Assessment of I-Beams for Release from KTeV Experimental Hall

History of the Material

The I-Beams were located in the KTeV Experimental Hall. The KTeV experiment was a fixed target experiment that ran from approximately 1996 until early 2000. Due to the location of the I-Beams in the building it was not possible for this material to become radioactivated, nor have removable contamination present. During the KTeV run, the building was appropriately posted as a Controlled Area/Radioactive Material Area.

In 2009, the KTeV Hall was cleaned out to prepare the building for a new experiment, SeaQuest. The I-Beams were removed from KTeV, and taken to the Railhead in September 2009 for storage, and possible reuse in the future. The Railhead is posted as a Controlled Area/Radioactive Material Area.

It was determined in December of 2012 that these I-Beams should be considered for recycling.

Survey Information and Results

The Particle Physics Division performed a survey of the I-Beams in September 2009, before being transported to the Railhead, and determined that they were not radioactive. A Material Move Request (MMR), dated 9/21/2009, was completed and is included as part of this material evaluation package.

The Particle Physics Division also provided surveys dated 11/30/99, 2/16/00, 8/10/00, 5/8/09 and 10/21/09, which covers the period from the beginning of the KTeV experiment until the time the I-Beams were removed from the building. They all confirm that the building was posted appropriately and was a non-radiological area.

Another survey of the I-Beams was performed on 4/4/13, by the BSS Radiation Safety Officer, and also confirmed that this material was not radioactive. This survey information, a Railhead area survey map, to indicate the location of the survey, and pictures of the copper coils, are included as part of this material evaluation package.

Recycling Packing Generated By: _____ Date: 4/12/13

Susan McGimpsey, ESH&Q Radiation Protection Group

Recycling Packing Approved By: _____ Date: 4/12/13

Don Cossairt, ESH&Q Radiation Protection Group Manager

I-BEAM SURVEY INFORMATION

Survey Information

Surveyor Name and ID: Susan McGimpsey, BSS Radiation Safety Officer, 12359N

Surveyor Signature: _____

Survey Date: 4/4/13

Survey Location: Railhead - South Hardstand

Instrument Information

Instrument Used: Bicron #17

Calibration Due Date: 10/13

Battery Check: OK

Source Check: OK

Background Reading: 1700 cpm

Additional Survey Notes

There are approximately 25 I-Beams and all were surveyed. No instrument readings above background were found.

Fermilab

MATERIAL MOVE REQUEST NO. M120183

Please fill out form completely

DATE	REQUESTED BY	ID #	MS #	PHONE EXT.	PROJECT	TASK
9/21/09	VORIN	049YON	219	5732	2100	1.04

EXACT LOCATION OF MATERIALS BLDG. OR SITE #	AREA OR FLOOR #	DIMENSIONS	APPROXIMATE WEIGHT
KTEV	OUTSIDE	MISC	—

Special Instructions for Requester/Originator: The requester is responsible for insuring that all Division/Section requirements for off-site Material Move Request Forms are met. Requirements may be obtained from Division/Section ES&H Offices. The Requester must arrange with authorized personnel to complete any required radiation check. Questions concerning the identification of other hazards should be referred to your Division/Section ES&H Office or the Shipping Dept. at x3470. (Hazardous material shipping requirements apply to on-site transfers.)

Contains Radioactive or Hazardous Material? ☐ ☒ VORIN 049YON [signature]

If Yes, Check Hazard Type(s) Below: Yes No — Answered By (PRINT) — ID No. — Signature

☐ Radioactive; Nature & Extent NO

B.J. WAGNER 6330 B.J. Wagner Bicron 78

Authorized Surveyor (PRINT) — ID No. — Signature — Survey Instrument / No.

☐ Explosive ☐ Flammable Gas ☐ Non-Flammable Gas/Cryogen ☐ Flammable Liquid ☐ Flammable Solid

☐ Oxidizer ☐ Poison/Infectious ☐ Corrosive ☐ Other

PO LINE ITEM #	QUANTITY	DESCRIPTION	PROPERTY NO.	SERIAL NO.
	1	DUMPSTER CABLE		
	24	STEEL IBEAMS 20' Long		DISP 9-24-09
	4	STEE POST 4x4 15 TALL		
	1	ALUM IBEAM / 1 ALUM FRAME STEEL BOX		
	1	KTEV VACUUM WINDOW TEST STAND 6' Ø		B/S B/W 3 COMPS
	6	DUCT		
	1	STEEL WELDMENT GROUP II SCRAP		

When Material is returned to Fermilab, deliver to:

Name _____ Ext. _____ Location _____

SHIP TO _____ PURCHASE ORDER NO. _____

ADDRESS _____ (Do not use P.O. Box No.) RETURN AUTHORIZATION NO. _____

CITY _____ PROCUREMENT APPROVAL _____ (Shipments involving Purchase Orders require Procurement approval)

STATE & ZIP CODE _____ LOAN OR EXPERIMENT NO. _____

ATTENTION _____ (Required Information) DATE REQUIRED AT DESTINATION _____

AREA CODE & TELEPHONE NO. _____ MODE OF SHIPMENT: ☐ PREPAID ☐ COLLECT

☐ NORMAL ☐ OVERNITE ☐ VENDOR PICKUP

REASON FOR SHIPMENT:

☐ IN WARRANTY REPAIR ☐ OUT OF WARRANTY REPAIR ☐ FABRICATION ☐ LOAN ☐ RETURN OF LOAN

☐ RETURN FOR CREDIT ☐ RETURN FOR REPLACEMENT ☐ OTHER NOTES _____

TURNED INTO OFFICE 9/29/09 SB

Snoop Form

KTeV

Date: 11/30/99 Time: 13:45

Building: KTEV

	1	2	3
Instrument Type:	BICRON		
Instrument Number:	6		
Instrument Background:	2000 cpm		
Battery/Source Check:	OK		
Calibration Due Date:	6/00		

Background _____ CPM

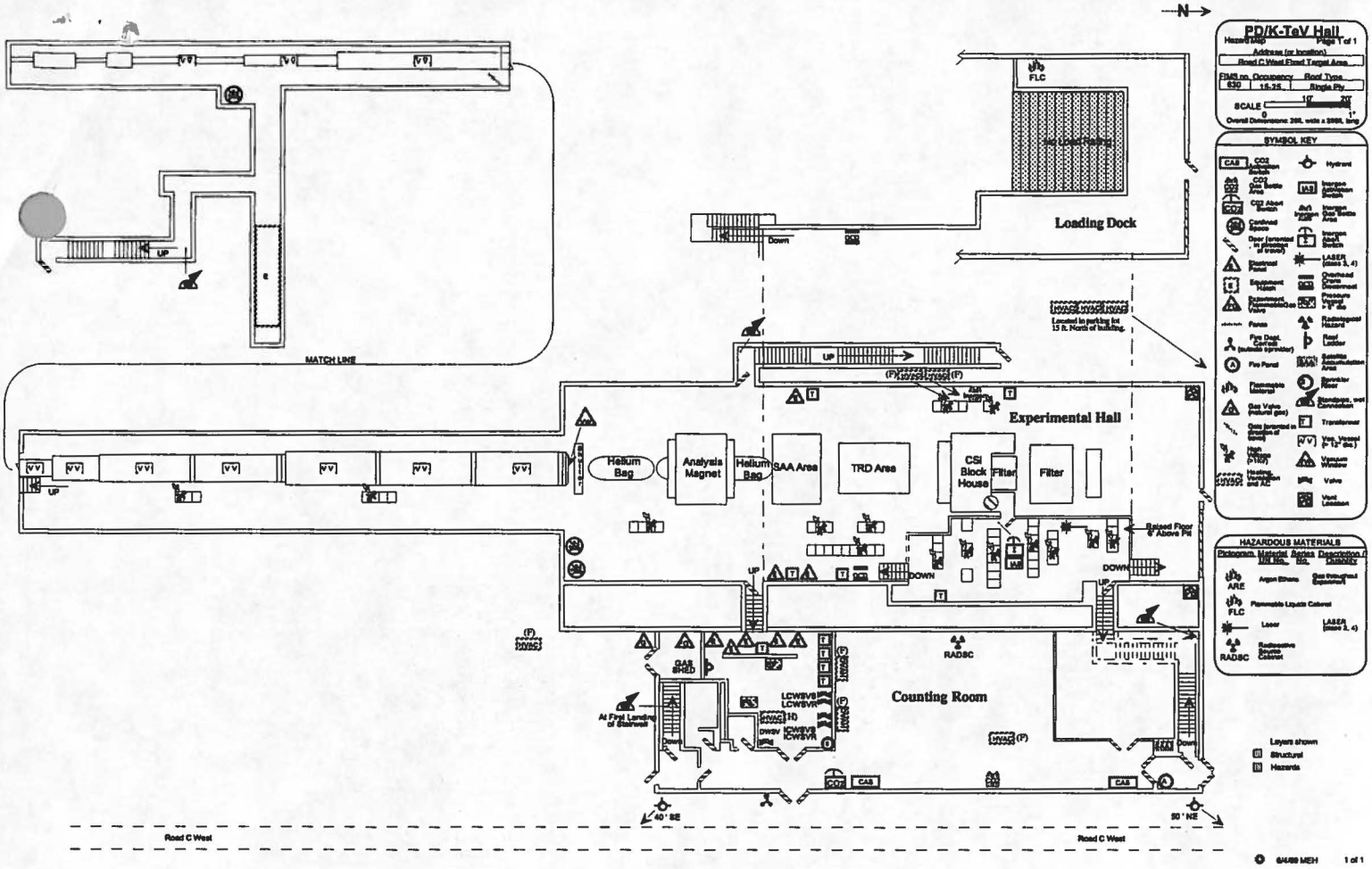
Wipe #	Reading
1	_____ CPM
2	_____ CPM
3	_____ CPM
4	_____ CPM
5	_____ CPM
6	_____ CPM
7	_____ CPM
8	_____ CPM
9	_____ CPM
10	_____ CPM

Legend

+	= mrem/hr @ 1 foot
*	= mrem/hr @ contact
#	= mrem/hr or CCPM (area reading)
A	= Air Sample
#	= Large Area Wipe
△	= Wipe
▲	= Pre-Wipe

Comments: no unlabeled radioactive material found

Surveyed By: Tom Olszewski


PD/K-TeV Hall
Hazard Map
Page 1 of 1
Address (or location)
Road C West Fixed Target Area
FMS no. Occupancy Roof Type
630 15-25 Single Ply
SCALE
SYMBOL KEY
HAZARDOUS MATERIALS
Loading Dock
Experimental Hall
Helium Bag
Analysis Magnet
Helium Bag
SAA Area
TRD Area
CSI Block House
Filter
Filter
Counting Room
MATCH LINE
Road C West
Road C West
Raised Floor 8" Above Pit
At First Landing of Stairwell
Layers shown
Structural
Hazards
6/4/99 MEH
1 of 1

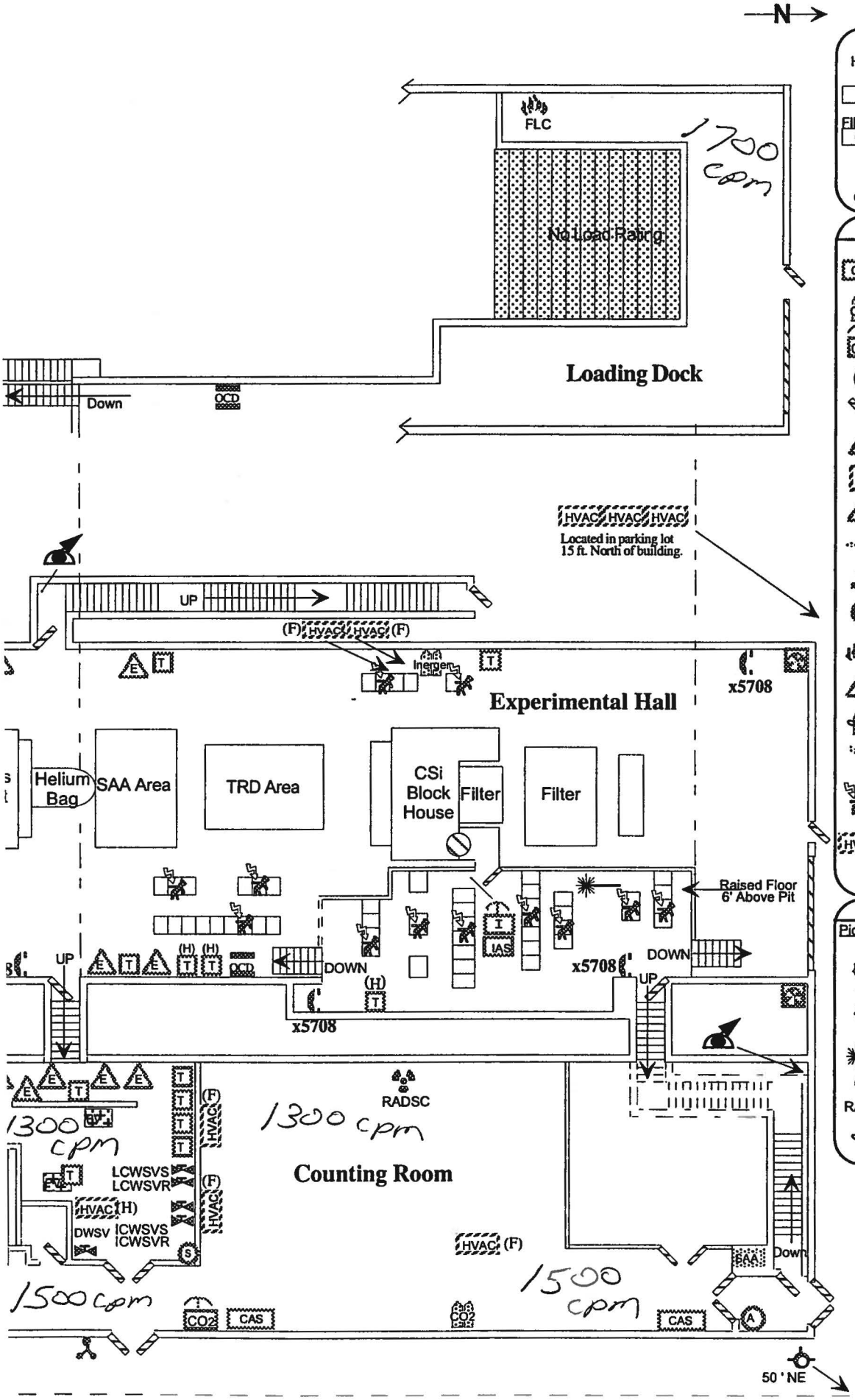
PD/K-TeV Hall

Hazard Map — Page 1 of 1

Address (or location)		
Road C West Fixed Target Area		
FIMS no.	Occupancy	Roof Type
630	15-25	Single Ply

SCALE 0 — 10' — 20' — 1"

Overall Dimensions: 26ft. wide x 396ft. long



SYMBOL KEY

- CAS — CO2 Activation Switch
- Hydrant
- CO2 Gas Bottle Area
- IAS — Inergen Activation Switch
- CO2 Abort Switch
- Inergen Gas Bottle Area
- Confined Space
- Inergen Abort Switch
- Door (oriented in direction of travel)
- LASER (class 3, 4)
- Electrical Panel
- Overhead Crane Disconnect
- Equipment Hatch
- Pressure Vessel > 6" dia
- Experiment FlammableGas Valve
- Radiological Hazard
- Fence
- Roof Ladder
- Fire Dept. Con'ect (outside sprinkler)
- Satellite Accumulation Area
- Fire Panel
- Sprinkler Riser
- Flammable Material
- Standpipe, wet Connection
- Gas Valve (natural gas)
- Telephone with extension
- Gas Bottle Storage Area
- Transformer
- Gate (oriented in direction of travel)
- Vac. Vessel (> 12" dia.)
- High Voltage (>1Kv)
- Vacuum Window
- HVAC — Heating, Ventilation and AC
- Valve
- Vent Location

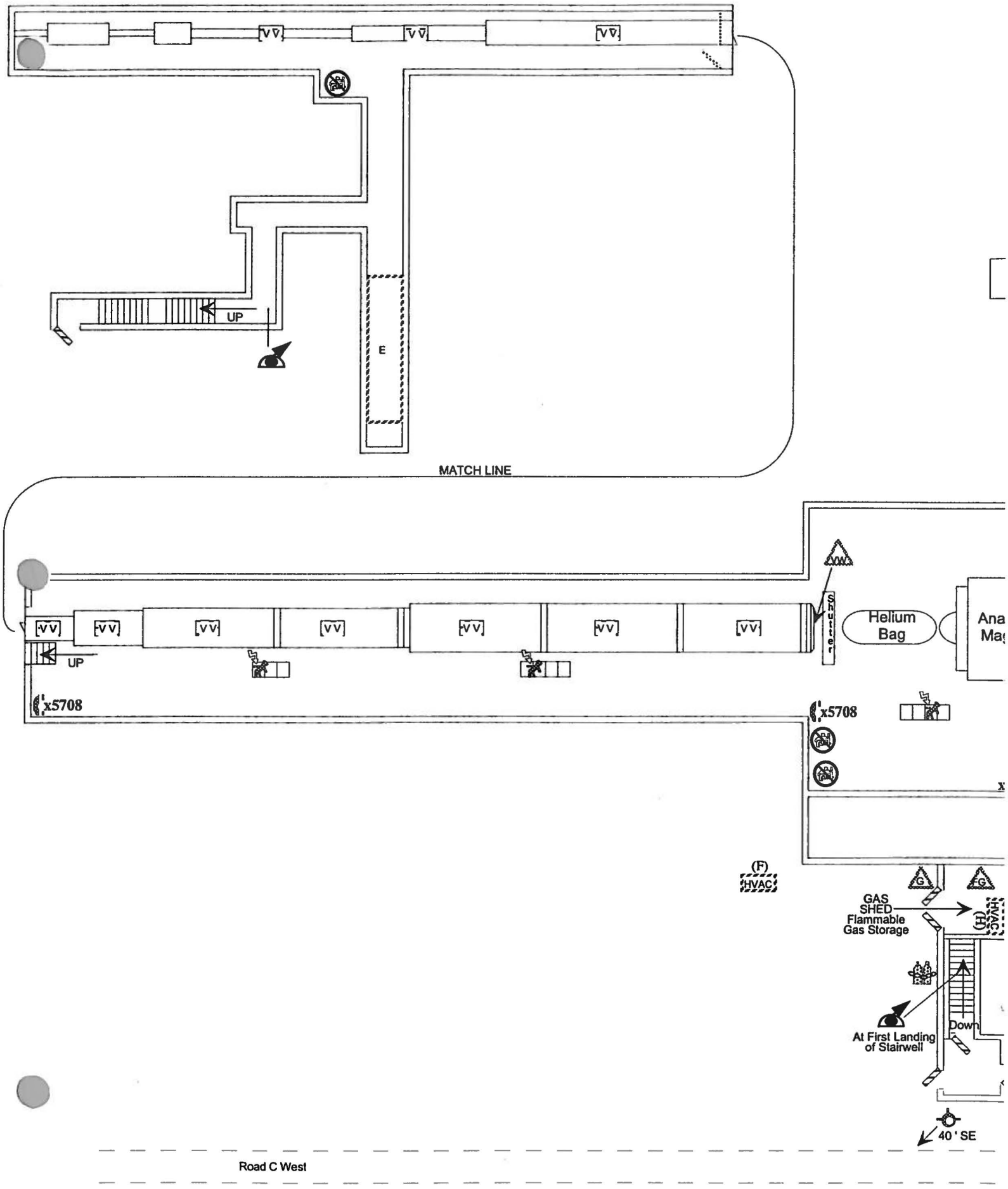
HAZARDOUS MATERIALS

Pictogram	Material	UN No.	Series No.	Description / Quantity
ARE	Argon Ethane			Gas throughout Experiment
FLC	Flammable Liquids Cabinet			
	Laser			LASER (class 3, 4)
RADSC	Radioactive Source Cabinet			
	Gas Bottle Storage Area			Minimal storage of flammable gas cylinders

Layers shown
- Structural
- Hazards

Approved 2/10/00

2/10/00 MEH — 1 of 1


UP
E
MATCH LINE
UP
x5708
x5708
Shutter
Helium Bag
(F)
HVAC
GAS SHED
Flammable Gas Storage
(H)
HVAC
At First Landing of Stairwell
Down
40 ' SE
Road C West

Snoop Form

Date: 2/16/00 Time: 1315

Building: KTEV

	1	2	3
Instrument Type:	BICRON	BICRON	
Instrument Number:	6	90	
Instrument Background:	1500 cpm	1600 cpm	
Battery/Source Check:	OK	OK	
Calibration Due Date:	6/00	8/00	

Background _____ CPM

Wipe #	Reading	
1		CPM
2		CPM
3		CPM
4		CPM
5		CPM
6		CPM
7		CPM
8		CPM
9		CPM
10		CPM

Legend

+	= mrem/hr @ 1 foot
*	= mrem/hr @ contact
#	= mrem/hr or CCPM (area reading)
A	= Air Sample
#	= Large Area Wipe
△	= Wipe
▲	= Pre-Wipe

Comments: no unlabeled radioactive materials found general Area 1300 cpm to 1700 cpm

Surveyed By: L. [illegible] Tom Olszewski

Snoop Form

Date: 8/10/00 Time: 1315

Building: K-TeV

	1	2	3
Instrument Type:	Bicron		
Instrument Number:	35		
Instrument Background:	1400cpm		
Battery/Source Check:	OK		
Calibration Due Date:	6/01		

Background _____ CPM

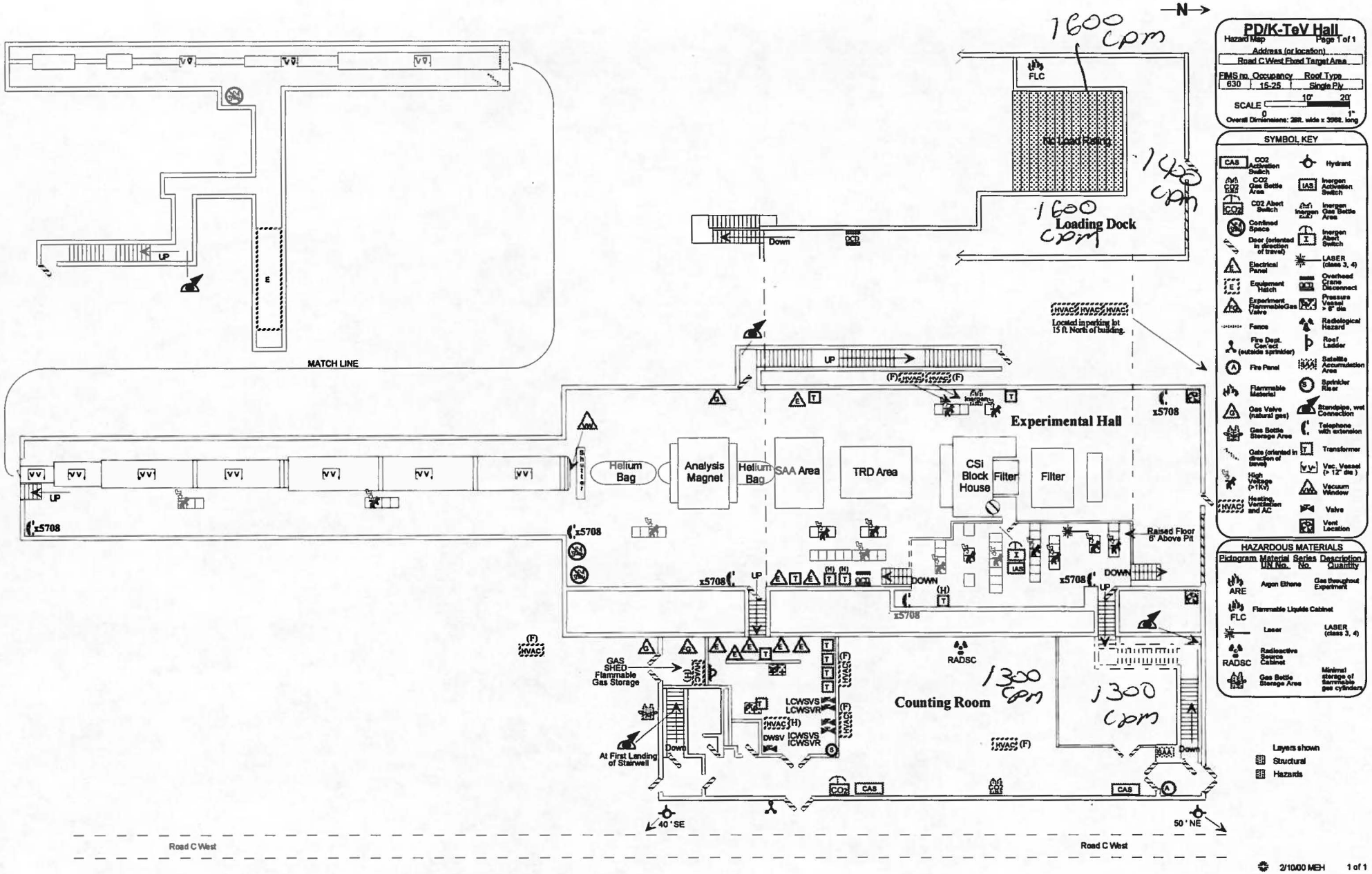
Wipe #	Reading	
1		CPM
2		CPM
3		CPM
4		CPM
5		CPM
6		CPM
7		CPM
8		CPM
9		CPM
10		CPM

Legend

+	= mrem/hr @ 1 foot
*	= mrem/hr @ contact
#	= mrem/hr or CCPM (area reading)
A	= Air Sample
#	= Large Area Wipe
△	= Wipe
▲	= Pre-Wipe

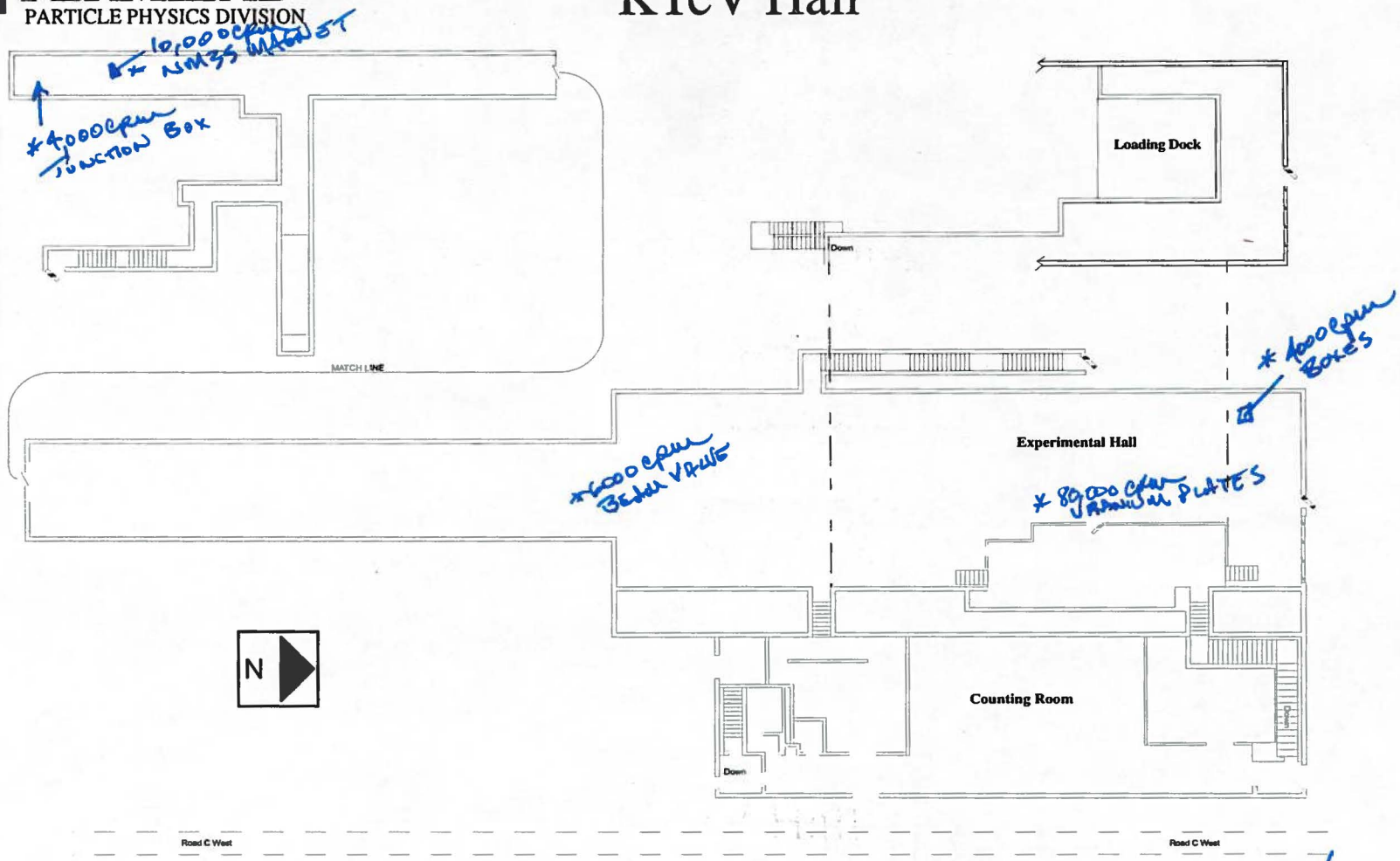
Comments: no unlabeled radioactive material found

Surveyed By: Joe Olszewski


N
PD/K-TeV Hall
Hazard Map
Page 1 of 1
Address (or location)
Road C West Fixed Target Area
FIMS no. Occupancy Roof Type
630 15-25 Single Ply
SCALE
0 10' 20'
1"
Overall Dimensions: 282. wide x 3968. long
SYMBOL KEY
CAS CO2 Activation Switch
Hydrant
CO2 Gas Bottle Area
IAS Inergen Activation Switch
CO2 Abort Switch
Inergen Gas Bottle Area
Confined Space
Inergen Abort Switch
Door (oriented in direction of travel)
LASER (class 3, 4)
Electrical Panel
Overhead Crane Disconnect
Equipment Hatch
Pressure Vessel > 6" dia
Experiment FlammableGas Valve
Fence
Radiological Hazard
Fire Dept. Con'nct. (outside sprinkler)
Roof Ladder
Fire Panel
Satellite Accumulation Area
Flammable Material
Sprinkler Riser
Gas Valve (natural gas)
Standpipe, wet Connection
Gas Bottle Storage Area
Telephone with extension
Gate (oriented in direction of travel)
Transformer
High Voltage (>1KV)
Vac. Vessel (> 12" dia)
Heating, Ventilation and AC
Vacuum Window
Valve
Vent Location
HAZARDOUS MATERIALS
Pictogram Material UN No. Series No. Description Quantity
ARE Argon Ethane Gas throughout Experiment
FLC Flammable Liquids Cabinet
Laser LASER (class 3, 4)
RADSC Radioactive Source Cabinet
Gas Bottle Storage Area Minimal storage of flammable gas cylinders
Layers shown
Structural
Hazards
1600 cpm
FLC
No Load Rating
1400 cpm
1600 cpm
Loading Dock
Down
MATCH LINE
UP
Experimental Hall
Located in parking lot 15 ft. North of building.
Helium Bag
Analysis Magnet
Helium Bag
SAA Area
TRD Area
CSI Block House
Filter
Filter
x5708
Raised Floor 6" Above Pit
DOWN
GAS SHED Flammable Gas Storage
At First Landing of Stairwell
LCWSVS
LCWSVR
DWSV
ICWSVS
ICWSVR
RADSC
1300 cpm
Counting Room
1300 cpm
CAS
40 ' SE
50 ' NE
Road C West
Road C West
2/10/00 MEH
1 of 1

FERMILAB
PARTICLE PHYSICS DIVISION

KTeV Hall



LOCATION: KTeV Hall	DATE: 5/8/09	TIME: 0945	PURPOSE: SNOOP Survey

Radiation Instruments Used

Inst Type:	Bicron		
Inst No:	8		
Batt/Source Chk:	SAT		
Cal. Due Date:	N/2016		

LEGEND
Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below
* = mR/hr @ contact
△ = Wipe (F#) = Floor wipe

Bkgd 2000 cpm

Wipe #	Reading	Wipe #	Reading
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm

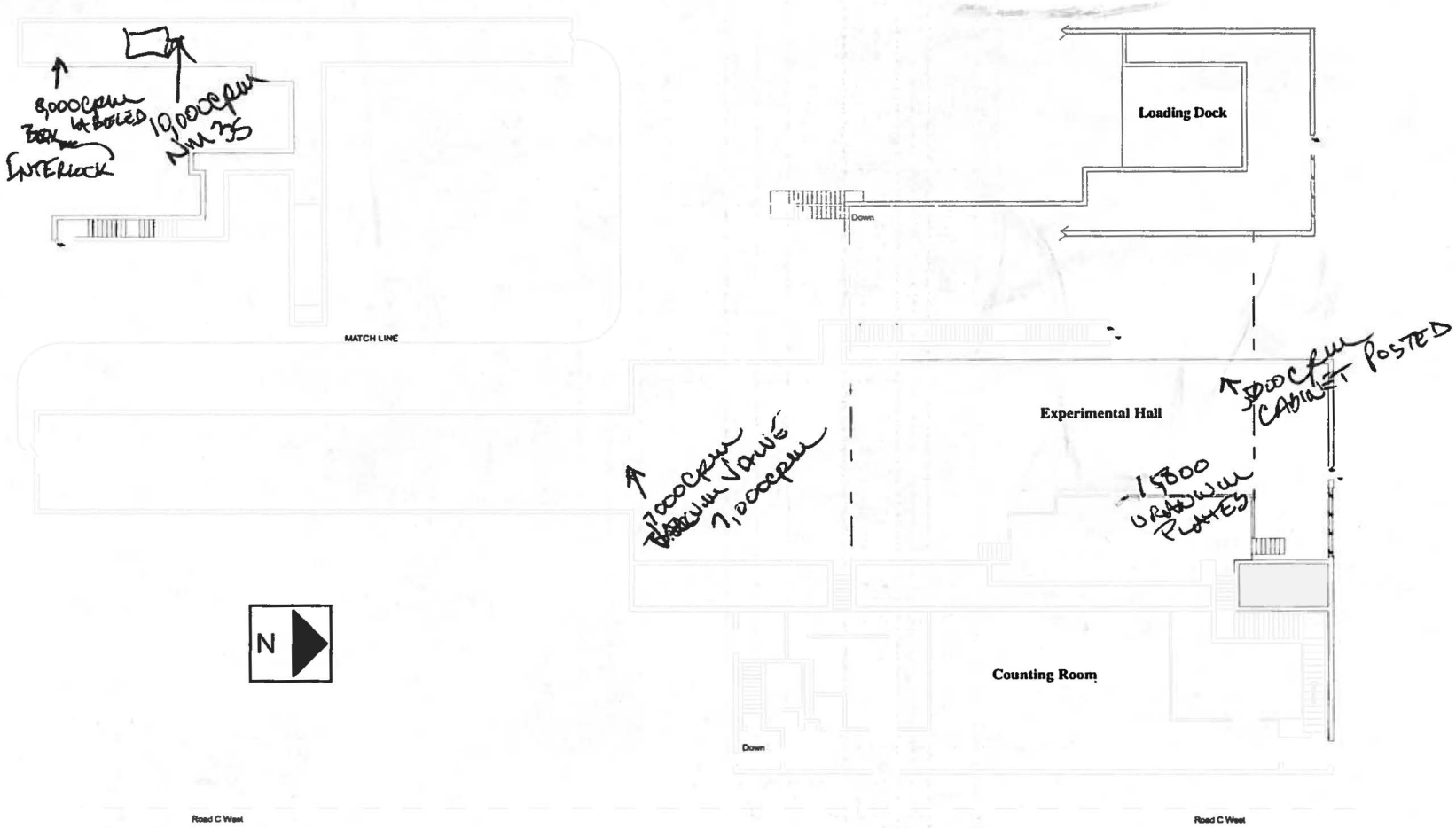
Comments:
* All Rad Items were Labeled Properly

Surveyed By: [signature]
Reviewed By: WS

Revised 3/13/07

FERMILAB
PARTICLE PHYSICS DIVISION

KTeV Hall



LOCATION: KTeV HALL	DATE: 10/21/09	TIME: 1300	PURPOSE: SWOOP SURVEY

Radiation Instruments Used

Inst Type:	DICHOW		
Inst No:	#68		
Batt/Source Chk:	SAT		
Cal. Due Date:	9/2010		

LEGEND
Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below
* = mR/hr @ contact
△ = Wipe F# = Floor wipe

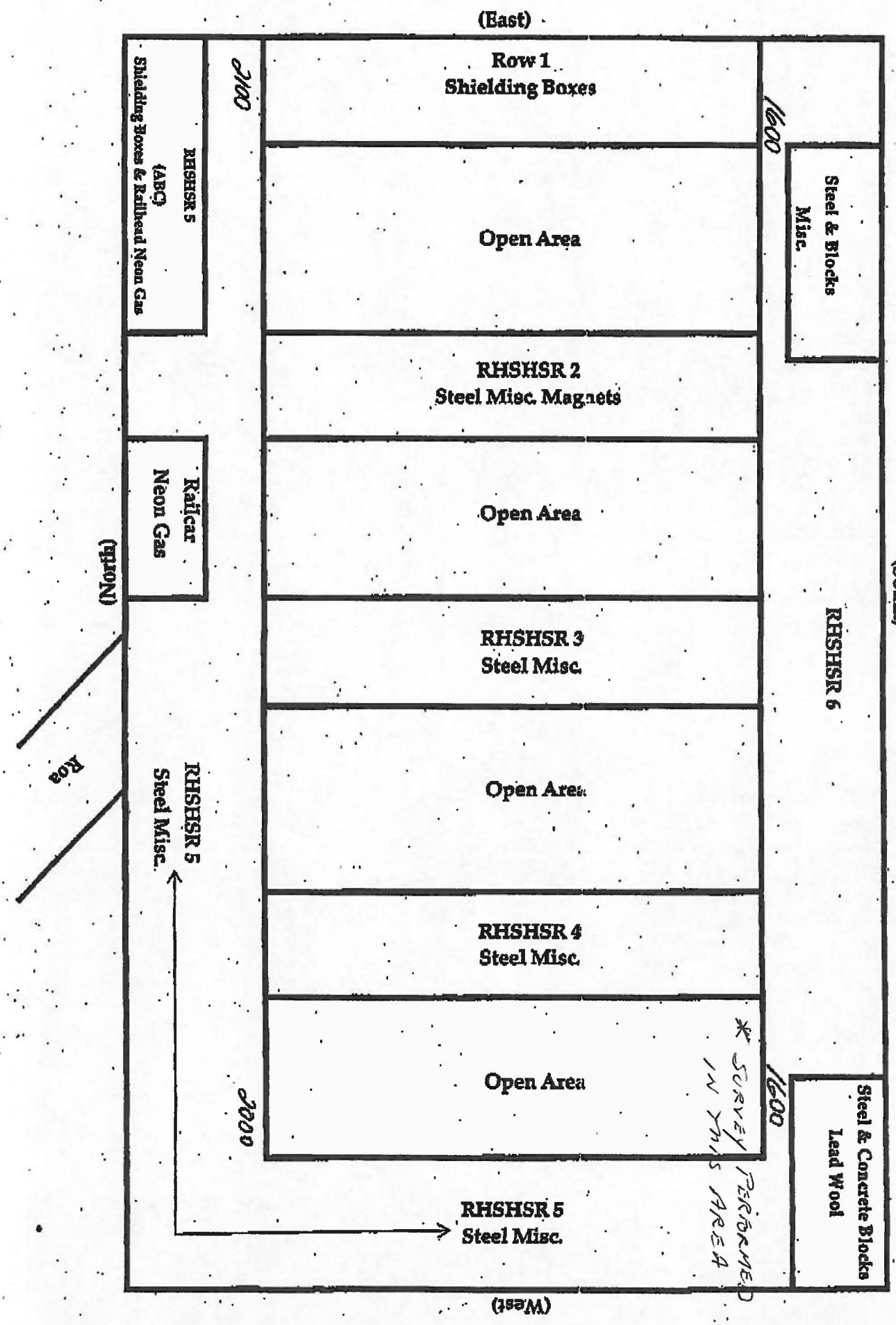
Bkgd 1300 cpm

Wipe #	Reading	Wipe #	Reading
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm
	ccpm		ccpm

Comments:

Surveyed By: [signature]
Reviewed By:

Revised 3/13/07


(East)
Row 1
Shielding Boxes
2100
1600
RHSHSR 5
(ABC)
Shielding Boxes & Railhead Neon Gas
Steel & Blocks
Misc.
Open Area
RHSHSR 2
Steel Misc. Magnets
Railcar
Neon Gas
Open Area
(North)
RHSHSR 3
Steel Misc.
RHSHSR 6
(South)
Rio
Open Area
RHSHSR 5
Steel Misc.
RHSHSR 4
Steel Misc.
Open Area
2000
1600
* SURVEY PERFORMED IN THIS AREA
Steel & Concrete Blocks
Lead Wool
RHSHSR 5
Steel Misc.
(West)


F-181