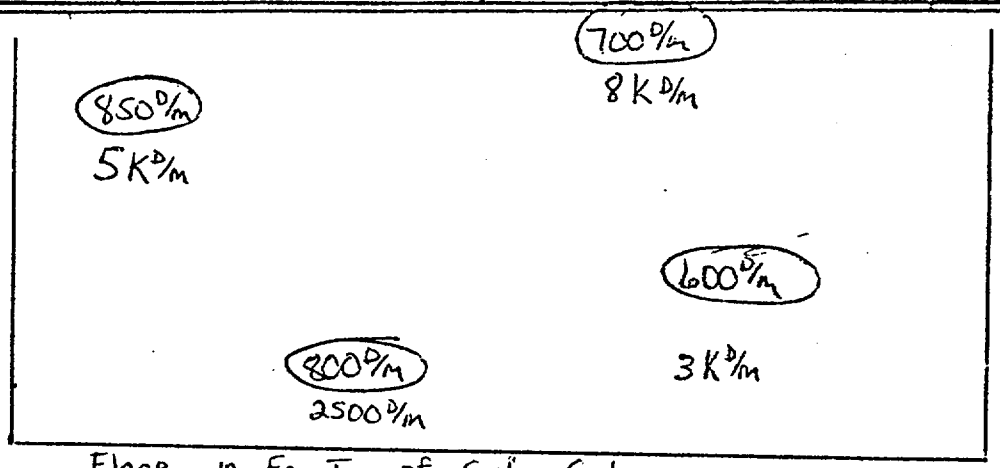
Loose Activity Swipe in Dpm/100cm

Fixed Activity IN Dpm/100cm^2.





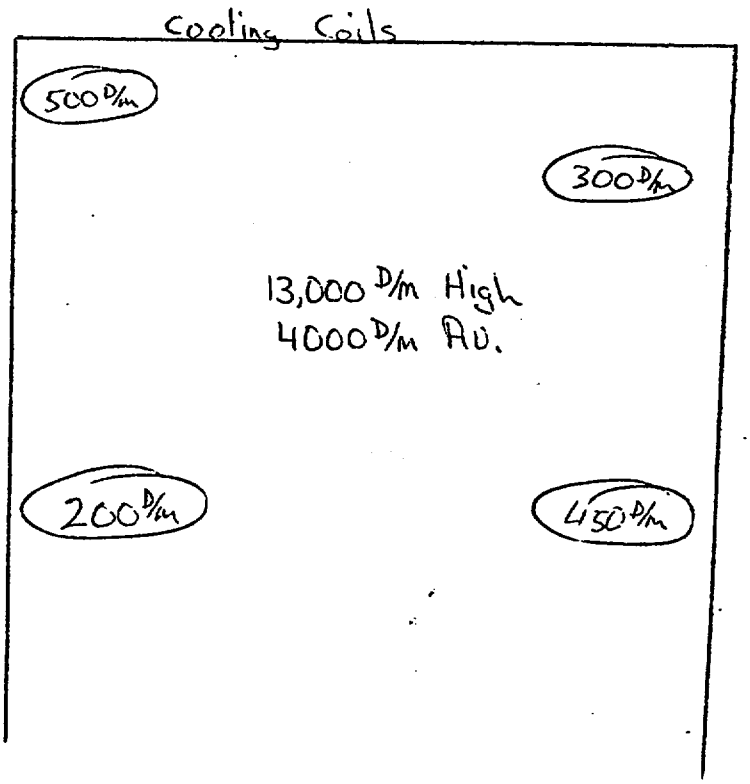
Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mrem/hr ☐		Date: 11-25-73	Time:
Taken by: Armstrong		Location:	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:



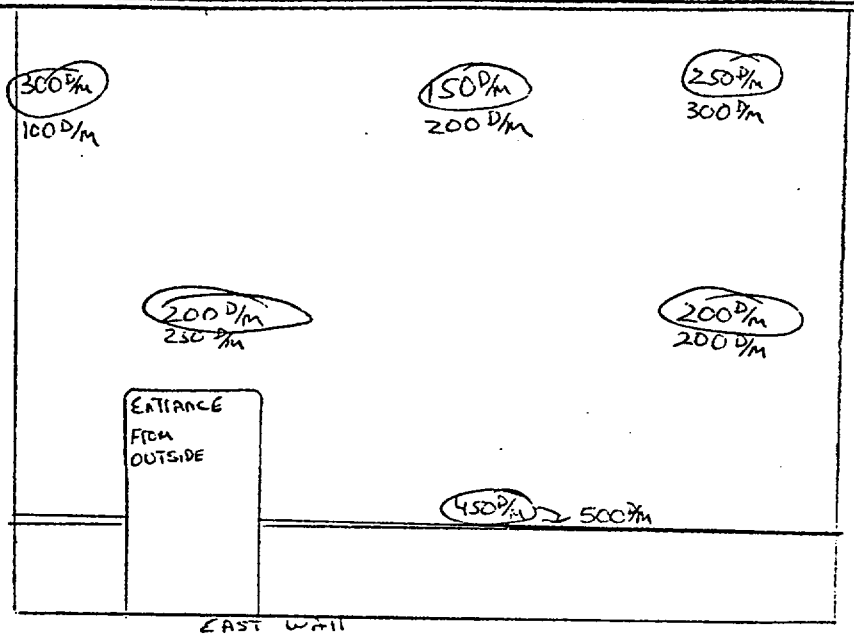
Floor in Front of Cooling Coils

O activity Loc: Swipe in DPM/100

Fixed Activity IN DPM/100cm²

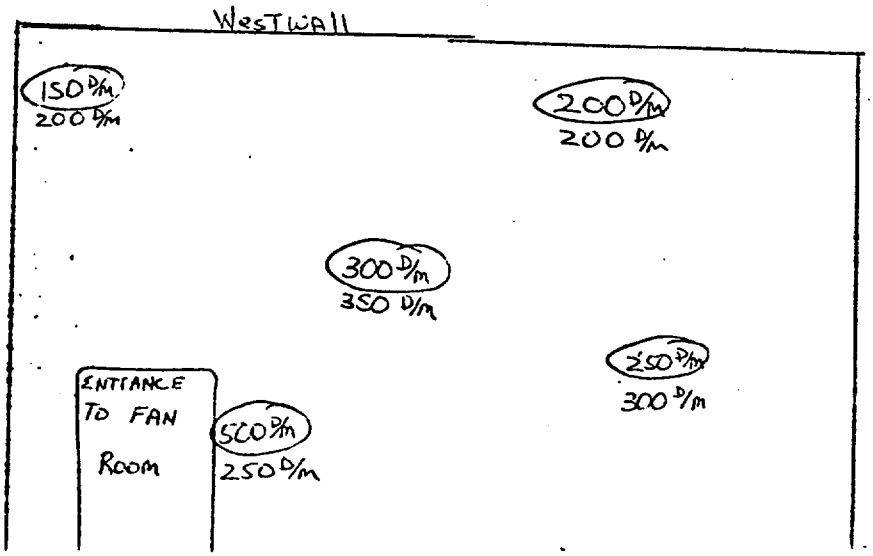


pe Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mrem/hr ☐		Date: 11-25-73	Time:
ken by: Armstrong		Location: EAST CLEAN AREA - Penthouse	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:



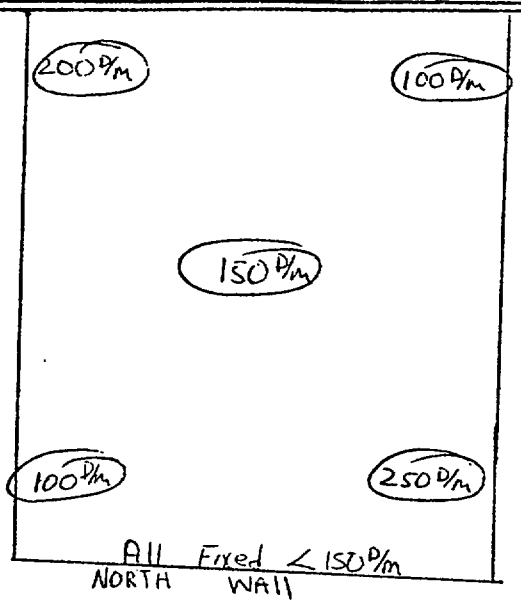
Loose Activity
Swipe in DPM/100cm²

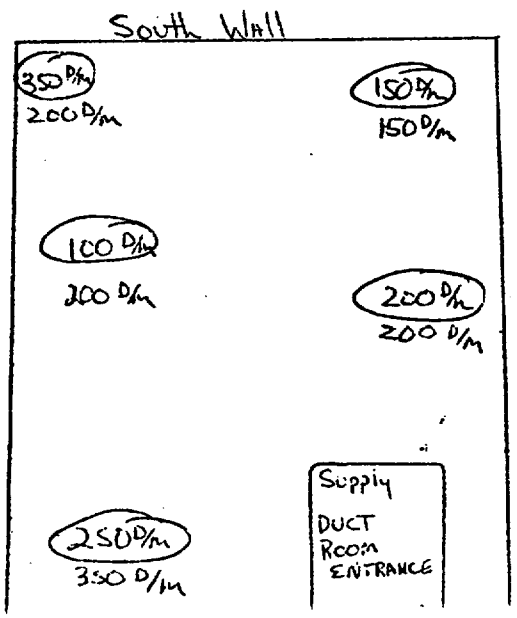
Fixed Activity
IN DPM/100cm²



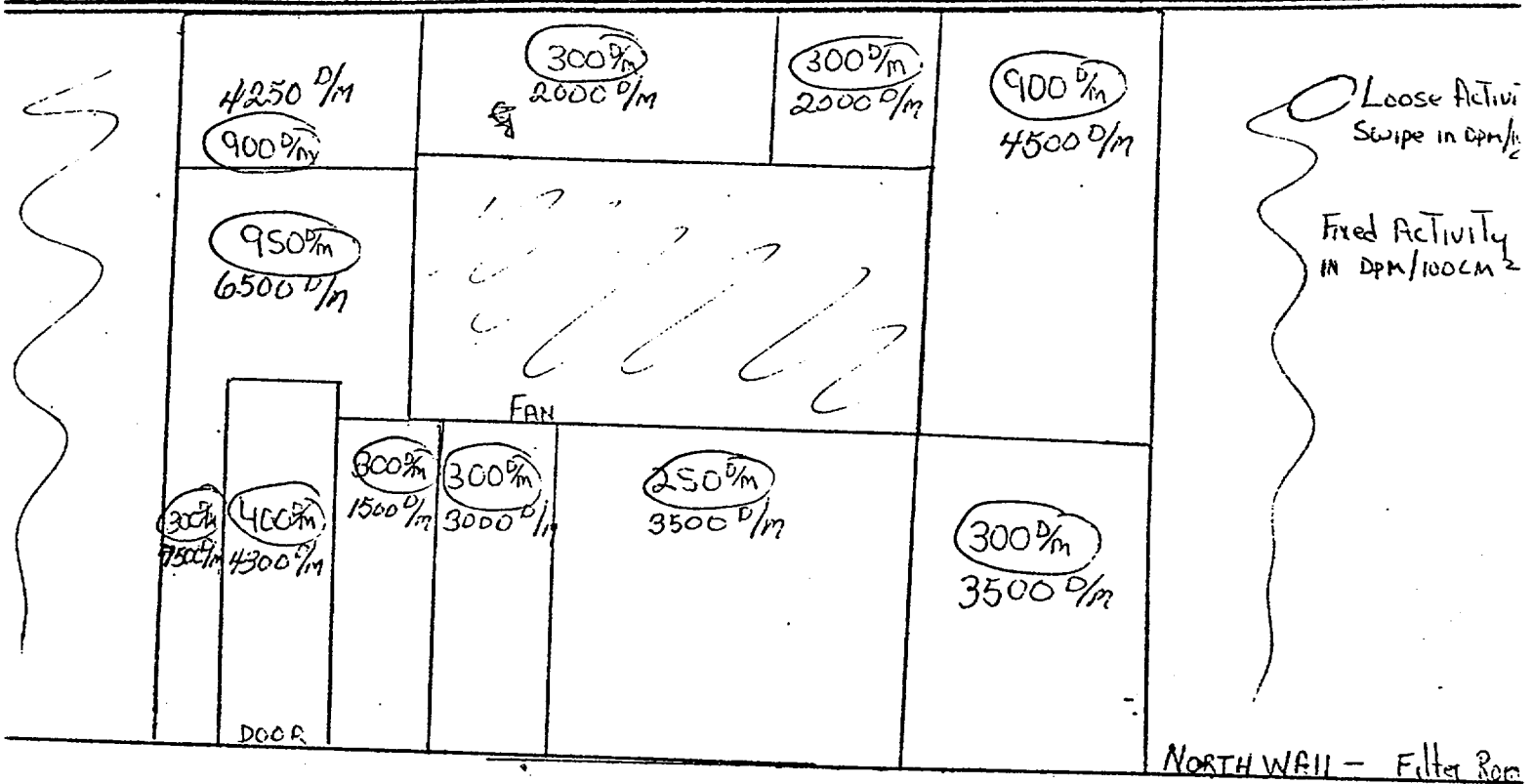
TSC-ND-68

pe Survey: Swipe in pCi/l cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time:
ken by: Armstrong		Location:	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

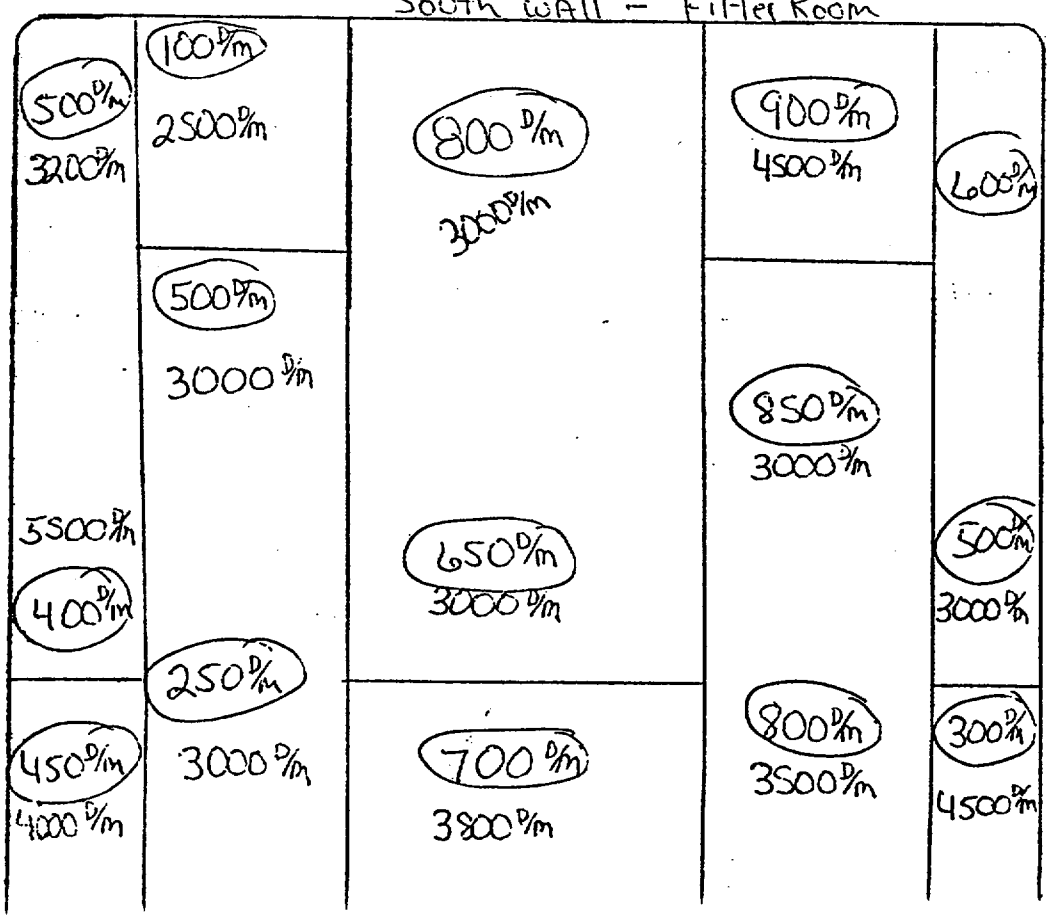




e Survey: Swipe in pCi/l cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time:
en by: Armstrong		Location: Filter Room	
l. Type:	Ser. No.:	Scaler:	Bgr: c/m
ɔe:	Cal. Date:	Eff.: %	Eff. Date:



South wall – Filter Room



Type Survey: Swipe in pCi/l cm² ☐ Dose, Rate in mRem/hr ☐		Date: 11-25-73	Time:
Taken by: Armstrong		Location:	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

100 D/m 300 D/m	100 D/m 350 D/m	250 D/m 250 D/m	100 D/m 100 D/m	100 D/m 200 D/m	200 D/m 150 D/m
250 D/m 250 D/m	300 D/m 450 D/m	300 D/m 350 D/m	200 D/m 300 D/m	300 D/m 300 D/m	50 D/m 250 D/m
100 D/m 50 D/m	50 D/m 100 D/m	<50 D/m 100 D/m	450 D/m 500 D/m	250 D/m 300 D/m	200 D/m 350 D/m
150 D/m 600 D/m	100 D/m 150 D/m	100 D/m 300 D/m	850 D/m 700 D/m	700 D/m 700 D/m	<50 D/m <50 D/m
300 D/m 350 D/m	150 D/m 300 D/m	200 D/m 300 D/m	250 D/m 300 D/m	150 D/m 300 D/m	150 D/m 350 D/m
250 D/m 300 D/m	200 D/m 400 D/m	150 D/m 300 D/m	250 D/m 300 D/m	150 D/m 350 D/m	150 D/m 300 D/m
400 D/m 400 D/m	350 D/m 250 D/m	150 D/m 300 D/m	100 D/m 300 D/m	100 D/m 300 D/m	100 D/m 350 D/m

Filter Bank West wall

ype Survey: Swipe in pCi/l 100cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time:
aken by: Armstrong		Location:	
ıst. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

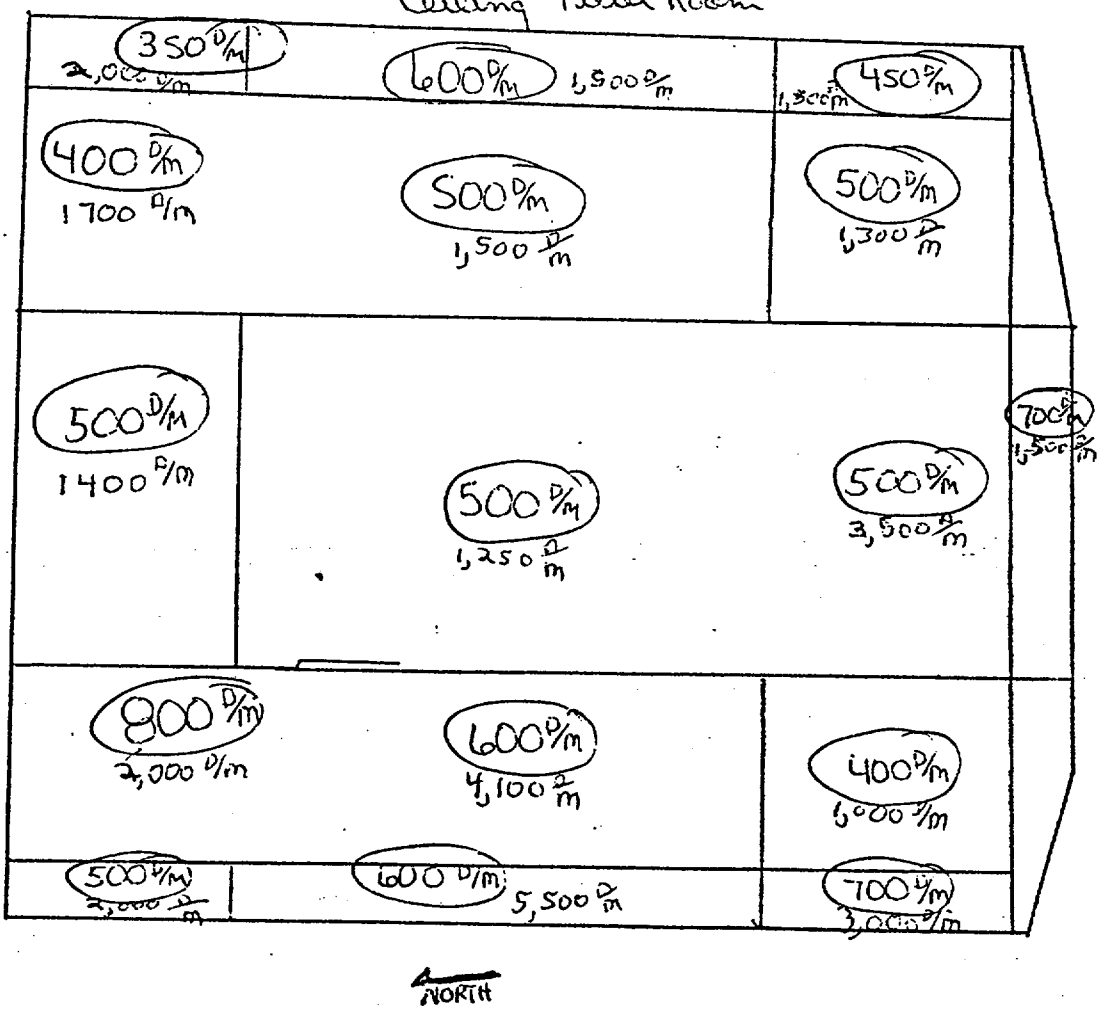
150 D/m 300 D/m	100 D/m 250 D/m	200 D/m 250 D/m	350 D/m 300 D/m	100 D/m 100 D/m	200 D/m 100 D/m
150 D/m 200 D/m	100 D/m 200 D/m	500 D/m 600 D/m	200 D/m 100 D/m	150 D/m 50 D/m	400 D/m 300 D/m
250 D/m 100 D/m	100 D/m 150 D/m	50 D/m 50 D/m	200 D/m 250 D/m	200 D/m 200 D/m	200 D/m 250 D/m
600 D/m 600 D/m	250 D/m 300 D/m	250 D/m 250 D/m	150 D/m 275 D/m	100 D/m 100 D/m	150 D/m 100 D/m
250 D/m 75 D/m	150 D/m 50 D/m	100 D/m 100 D/m	250 D/m 300 D/m	700 D/m 550 D/m	150 D/m 50 D/m
150 D/m 100 D/m	170 D/m 150 D/m	100 D/m 150 D/m	100 D/m 50 D/m	100 D/m 150 D/m	150 D/m 100 D/m
250 D/m 150 D/m	300 D/m 400 D/m	300 D/m 300 D/m	250 D/m 250 D/m	150 D/m 100 D/m	100 D/m 100 D/m

Filter Back EAST WALL

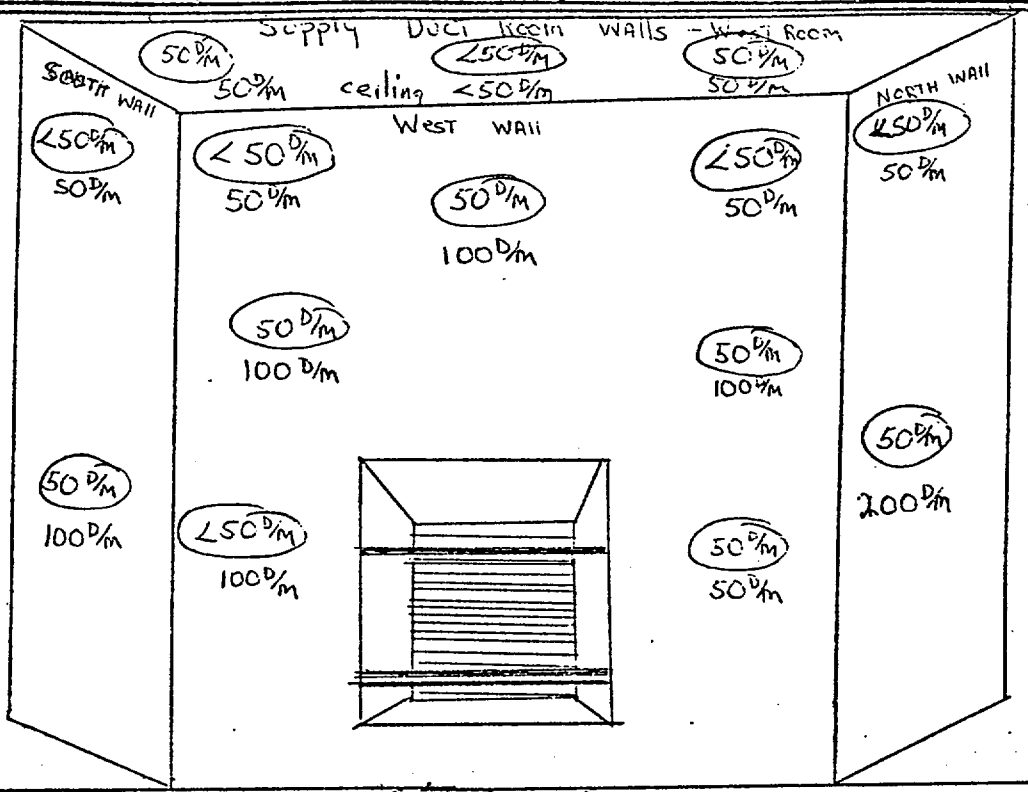
TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

pe Survey: Swipe in pCi/l /cm² ☐ Dose, Rate in mRem/hr ☐		Date:	Time:
ken by: Armstrong		Location:	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

Ceiling Filter Room



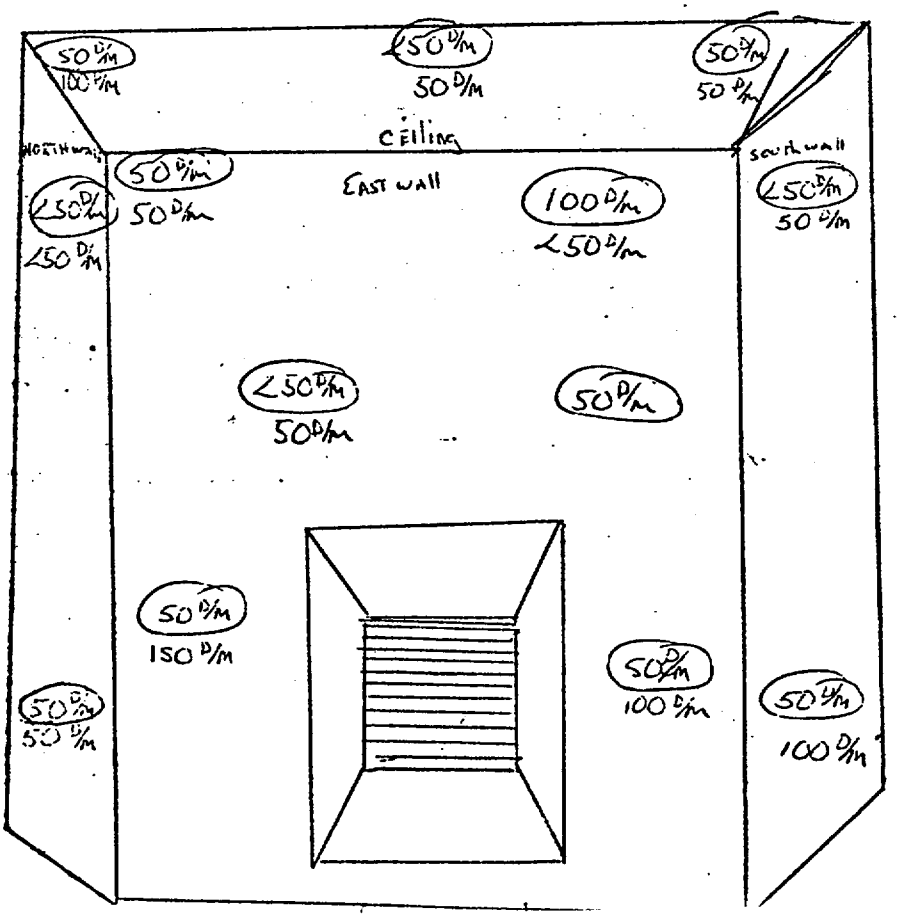
Type Survey: Swipe in pCi/: 1cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time:
Taken by: Armstrong		Location: Supply Duct Room	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:



O Loose Activity Swipe in DPM/100CM2

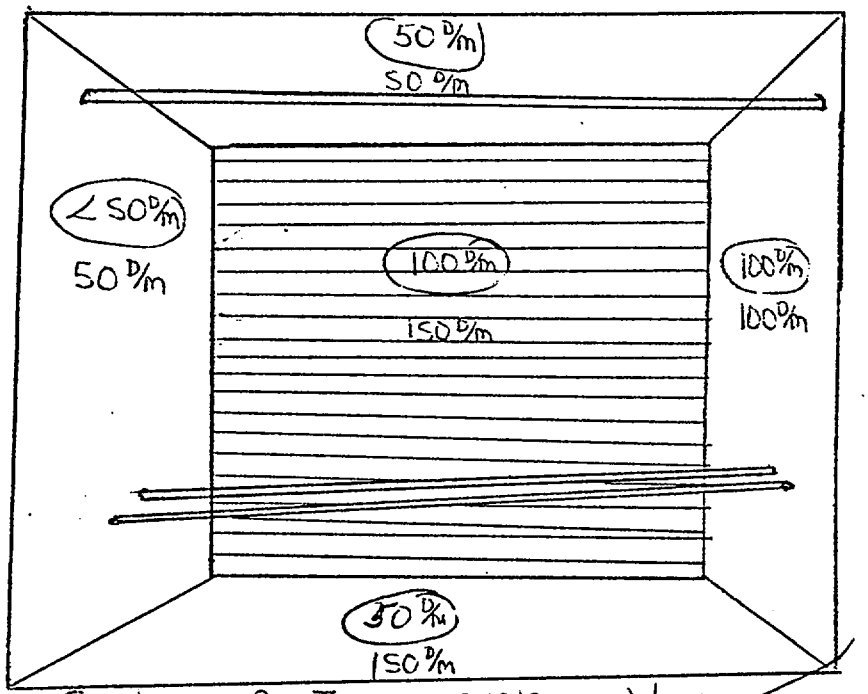
— Fixed Activity IN DPM/100CM2

EAST Supply DUCT ROOM



TSC-MD-68

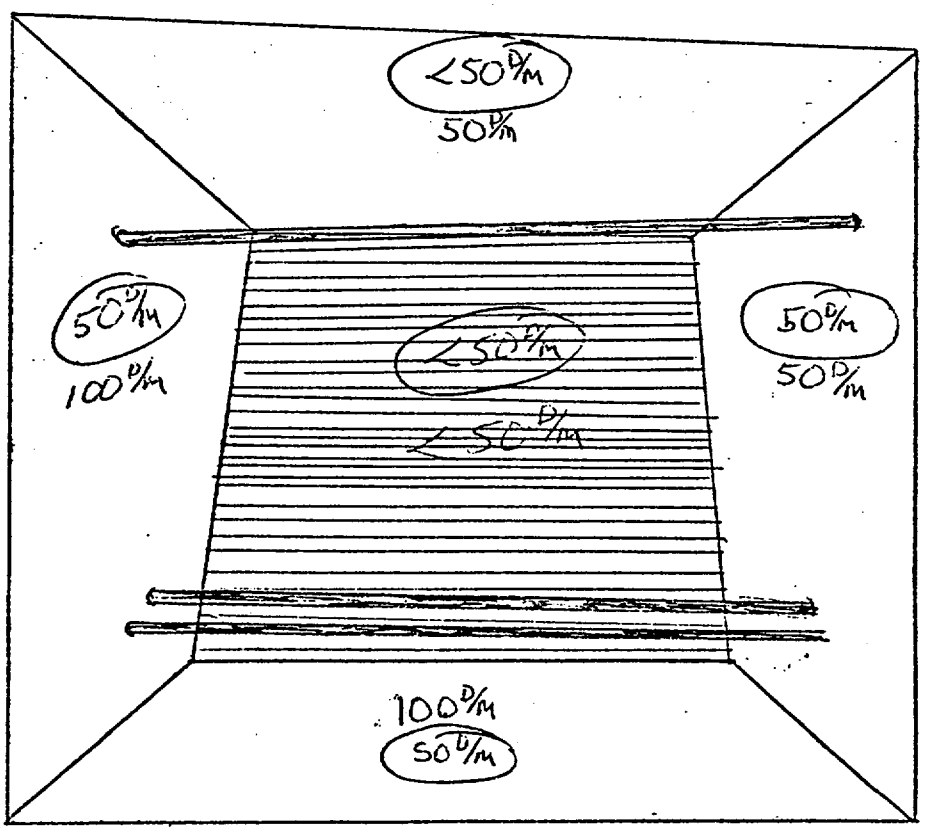
Type Survey: Swipe in pCi/ 100cm² ☐ Dose, Rate in mRem/hr ☐		Date: 11-25-73	Time:
Taken by: Armstrong		Location:	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:



Supply DUCT INTERNALS - West

○ Loose Activity
Swipe in dpm/cm²

Fixed Activity
IN dpm/100cm²



Supply DUCT - EAST

pe Survey: Swipe in pCi/100cm² ☐ Dose Rate in n. gm/hr ☐		Date: 12-1-73	Time:
ken by: KENDE		Location: Supply Ducts	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

SUPPLY DUCTS

High Beta-γ Loose < 100 DPM/100 cm²

High Beta-γ Fixed < .1 mRAD/hr

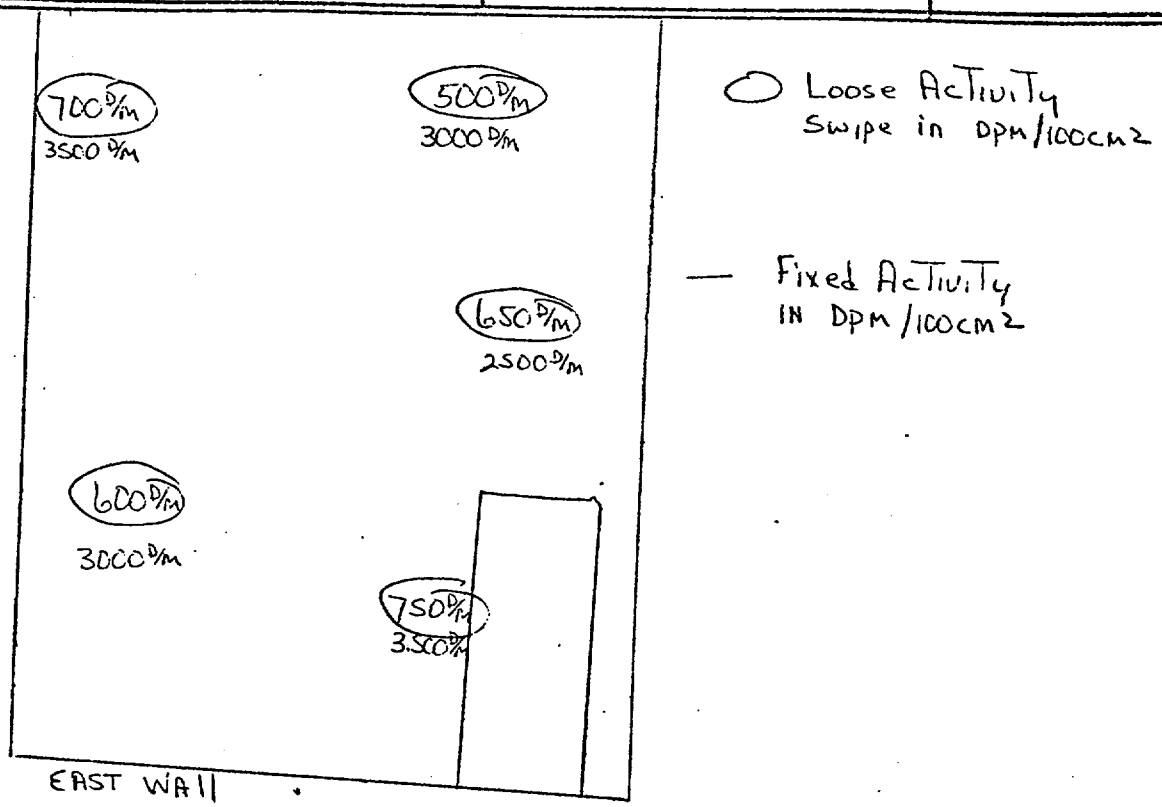
High α Loose < 100 DPM/100 cm²

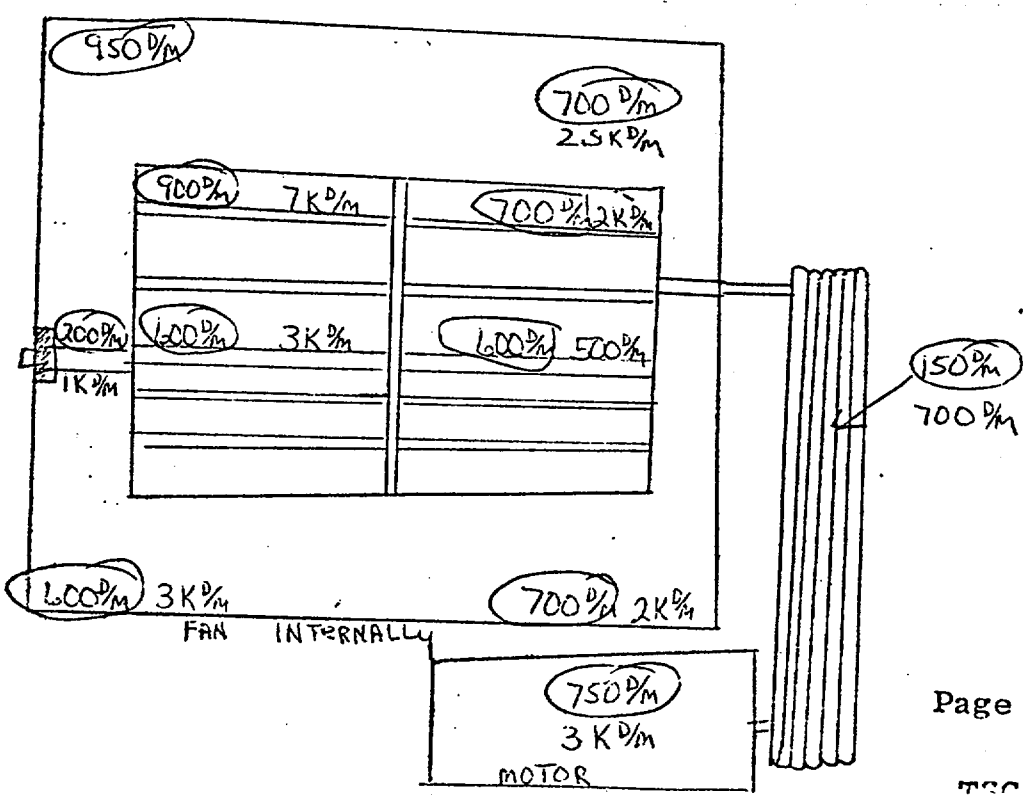
High α Fixed < 100 DPM/100 cm²

The supply ducts were checked at each opening, ie supply points & access doors, the above contamination levels were the highest found.

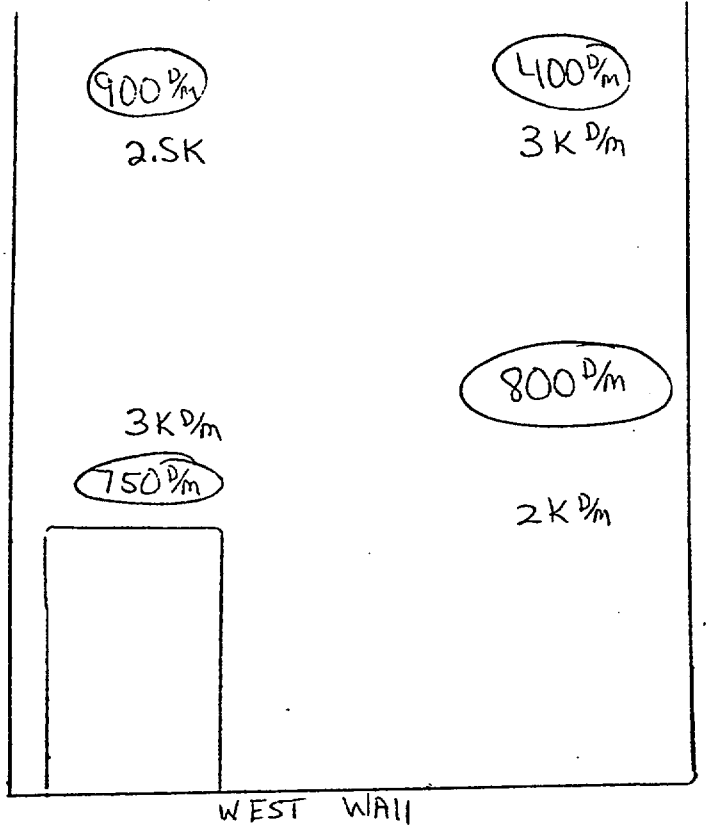
RADIOLOGICAL SURVEY FORM

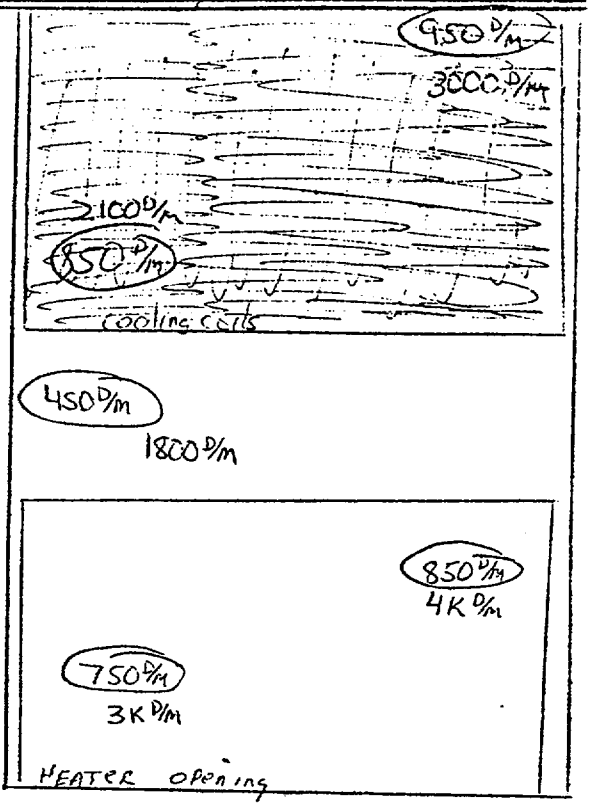
Type Survey: Swipe in pCi/ 100cm^2 ☐ Dose Rate in mrem/hr ☐		Date: 11-25-73	Time:
Taken by: Armstrong		Location: Fan Room	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

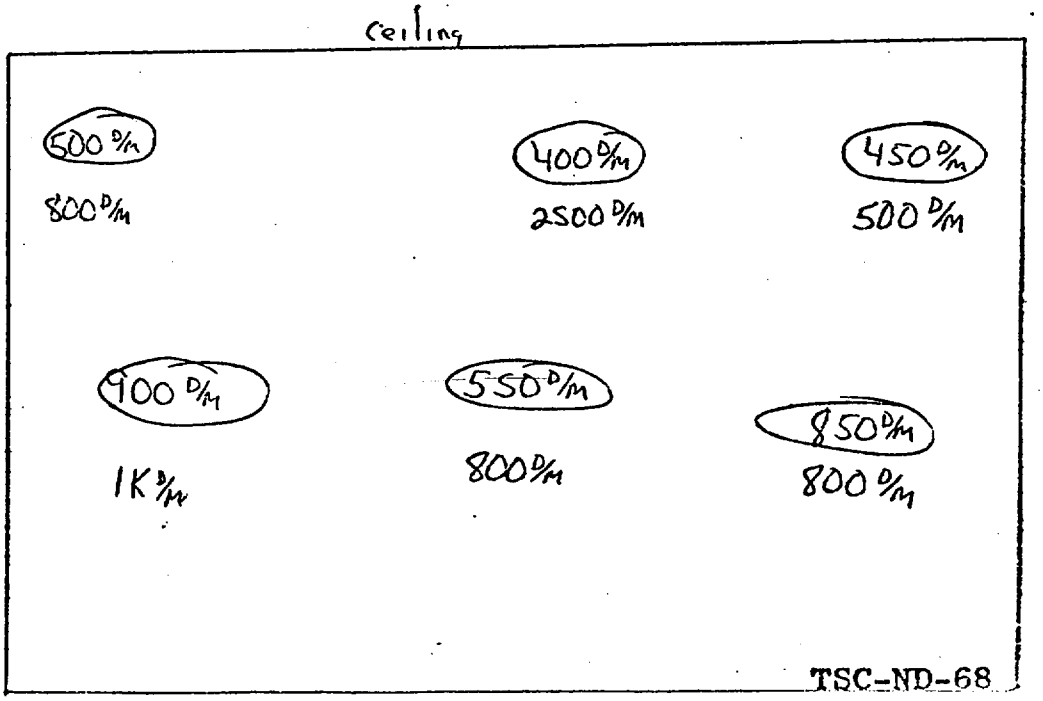




pe Survey: Swipe in pCi/100cm^2 ☐ Dose Rate in mrem/hr ☐		Date: 11-25-73	Time:
ken by: Armstrong		Location: FAN Room	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:







TODD NUCLEAR DIVISION - RADIOLOGICAL SURVEY FORM

pe Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mrem/hr ☐		Date: 12-1-73	Time:
xen by: Hunter		Location: RETURN AIR DUCTS	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

EAST SIDE				WEST SIDE			
MAXIMUM α LOOSE	MAXIMUM α FIXED	MAXIMUM β-γ LOOSE	MAXIMUM β-γ FIXED	MAXIMUM α LOOSE	MAXIMUM α FIXED	MAXIMUM β-γ LOOSE	MAXIMUM β-γ FIXED
<100	200			<100	200		
500	300			<100	100		
200	100			100	100		
200	100			250	200		
<100	100			100	100		
<100	150			<100	100		
<100	150			150	150		
<100	200			<100	200		
150	150			<100	200		
250	250			<100	100		
100	500			100	100		
<100	150			100	100		
<100	150			<100	150		
<100				<100	150		
<100	250			100	100		
200	1000			250	300		
400	750			200	300		
<100	700			<100	150		
<100	250			<100	300		
<100	100			<100	300		
<100	1000			<100	700		
<100	900			150	900		
<100	900			250	900		
200	750			<100	750		
<100	900			<100	1000		
350	1000			<100	1000		
100	1500			<100	2000		
<100	1500			<100	1000		
250	2000			150	3000		

N / 100 cm² / dm / 100 cm² / mrad/hr

100 LESS THAN .1 mrad/hr

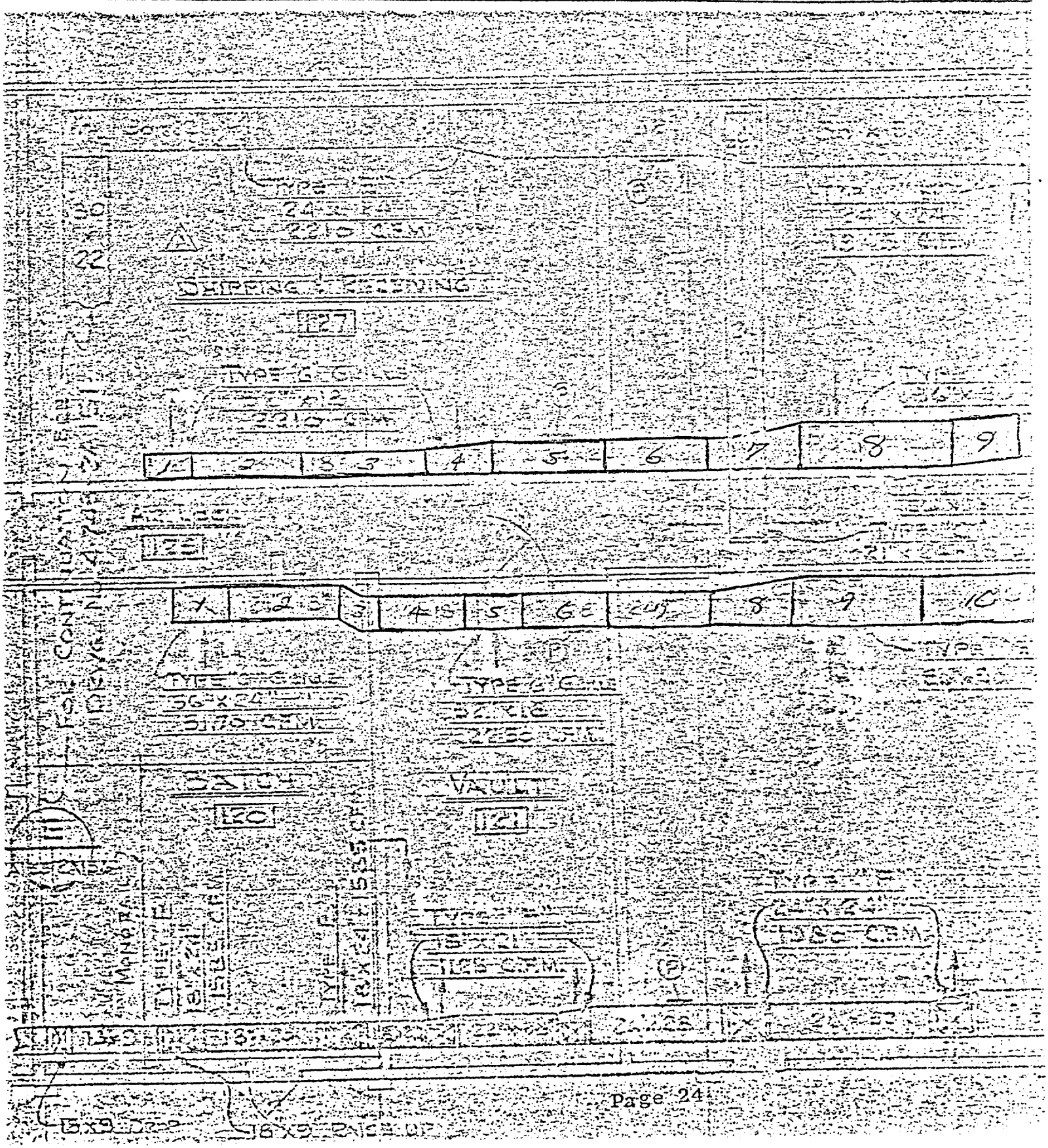
LESS THAN 100 cpm

ALL LESS THAN .100 cpm

ALL LESS THAN .1 mrad/hr

TSC 17 CS

e Survey:	Swipe in pCi/100cm² ☐ Dose Rate in mR/hr ☐	Date: 12-1-73	Time:
en by:		Location:	
). Type:	Ser. No.:	Scaler:	Bgr: c/m
ba:	Cal. Date:	Eff: %	Eff. Date:



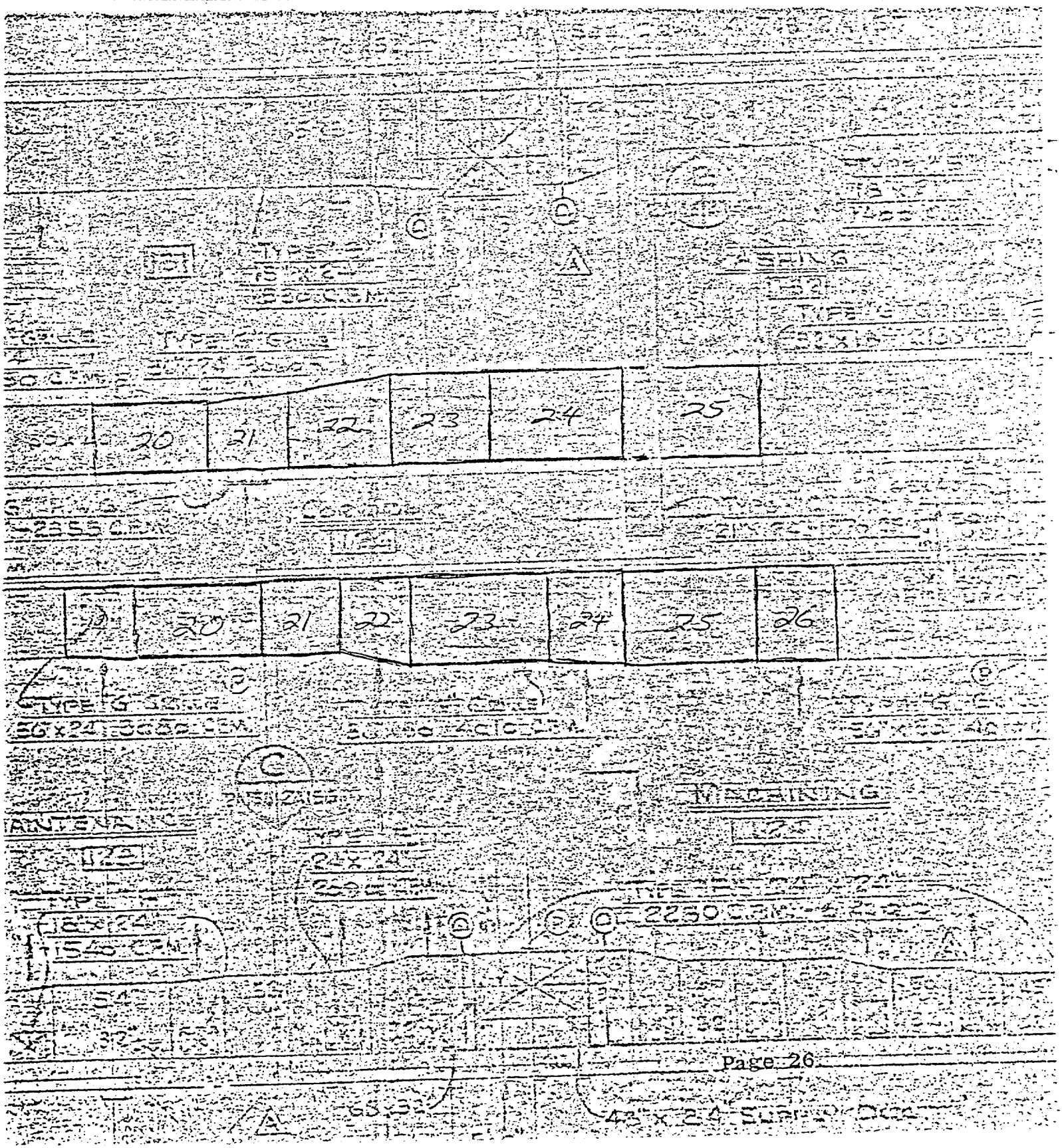
FOOD NUCLEAR DIVISION — RADIOLOGICAL SURVEY FORM

ype Survey:	Swipe in pCi/l cm^2 ☐ Dose Rate in mRem/hr ☐	Date: 12-1-73	Time:
aken by:		Location:	
at. Type:	Ser. No.:	Scaler:	Bgr: c/m
ode:	Cal. Date:	Eff.: %	Eff. Date:

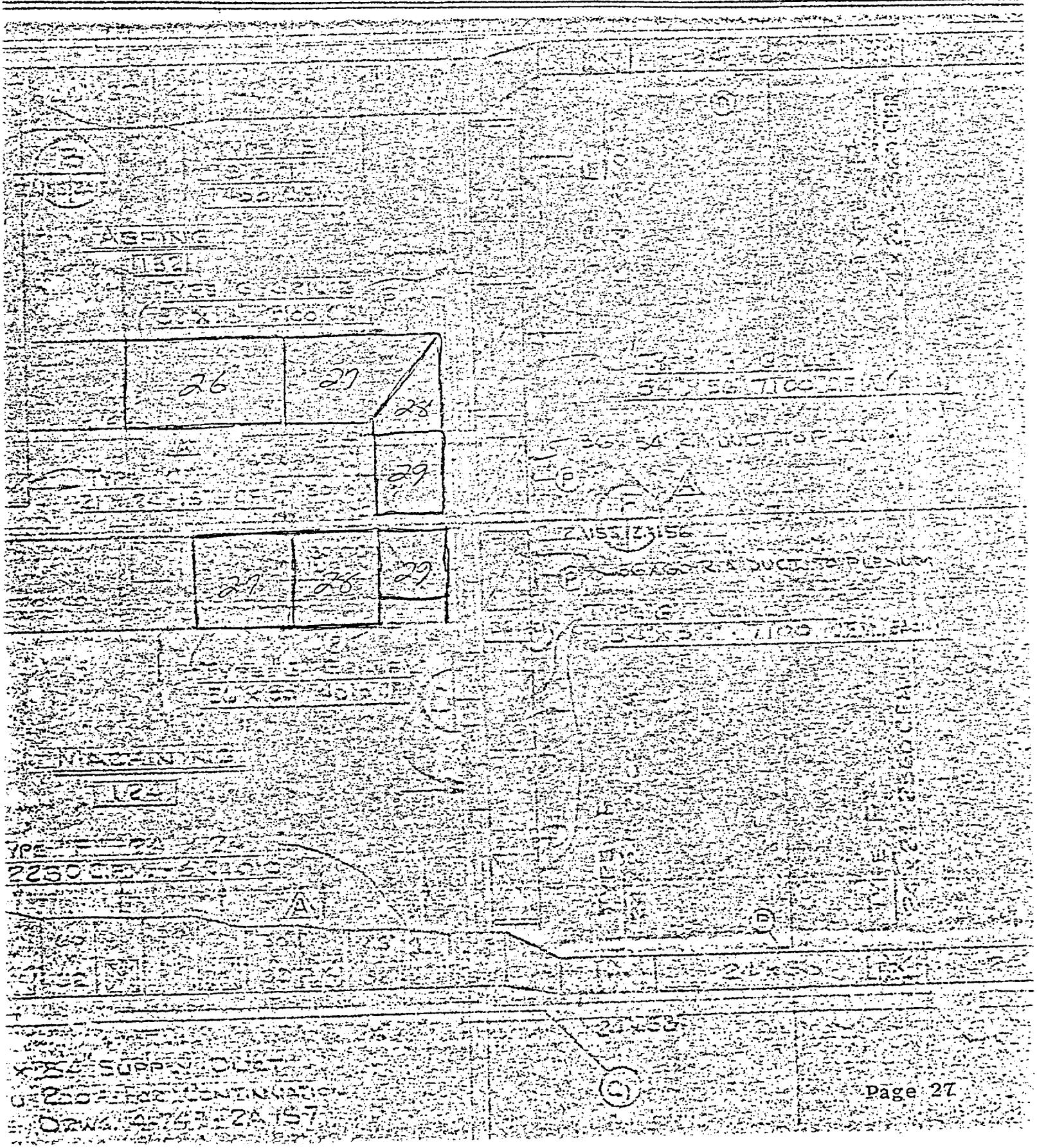
10	11	12	13	14	15	16	17	18	19

11	12	13	14	15	16	17	18	

e Survey: Swipe in pCi/100cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 12-1-73	Time:
en by:		Location:	
l. Type:	Ser. No.:	Scaler:	Bgr: c/m
ba:	Cal. Date:	Eff.: %	Eff. Date:

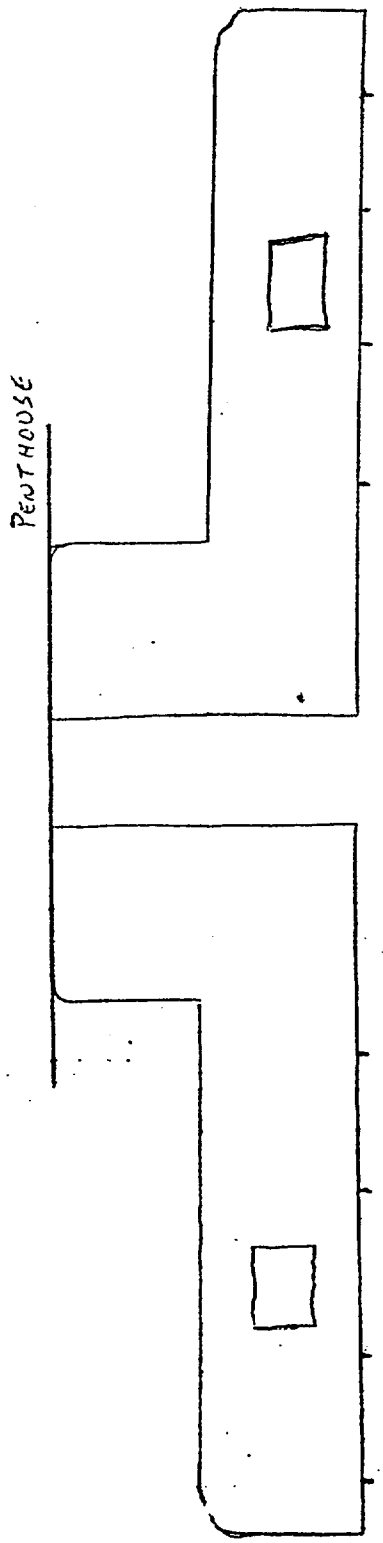


ype Survey: Dose Rate in m. m/hr		Date: 12-1-73	Time:
iken by:		Location:	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
ebe:	Cal. Date:	Eff.: %	Eff. Date:



TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

pe Survey: Swipe in pCi/100cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-1-73	Time:
ken by: PROETT		Location: HIGH BAY REFORM DOCKS	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:



LOCATION	HIGH FIXED	LOOSE
BOTTOM	800	500
END	800	<100
WALLS	1500	<100
TOP	600	<100
RISER	5000	<100

dpm/100cm² α

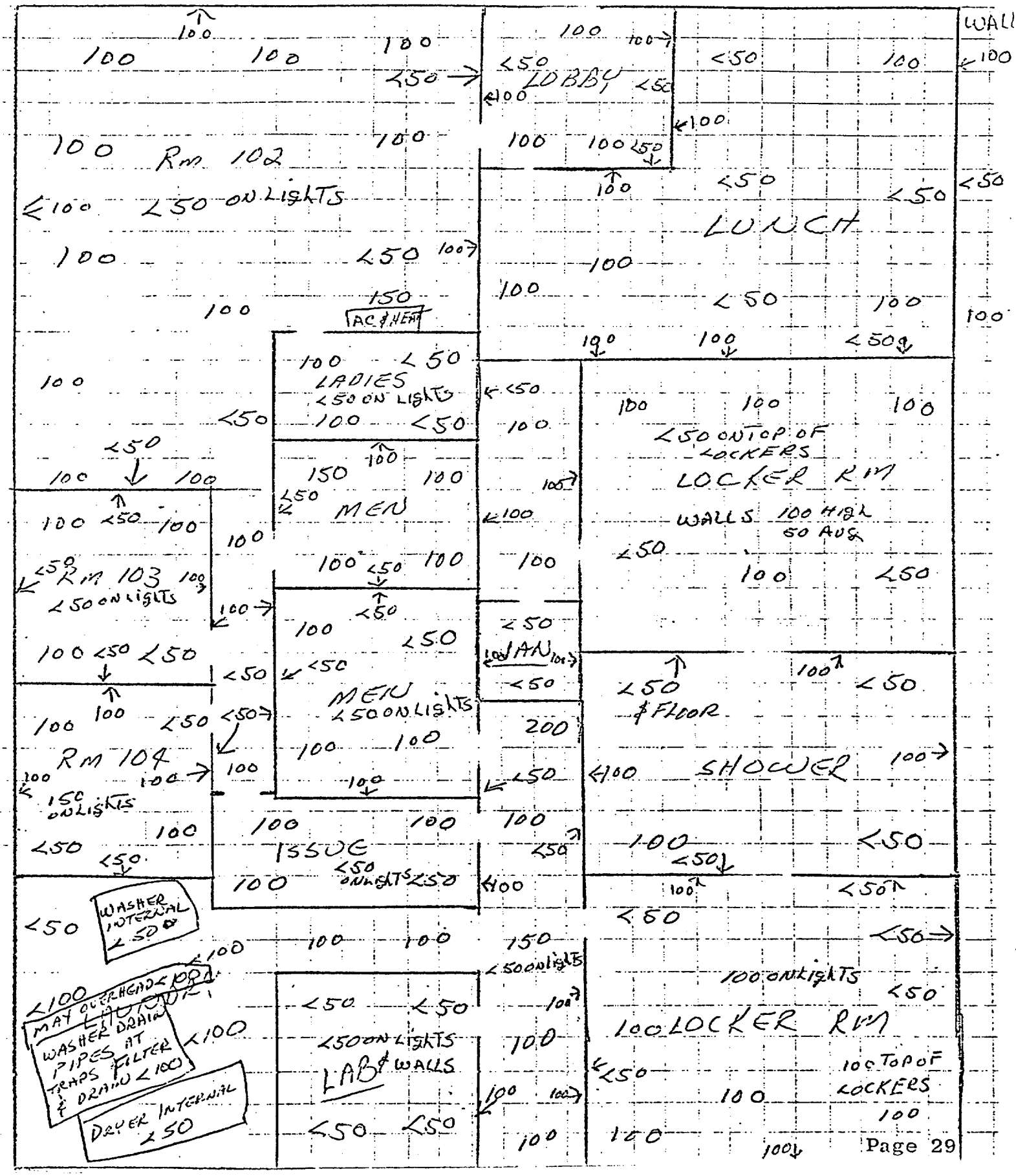
LOCATION	HIGH FIXED	LOOSE
BOTTOM	1100	<100
END	2500	<100
WALLS	800	<100
TOP	700	<100
RISER	2000	<100

dpm/100cm² γ

β-γ loose < 100 dpm/100cm²

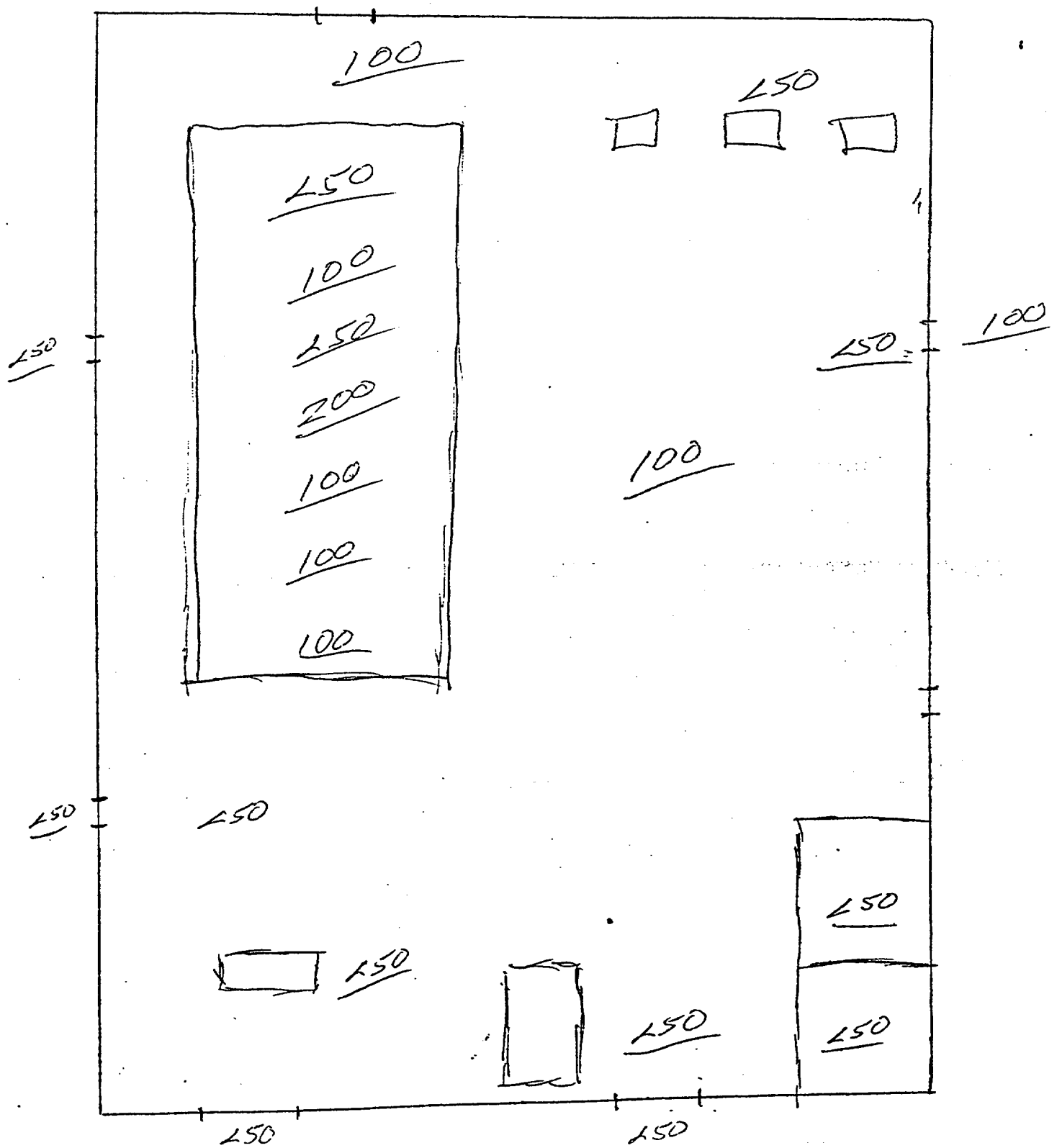
β-γ fixed < 0.1 mrad/hr

FIXED ACTIVITY IN [illegible]		11-25-73	
ken by: PRUETT		Location: OFFICE SPACES	
3l. Type: PAC-1	Ser. No.: 648	Scalar:	Agr: c/m
ode:	Cal. Date:	Eff.: %	Eff. Date:



TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

ype Survey: Swipe in pCi/100cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-26-73	Time:
aken by: Pruett / Keane		Location: HIGH BAY AREA	
nst. Type:	Ser. No.:	Scaler:	Bgr: c/m
robe:	Cal. Date:	Eff.: %	Eff. Date:



12-3-7?

aken by: Hunter		Location: Hellwey	
nst. Type:	Ser. No.:	Scaler:	Bgr: c/m
roba:	Cal. Date:	Eff.: %	Eff. Date:

BATCHING
RM 120

<50
~~450~~
<50
~~450~~
<50
<50

RM
121
VAULT

400 250
350 200
400 350
500 450
600 500

RM
127
S & R

500 200
550 750
450 300
400 600
500 450

RM
122
FORMING

RM
128
COATING

350 300
400 600
500 450

JAN
129

		12-3-7	
aken by: HUNTER		Location:	
nal. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

MAINTENANCE

RM 123

450 (900)

500 (200)

400 (450)

600 (350)

500 (250)

(100)

200

200 (150)

MACHINING

RM 124

600 (200)

200

(100)

600

500

300

(400)

500

300 1000

(100)

200 200

(100)

200 200

LAB

RM 130

INSP

RM

131

ASHING

RM 132

TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/l cm^2 ☐ Dose, Rate in mRem/hr ☐		Date: 12-3-73	Time:
Taken by: PRUETT		Location:	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

West Wall

400 (400) | 300 (300) | 500 (400) | 700 (500) | 600 (500)

700 (900) | 700 (300) | 1600 (300) | [illegible] (700 500) | 950 (1900)

Rm 127 | 100 (300) | Rm 128 | 100 (200) | 700 (500) 150 (250) | 300 (500) Rm 128

West Wall - Continued

(500) | 300 (200) | 200 (500) | 350 (300) | 250 (500) | 800 (500) | 1000 (1300) | 100 (200)

(500) | 500 (200) | 500 (700) | 600 (300) | 200 (350) | 950 (300) | 900 (150) | 300 (100)

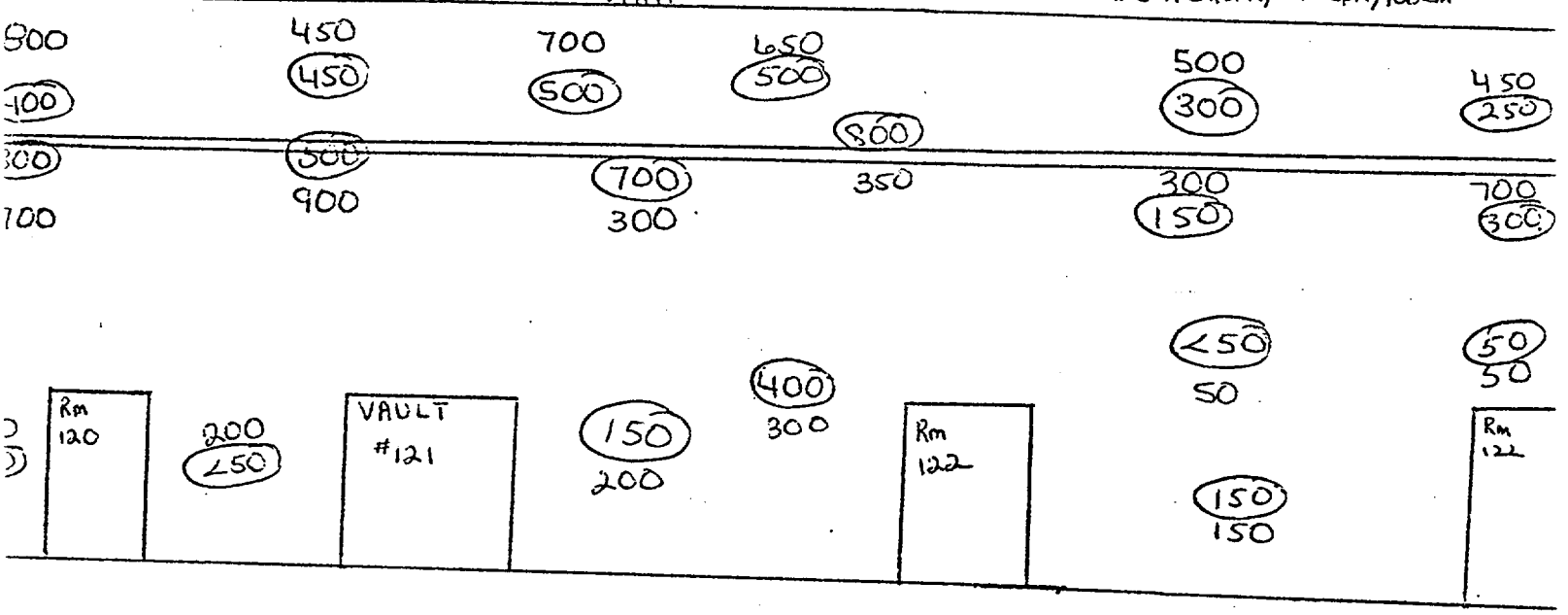
(500) | 150 (250) | 100 (200) | 300 (150) | 400 (150) | 800 (500) | 200 (600)

Rm 129 | Rm 130 | 300 (400) | 200 (100) | Rm 131 | 300 (400) | Rm 132 | 400 (500) | 100 (200)

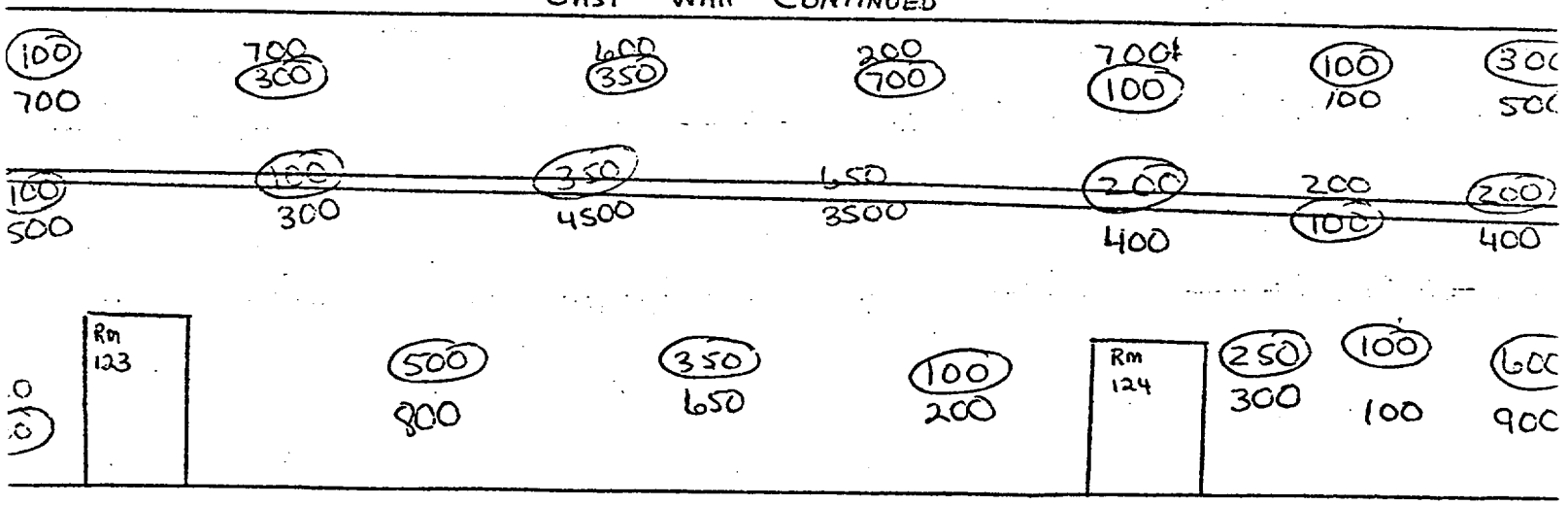
Type Survey: Dose Rate in mRem/hr ☐		Date: 12-3-73	Time:
Taken by: PRUETT		Location:	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

◯ Loose Activity Swipe in dpm/100cm²
— Fixed Activity in dpm/100cm²

EAST WALL



EAST WALL CONTINUED



Type Survey: Swipe in dpm/100cm² ☒ ~~Dose Rate in mrem/hr~~ ☒ FIXED IN dpm/100cm²		Date: 11-25-73	Time:
Taken by: Keanne		Location: BATCHING & VAULT RM 120 & RM 121	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

100 / 350	200 / 500	350 / 800	100 / 750
400 / 1100	950 / 400	300 / 800	850 / 1000
300 / 250	200 / 500	500 / 1000	100 / 500

<100 / 150			<100 / 100	<100 / 100	<100 / 300
<100 / 250	<100 / 500	<100 / 150	<100 / 50	<100 / 250	<100 / 100
<100 / 50			<100 / 50	<100 / 150	450 / 600

Page 35

Maximum Beta Gamma <.1 mrad/hr <100 dpm/100cm²

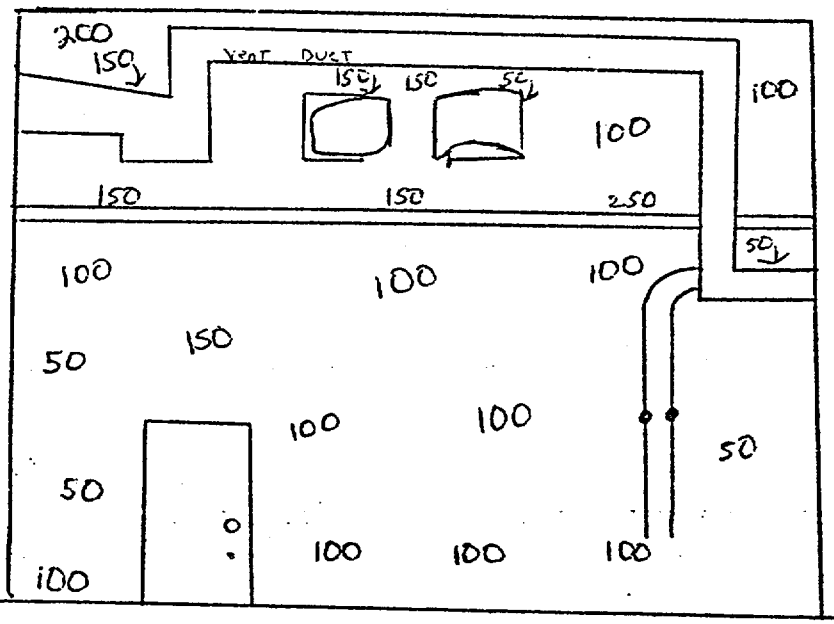
TSC-ND-68

RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/100 cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time: 0800
Taken by: [illegible]		Location: Union Carbide, Lawrenceburg, Tennessee Room 120 Batching Room	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

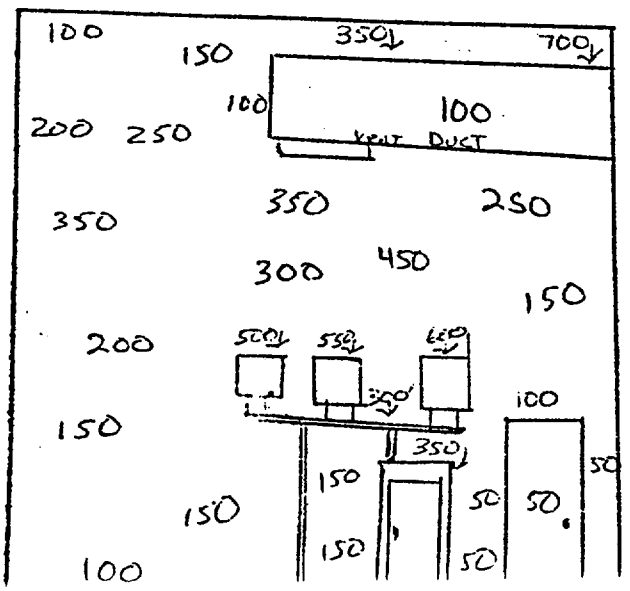
Highest Loose activity 250 D/m
all readings fixed

EAST WALL



Highest Loose activity 650 D/m
All readings fixed

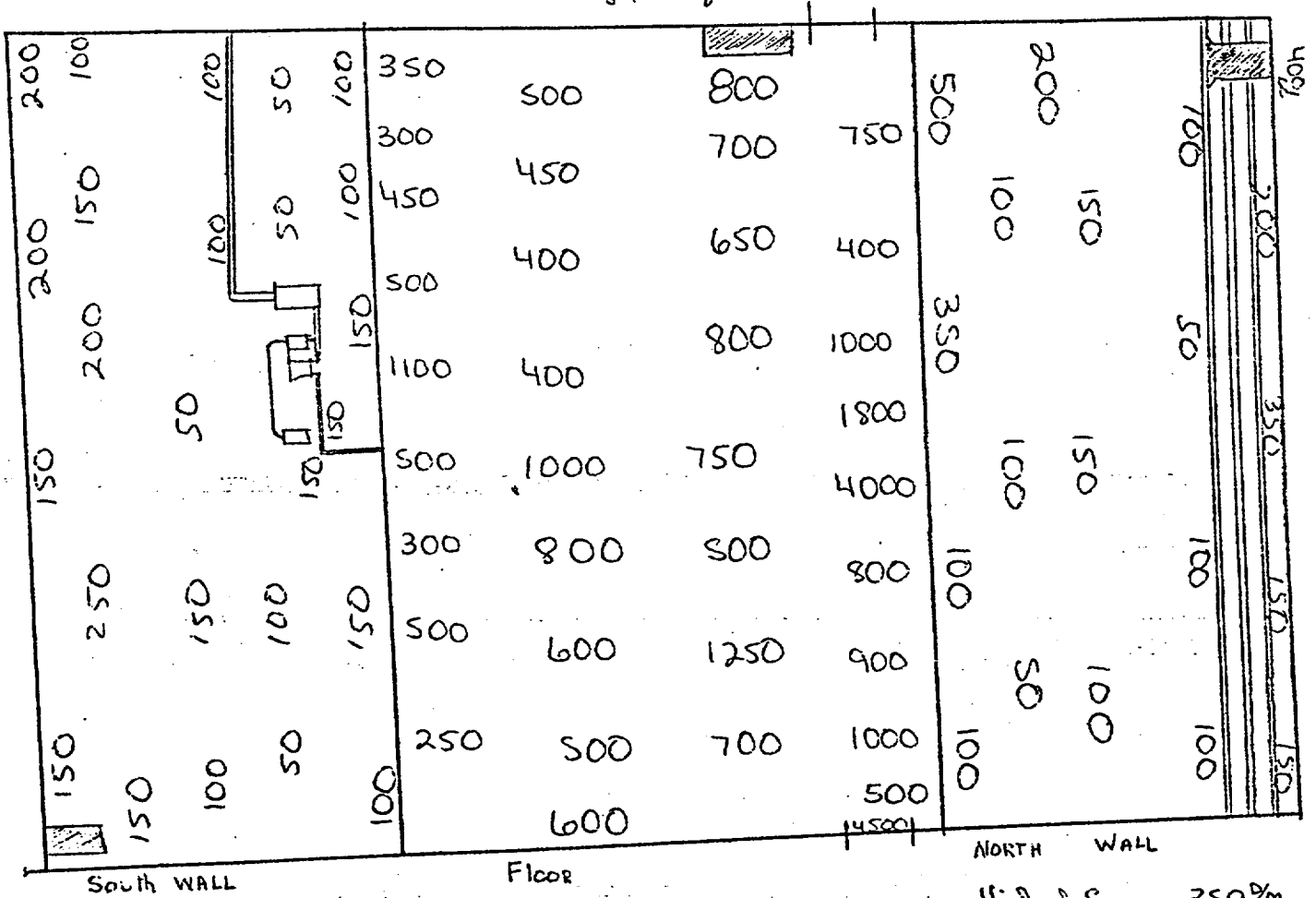
WEST WALL



FOOD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/l 100 cm² ☐ Dose, Rate in mRem/hr ☐		Date: 11-25-73	Time:
Taken by:		Location: Rm 120 - Rotation Room	
Inst. Type:	Ser. No.:	Scaler:	Bgrd c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

All readings D/m fixed



NORTH

en by: Armstrong		11-25-19 Location: [illegible] Lawrenceville, Texas Room - 120 Batching	
Type:	Ser. No.:	Scaler:	Bgr: c/m
g:	Cal. Date:	Eff.: %	Eff. Date:

Item	Loose Activity	Fixed Activity High	Fixed Activity Average	Item	Loose Activity	Fixed Activity High	Fixed Activity Average
- S/S Glove Box	200	8000	1000				
Top Table	< 100	7000	800				
Cage	450	550	N/A				
Box Lights	< 100	900	N/A				
rric heater	< 100	600	N/A				
plates (7)	< 100	900	N/A				
l Rail	250	350	N/A				
irs	500	500	N/A				
Conduit	< 100	150	N/A				
Pipe	< 100	< 100	N/A				
ss Vials (Box)	< 100	< 100	N/A				
ords Box	< 100	< 100	N/A				
heel Cart	< 100	< 100	N/A				
al Table	200	500	N/A				

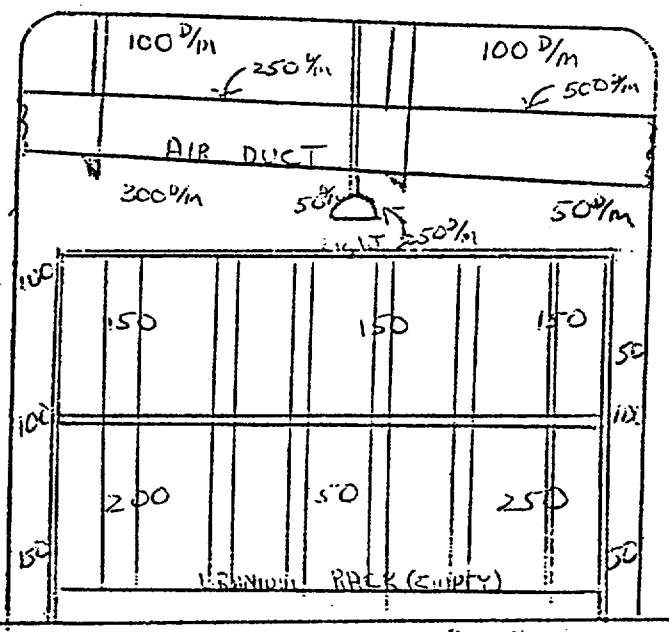
The above listed items are unconditionally released per the specifications set forth in, "Guidelines for Decontamination of Equipment and Facilities Prior to Release for Unrestricted Use or Termination of Licenses for Source, By-Product or Special Nuclear Material", - USAEC April 27, 1970.

TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/l cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-25-73	Time:
Taken by: Armstrong		Location: Rm 121 Vault, Union Carbide Services Tenn.	
Inst. Type: PAC-1SA	Ser. No.:	Scaler:	Bgr: 0 c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

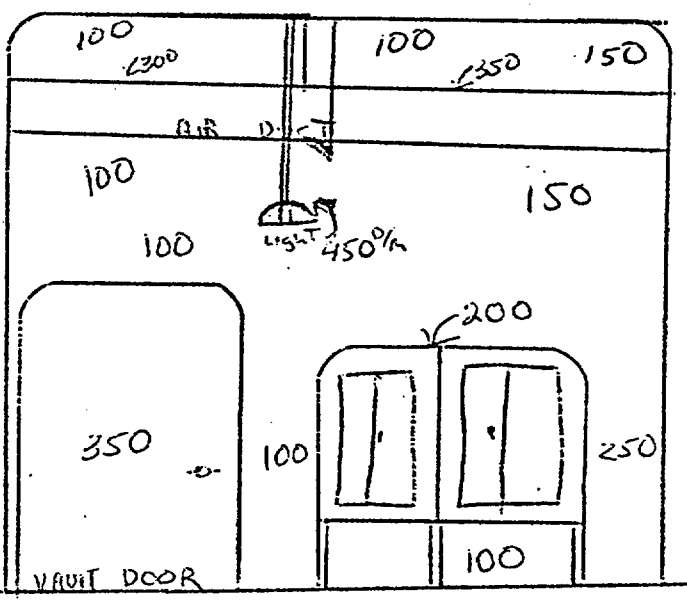
EAST WALL

Highest Swipe 200 D/m



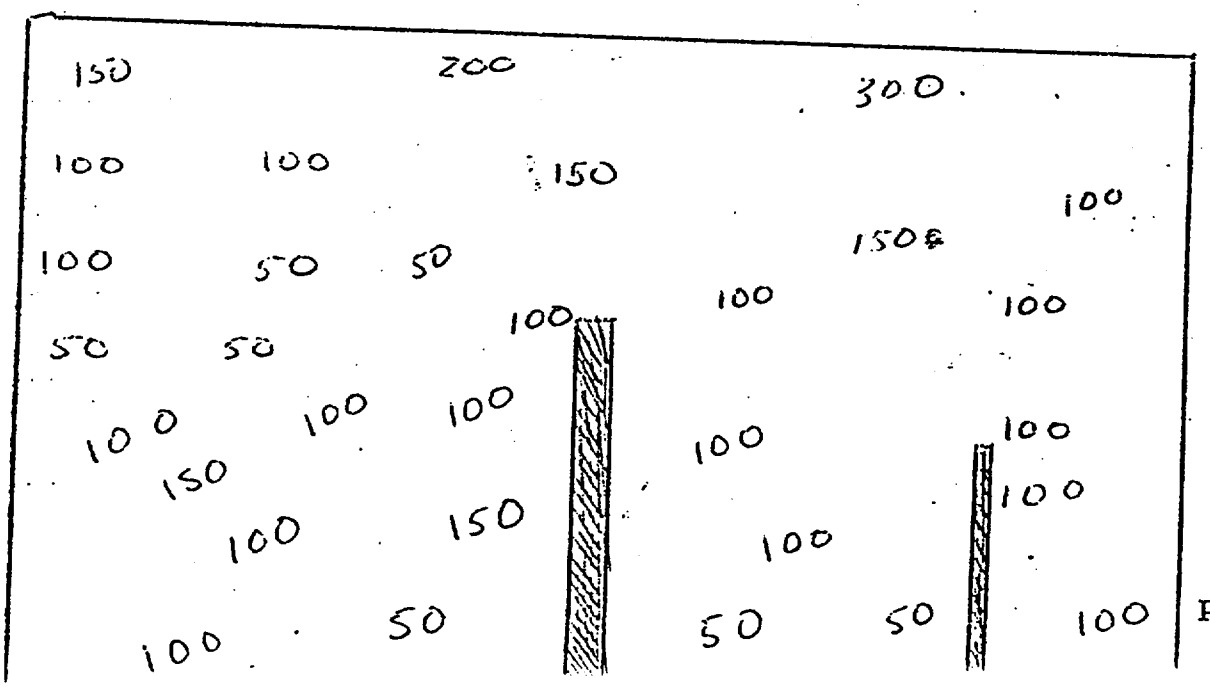
WEST WALL

Highest Swipe 250 D/m All other readings D/m fixed



South WALL

Highest Swipe 250 D/m all other readings D/m fixed



TSC-ND-68

Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mrem/hr ☐		Date: 11-25-73	Time:
Taken by: [illegible]		Location: Vault, Union Carbide, [illegible] Tenn.	
Inst. Type: Pac 1SA	Ser. No.:	Scaler: —	Bgr: — c/m
Probe:	Cal. Date:	Eff.: — %	Eff. Date: —

Northwall

Highest Swipe 150 D/m All other readings 0/m fixed

100	150	100	50	100
100	200	100	100	100
250	150	150	150	150
200	200	250	100	150
150	150	50	100	100

100 DPM / 100 cm2		11-25-7?	
ken by: KEANE		Location: Room - 121 - VAULT	
st. Type: PAC-1SA	Ser. No.: 184	Scaler: PAC-1SA	Bgr: c/m
ode:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE	ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
FE SPACER SPARE BASKETS	< 100	500	N/A				
FE STORAGE ALL LOCKERS	< 100	1000	N/A				
OOSE CEMENT BLOCKS	< 100	2000	N/A				

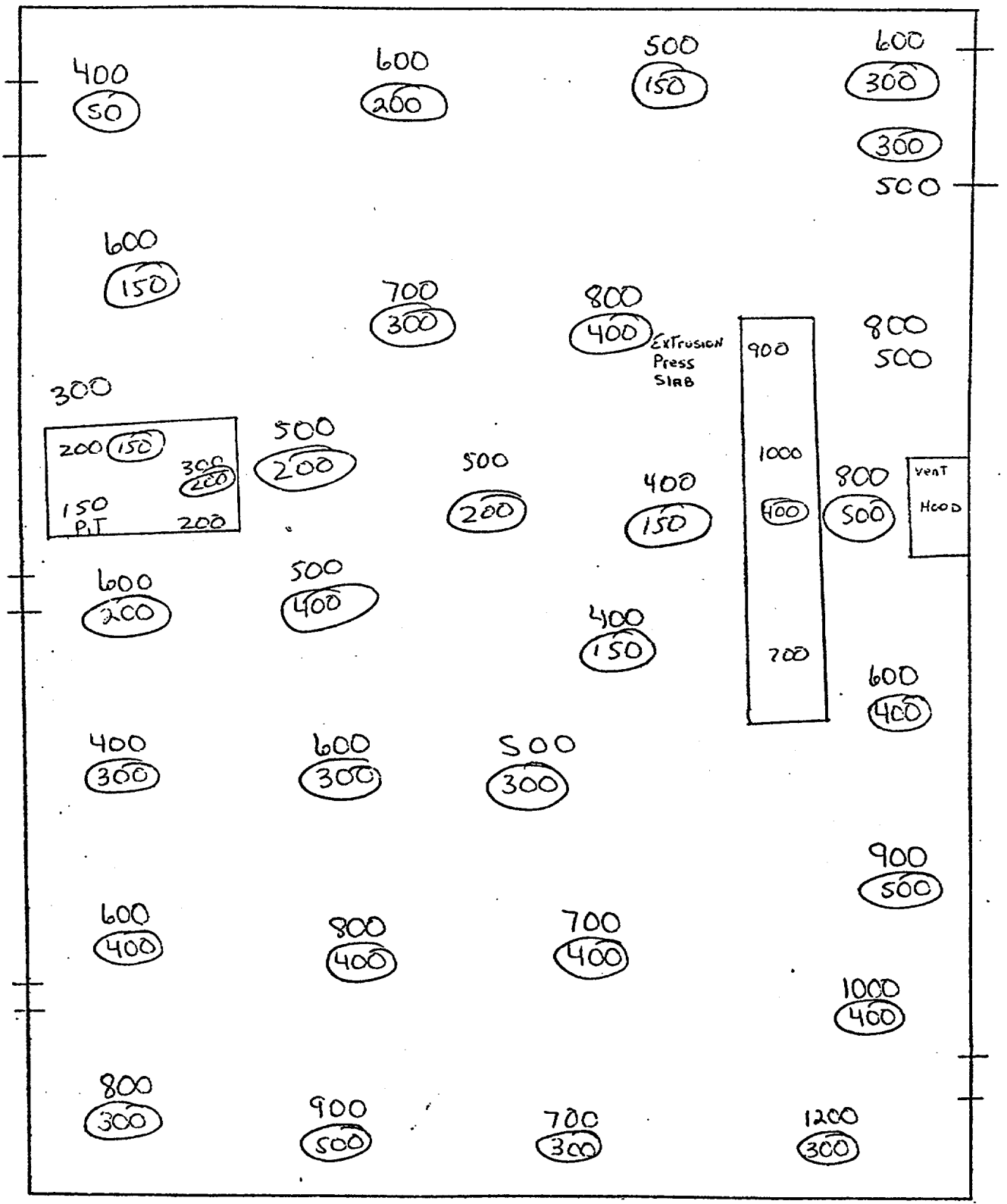
The above listed items are unconditionally released per the specifications set forth "Guidelines for Decontamination of Equipment and Facilities Prior to Release for Unrestricted Use or Termination of Licenses for Source By-Product or Special Nuclear Material", - USAEC April 22, 1970.

FOOD NUCLEAR DIVISION — RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mRem/hr ☒		Date: 11-26-73	Time:
Taken by: Hunter		Location: Room 122 - Foaming	
Inst. Type:	Ser. No.:	Scaler:	Bgr: 0 c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

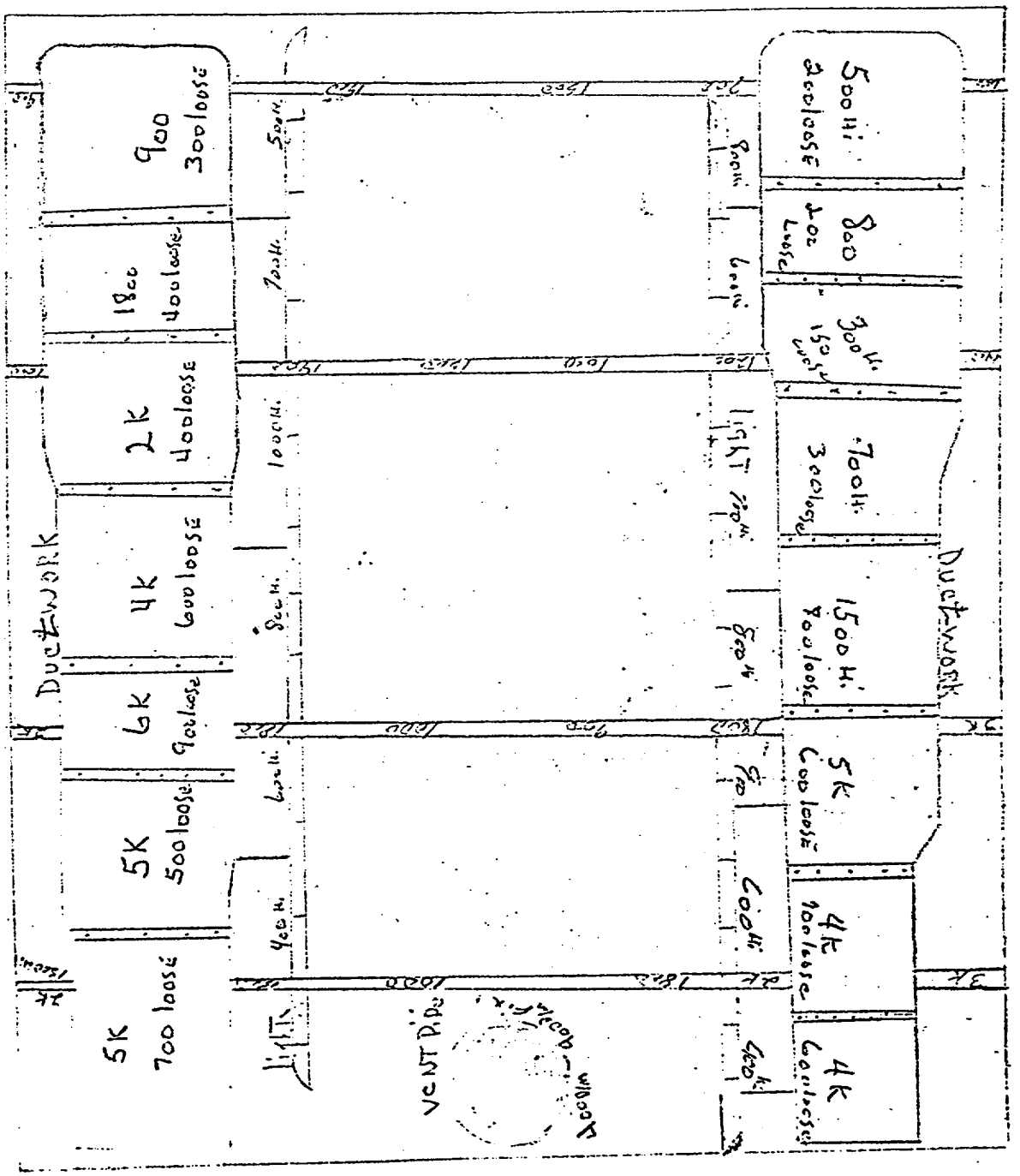
Loose Smear Activity in D/m/100cm²

Fixed Activity c/100cm²



Less Than .1 mR/HR Beta-Gamma

...e Survey: Swipe in pCi/100cm² ☐ Dose Rate in mrem/hr ☐		Date: 11-26-73	Time:
...en by: Hunter E.E.		Location: RM 122 Forming	
...t. Type: Pac-7 SA	Ser. No.:	Scaler:	Bgr.: c/m
...ode:	Cal. Date:	Eff.: %	Eff. Date:



) Loose
...y swipe
...dpm/100cm²

- Fixed
...ivity in
...r/100cm²

TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

ype Survey: Swipe in pCi/ 0cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-27-73	Time:
aken by: HUNTER E.E.		Location: Rm 121 Foaming	
ıst. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

900	700	800	500
800	700	500	400
600	500	400	300
400	300	600	500
200	300	500	400

NORTH WALL

600	800	500	500
300	500	700	600
400	200	600	400
200	400	400	300
300	200	300	200

SOUTH WALL

700	800	500	700
500	600	400	300
300	400	700	500
400	500	400	300
200	300	200	300

WEST WALL

500	900	700	1000
600	500	800	900
200	700	600	700
150	500	700	500
200	300	500	400

EAST WALL

Above readings fixed & contaminates loose ALL less than 500 d/m/100cm²

en by:		Location: 11-21-1 Union Carbide, New Concord, Ohio Room - 122 - Forming	
Type:	Ser. No.:	Scalar:	Bgr: c/m
3:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
ess Steel Blender	<50	<50	N/A
To Blender	<50	<50	N/A
m Pump	100	200	N/A
ess, Hydraulic	<50	200	N/A
CANS (13)	<50	100	N/A
X SODIUM BORATE	<50	100	N/A
ner Wrench	100	300	N/A
ICRS, HOSE TO PIPE (2)	<50	300	N/A
Relay Control	<50	<50	N/A
TEST STAND	<50	50	N/A
m PUMP	<50	50	N/A
cal APPARATUS	<50	50	N/A
R & PEDISTAL	<50	<50	N/A
RACK	100	50	N/A
IC MOTOR W/CHAIN	50	200	N/A
nT, 2 CANS	<50	<50	N/A
ipe coupling	<50	<50	N/A
" FIRE BRICKS (7)	<50	1000	500
ER BOX	<50	50	N/A
g Switch	<50	<50	N/A
BOARD, STA. 76	50	150	N/A
MISCL. PARTS	<50	100	N/A
e SPOUTS, 3	<50	<50	N/A
ment BOARD	50	150	N/A
, GALVIZED, 5	<50	50	N/A
	<50	100	N/A
SEALER	<50	100	N/A
d SWITCH	<50	<50	N/A

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
STAINLESS STEEL SHAFT - 2	200	1000	150
PLASTIC TUBEING	<50	50	N/A
FUSE CARTRIDGE (9)	<50	50	N/A
FILTER	<50	50	N/A
GLASS FUNNELS (31)	<50	50	N/A
POWER STARTER	<50	50	N/A
MISCL. PARTS (1 BOX)	<50	100	N/A
FILTER PAPER (1 BOX)	100	400	N/A
STAINLESS STEEL FUNNELLS	<50	<50	N/A
API meter, D.C., Volts	<50	100	N/A
HANGER STRAPS, RUBBER (1 BOX)	<50	<50	N/A
GLOVE BOX SLEEVES, RUBBER (3)	<50	50	N/A
LIGHT FIXTURES (10)	<50	500	N/A
ACCESS DOORS TO FURNACE CONTROL	250	500	N/A
CHART PAPER (6)	100	350	N/A
CHART RECORDER	<50	<50	N/A
SMALL SILVER OVEN	150	50	N/A
FILTER	<50	<50	N/A
HEATING ELEMENTS (25)	<50	200	N/A
COPPER TUBEING 1/4", 1 roll	<50	350	N/A
Lg. STEEL COVER	<50	<50	N/A
WOOD PANNELS (4)	<50	<50	N/A
WOOD DOORS (2)	<50	<50	N/A
WOOD FRAME	<50	<50	N/A

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[illegible] in DPM / 100 cm2		11-27-3	
ken by:		Location: [illegible] Room - 122 Forming	
3. Type:	Ser. No.:	Scaler:	Bgr: c/m
ate:	Cal. Date:	Eff.: %	Eff. Date:

TEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE	ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
tal Strip	<50	<50	N/A	Ultra air Filter	<50	<50	N/A
x 1½' Cover	<50	<50	N/A	Partial Drum of Acetate	200	200	N/A
nt Plates	<50	<50	N/A	Glass ware, 1 Box	100	100	N/A
Duct, SKA/wood, (3)	<50	<50	N/A	Electric Timer	50	<50	N/A
und Straps (3)	<50	<50	N/A	Brown Instrument	450	450	N/A
Baskets (4)	<50	<50	N/A	Stone Cylinder	200	200	N/A
" X 4½" Pipe	<50	<50	N/A	125# Scale Dial	100	100	N/A
aring Collar	<50	<50	N/A	Eletric motor w/wooden bked	400	400	N/A
BLE w/Rollers	<50	<50	N/A	1 Gal Poly Bottles (1 Bag)	50	50	N/A
RDBOAR File Cabinet	100	100	N/A	Polishing Table	150	150	N/A
ss Steel Pot	50	100	N/A	Bottle Stoppers, (2 Box)	<50	<50	N/A
ing units, Copper, 2 (4)	<50	<50	N/A	Ground Detector	<50	<50	N/A
less Steel pipe Halves	<50	<50	N/A	Asbestos Blocks	<50	350	N/A
pper Bag / 2 pins	<50	<50	N/A	Filter	50	400	N/A
BLE Trough	<50	<50	N/A	Ultra air Filter (7)	<50	350	N/A
TRUDING Table	800	800	N/A	Absolute Filter	<50	<50	N/A
RDBOARD Records Box (2)	100	100	N/A	Filter Elements (3)	<50	50	N/A
ly Jars, 1 Bag	<50	<50	N/A	Asbestos Filters (3)	<50	<50	N/A
ustrial Abrasive Unit	100	100	N/A	Fire Alarm	<50	<50	N/A
rface on wheels	150	150	N/A	Dri Right (3 Jars)	<50	50	N/A
Chair, Lab	500	500	N/A	Air Drier Beads (5 Boxes)	<50	100	N/A
tch Cards 1 Box 700-710	800	800	N/A	Sieves, Various sizes (10)	<50	50	N/A
gh Temp Bath	100	100	N/A	Fluted Pins	<50	200	N/A
ir Pump	200	200	N/A				
Gram Scale I	<50	<50	N/A	Screen Cloths, 5 Boxes	<50	50	N/A
Gram Scale II	<50	<50	N/A				
Vacuum Pump	150	150	N/A				
ectrical Relay	<50	<50	N/A				

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Fixed (Removable) Activity 100 DPM / 100 cm2		11-27-73	
oken by:		Location: Union Carbide Parkersburg, West Virginia Room - 122 Forming	
ıst. Type:	Ser. No.:	Scaler:	Bgr: c/m
·obe:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	Loose Activity	Fixed Activity High	Fixed Activity Average	ITEM	Loose Activity	Fixed Activity High	Fixed Activity Average
rg mixer	<50	50	N/A				
s Sheet 4'x8'	<50	100	N/A				
ct Work 3"	250	450	N/A				
ter Housing (2)	50	250	N/A				
ct Work 3"	75	250	N/A				
ct Work (2 piece)	500	650	N/A				
ter Housing S/S (2)	300	300	N/A				
rk Table (2)	100	1500	300				
e ½" 30 ft.	<50	100	N/A				
Accum Pump	400	1200	300				
" Pipe	100	200	N/A				
Berglass, 1 roll	<50	200	N/A				
sorbent ½ Bag	<50	100	N/A				
mall Filter Housing	<50	300	N/A				
pipe w/Filter Housing	400	400	N/A				
minum Pipe - 20'	200	200	N/A				
Work Table	300	300	N/A				
Work Table	500	500	N/A				
s Tray	150	150	N/A				
's Sheet 5x6 (2)	200	200	N/A				
te Board Sheet	450	450	N/A				
Beam - 4'	300	300	N/A				

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100 DPM / 100 cm2		11-27-73	
oken by:		Location: Inside Lawrenceburg, Tenn Room - 122 Forming	
nst. Type:	Ser. No.:	Scaler:	Bgr: c/m
ncy:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	Loose Activity	Fixed Activity High	Fixed Activity Average
" ID Hose	<50	<50	N/A
RBON Balls	<50	<50	N/A
ss Frame Screen	<50	100	N/A
D Tygon, 30'	<50	50	N/A
reens (5)	<50	400	N/A
ly Bottles, 1 Box	<50	100	N/A
re Filters (3)	<50	100	N/A
Absolute Filter	<50	200	N/A
Charcoal Filter	<50	<50	N/A
1 Bottle Chlorofoid, 1 Gas Fluor methane	<50	50	N/A
l Can, 3 gal (1)	100	100	N/A
art Paper (100 rolls)	<50	50	N/A
T Carbon Blocks (75) 1 Box	100	175	N/A
ted Pipe Nipples	<50	100	N/A
Carbon Pipe (50)	<500	200	N/A
ard Cylinders (11)	<50	50	N/A
ter Gauges & Frame	100	100	N/A
ole Switch (2)	<50	50	N/A
rbon Felt (5)	<50	100	N/A
S Section Glove Box	500	150	N/A
S Pipe 3'	700	700	N/A
lass For Glove Box	100	100	N/A
lter Housing	50	50	N/A
ose	50	50	N/A
ace Internals	200	200	N/A
ack Board (2)	300	300	N/A
creen Scale	500	500	N/A
astic Pipe	50	50	N/A

ITEM	Loose Activity	Fixed Activity High	Fixed Activity Average
Absolute Filter	500	500	N/A
Ultra Aire Filter	50	50	N/A
Pipe, 2" - 25'	100	100	N/A
Carbonacrour Cement 5 gal can	50	50	N/A
Lab Glass	200	200	N/A
Decantor Jar (2)	100	100	N/A
Work Table	200	200	N/A
Hydraulic Press parts	250	250	N/A
Uranium Bottle (New)	50	50	N/A
Glas-col Apparatus	50	50	N/A
Ceramic Funnel	100	100	N/A
locker Parts	250	250	N/A
Emergency Blanket	<50	<50	N/A
Air Duct	400	400	N/A
Screen	<50	<50	N/A
8" x 8" Plate	<50	<50	N/A
Absolute Filter	<50	100	N/A
S/S Disc 18"	300	300	N/A
Room Heater	<50	<50	N/A
Mill Heater	<50	<50	N/A
Carbon Balls (13)	<50	<50	N/A
Miscl Parts 1 Box	400	400	N/A
Wooden Box	100	100	N/A
Drain Basket	100	150	N/A

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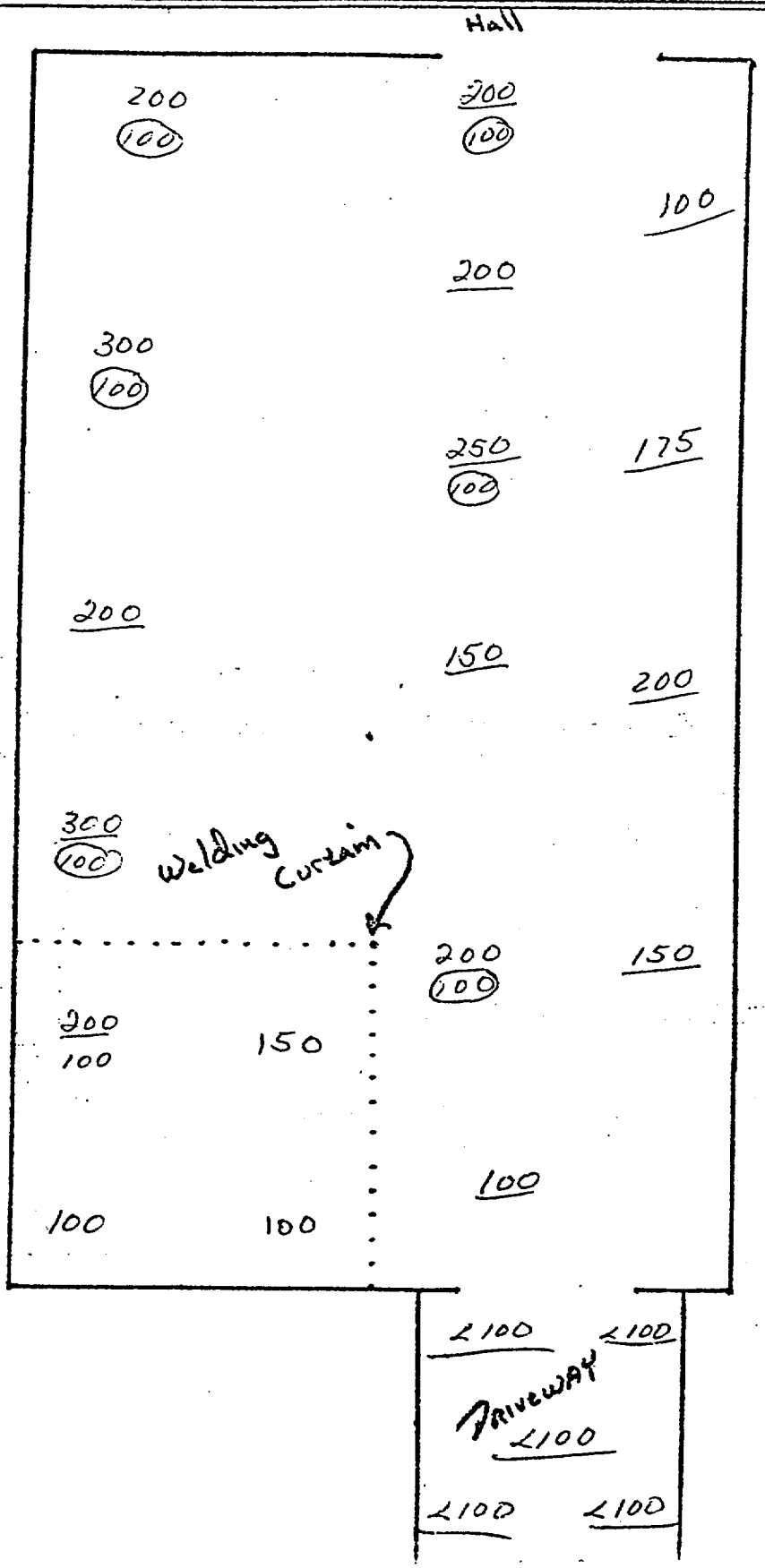
pe Survey: Swipe in pCi/100cm^2 ☐ Dose Rate in r :m/hr ☐		Date: 11-28-73	Time:
ken by: Pruett		Location: MAINTENANCE RM 123	
st. Type: Ludlum 16	Ser. No.:	Scaler:	Bgr: c/m
ube: 43-4	Cal. Date:	Eff.: %	Eff. Date:



LOOSE ACTIVITY in dpm/100cm^2

FIXED ACTIVITY in dpm/100cm^2

MAXIMUM Beta-Gamma
< .1 mrad/hr
< 100 dpm/100cm^2

TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

ype Survey: Swipe in pCi/l cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-28-73	Time:
aken by: PRIETT		Location: MAINT. RM 123	
nst. Type: PAC	Ser. No.: 112	Scaler:	Bgr: c/m
robe:	Cal. Date: 11-1-73	Eff.: %	Eff. Date:

NORTH WALL

200 (100)	250 (100)	300 (100)	100
100	200 (100)	100	250 (100)
150	200 (100)	200 (100)	100
200 (100)	100	150	150

SOUTH WALL

250 (100)	250 (100)	100	150
300 (200)	100	200 (100)	200
100	150	100	250
200	250	100	200

EAST ALL FIXEN <50 D/M LOOSE

200	200	250
150		100
	100	
100		200
	250	
200	200	

WEST All FIXED <50 D/M LOOSE

250	150	200
150	200	200
100	150	150

WEST VENT

250	(100) 200	300	250	(150) 200	250	(100) 300

(100) 200	250	200 (100)	250

BEAM

(150) 200	200	(100)	250 (100)

pe Survey: LOOSE (SWIPE) AND FIXED (CONTACT) ACTIVITY IN DPM / 100 cm2		Date: 11-28-[illegible]	Time:
ken by:		Location: UNION CARBIDE - WEST SENECA, N.Y. ROOM - 123 - MAINTENANCE	
31. Type:	Ser. No.:	Scaler:	Bgr: c/m
bba:	Cal. Date:	Eff.: %	Eff. Data:

TEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
RD BOARD STRIP	<50	<50	N/A
, ASST SIZES - 8'	<50	<50	N/A
den DOOR 3'x8'	200	200	N/A
OR 5'X12	200	200	N/A
co INSTRUMENT #3	<50	<50	N/A
ass WINDOW 3'x5'	<50	<50	N/A
PAN	150	150	N/A
TRIC MOTOR	300	300	N/A
-P VALVE (2)	<50	<50	N/A
ite AP-SWITCH	100	100	N/A
T. CONTROL BOX	350	350	N/A
tron INSTRUMENT	400	400	N/A
tric MOTOR #P-2405T	<50	<50	N/A
LE 3'x5.5'	900	900	N/A
T COLLECTOR	600	600	N/A
T CANS (4)	<50	<50	N/A
T (1qt)	<50	<50	N/A
LANT PUMP	800	800	N/A
nder TYPE GPDB	400	400	N/A
E BOX (2)	50	50	N/A
Dri 7 Bags	200	200	N/A
PUMP oiler	400	400	N/A
CONDITIONER HOUSING	400	400	N/A
len DOORS 4'x5' (2)	50	50	N/A
Frequency MOTOR	<50	<50	N/A
NTROL BOX	<50	<50	N/A
RAGE FILE	50	50	N/A
ee BOX	<50	<50	N/A

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
CIRCUIT CONTROL BOX	50	50	N/A
TRANSFORMER (3)	<50	<50	N/A
WORK TABLE 14'x6'	200	200	N/A
TABLE 2'x3'	300	300	N/A
S/S STRIPS	500	500	N/A
ELECTRIC & AIR REQUIREMENT	100	100	N/A

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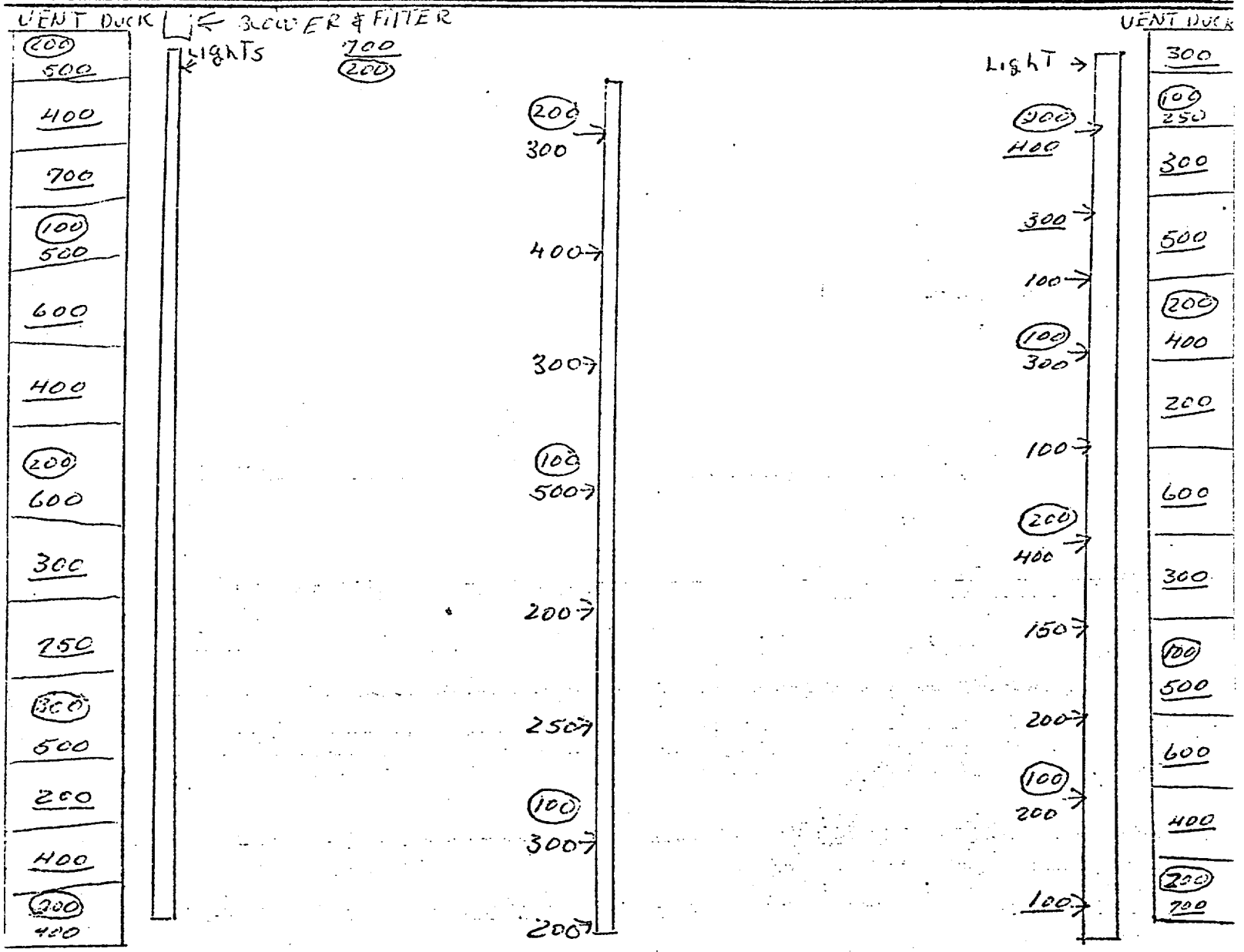
RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/l cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-27-73	Time:
Taken by: Proett		Location:	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

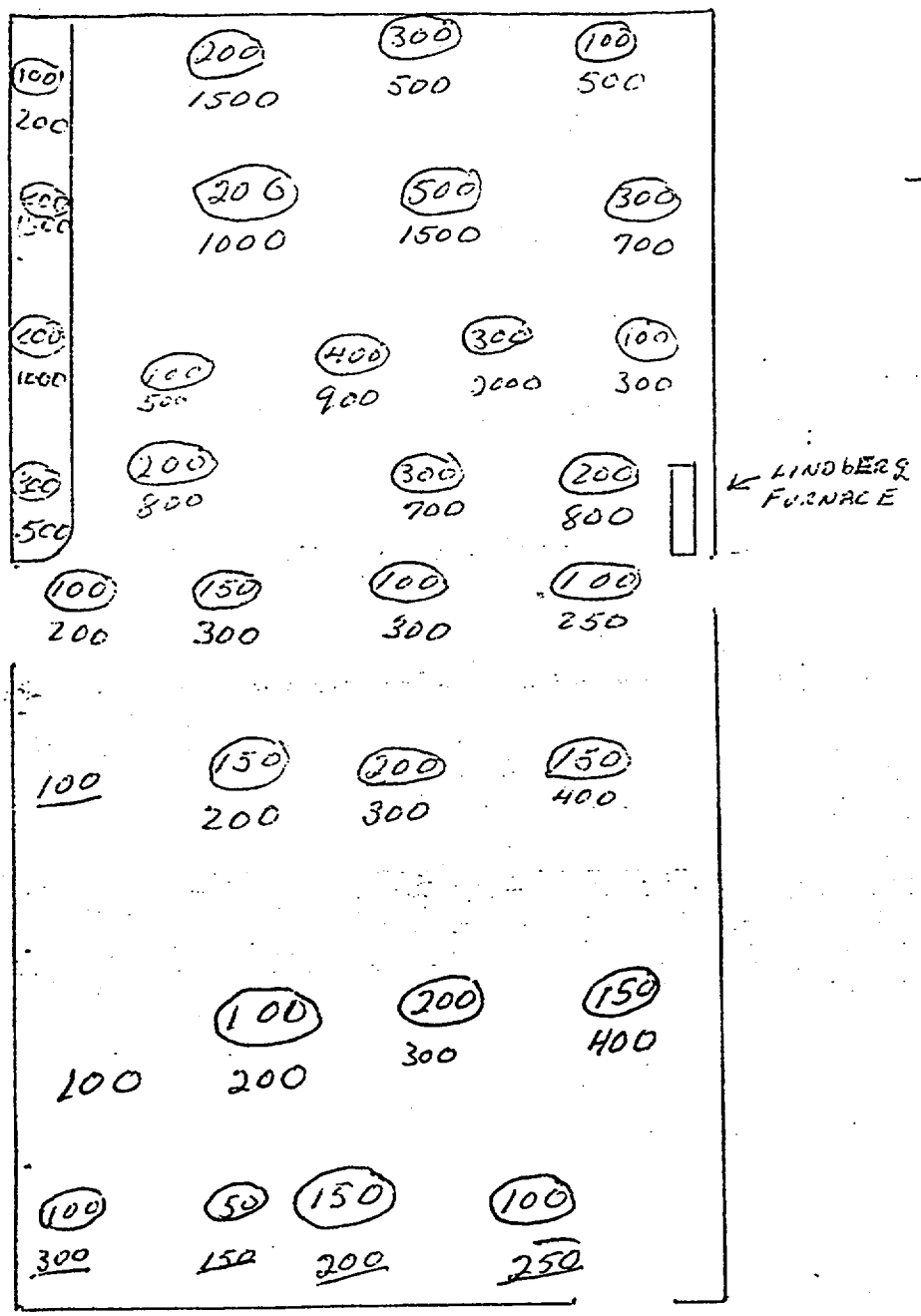


(oval) LOOSE ACTIVITY SWIPE IN dpm/100cm²

— FIXED ACTIVITY IN DPM/100cm²

FOOD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/100 cm² ☐ Dose, Rate in mRem/hr ☐		Date: 11-27-73	Time:
Taken by: Pruett		Location: MACHINING Rm 124	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:



LOOSE ACTIVITY SWIPE IN dpm/100cm

FIXED ACTIVITY IN dpm/100cm²

MAXIMUM β-γ
<100 dpm/100cm²
<.1 mrad/hr

TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-27-73	Time:
Taken by: Prueth		Location: Machine Pit 124	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

ALL READINGS ARE FIXED

100	150	250	200	100
100	200	300	100	300
200	200	200	100	
200	100	100	200	200
200	100		100	400

SOUTH

O-LOOSE ALL READINGS FIXED

200	300	200	400	200
200	250	150	200	200
100	300	100	100	300
	100	200	200	100
300	200	200	100	200
200	200	200	100	100

WEST

OPENING TO VENT DUCTS

300	200	200	200	200	100
200	200	200	150	100	200
200	100	400	100	250	200
200	200	200	200	300	300
100	200	100	200	250	200
100		400			

NORTH

DOOR TO HIGHBAY

BEHIND RACKS

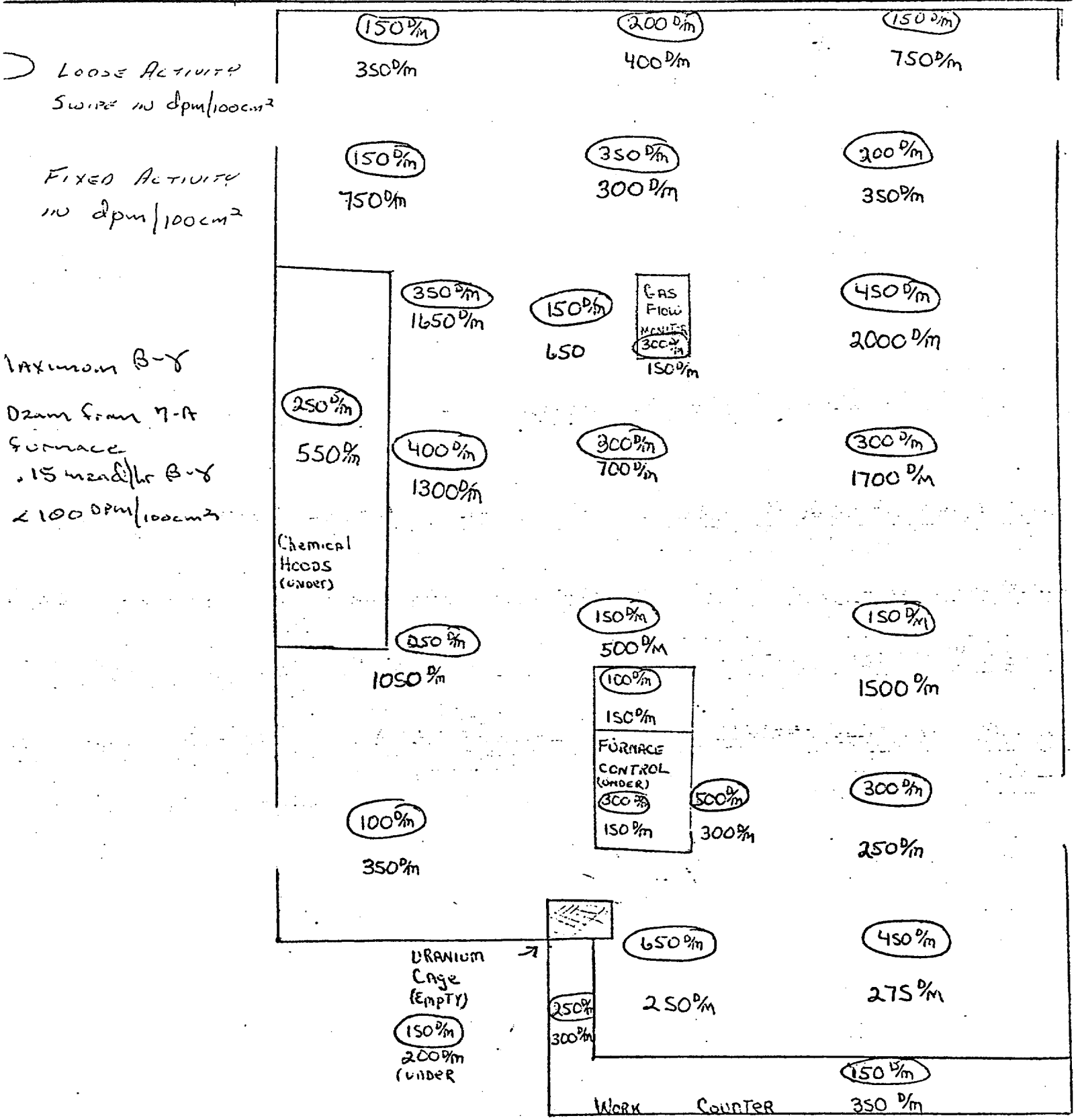
100	100	200	100	250
50	300	300	200	200
200	200	200	200	300
100	200	200	100	250
100	200	100	100	200
100	200		100	100

EAST DOORS

NO LOOSE

TODD NUCLEAR DIVISION -- RADIOLOGICAL SURVEY FORM

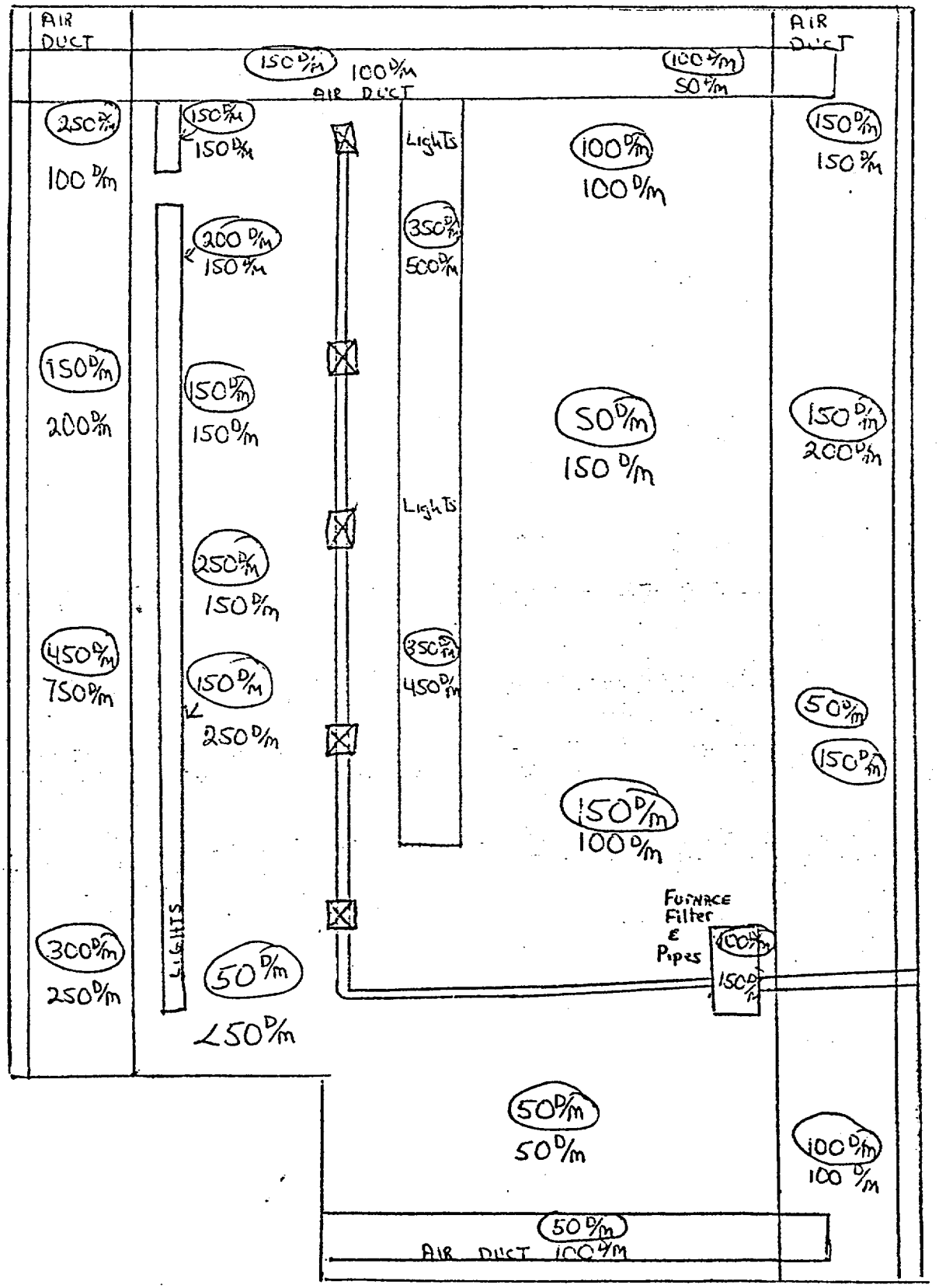
Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-30-73	Time:
Taken by: ARMSTRONG		Location: COATING ROOM #123	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe:	Cal. Date: 11-9-73	Eff.: %	Eff. Date:



e Survey: Swipe in pCi/100cm² ☐ Dose Rate in mrem/hr ☐		Date: 11-30-73	Time:
en by: Armstrong		Location: Coating Room #128	
. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
ɔe:	Cal. Date: 11-9-73	Eff.: %	Eff. Date:

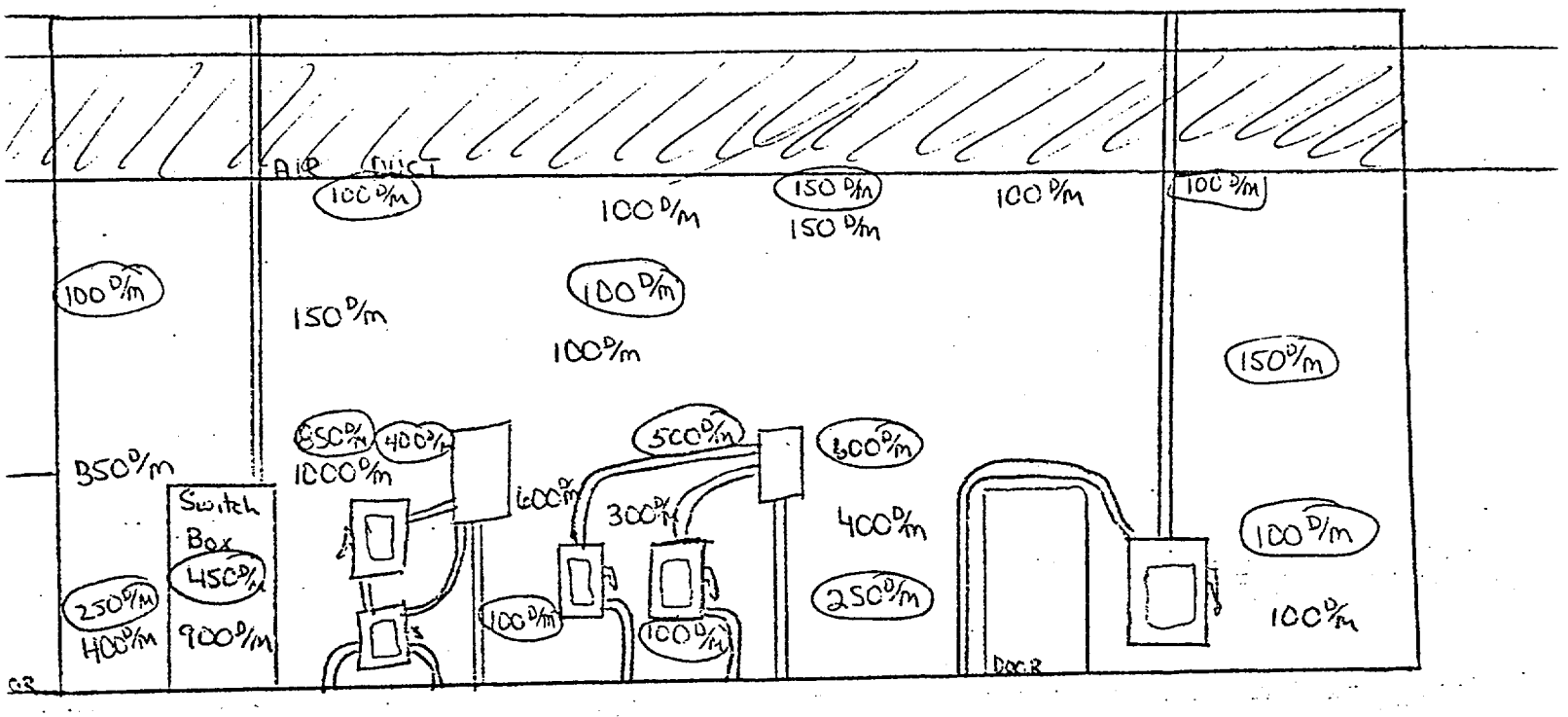
cose Activity DPM/100cm²

IXED Activity DPM/100cm²



Ceiling

Type Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-30-73	Time:
Taken by: Armstrong		Location: Coating Room #128	
Inst. Type: PAC ISA	Ser. No.: 1684	Scaler: 0	Bgr: c/m
Probe: —	Cal. Date: 11-9-73	Eff.: %	Eff. Date:



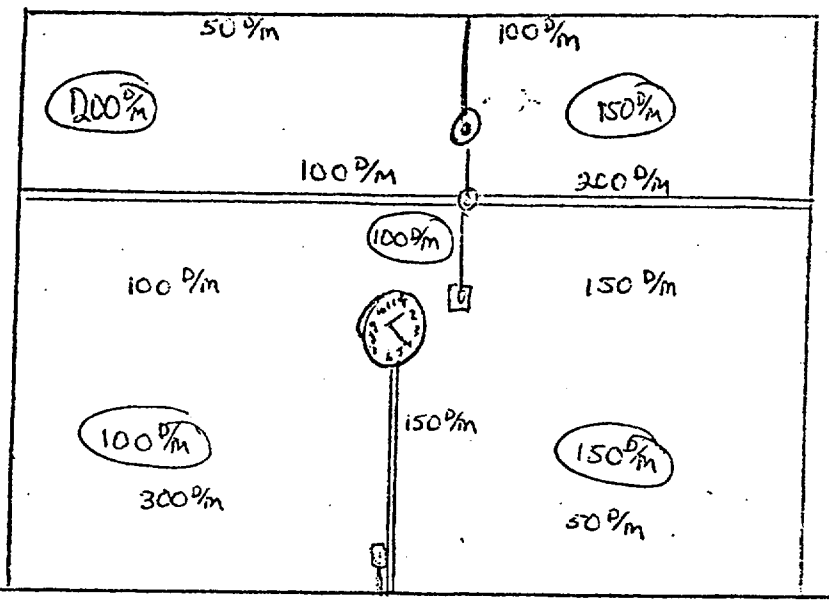
○ Loose Activity
Swipe in DPM/100cm²

Fixed Activity
IN dpm/100cm²

TSC NO. 68

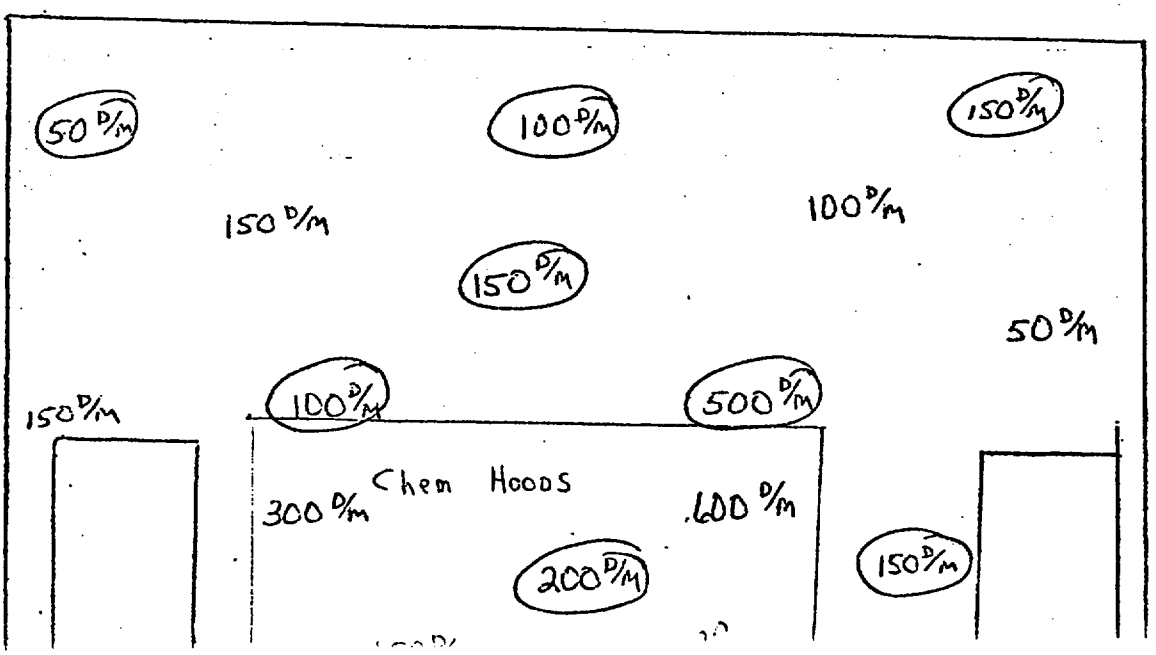
TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/. Jam^2 ☐ Dose Rate in mRem/hr ☐		Date: 11-30-73	Time:
Taken by: [illegible]		Location: Coating Room #128	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe: —	Cal. Date: 11-9-73	Eff.: %	Eff. Date:



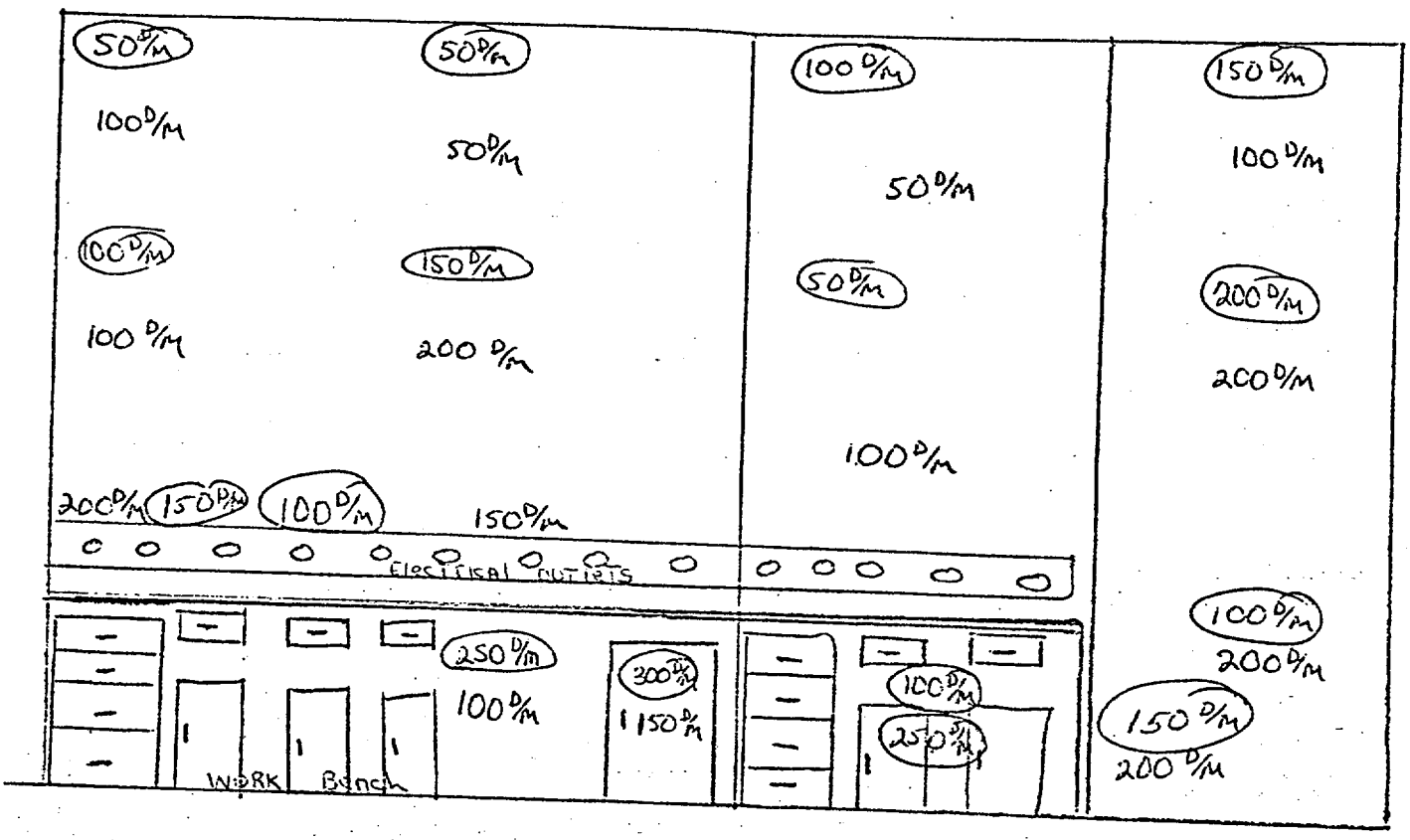
O Loose Activity Swipe in DPM/100c

Fixed Activity in DPM/100cm^2



Type Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-30-73	Time:
Taken by: Armstrong		Location: Coating Room #128	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe:	Cal. Date: 11-9-73	Eff.: %	Eff. Date:

NORTH WALL
(w/o 90° Angles)



TODD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mRem/hr ☐		Date: 11-30-73	Time:
Taken by: [illegible]		Location: Coating Room #126	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe:	Cal. Date: 11-9-73	Eff.: %	Eff. Date:

BACK 200 D/m
100 D/m

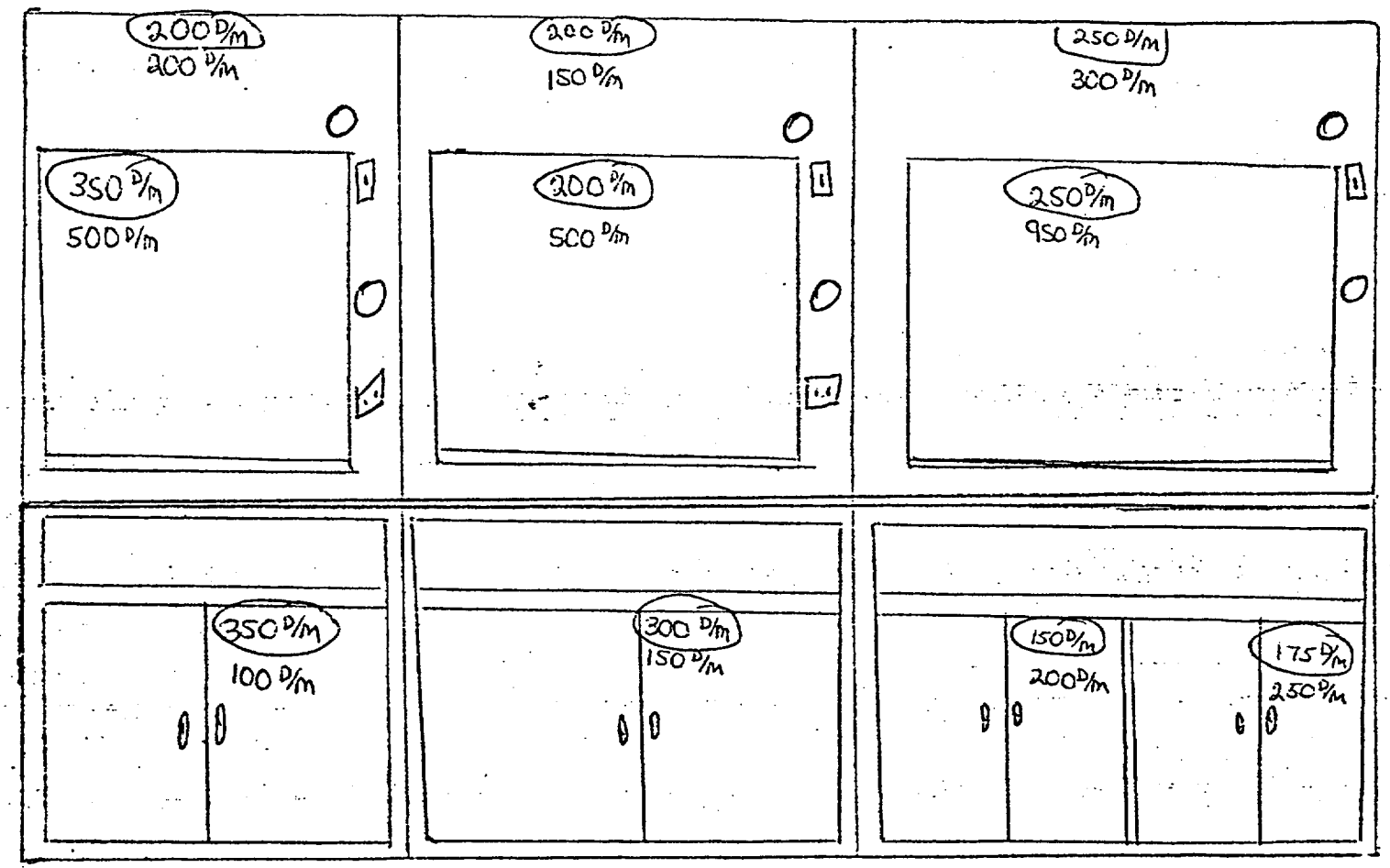
BACK 300 D/m
100 D/m

BACK 250 D/m
300 D/m

TOP 350 D/m
300 D/m

TOP 200 D/m
350 D/m

TOP 400 D/m
500 D/m



O Loose Activity
Swipe in DPM/100cm²

Fixed ~~Acti~~ Activity
in DPM/100cm²

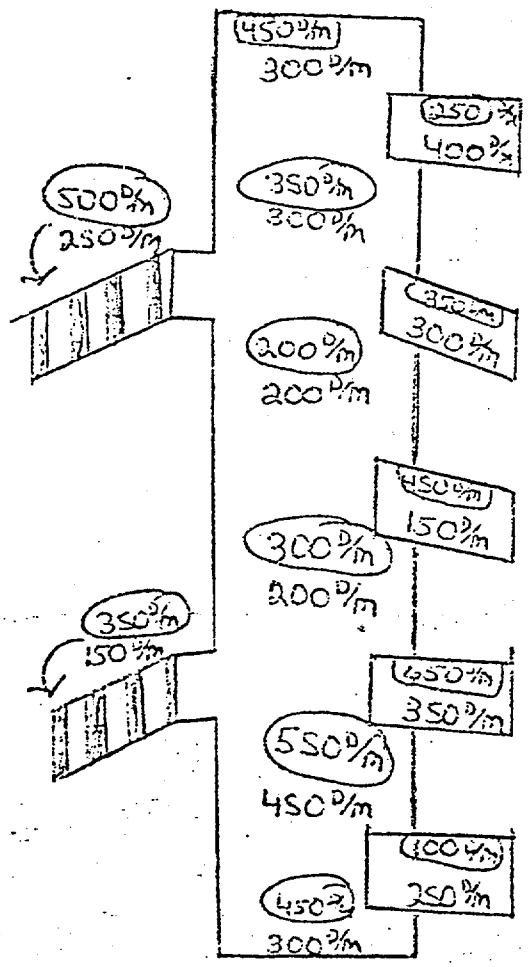
Chemical hoods

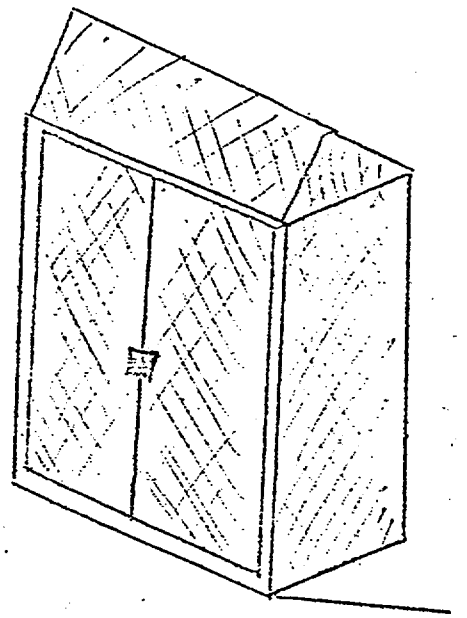
Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mrem/hr ☐		Date: 11-20-73	Time:
Taken by: Armstrong		Location: Coating Room #129	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe:	Cal. Date: 11-9-73	Eff.: %	Eff. Date:

CAT WALK

Loose Activity
Swipe in D/m/100cm²

Fixed Activity
in dpm/100cm²





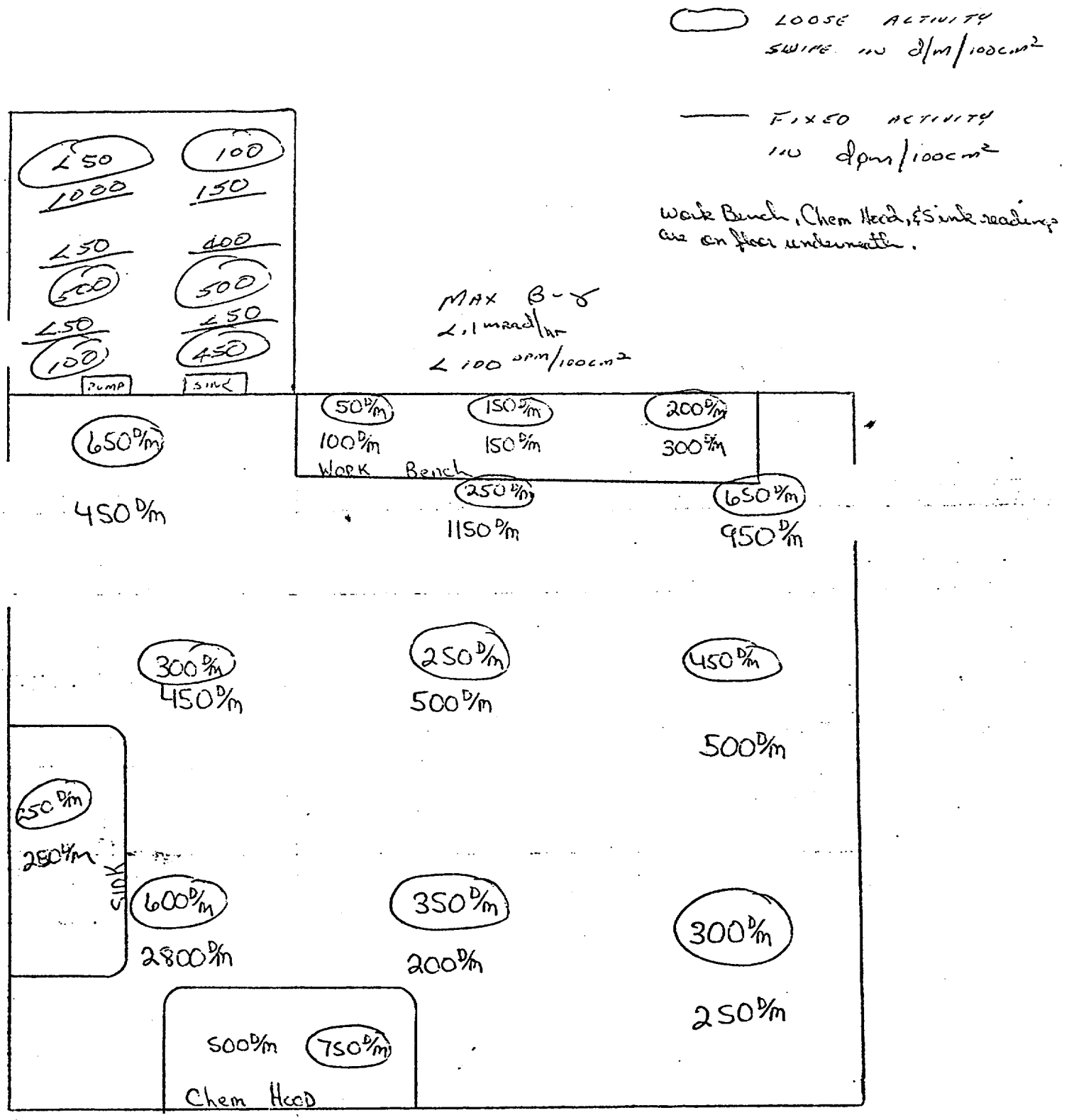
Safety Cage Mounted on Wall

pe Survey: FIXED (CONTAC ACTIVITY IN DPM / 100 cm2	Date: 11-30-73	Time:	
ken by:	Location: UNION CARBIDE - LAWRENCEBURG, TENN ROOM - 12B		
ɔt. Type:	Ser. No.:	Scaler:	Bgr: c/m
ɔba:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE	ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
all Filter Housing	<50	150	N/A	Copper Vessel	<50	150	N/A
rt on Wheels	250	950	N/A	Venturi Fan	<50	<50	N/A
e Carts (6)	500	10,000	3000	Muffin Fan Filter	<50	<50	N/A
" Valve	<50	300	N/A	Duct Seal (7lbs)	<50	350	N/A
shlite (2)	<50	200	N/A	Flow Glasses (2)	<50	<50	N/A
up Brush	<50	<50	N/A	Carbon Molds (3)	<50	<50	N/A
lephone Jack	<50	150	N/A	Box of Asst. 'O' Rings	<50	150	N/A
rease Gun	<50	200	N/A	Chart Paper (1Roll)	<50	<50	N/A
l Beam light	<50	<50	N/A	Chart Recorder Spares (1Box)	<50	<50	N/A
ey paint - 1can	100	100	N/A	Aluminum Can	<50	<50	N/A
lip Board	<50	<50	N/A	Aluminum Flanges (2)	<50	200	N/A
Table	100	350	N/A	Copper Tubing (20')	<50	<50	N/A
ol Crib	250	750	N/A	Can lids (1Box)	<50	<50	N/A
s Table	100	5000	1000	Oxygen Gauge	<50	<50	N/A
reen Scales, (14) Brass	<50	150	N/A	Steel Locker	500	550	N/A
rass Covers (4)	<50	<50	N/A	Duct work Filters (2)	300	500	N/A
reen Scales, (7) s/s	<50	150	N/A	Filter Housing (2)	350	500	N/A
fety Belts (2)	<50	<50	N/A	Tin Cans (34)	<50	<50	N/A
uum Cleaner Adapt.	<50	<50	N/A	12" Duct	700	300	N/A
ing Fittings (misc)	<50	<50	N/A	Hood Vent (2)	200	400	N/A
fety Goggles	<50	100	N/A	Duct 6"	300	750	N/A
ber Cement (1can)	<50	<50	N/A	Various lengths of 1¼ pipe	100	150	N/A
nometer	<50	150	N/A	2 Rubber Hoses	<50	150	N/A
n Bottles (2)	<50	150	N/A				
um Bottles (2)	<50	100	N/A	S/S Table	150	500	N/A
ss collar	<50	<50	N/A				
arker ink	100 D/M	100	N/A				
amatic Lens (3)	<50	<50	N/A				

The above listed items are unconditionally released per the specifications set forth in "Guidelines for Decontamination of Equipment and Facilities Prior to Release for Unrestricted Use or Termination of Licenses for Source, By-Product or Special Nuclear Material", - USAEC April 22, 1970.

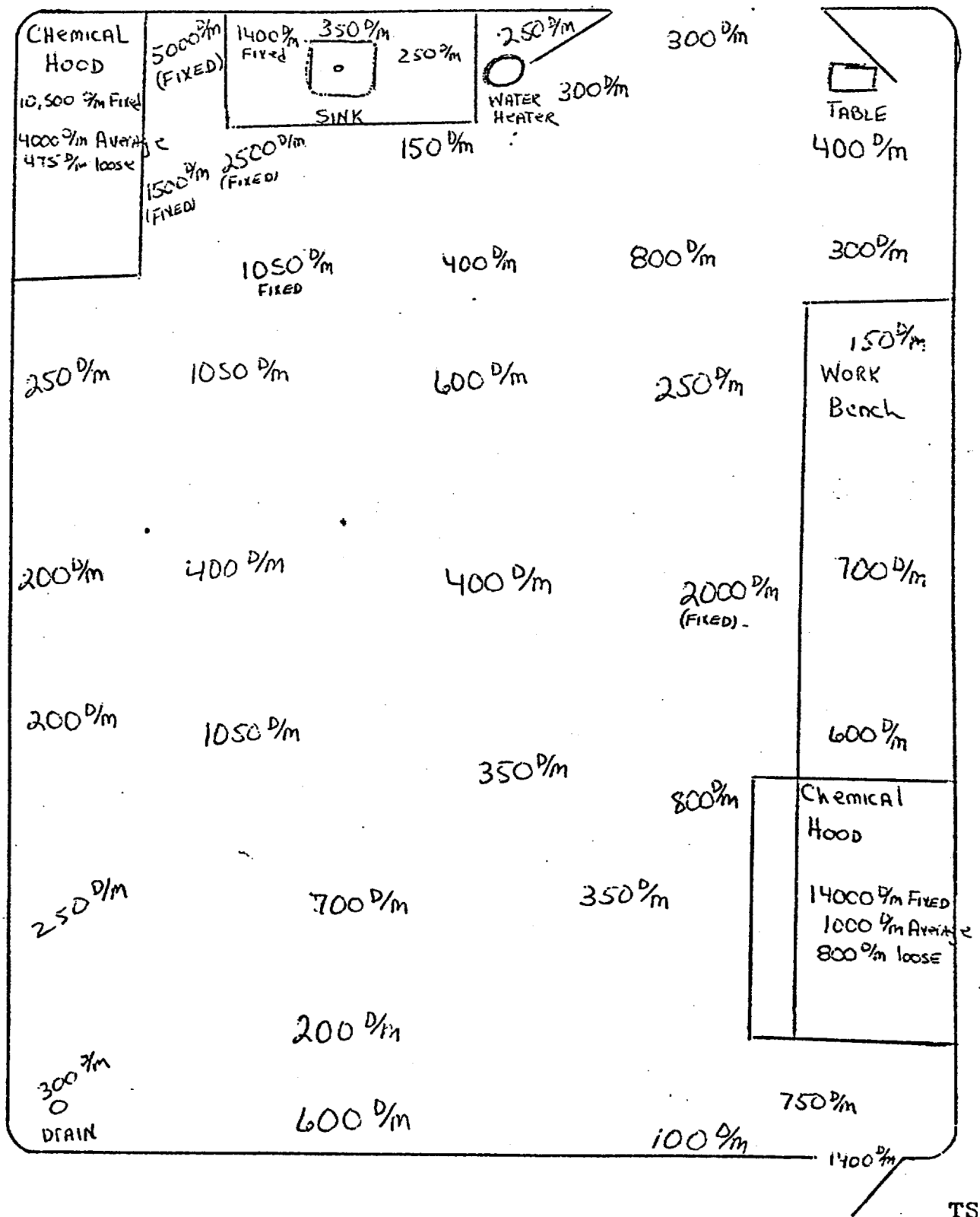
Type Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-1-73	Time:
Taken by: [illegible]		Location: JANITORIAL & LPLS 2M 129 & 130.	
Inst. Type: PAC 1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe:	Cal. Date: 11-9-73	Eff.: %	Eff. Data:



Type Survey: Dose Rate in mrem/hr ☐		Date: 12-1-73	Time: 0900
Taken by: [illegible]		Location: Chem lab	
Inst. Type: PAC-1SA	Ser. No.: 1884	Scaler: —	Bgr: — c/m
Probe: Attached	Cal. Date: 10-18-73	Eff.: — %	Eff. Date: —

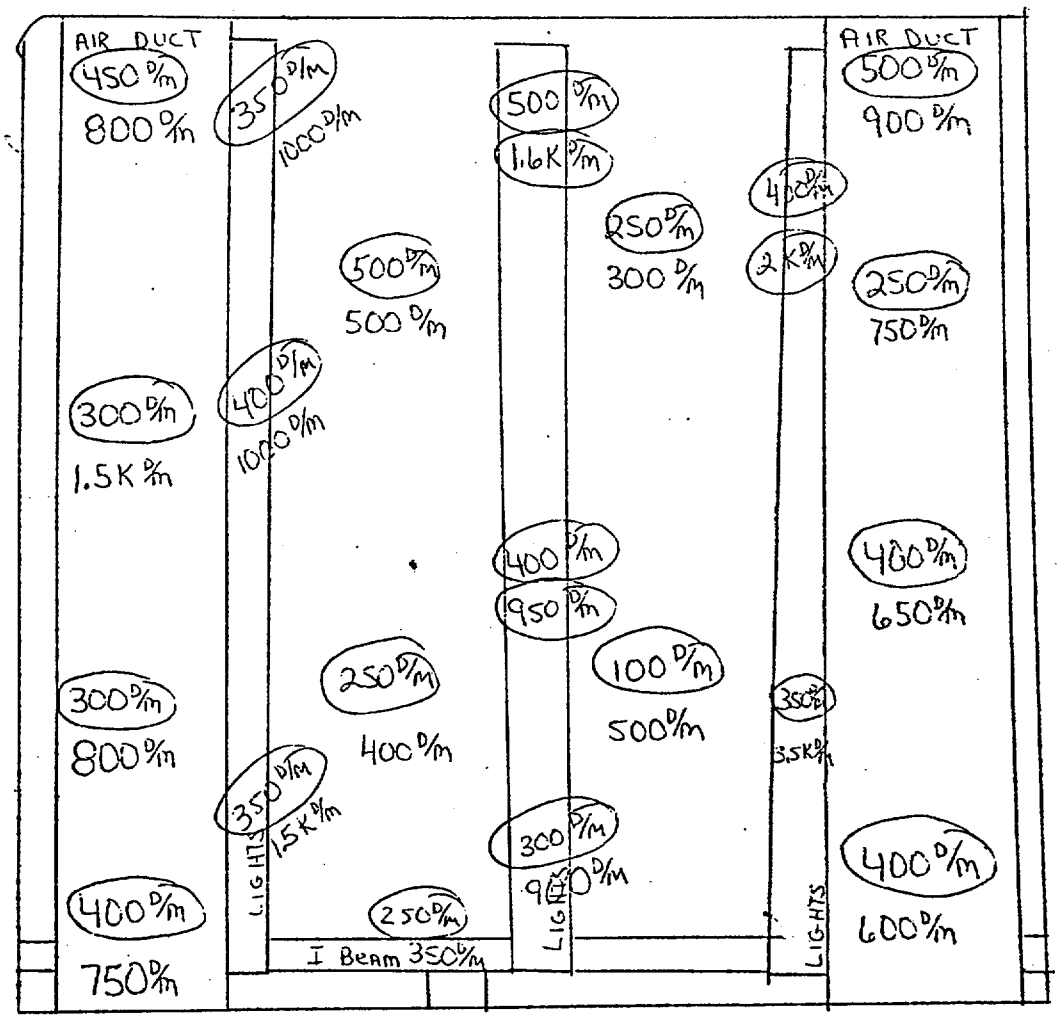
MAXIMUM loose on Floor 300 D/m

All Readings Below are Fixed

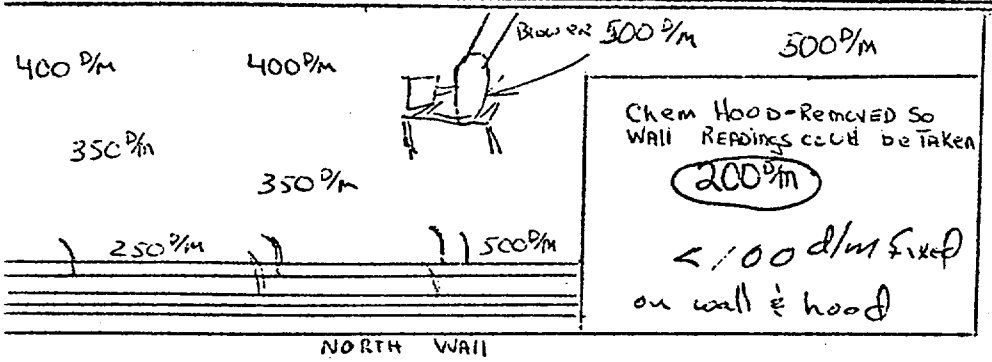


Type Survey: Swipe in pCi/l /cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-1-73	Time:
Taken by: Armstrong		Location: Lab Room 130	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe:	Cal. Date: 11-9-73	Eff.: %	Eff. Date:

Ceiling



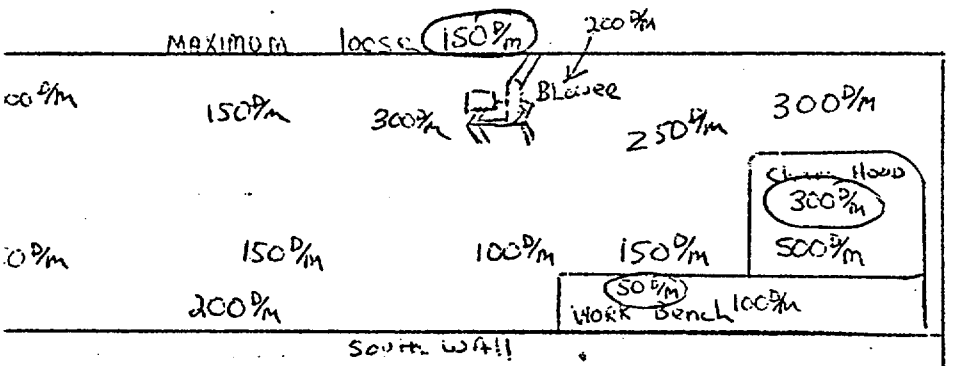
Type Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-1-73	Time: 0900
Taken by: Christiano		Location: Chem lab	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler: —	Bgr: — c/m
Probe: Attached	Cal. Date: 10-18-73	Eff.: — %	Eff. Date: —



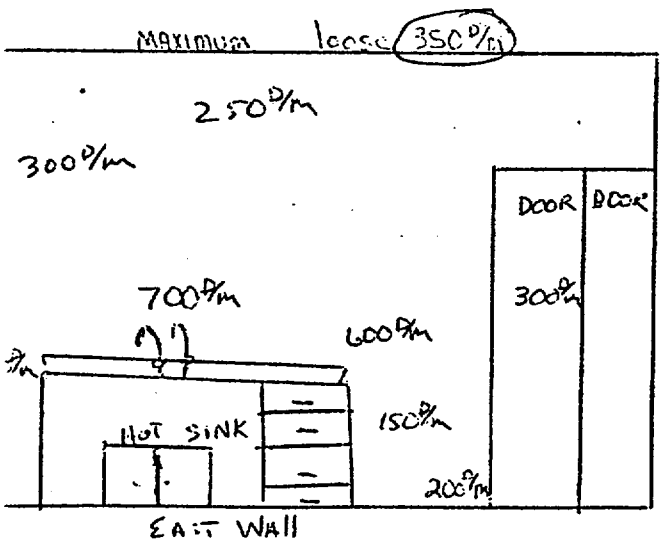
MAXIMUM loose 200 D/m

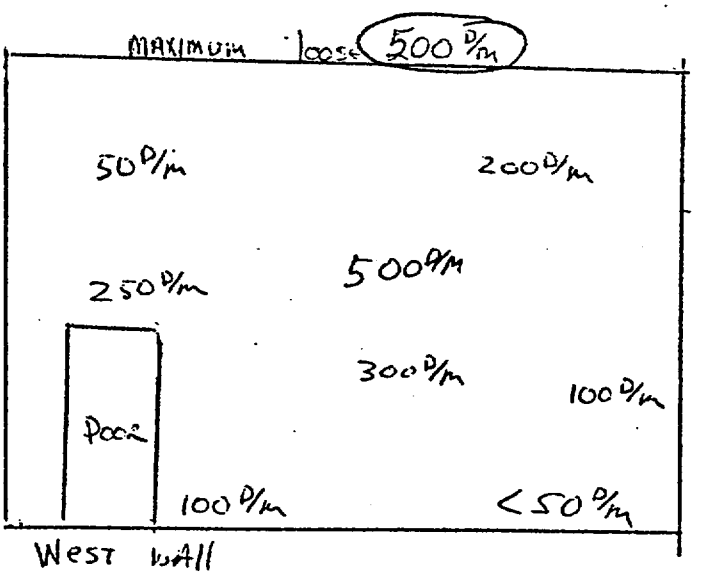
Loose Activity Swipe IN dpm/100cm²

FIXED ACTIVITY IN dpm/100cm²



Chem hood & Work Bench checked behind.





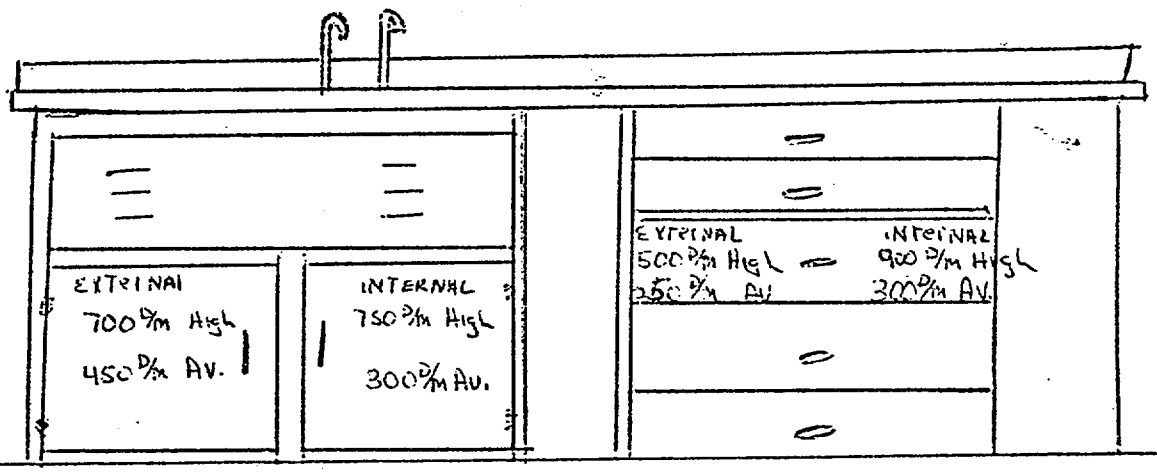
ALL READINGS FIXED CONTAMINATION

Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mrem/hr ☐		Date: 12-1-73	Time: 0930
Taken by: [illegible]		Location: Chem lab	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler: —	Bgr: — c/m
Probe: Attached	Cal. Date: 10-18-73	Eff.: — %	Eff. Date: —

HOT SINK

HIGHEST SWIPE 450 D/m

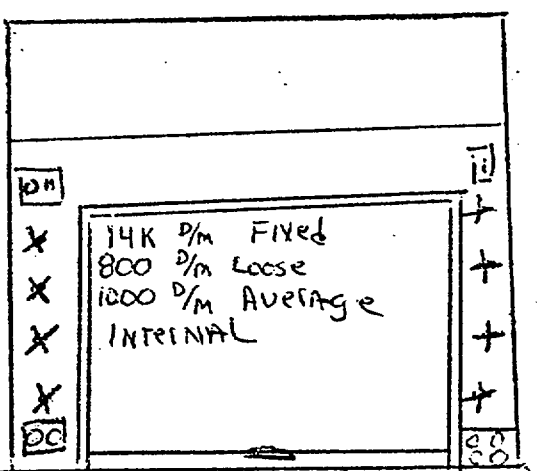
ALL OTHER READINGS FIXED

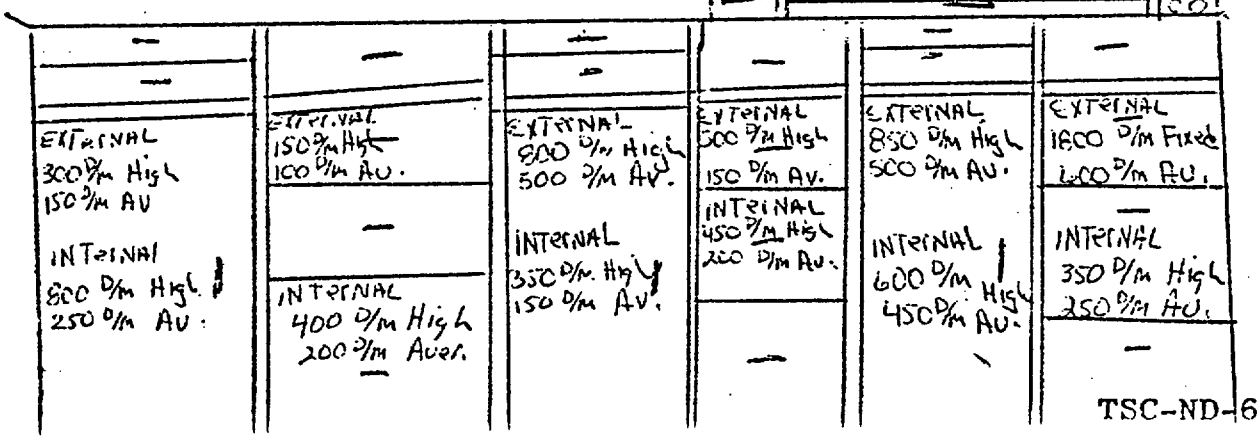


WORK BENCH SOUTH WALL

HIGHEST SWIPE 1600 D/m

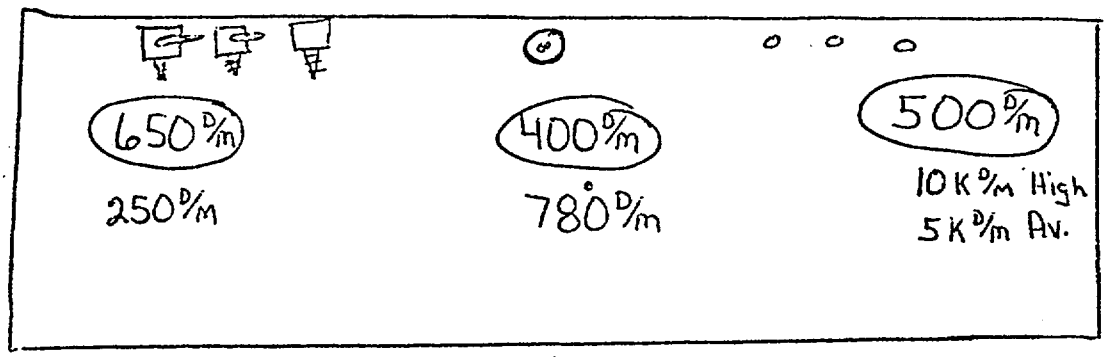
All OTHER READINGS Fixed





		12-1-73	
Taken by: Armstrong		Location: Lab. Room # 130	
Inst. Type: PAC-1SA	Ser. No.: 684	Scaler:	Bgr: c/m
Probe: —	Cal. Date: 11-9-73	Eff.: %	Eff. Date:

Top of Work Bench - South Wall



○ Loose Activity
Swipe IN dpm/100 cm²

Fixed Activity
IN dpm/100 cm²

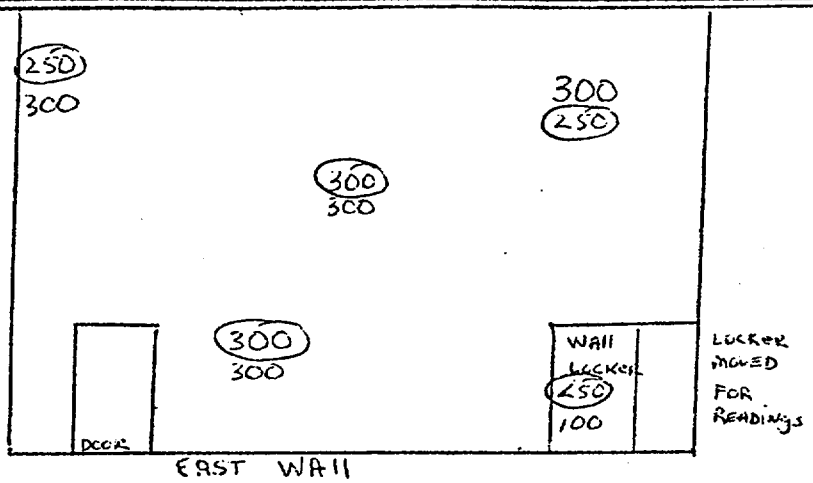
DPM / 100 cm²		12-1-7[illegible]	
ken by:		Location: Union Carbide - Law Science Bldg, Room - 130	
st. Type:	Ser. No.:	Scaler:	Bgr: c/m
ode:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE	ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
ASTE BASKET	<50	150	N/A	Test Tube rack	<50	850	N/A
DUCT 3'x10'	400	500	N/A	½" conduit Pipe (4')	<50	<50	N/A
Filter Houseing	<50	200	N/A	Aluminum Container (2)	<50	<50	N/A
NIUM CART (Empty)	200	7500	1500	Miscl. Chemicals (2 Boxes)	<50	<50	N/A
NIUM CART Cage	50	50	N/A	s/s Screen Scale	<50	300	N/A
tective face shield	<50	50	N/A	s/s Tray	<50	<50	N/A
all Filter Houseing	250	800	N/A	Gas Burners (3)	<50	<50	N/A
r Houseing Bolts (8)	<50	<50	N/A				
ectric Heater	<50	<50	N/A				
s 1½ DIAM (3 gross)	<50	<50	N/A				
x Bakeing DISH	<50	<50	N/A				
R Covers (3)	<50	<50	N/A				
sc CUTTER	100	400	N/A				
ass vials (250)	<50	<50	N/A				
ass Jar w/lid	<50	50	N/A				
Petri DISH (10)	<50	<50	N/A				
Petri DISH (2)	<50	<50	N/A				
1. Jar Glass (200)	<50	<50	N/A				
Filter circles (400)	<50	<50	N/A				
ert Paper (4 Boxes)	<50	<50	N/A				
Filter Circles (500)	<50	<50	N/A				
arcetic Acid (2)	400	400	N/A				
bber Hose (30')	<50	<50	N/A				
T LAMP STAND	200	800	N/A				
ker STAND	<50	500	N/A				
ker Heater	100	650	N/A				
ssion Pioff Solinoid	<50	250	N/A				
pipe (15")	<50	300	N/A				

The above listed items are unconditionally released per the specifications set forth in "Guidelines for Decontamination of Equipment and Facilities Prior to Release for Unrestricted Use or Termination of Licenses for Source By-Product or Special Nuclear Material", - USAEC April 22, 1970.

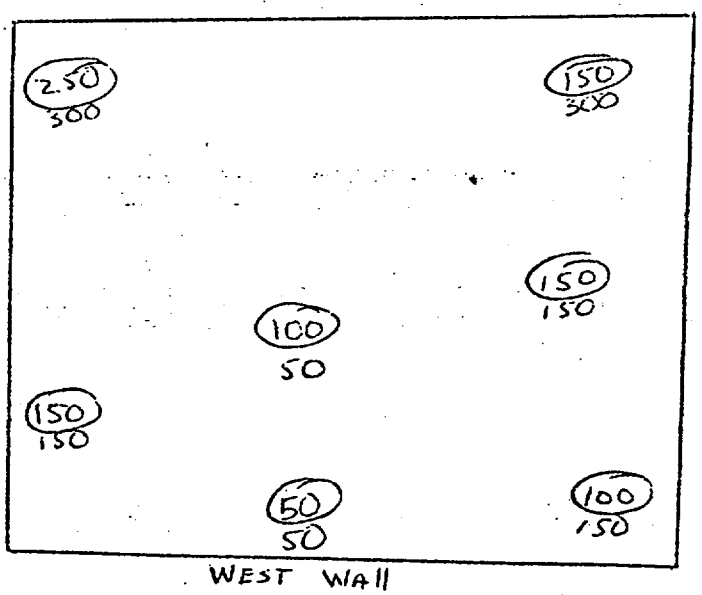
TODD NUCLE R DIVISION – RADIOLOGICAL SU Y FORM

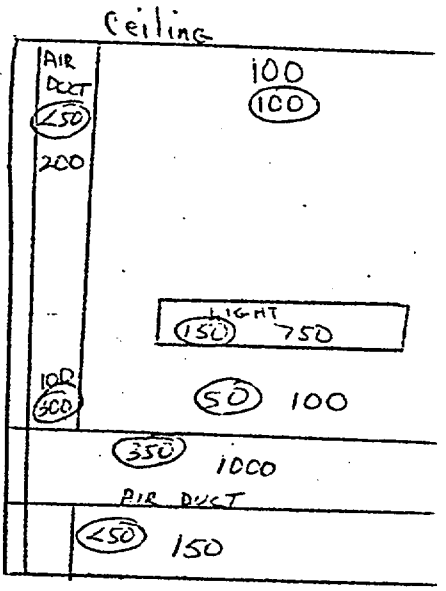
Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-1-73	Time:
Taken by: Chinoharry, Hunter		Location: Rm 139 - Janitor Closet	
Inst. Type: PAC-1SA	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

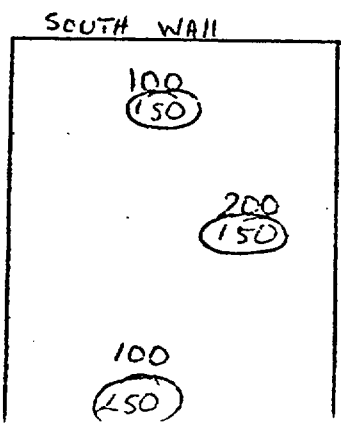


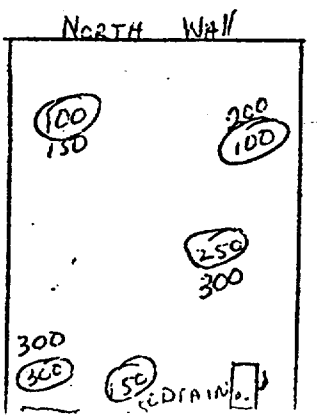
Loose Activity Swipe in dpm/100cm²

Fixed Activity in dpm/100 cm²









FOOD NUCLEAR DIVISION – RADIOLOGICAL SURVEY FORM

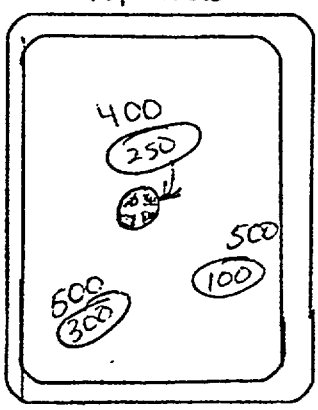
Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-1-73	Time:
Taken by: Hunter E.E.		Location: Rm 129 - Janitorial Closet	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

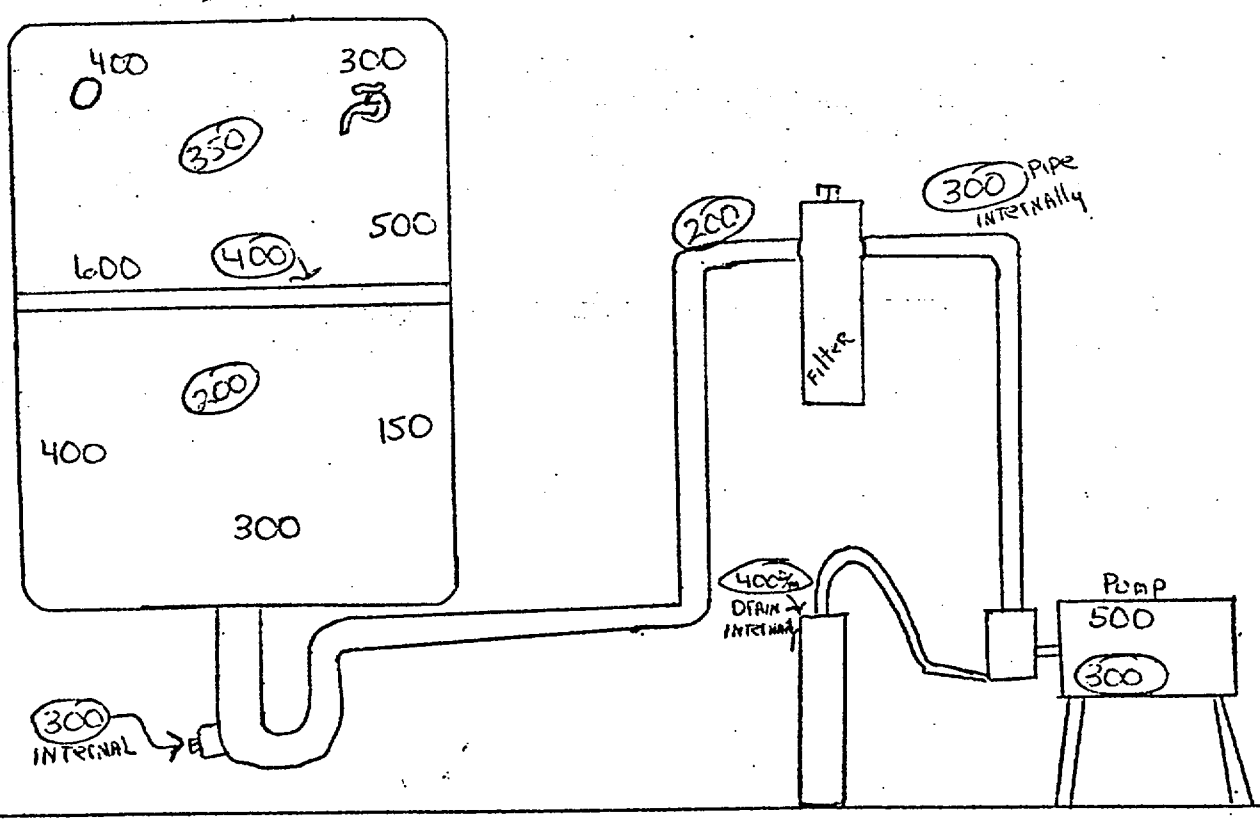
DEEP SINK & Pipeing

Loose activity
Swipe in DPM/100cm²

Fixed Activity
in DPM/100cm²

Top view





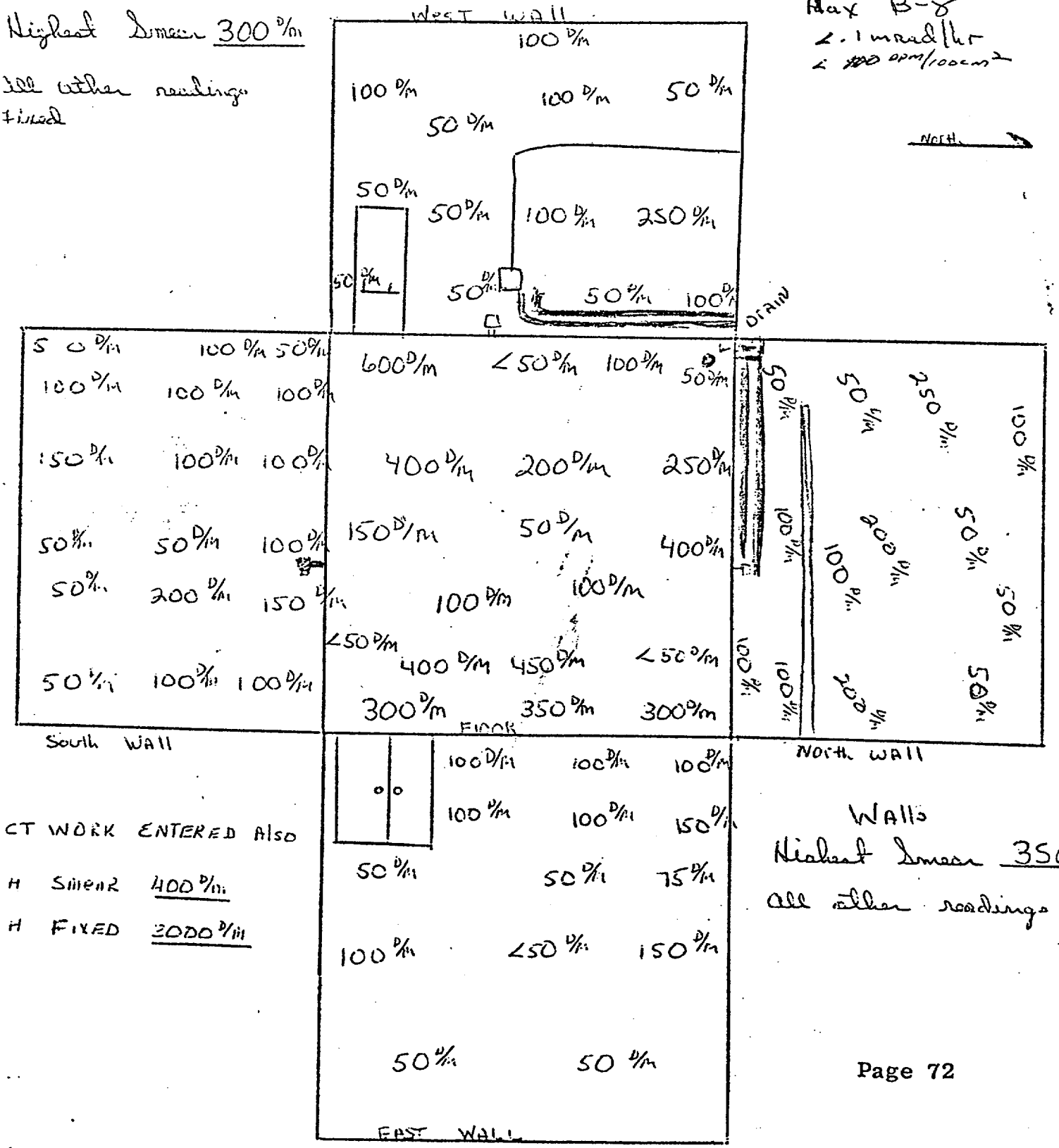
Type Survey: Swipe in pCi/ 0cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 12-2-73	Time: 0800
Taken by: [illegible]		Location: Union Carbide Luminaches - INSP Rm 131	
Inst. Type: PAC-1SA	Ser. No.: 111	Scaler: ____	Bgr: ____ c/m
Probe: ____	Cal. Date: 10-31-73	Eff.: ____ %	Eff. Date: ____

Floor

Highest Smear 300 D/m

All other readings fixed

Max B-γ
< .1 mrad/hr
< 100 dpm/100cm^2



CT WORK ENTERED Also

H SMEAR 400 D/m

H FIXED 2000 D/m

Walls
Highest Smear 350 D/m
All other readings fixed

...ys Survey: FIXED (CONTAM.) ACTIVITY IN DPM / 100 cm2		Date: 12-2-13	Time:
...ken by:		Location: UNION CARBIDE - KANSAS CITY, MO ROOM - 131	
...t. Type:	Ser. No.:	Scaler:	Bgr: c/m
...ba:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
...l Poly Bottle	<50	150	N/A
...er Poly Bottle	<50	<50	N/A
...aroid Film	<50	<50	N/A
...ver Glass (Bar)	<50	200	N/A
...s VAT (3)	<50	100	N/A
...' pipe Nipple (2)	<50	<50	N/A
...s Covers (2)	<50	<50	N/A
...Trascope electrodes (3 Boxes)	<50	<50	N/A
...l Caps (150)	<50	<50	N/A
...molds wrap (2 Boxes)	<50	<50	N/A
...ple Gun	<50	<50	N/A
...ide Rack (2)	<50	<50	N/A
...mple Rack (2)	100	800	N/A
...ow meter (2)	<50	100	N/A
...scoping legs (4)	<50	<50	N/A
...ri Dish (4)	<50	<50	N/A
...be clamp	<50	<50	N/A
...' Plate	<50	<50	N/A
...ole Punch	<50	<50	N/A
...esive Label (6)	<50	<50	N/A
Polishing wheel	<50	<50	N/A
... Slides (39)	<50	<50	N/A
Tray w/lid	<50	100	N/A
...n Holders (4)	<50	100	N/A
...ite Molds (27)	<50	50	N/A
...tic Trays (2)	<50	150	N/A
...Ray Film	<50	100	N/A
...ml Beaker	<50	150	N/A

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
Plastic Jar	<50	<50	N/A
Storage Cabinet	200	450	N/A
Chart Recorder w/Housing	200	250	N/A
S/S Work Table	200	800	N/A
DI Water Filters (4)	<50	50	N/A
Tranformers (2)	200	800	N/A
"Pig" Complete	<50	450	N/A
Tube To Above 'Pig'	<50	<50	N/A
Filter Housing (3)	450	800	N/A
Paper Cutter	<50	100	N/A
Clip Board	<50	250	N/A
RMS Records (3 Books)	<50	<50	N/A
Stapler desk	<50	<50	N/A
Electric Water Heater	250	300	N/A

The above listed items are unconditionally released per the specifications set forth in, "Guidelines for Decontamination of Equipment and Facilities Prior to Release for Unrestricted Use or Termination of Licenses for Source By-Product or Special Nuclear Material", - USAEC April 27, 1970.

TODD NUCL R DIVISION – RADIOLOGICAL SU Y FORM

Type Survey: Swipe in pCi/100cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-2-73	Time:
Taken by: Hunter		Location: ASHING RM 132	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

☐ Loose Activity α (Swipe) in dpm/100cm²

— Fixed Activity α in dpm/100cm²

MAXIMUM β-γ
< 1 mrem/hr
< 100 dpm/100cm²

600 Au Fix 200 loose	5K Au Fix 800 loose	1500 Au Fix 600 loose	3K Au Fix 700 loose
500 Au Fix 300 loose	600 Au Fix 300 loose	500 Au Fix 200 loose	400 Au Fix 200 loose
900 Au Fix 400 loose	5K Au Fix 800 loose	800 Au Fix 500 loose	500 Au Fix 300 loose
700 Au Fix 400 loose	1000 Au Fix 900 loose	3K Au Fix 600 loose	900 Au Fix 500 loose
600 Au Fix 300 loose	900 Au Fix 500 loose	800 Au Fix 200 loose	5K Au Fix 300 loose

Type Survey: Swipe in pCi/ 100cm² ☐ Dose Rate in mRem/hr ☐		Date: 12-2-73	Time:
Taken by: Hunter		Location: Clothing Room #132	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

Highest Loose activity 700 D/m/100 cm²

800	400	900	700
700	500	800	200
300	200		300
		400	
600			
	900		100
		100	

NORTH WALL

Highest Loose activity 500 D/m/100 cm²

600	800	900	
			300
400	900	600	
200	600	800	
			200
500	400		
		200	
			100
300	300	100	

South WALL

Highest Loose activity 600 D/m/100 cm²

600	800		700	
				900
500	700		600	
300				
	600	300	500	400
100				
	300	400		100
	300			500
200		200		

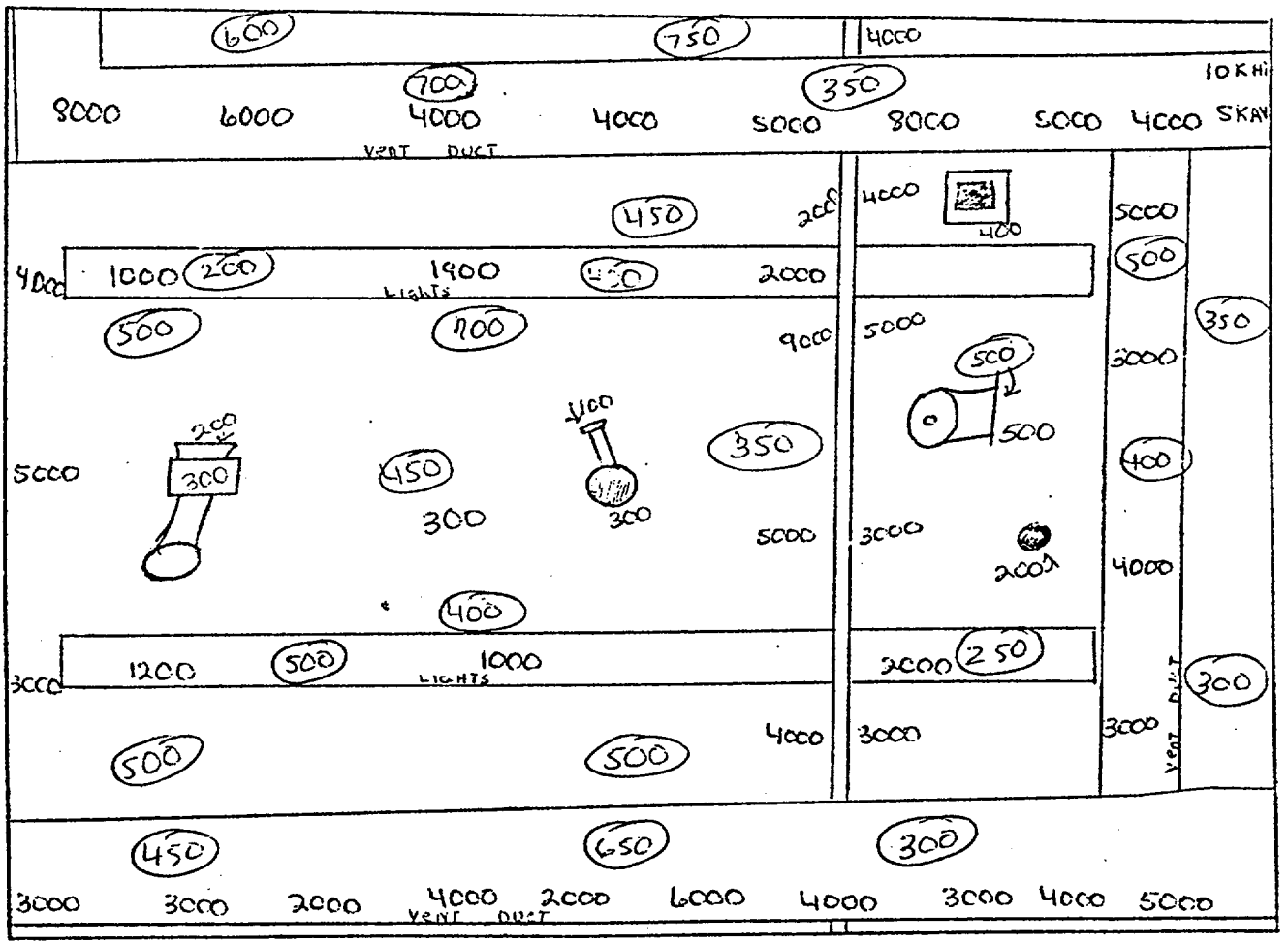
West WALL

Highest Loose activity 400 D/m/100 cm²

500	700	900		800
		700		
700	800			
			500	700
600	700	400		
			500	700
500	400	300	700	600
200	100	200	VENT 4000 400	300
			600	

Type Survey: Swipe in pCi/ 100cm^2 ☐ Dose Rate in mRem/hr ☐		Date: 12-2-73	Time:
Taken by: Hunter		Location: Ceiling Room 132	
Inst. Type:	Ser. No.:	Scaler:	Bgr: c/m
Probe:	Cal. Date:	Eff.: %	Eff. Date:

Ceiling



○ Loose Activity
Swipe in DPM/100cm^2

— Fixed Activity
in DPM/100cm^2

ype survey): FIXED (CONTA.) ACTIVITY 100 DPM / 100 cm2		Date: 12-2-7	Time:
aken by:		Location: Uranium Carbide - Manufacturing, Fuel Room -	
ist. Type:	Ser. No.:	Scaler:	Bgr: c/m
obe:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE	ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
ectrical Controls (2)	200	200	N/A	3/4" Copper Pipe (15')	800	1000	200
's Table	400	400	N/A	3/4" Conduit 5'	200	800	N/A
s Top (2)	500	500	N/A	1/2" Copper Pipe (25')	300	300	N/A
nduit Pipe (2)	150	150	N/A	1" Pipe (8')	750	750	N/A
" Conduit	400	4000	400	1/2" Copper Pipe (6')	200	100	N/A
abinet Piece	200	200	N/A	3/4" Conduit (5')	500	1100	150
pacitor	200	200	N/A	3/4" Conduit (8')	300	300	N/A
3" Pipe	400	400	N/A	Argon line	850	1100	100
ansformer (2)	500	500	N/A	1" Copper Pipe (12')	550	550	N/A
Screens (8)	400	400	N/A	1 3/4" Pipe (6')	300	300	N/A
Teel wool (2 Boxes)	100	100	N/A	2" Pipe (8')	300	300	N/A
pper Tubeing (15')	100	100	N/A	1" Conduit (2')	100	100	N/A
Metal Strip	200	200	N/A	Duct Work	800	800	N/A
" Pipe (5'9")	500	500	N/A	1" Conduit (8')	700	700	N/A
ydaulic Hose (15')	800	800	N/A	Vent w/Blower	100	100	N/A
ises (10)	100	100	N/A	Oven	250	250	N/A
um Dolly	100	100	N/A	Vent w/motor	400	400	N/A
ished Tray (2)	100	50	N/A	Metal Stairs	900	900	N/A
lex Gasket (8)	50	50	N/A	Vent	500	500	N/A
int Can 1gal	500	500	N/A	Vent w/Pipe	350	350	N/A
R Hose (25')	900	900	N/A	Baskets	950	9000	1500
nt Pipe (15')	150	150	N/A	Duct Work	600	600	N/A
pper pipe (30')	100	200	N/A	Work Table	400	400	N/A
uct work	100	50	N/A				
" pipe	50	150	N/A	S/S Work Table	750	8000	1500
8" Pipe	100	100	N/A				
Duct (10')	400	150	N/A				
3/4" Pipe 18'	100	200	N/A				

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...ves: FIXED (CONTAC) ACTIVITY IN DPM / 100 cm²		Date: 12-2-7[illegible]	Time:
...ken by:		Location: UNION CARBIDE - LAWRENCEBURG, [illegible] ROOM -	
...el. Type:	Ser. No.:	Scaler:	Bgr: c/m
...oba:	Cal. Date:	Eff.: %	Eff. Date:

ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE	ITEM	LOOSE ACTIVITY	FIXED ACTIVITY HIGH	FIXED ACTIVITY AVERAGE
...CT WORK	500	500	N/A	BAR STOCK 1"X6'	100	100	N/A
...ONDUIT	300	300	N/A	TABLE 2'X4' (2)	750	1000	800
...UCT WORK	400	400	N/A	SYNTHASALK (1 CAN)	50	50	N/A
...ENT PIPE (3)	600	600	N/A	VENT PIPE W/MOTOR	800	800	N/A
...lter HOUSING	900	6000	1500	3" PIPE (8')	750	1300	800
...AUST BLOWER (2)	800	800	N/A	METAL STAND (2)	500	500	N/A
...ter HOUSING	800	800	N/A	WOODEN SHELF 6'X8 (2)	200	1500	500
...TAL FRAMEWORK	300	300	N/A	BASKET (3)	600	8000	1300
...LASS DOOR	400	400	N/A	GLOVE BOX	350	4000	800
...ETAL TABLE (2)	800	800	N/A	FILEING CABINET (2)	450	9000	850
...ULTIPLE UNIT (2)	600	600	N/A	DOOR TO GLOVEBOX	600	600	N/A
...IGHT SCREENS	300	300	N/A	S/S TABLE	350	350	N/A
...EM LAB TABLE (2)	600	600	N/A	METAL FRAME	700	3000	1200
...LF 3'X5'	500	500	N/A				
...FFING MACHINE	600	600	N/A				
CONDUIT	200	200	N/A				
' CONDUIT 2'	100	100	N/A				
...ME HOOD SECTION	300	300	N/A				
...S CART	300	3500	300				
...ERBOARD BOX	700	700	N/A				
...RBON BLOCKS (9)	150	150	N/A				
...' ROPE	150	150	N/A				
...½" PIPE NIPPLE	50	50	N/A				
...lter	100	100	N/A				
...LOVE BOX GLASS (2)	400	400	N/A				
...HAIR BACK	100	100	N/A				
...l dacron for Gas Bottles (2)	100	100	N/A				
...R STOCK 4"X2.5'	100	100	N/A				

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