

LICENSE TERMINATION REPORT  
USNRC LICENSE NO. SNM-951

PRELIMINARY SURVEY OF SELECTED SITE BUILDINGS

DECEMBER 7, 1992

WESTINGHOUSE ELECTRIC CORPORATION  
LARGE, PA

Report #006

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PRELIMINARY SURVEY OF SELECTED SITE BUILDINGS

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Report #006

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# 117646

## PRELIMINARY SURVEY OF SELECTED SITE BUILDINGS

### Purpose

The Westinghouse Electric Corporation is preparing to request the termination of USNRC License Number SNM-951 for the site located in Large, PA. This report is one of a series of reports that presents the necessary information to establish that the site meets all applicable regulatory requirements so that the license can be terminated by the United States Nuclear Regulatory Commission.

### Scope

This report documents information collected during a preliminary survey of selected building areas on the site. The intention of the survey was to collect preliminary information on building areas that had the highest potential for contamination based on the history of prior use. Such preliminary information was to serve as the basis for establishing a site survey plan. No detailed statistical analysis is present in the report. It is not intended that this information serve as documentation that the acceptance criteria for termination of the license have been met. No preliminary survey information is presented on the Monitored Drain Line system. A separate report has been issued on the removal and survey of that system.

### Selection of Building Areas

In the early stages of the project a group of individuals, who had long term knowledge of the activities that had been conducted on the site including the current and past Safety Officers, was convened. This group reviewed each building and identified an appropriate classification based on the history of prior use. The classification system used is presented in Table 1 and the resulting ranking of buildings is presented in Table 2. Figure 1 presents an overall plot plan for the site. Based on this ranking, a preliminary survey program was undertaken, which covered all areas that had been classified as either Group II, III or IV. No effort was made to include the Group I areas in the preliminary survey. In some areas, ductwork for the ventilation systems was included in the survey.

### Description of Surveys

The preliminary survey program was limited towards surveys of accessible surfaces for removable and total contamination, both alpha and beta/gamma activity, in units of dpm/100 cm<sup>2</sup>. Gamma dose rate measurements were made using TLD badges placed throughout the site and those results are described in a separate report (Report #001). The instruments used are identified on each survey sheet as appropriate. In general, the portable survey instruments are the ratemeter type so the recorded values are based on the meter output rather than an integrated value over a specific time period. The smears were counted in standard laboratory bench top units.

## PRELIMINARY SURVEY OF SELECTED SITE BUILDINGS

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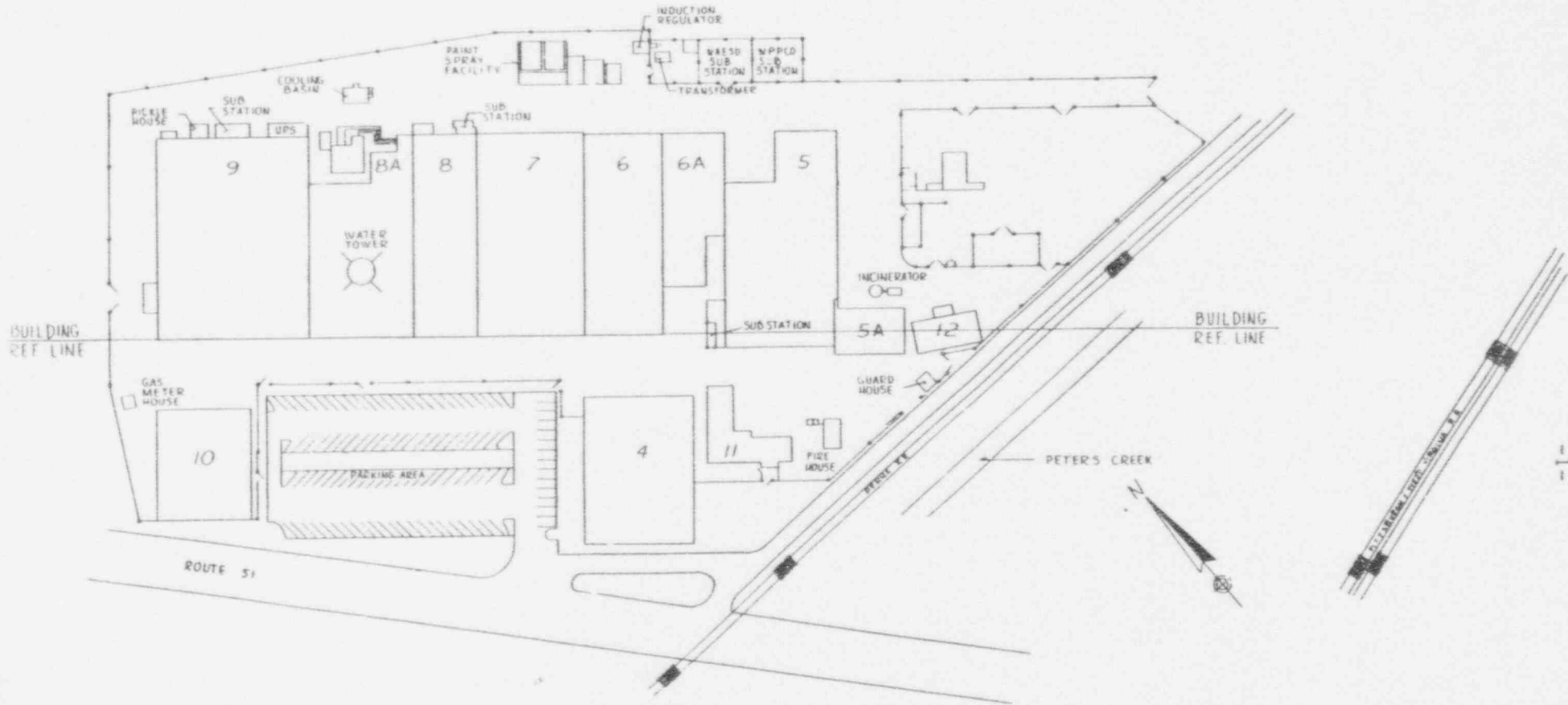
### Survey Results

The survey results for each selected building area are presented in the appendices to this report. A brief summary of this information is presented in Table 3. No statistical evaluation was prepared on this data. With the exception of the Building 9 basement areas, no significant contamination and/or radiation levels were found. The basement area of Building 9 is a large pit which housed the three large collection tanks for the Monitored Drain Line system. These tanks and the associated pumps, filters and piping were used to collect, sample and treat as appropriate, all suspect water prior to discharge. While detectable, the results for this area meet the acceptance criteria.

### Conclusions

The preliminary survey data indicates that all buildings on the site meet the acceptance criteria without any cleanup action. With the exception of the basement in Building 9, no area was identified as having a high potential for contamination. The results for the basement in Building 9 indicated activity above background in area of the floor. Therefore, the survey plan for this area will reflect this information.

FIGURE 1



SYMBOL			REVISIONS BY DESCRIPTION				DATE	BY	CHKD	APP'D
CONTRACT NO.						DATE OF WORK	Westinghouse Advanced Energy Systems Division Pittsburgh, Pennsylvania			
WORKING DRAWING SPECIFIED		WEEKS TO DATE		SHEET NO.		OF TOTAL SHEETS		V A E 3 D L A R G E . P A		
REVISIONS - DO NOT SCALE		DATE		BY		CHKD		D 14683 JN030		
SYMBOL		DATE		BY		CHKD		SCALE		
DESCRIPTION		DATE		BY		CHKD		BY ACCL		

FIGURE 1  
SITE PLOT PLAN

TABLE 1

CLASSIFICATION SYSTEM

<u>GROUP DESIGNATION</u>	<u>DESCRIPTION</u>	<u>COLOR CODE</u>
I	Offices, Administrative Areas and Plant Areas where historical information indicates that no radioactive material had ever been used or stored	Green
II	Offices, Administrative Areas and Plant Areas where historical information is uncertain, but does not indicate that any radioactive material had been used or stored.	Yellow
III	Areas where historical information indicates only encapsulated material or sealed sources were used or stored.	Blue
IV	Areas where historical information indicates that unencapsulated radioactive material may have been used or stored.	Red

TABLE 2

HISTORICAL REVIEW OF RADIOACTIVE MATERIAL USE

The following locations were identified by selected Westinghouse employees based on personal knowledge and recollection of the Large activities from 1961 to 1992.

Location Floor(s)	Type Of RAM Activities				Group ID	Comments
	Unencap	Sealed	Incidental	None		
4 Basement		X			II	1977 HPO
First				X	I	ADMIN OFFICES
Second				X	I	ADMIN OFFICES
Third		X			II	1989 HPO
5 First	X				IV	ENR U/IRRAD U
Second	X				IV	ENR U/IRRAD U
Third	X				IV	ENR U/IRRAD U
Fourth				X	I	
5A First				X	I	STOREROOM
6 First	X				IV	RX ASSEMBLY
Second	X				IV	QA APEA
6A First	X				IV	FUEL ASSEMBLY
7 First	X				IV	TRUCKLOCK/VAULT
Second				X	I	
8 First				X	I	
Second				X	I	
8A First	X				IV	OLD HPO/PU/CO
Second				X	I	
9 Basement		X	X		IV	MDL TANKS
First	X				IV	MET LAB/MFP/ACT
Second				X	I	
10 First				X	I	LIBRARY
Second				X	I	
11 First				X	I	ADMIN OFFICES
Second				X	I	ADMIN OFFICES
Third				X	I	ADMIN OFFICES
12 First		X			II	DEP U CASK
Hyd Fac First	X				IV	FUEL FLOW
Firehall				X	I	FIRETRUCK
Backlot		X			III	LLRW STORAGE
Centerlot			X		III	INHOUSE XFER
Frontlot				X	I	PARKING

TABLE 3

Page 1

## SUMMARY OF PRELIMINARY SURVEY RESULTS

Building Location	Appendix	Number of Survey Points	Removable Activity (dpm/100cm <sup>2</sup> )		Total Activity (dpm/100cm <sup>2</sup> )		Comments
			Alpha	Beta	Alpha	Beta	
	(1)		(2)	(3)	(4)	(5)	
Building 4, Basement	A	86	<MDA	<MDA	<MDA	<MDA	
Building 5, First Floor, Plant Area	B	116	< MDA	<MDA	<MDA	<MDA	
Building 5 First Floor Office Area	B	22	<MDA	<MDA	<MDA	<MDA	
Building 5, First Floor, Areas where floor tile was removed.	B	5	--	--	<MDA	<MDA	One higher beta/gamma reading was later found to be due to small piece of Co-60 in buried drain line.
Building 5, Second Floor	C	55	<MDA	<MDA	<MDA	<MDA	
Building 5, Third Floor	D	27	<MDA	<MDA	<MDA	<MDA	
Building 6, First Floor North Section	E	42	<MDA	<MDA	<MDA	<MDA	
Building 6, First Floor, Center Section	E	26	<MDA	<MDA	<MDA	<MDA	
Building 6, First Floor South Section	E	41	<MDA	<MDA	<MDA	<MDA	
Building 6, First Floor Inside Ventilation Ductwork	E	2	<MDA	<MDA	<MDA	<MDA	



TABLE 3 - Continued

Page Two

## SUMMARY OF PRELIMINARY SURVEY RESULTS

Building Location	Appendix	Number of Survey Points	Removable Activity (dpm/100cm <sup>2</sup> )		Total Activity (dpm/100cm <sup>2</sup> )		Comments
			Alpha	Beta	Alpha	Beta	
	(1)		(2)	(3)	(4)	(5)	
Building 6, Second Floor	F	40	<MDA	<MDA	<MDA	<MDA	
Building 6A, First Floor,	G	54	<MDA	<MDA	<MDA	<MDA	
Building 6A, First Floor Inside Ventilation Ductwork	G	4	<MDA	<MDA	<MDA	<MDA	
Building 7, First Floor,	H	80	<MDA	<MDA	<MDA	<MDA	One beta smear and 5 beta survey points appeared to be detectable above background.
Building 8A, First Floor, Center Section where MDL was to be removed.	I	27	<MDA	<MDA	<MDA	<MDA	
Building 8A First Floor North and South Sections where MDL was to be removed.	I	66	<MDA	<MDA	<MDA	<MDA	
Building 9, Basement Floor	J	57	<34	<MDA	<2640	<425	Four survey points showed detectable activity.
Building 9, Basement, Floor above floor drain line.	J	10	---	---	<MDA	<MDA	

TABLE 3 - Continued

Page Three

## SUMMARY OF PRELIMINARY SURVEY RESULTS

Building Location	Appendix	Number of Survey Points	Removable Activity (dpm/100cm <sup>2</sup> )		Total Activity (dpm/100cm <sup>2</sup> )		Comments
			Alpha	Beta	Alpha	Beta	
	(1)		(2)	(3)	(4)	(5)	
Building 9, Basement North Wall	J	15	---	---	<MDA	<MDA	
Building 9, Basement East Wall	J	54	---	---	<MDA	<MDA	
Building 9, Basement West Wall	J	54	---	---	<MDA	<MDA	
Building 9, Basement, South Wall	J	15	---	---	<MDA	<MDA	
Building 9, First Floor, East Section	K	69	<MDA	<MDA	<MDA	<MDA	
Building 9 First Floor West Section	K	54	<MDA	<MDA	<MDA	<MDA	
Building 9, First Floor Inside Ventilation Ductwork.	K	2	<MDA	<MDA	<MDA	<MDA	
Hydrogen Facility (Paint Spray Facility)	L	21	<MDA	<MDA	<MDA	<MDA	

TABLE 3 - Continued

Page Four

SUMMARY OF PRELIMINARY SURVEY RESULTS

NOTES:

- 1) The survey data sheets are located in the referenced Appendix to the report.
- 2) The minimum detectable activity is approximately 15 to 20 dpm/100 cm<sup>2</sup>.
- 3) The minimum detectable activity is approximately 100 to 150 dpm/100 cm<sup>2</sup>.
- 4) The minimum detectable activity is approximately 50 to 100 dpm/100cm<sup>2</sup>/
- 5) The minimum detectable activity is approximately 250 to 1200 dpm/100 cm<sup>2</sup>.

APPENDIX A

BUILDING 4, BASEMENT

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4-14-92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	1.80 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
4	Basement	N/A	1	0	20	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			2	0	0				
			3	0	0				
			4	0	0				
			5	0	8			Efficiency: 63.4%	Efficiency: 20.2%
			6	0	0			Avg. Bkg: 1104 DPM	Avg. Bkg: 74.3 DPM
			7	0	0			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			8	0	31				
			9	0	0				
			10	6	0				
			11	0	20				
			12	0	8				
			13	0	0				
			14	0	0				
			15	0	0				
			16	0	8				
			17	0	0				
			18	0	0				
			19	0	20				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 4-14-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	1.80 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
4	Basement	N/A	20	0	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			21	0				
			22	0				
			23	0			Efficiency: 63.4%	Efficiency: 20.2%
			24	0			Avg. Bkg: 1104 DPM	Avg. Bkg: 74.3 DPM
			25	0			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			26	0				
			27	0				
			28	0				
			29	0				
			30	6				
			31	6				
			32	0				
			33	6				
			34	6				
			35	0				
			36	0				
			37	0				
			38	0				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4-14-92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	1.80 CPM		.20 CPM		SERIAL NO.	4478		1891
EFFICIENCY	17.1 %		32.6 %		PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
4	Basement	N/A	39	0	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			40	0				
			41	0				
			42	0			Efficiency: 63.4%	Efficiency: 20.2%
			43	0			Avg. Bkg: 1104 DPM	Avg. Bkg: 74.3 DPM
			44	6			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			45	0				
			46	0				
			47	0				
			48	0				
			49	0				
			50	0				
			51	0				
			52	0				
			53	6				
			54	0				
			55	0				
			56	0				
			57	6				

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 4-14-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	1.80 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
4	Basement	N/A	58	6	20	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			59	0	8				
			60	0	8				
			61	0	0				
			62	0	0				
			63	0	8				
			64	0	8				
			65	0	31				
			66	0	0				
			67	0	0				
			68	0	0				
			69	0	0				
			70	0	8				
			71	0	0				
			72	0	0				
			73	0	8				
			74	0	0				
			75	0	42				
			X	0	8				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

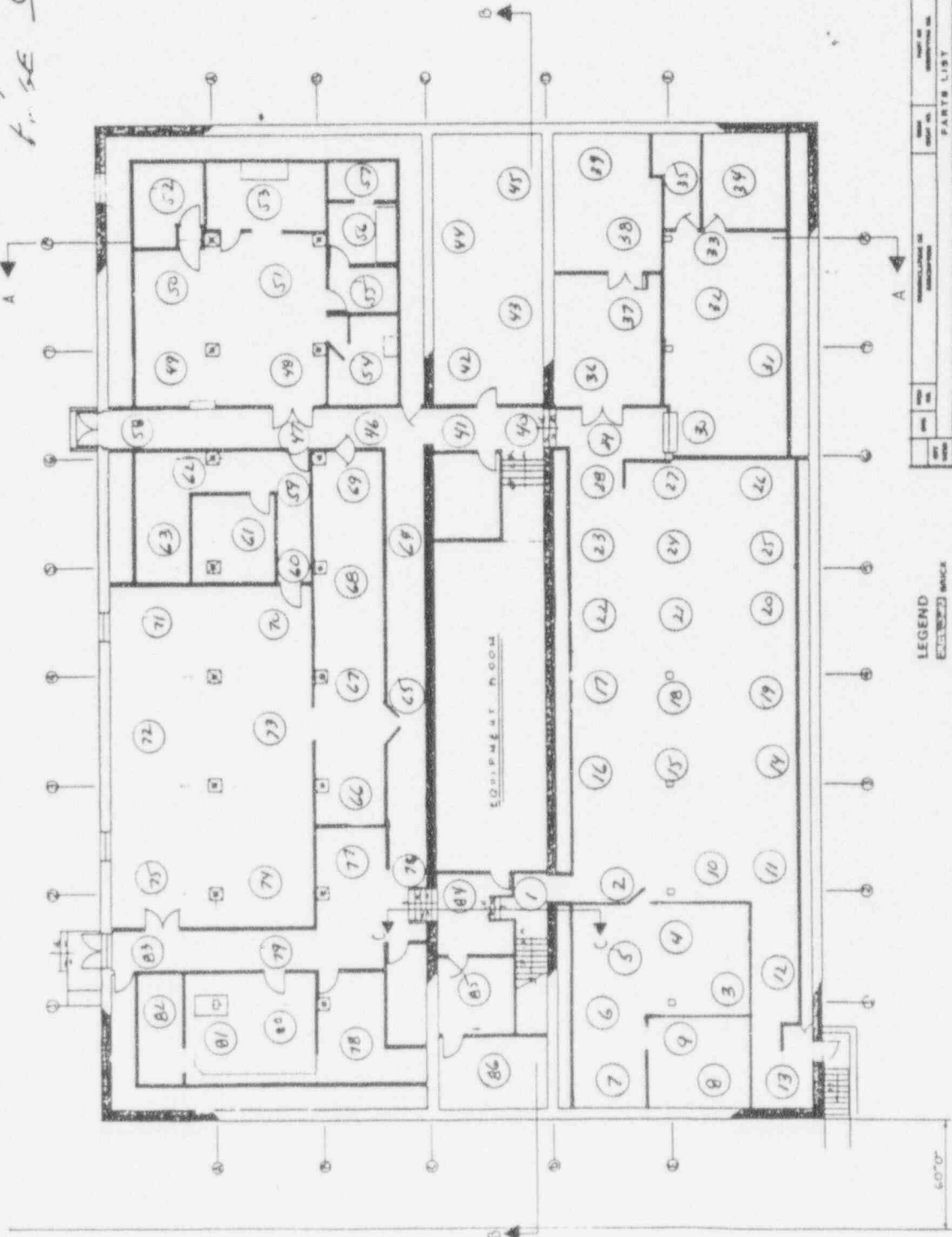
SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 4-14-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	1.80 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
4	Basement	N/A	77	0	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			78	0				
			79	0				
			80	0				
			81	20				
			82	0				
			83	0				
			84	0				
			85	8				
			86	8				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

7  
PAGE 6 OF 6



BUILDING  
ELECTRICAL  
51 JN-030

60'-0"

LEGEND

- ENTRANCE
  - BRICK
  - CONCRETE BLOCK WITH STYRENE CONCRETE CORE
  - CONCRETE BLOCK WITH STYRENE CONCRETE CORE AND PANELING
  - DRYWALL & PANELING
- SCALE: FEET  
0 10 20 30 40

REV.	DATE	DESCRIPTION	BY	CHKD.
1		ISSUED FOR CONSTRUCTION		
2		REVISIONS		
3		REVISIONS		
4		REVISIONS		
5		REVISIONS		

NO.	DESCRIPTION	DATE
1	WASHINGTON METRO SYSTEMS DIVISION	10/1/71
2	PRODUCTION	10/1/71
3	REVISIONS	10/1/71
4	REVISIONS	10/1/71
5	REVISIONS	10/1/71

PARTS LIST	
NO.	DESCRIPTION
1	WALLS
2	CEILING
3	FLOOR
4	DOORS
5	WINDOWS
6	FIXTURES
7	ELECTRICAL
8	MATERIALS
9	MECHANICAL
10	PLUMBING
11	PAINT
12	FINISHES
13	OTHER

NO.	DESCRIPTION	DATE
1	BASMENT FLOOR	10/1/71
2	BUILDING N° 4	10/1/71
3	WAESD LARGE PA	10/1/71

NO.	DESCRIPTION	DATE
1	D 14683	10/1/71
2	JN-001	10/1/71



APPENDIX B

BUILDING 5, FIRST FLOOR

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-18-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC E	MS-2	TENNELEC E	SAC-4				
BACKGROUND	2.40 CPM	CPM	.10 CPM	CPM	E-520	5245		ASP-1
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE	7mg/cm <sup>2</sup> m		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	1	N/A	1	See	N/A	N/A	Avg. Bkg. = 270	Avg. Bkg. = 37.5
			2	Attached			DPM	DPM
			3	Printout				
			4				Efficiency: 13%	Efficiency: 20.2%
			5					
			6				$\frac{4}{2}$ Bkg.	$\frac{4}{3}$ Bkg.
			7					
			8					
			9					
			10					
			11					
			12					
			13					
			14					
			15					
			16					
			17					
			18					
			19					

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 3-18-92	FORM SERIAL NUMBER: Preliminary
-----------------------	-------------------------------	---------------	---------------------------------

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4		E-520		
BACKGROUND	2.40 CPM	CPM	.10 CPM	CPM	SERIAL NO. 5245			1891
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE	7mg/cm <sup>2</sup> m		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	1	N/A	20	See	N/A	N/A	Avg. Bkg. = 270	Avg. Bkg. = 37.5
			21	Attached			DPM	DPM
			22	Printout				
			23				Efficiency: 13%	Efficiency: 20.2%
			24					
			25				Bkg.	Bkg.
			26					
			27					
			28					
			29					
			30					
			31					
			32					
			33					
			34					
			35					
			36					
			37					
			38					

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *[Signature]*      DATE: 3-18-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC E	MS-2	TENNELEC E	SAC-4				
BACKGROUND	2.40 CPM	CPM	.10 CPM	CPM	E-520			ASP-1
EFFICIENCY	43.2 %	%	33.2 %	%	SERIAL NO. 5245			1891
					PROBE	7mg/cm <sup>2</sup> m		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	1	N/A	39	See	N/A	N/A	Avg. Bkg. = 270	Avg. Bkg. = 37.5
			40	Attached			DPM	DPM
			41	Printout				
			42				Efficiency: 13%	Efficiency: 20.2%
			43					
			44				< Bkg.	< Bkg.
			45					
			46					
			47					
			48					
			49					
			50					
			51					
			52					
			53					
			54					
			55					
			56					
			57					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS





SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-18-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA			ALPHA
	TENNELEC E	MS-2	TENNELEC E	SAC-4		E-520			
BACKGROUND	2.40 CPM	CPM	.10 CPM	CPM	SERIAL NO. 5245			1891	
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE 7mg/cm <sup>2</sup> m			AC-3	

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM				
			ALPHA	BETA								
S	1	N/A	77	See	N/A	N/A	Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM				
			78	Attached								
			79	Printout								
			80						Efficiency: 13%	Efficiency: 20.2%		
			81									
			82								Bkg.	Bkg.
			83									
			84									
			85									
			86									
			87									
			88									

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE:	DATE: 3-19-92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC E	MS-2	TENNELEC E	SAC-4				
BACKGROUND	2.50 CPM	CPM	.05 CPM	CPM	E-520			ASP-1
EFFICIENCY	43.2 %	%	33.2 %	%	SERIAL NO. 5245			1891
					PROBE 7 mg/cm <sup>2</sup>			AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	1	N/A	89	See	N/A	N/A	4 Bkg.	4 Bkg.
			90	Attached				
			91	Printout			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM
			92					
			93				Efficiency = 13%	Efficiency = 20.2%
			94					
			95					
			96					
			97					
			98					
			99					
			100					
			101					
			102					
			103					
			104					
			105					
			106					
			107					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

DATE: 3-19-92 FORM SERIAL NUMBER: Preliminary

*[Signature]*

INSTRUMENT		E-520		ALPHA	
SERIAL NO.		5245			ASP-1
PROBE		7 mg/cm <sup>2</sup>			1891
CPM				AC-3	

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	F	N/A	See	Attached	N/A	N/A	4 Bkg.	4 Bkg.
			108	Printout			Avg. Bkg. = 270 DEFI	Avg. Bkg. = 37.5 DPM
			109				Efficiency = 13%	Efficiency = 20.2%
			110					
			111					
			112					
			113					
			114					
			115					
			116					

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

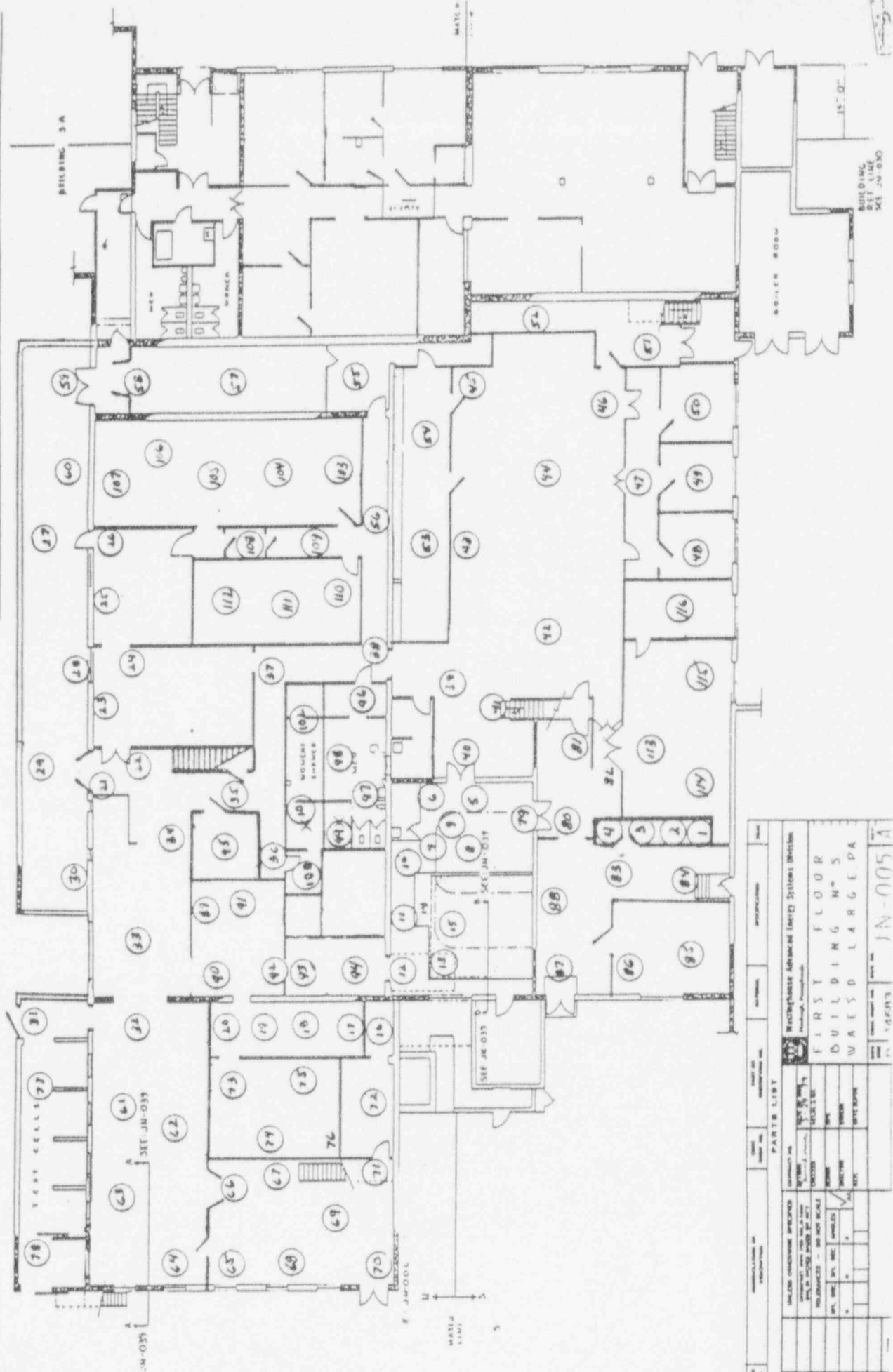
SAMPLE NUMBER	BETA COUNTS	BETA DPM	BETA 3 SIGMA	ALPHA COUNTS	ALPHA DPM	ALPHA 3 SIGMA	TIME MINS
1	0	-5.5	1.0	0	-0.3	0.2	0.33
2	0	-5.5	1.0	0	-0.3	0.2	0.33
3	4	22.4	10.4	0	-0.3	0.2	0.33
4	1	1.4	5.3	0	-0.3	0.2	0.33
5	3	15.4	9.1	0	-0.3	0.2	0.33
6	2	8.4	7.4	0	-0.3	0.2	0.33
7	1	1.4	5.3	0	-0.3	0.2	0.33
8	0	-5.5	1.0	0	-0.3	0.2	0.33
9	0	-5.5	1.0	0	-0.3	0.2	0.33
10	1	1.4	5.3	0	-0.3	0.2	0.33
11	0	-5.5	1.0	0	-0.3	0.2	0.33
12	1	1.4	5.3	0	-0.3	0.2	0.33
13	0	-5.5	1.0	0	-0.3	0.2	0.33
14	2	8.4	7.4	0	-0.3	0.2	0.33
15	0	-5.5	1.0	1	8.8	5.2	0.33
16	1	1.4	5.3	0	-0.3	0.2	0.33
17	2	8.4	7.4	0	-0.3	0.2	0.33
18	0	-5.5	1.0	0	-0.3	0.2	0.33
19	0	-5.5	1.0	0	-0.3	0.2	0.33
20	0	-5.5	1.0	0	-0.3	0.2	0.33
21	0	-5.5	1.0	0	-0.3	0.2	0.33
22	0	-5.5	1.0	0	-0.3	0.2	0.33
23	2	8.4	7.4	0	-0.3	0.2	0.33
24	1	1.4	5.3	0	-0.3	0.2	0.33
25	2	8.4	7.4	0	-0.3	0.2	0.33
26	2	8.4	7.4	0	-0.3	0.2	0.33
27	0	-5.5	1.0	0	-0.3	0.2	0.33
28	0	-5.5	1.0	0	-0.3	0.2	0.33
29	1	1.4	5.3	0	-0.3	0.2	0.33
30	1	1.4	5.3	0	-0.3	0.2	0.33
31	0	-5.5	1.0	0	-0.3	0.2	0.33
32	0	-5.5	1.0	0	-0.3	0.2	0.33
33	1	1.4	5.3	0	-0.3	0.2	0.33
34	0	-5.5	1.0	0	-0.3	0.2	0.33
35	1	1.4	5.3	0	-0.3	0.2	0.33
36	1	1.4	5.3	0	-0.3	0.2	0.33
37	3	15.4	9.1	0	-0.3	0.2	0.33
38	3	15.4	9.1	0	-0.3	0.2	0.33
39	3	15.4	9.1	0	-0.3	0.2	0.33
40	3	15.4	9.1	0	-0.3	0.2	0.33
41	0	-5.5	1.0	0	-0.3	0.2	0.33
42	0	-5.5	1.0	0	-0.3	0.2	0.33
43	1	1.4	5.3	0	-0.3	0.2	0.33
44	1	1.4	5.3	0	-0.3	0.2	0.33
45	6	36.4	12.8	0	-0.3	0.2	0.33
46	2	8.4	7.4	0	-0.3	0.2	0.33
47	2	8.4	7.4	1	8.8	5.2	0.33
48	2	8.4	7.4	0	-0.3	0.2	0.33
49	0	-5.5	1.0	0	-0.3	0.2	0.33
50	1	1.4	5.3	0	-0.3	0.2	0.33
51	1	1.4	5.3	0	-0.3	0.2	0.33
52	1	1.4	5.3	0	-0.3	0.2	0.33
53	0	-5.5	1.0	0	-0.3	0.2	0.33
54	0	-5.5	1.0	0	-0.3	0.2	0.33
55	0	-5.5	1.0	0	-0.3	0.2	0.33
56	1	1.4	5.3	0	-0.3	0.2	0.33
57	1	1.4	5.3	0	-0.3	0.2	0.33
58	3	15.4	9.1	0	-0.3	0.2	0.33
59	0	-5.5	1.0	0	-0.3	0.2	0.33
60	0	-5.5	1.0	0	-0.3	0.2	0.33
61	4	22.4	10.4	0	-0.3	0.2	0.33

31	0	-5.5	1.0	0	-0.3	0.2	0.33
32	0	-5.5	1.0	0	-0.3	0.2	0.33
33	1	1.4	5.3	0	-0.3	0.2	0.33
34	0	-5.5	1.0	0	-0.3	0.2	0.33
35	1	1.4	5.3	0	-0.3	0.2	0.33
36	1	1.4	5.3	0	-0.3	0.2	0.33
37	3	15.4	9.1	0	-0.3	0.2	0.33
38	3	15.4	9.1	0	-0.3	0.2	0.33
39	3	15.4	9.1	0	-0.3	0.2	0.33
40	3	15.4	9.1	0	-0.3	0.2	0.33
41	0	-5.5	1.0	0	-0.3	0.2	0.33
42	0	-5.5	1.0	0	-0.3	0.2	0.33
43	1	1.4	5.3	0	-0.3	0.2	0.33
44	1	1.4	5.3	0	-0.3	0.2	0.33
45	6	36.4	12.8	0	-0.3	0.2	0.33
46	2	8.4	7.4	0	0.8	5.2	0.33
47	2	8.4	7.4	1	-0.3	0.2	0.33
48	2	8.4	7.4	0	-0.3	0.2	0.33
49	0	-5.5	1.0	0	-0.3	0.2	0.33
50	1	1.4	5.3	0	-0.3	0.2	0.33
51	1	1.4	5.3	0	-0.3	0.2	0.33
52	1	1.4	5.3	0	-0.3	0.2	0.33
53	0	-5.5	1.0	0	-0.3	0.2	0.33
54	0	-5.5	1.0	0	-0.3	0.2	0.33
55	0	-5.5	1.0	0	-0.3	0.2	0.33
56	1	1.4	5.3	0	-0.3	0.2	0.33
57	1	1.4	5.3	0	-0.3	0.2	0.33
58	3	15.4	9.1	0	-0.3	0.2	0.33
59	0	-5.5	1.0	0	-0.3	0.2	0.33
60	0	-5.5	1.0	0	-0.3	0.2	0.33
61	4	22.4	18.4	0	-0.3	0.2	0.33
62	0	-5.5	1.0	0	-0.3	0.2	0.33
63	2	8.4	7.4	0	-0.3	0.2	0.33
64	3	15.4	9.1	0	-0.3	0.2	0.33
65	0	-5.5	1.0	0	-0.3	0.2	0.33
66	0	-5.5	1.0	0	-0.3	0.2	0.33
67	2	8.4	7.4	0	-0.3	0.2	0.33
68	0	-5.5	1.0	0	-0.3	0.2	0.33
69	2	8.4	7.4	0	-0.3	0.2	0.33
70	0	-5.5	1.0	0	-0.3	0.2	0.33
71	2	8.4	7.4	0	-0.3	0.2	0.33
72	0	-5.5	1.0	0	-0.3	0.2	0.33
73	0	-5.5	1.0	0	-0.3	0.2	0.33
74	1	1.4	5.3	0	-0.3	0.2	0.33
75	2	8.4	7.4	0	-0.3	0.2	0.33
76	1	1.4	5.3	0	-0.3	0.2	0.33
77	2	8.4	7.4	0	-0.3	0.2	0.33
78	2	8.4	7.4	0	-0.3	0.2	0.33
79	2	8.4	7.4	0	-0.3	0.2	0.33
80	1	1.4	5.3	0	-0.3	0.2	0.33
81	2	8.4	7.4	0	-0.3	0.2	0.33
82	1	1.4	5.3	0	-0.3	0.2	0.33
83	1	1.4	5.3	0	-0.3	0.2	0.33
84	1	1.4	5.3	0	-0.3	0.2	0.33
85	0	-5.5	1.0	0	-0.3	0.2	0.33
86	0	-5.5	1.0	0	-0.3	0.2	0.33
87	0	-5.5	1.0	0	-0.3	0.2	0.33
88	0	-5.5	1.0	0	-0.3	0.2	0.33

SAMPLE NUMBER	BETA COUNTS	BETA DPM	BETA 3 SIGMA	ALPHA COUNTS	ALPHA DPM	ALPHA 3 SIGMA	TIME MINS
89	1	1.2	5.3	0	-0.1	0.1	0.33
90	1	15.2	9.1	0	-0.1	0.1	0.33
91	4	22.2	10.4	0	-0.1	0.1	0.33
92	1	1.2	5.3	0	-0.1	0.1	0.33
93	2	8.2	7.4	0	-0.1	0.1	0.33
94	0	-5.7	1.0	0	-0.1	0.1	0.33
95	0	-5.7	1.0	0	-0.1	0.1	0.33
96	0	-5.7	1.0	0	-0.1	0.1	0.33
97	1	1.2	5.3	0	-0.1	0.1	0.33
98	0	-5.7	1.0	0	-0.1	0.1	0.33
99	1	1.2	5.3	0	-0.1	0.1	0.33
100	1	1.2	5.3	0	-0.1	0.1	0.33
1	0	-5.7	1.0	0	-0.1	0.1	0.33
2	1	1.2	5.3	0	-0.1	0.1	0.33
3	0	-5.7	1.0	0	-0.1	0.1	0.33
4	2	8.2	7.4	0	-0.1	0.1	0.33
5	1	1.2	5.3	0	-0.1	0.1	0.33
6	2	8.2	7.4	0	-0.1	0.1	0.33
7	1	1.2	5.3	0	-0.1	0.1	0.33
8	0	-5.7	1.0	0	-0.1	0.1	0.33
9	0	-5.7	1.0	0	-0.1	0.1	0.33
10	0	-5.7	1.0	0	-0.1	0.1	0.33
11	1	1.2	5.3	0	-0.1	0.1	0.33
12	0	-5.7	1.0	0	-0.1	0.1	0.33
13	1	1.2	5.3	0	-0.1	0.1	0.33
14	0	-5.7	1.0	0	-0.1	0.1	0.33
15	0	-5.7	1.0	0	-0.1	0.1	0.33
16	2	8.2	7.4	0	-0.1	0.1	0.33



NO.	DESCRIPTION	QTY.	UNIT	REMARKS
PARTS LIST				
UNLESS OTHERWISE SPECIFIED				
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED				
FINISHES - SEE ARCH. DRAWINGS				
CONCRETE - SEE ARCH. DRAWINGS				
STEEL - SEE ARCH. DRAWINGS				
GLASS - SEE ARCH. DRAWINGS				
PAINT - SEE ARCH. DRAWINGS				
MECHANICAL - SEE ARCH. DRAWINGS				
ELECTRICAL - SEE ARCH. DRAWINGS				
PLUMBING - SEE ARCH. DRAWINGS				
WOODWORK - SEE ARCH. DRAWINGS				
MATERIALS - SEE ARCH. DRAWINGS				
WORKMANSHIP - SEE ARCH. DRAWINGS				
GENERAL NOTES - SEE ARCH. DRAWINGS				
PROJECT NO. JN-006 A				
DATE 14683				
DRAWN BY				
CHECKED BY				
SCALE				
SHEET NO. 8 OF 8				



NO.	DESCRIPTION	QTY.	UNIT	REMARKS
PARTS LIST				
UNLESS OTHERWISE SPECIFIED				
ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED				
FINISHES - SEE ARCH. DRAWINGS				
CONCRETE - SEE ARCH. DRAWINGS				
STEEL - SEE ARCH. DRAWINGS				
GLASS - SEE ARCH. DRAWINGS				
PAINT - SEE ARCH. DRAWINGS				
MECHANICAL - SEE ARCH. DRAWINGS				
ELECTRICAL - SEE ARCH. DRAWINGS				
PLUMBING - SEE ARCH. DRAWINGS				
WOODWORK - SEE ARCH. DRAWINGS				
MATERIALS - SEE ARCH. DRAWINGS				
WORKMANSHIP - SEE ARCH. DRAWINGS				
GENERAL NOTES - SEE ARCH. DRAWINGS				
PROJECT NO. JN-005 A				
DATE 14683				
DRAWN BY				
CHECKED BY				
SCALE				
SHEET NO. 5 OF 5				

SURVEYOR: Larry Smith      SIGNATURE: *[Signature]*      DATE: 3-24-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	GM-1	GM-2	Alpha-1	Alpha-2				
BACKGROUND	21.4 CPM	25.9 CPM	1.05 CPM	.05 CPM	SERIAL NO.	5245		1891
EFFICIENCY	26.1 %	17.54 %	38.9 %	39.8 %	PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
5	1	N/A	1	0	32	N/A	N/A	Avg. Bkg = 270 DPM	Avg Bkg. = 37.5 DPM
			2	0	0			Efficiency: 13%	Efficiency: 20.2%
			3	0	0			≤ Bkg.	≤ Bkg.
			4	0	57				
			5	5	32				
			6	0	0				
			7	0	0				
			8	0	0				
			9	0	0				
			10	0	0				
			11	0	64				
			12	0	0				
			13	5	48				
			14	0	46				
			15	0	0				
			16	0	0				
			17	0	32				
			18	0	0				
			19	0	8				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 3-24-92	FORM SERIAL NUMBER: Preliminary
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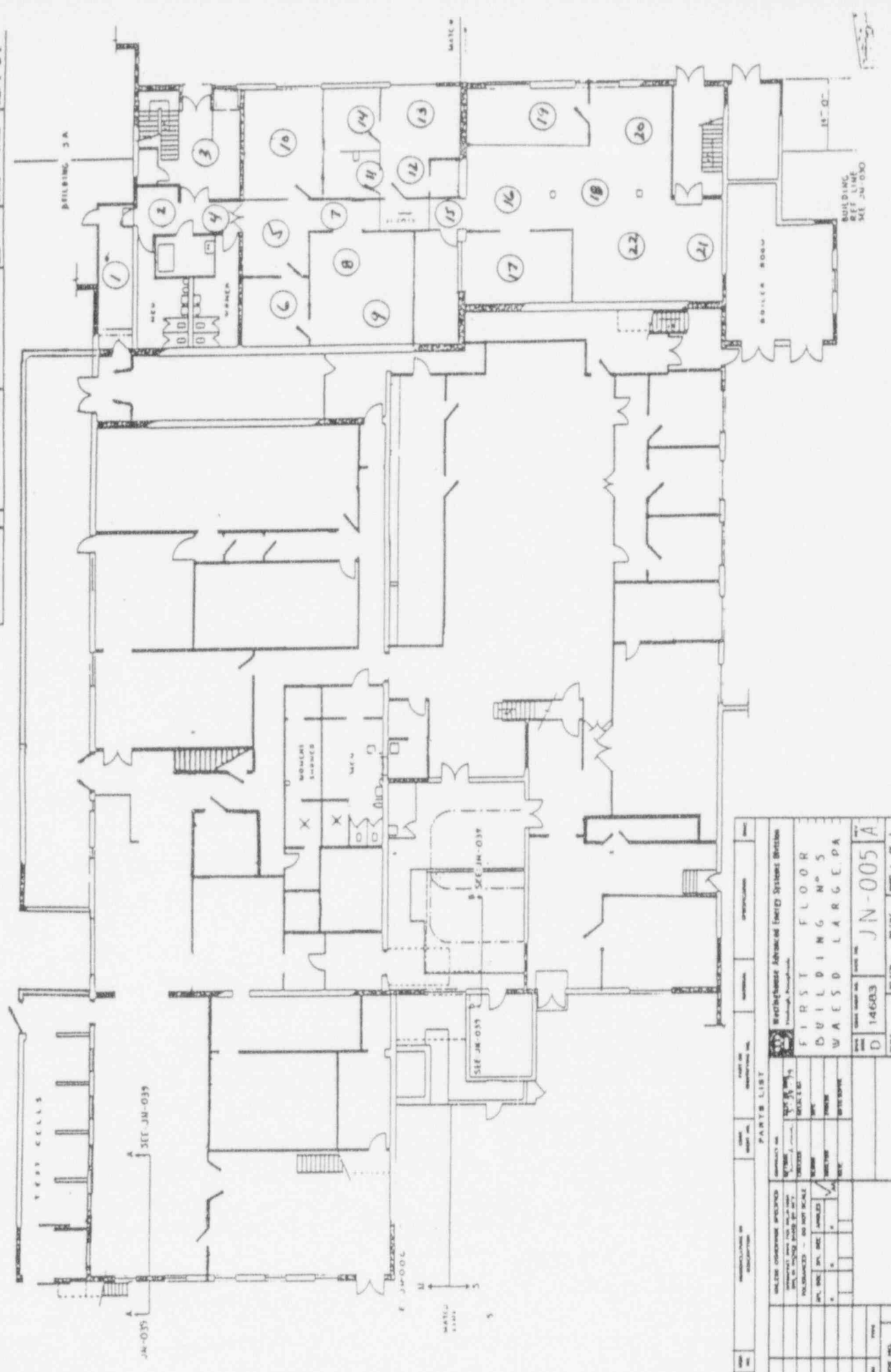
COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	GM-1	GM-2	Alpha-1	Alpha-2				
BACKGROUND	21.4 CPM	25.9 CPM	1.05 CPM	.05 CPM	E520			ASP-1
EFFICIENCY	26.1 %	17.54 %	38.9 %	39.8 %	SERIAL NO. 5245			1891
					PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER $\mu$ R/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	1	N/A	20	0	N/A	N/A	Avg. Bkg = 270 DPM	Avg Bkg = 37.5 DPM
↓	↓	↓	21	0	↓	↓	Efficiency: 13%	Efficiency: 20.2%
↓	↓	↓	22	0	↓	↓	≤ Bkg.	≤ Bkg.
(Remaining rows are crossed out with diagonal lines)								

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



PARTS LIST				
NO.	DESCRIPTION	QTY.	UNIT	REMARKS
1	WATER OVEN	1	EA	
2	WATER OVEN	1	EA	
3	WATER OVEN	1	EA	
4	WATER OVEN	1	EA	
5	WATER OVEN	1	EA	
6	WATER OVEN	1	EA	
7	WATER OVEN	1	EA	
8	WATER OVEN	1	EA	
9	WATER OVEN	1	EA	
10	WATER OVEN	1	EA	
11	WATER OVEN	1	EA	
12	WATER OVEN	1	EA	
13	WATER OVEN	1	EA	
14	WATER OVEN	1	EA	
15	WATER OVEN	1	EA	
16	WATER OVEN	1	EA	
17	WATER OVEN	1	EA	
18	WATER OVEN	1	EA	
19	WATER OVEN	1	EA	
20	WATER OVEN	1	EA	
21	WATER OVEN	1	EA	
22	WATER OVEN	1	EA	
23	WATER OVEN	1	EA	
24	WATER OVEN	1	EA	
25	WATER OVEN	1	EA	
26	WATER OVEN	1	EA	
27	WATER OVEN	1	EA	
28	WATER OVEN	1	EA	
29	WATER OVEN	1	EA	
30	WATER OVEN	1	EA	
31	WATER OVEN	1	EA	
32	WATER OVEN	1	EA	
33	WATER OVEN	1	EA	
34	WATER OVEN	1	EA	
35	WATER OVEN	1	EA	
36	WATER OVEN	1	EA	
37	WATER OVEN	1	EA	
38	WATER OVEN	1	EA	
39	WATER OVEN	1	EA	
40	WATER OVEN	1	EA	
41	WATER OVEN	1	EA	
42	WATER OVEN	1	EA	
43	WATER OVEN	1	EA	
44	WATER OVEN	1	EA	
45	WATER OVEN	1	EA	
46	WATER OVEN	1	EA	
47	WATER OVEN	1	EA	
48	WATER OVEN	1	EA	
49	WATER OVEN	1	EA	
50	WATER OVEN	1	EA	
51	WATER OVEN	1	EA	
52	WATER OVEN	1	EA	
53	WATER OVEN	1	EA	
54	WATER OVEN	1	EA	
55	WATER OVEN	1	EA	
56	WATER OVEN	1	EA	
57	WATER OVEN	1	EA	
58	WATER OVEN	1	EA	
59	WATER OVEN	1	EA	
60	WATER OVEN	1	EA	



PARTS LIST				
NO.	DESCRIPTION	QTY.	UNIT	REMARKS
1	WATER OVEN	1	EA	
2	WATER OVEN	1	EA	
3	WATER OVEN	1	EA	
4	WATER OVEN	1	EA	
5	WATER OVEN	1	EA	
6	WATER OVEN	1	EA	
7	WATER OVEN	1	EA	
8	WATER OVEN	1	EA	
9	WATER OVEN	1	EA	
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11	WATER OVEN	1	EA	
12	WATER OVEN	1	EA	
13	WATER OVEN	1	EA	
14	WATER OVEN	1	EA	
15	WATER OVEN	1	EA	
16	WATER OVEN	1	EA	
17	WATER OVEN	1	EA	
18	WATER OVEN	1	EA	
19	WATER OVEN	1	EA	
20	WATER OVEN	1	EA	
21	WATER OVEN	1	EA	
22	WATER OVEN	1	EA	
23	WATER OVEN	1	EA	
24	WATER OVEN	1	EA	
25	WATER OVEN	1	EA	
26	WATER OVEN	1	EA	
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28	WATER OVEN	1	EA	
29	WATER OVEN	1	EA	
30	WATER OVEN	1	EA	
31	WATER OVEN	1	EA	
32	WATER OVEN	1	EA	
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34	WATER OVEN	1	EA	
35	WATER OVEN	1	EA	
36	WATER OVEN	1	EA	
37	WATER OVEN	1	EA	
38	WATER OVEN	1	EA	
39	WATER OVEN	1	EA	
40	WATER OVEN	1	EA	
41	WATER OVEN	1	EA	
42	WATER OVEN	1	EA	
43	WATER OVEN	1	EA	
44	WATER OVEN	1	EA	
45	WATER OVEN	1	EA	
46	WATER OVEN	1	EA	
47	WATER OVEN	1	EA	
48	WATER OVEN	1	EA	
49	WATER OVEN	1	EA	
50	WATER OVEN	1	EA	
51	WATER OVEN	1	EA	
52	WATER OVEN	1	EA	
53	WATER OVEN	1	EA	
54	WATER OVEN	1	EA	
55	WATER OVEN	1	EA	
56	WATER OVEN	1	EA	
57	WATER OVEN	1	EA	
58	WATER OVEN	1	EA	
59	WATER OVEN	1	EA	
60	WATER OVEN	1	EA	

BUILDING 5A  
 MATE 4  
 BUILDING REF LINE  
 SET JN-000

TEST CELLS  
 SEE JN-039  
 SEE JN-035  
 SEE JN-034  
 BOILER ROOM  
 15'0"  
 BUILDING REF LINE  
 SET JN-000





SURVEY TYPE: ROUTINE  SPECIAL  RWP  (RWP # ) SURVEY DATE: 4.15.92

LOCATION: Bldg #5 First Floor SURVEY TIME: 0900-1100

INSTRUMENT: PAC 4G SERIAL # 4478 PROBE TYPE: AC-21-B  
INSTRUMENT: ASP 1 SERIAL # 1891 PROBE TYPE: AC-3

DESCRIPTION OF SURVEY

CONTACT ALPHA / BETA FLOOR FRISK AFTER ASBESTOS TILE  
REMOVAL AND ALLEGHENY COUNTY HEALTH DEPT RELEASE.  
100% FLOOR SURFACE SURVEYS OF ALL AREAS  
INDICATED ON MAP

AREA	AVG. NET DPM		MAX. NET DPM	
	ALPHA	BETA	ALPHA	BETA
1	≤ BKG	≤ BKG	≤ BKG	≤ BKG
2	≤ BKG	≤ BKG TO 315	≤ BKG	790 (SEE ⊗ ON MAP)
3	≤ BKG	≤ BKG TO 315	≤ BKG	315
4	≤ BKG	≤ BKG TO 315	≤ BKG	315
5	≤ BKG	≤ BKG TO 315	≤ BKG	315

SKETCH

SEE ATTACHED FLOOR MAP FOR SURVEY AREAS

REMARKS

INSTRUMENTATION DATA:

INSTRUMENT:	S/N:	PROBE:	EFFICIENCY	AVG. BKG/100cm <sup>2</sup>
PAC-4G	4478	AC-21-B	63.4%	1340 DPM BETA
ASP-1	1891	AC-3	20.2%	74 DPM ALPHA

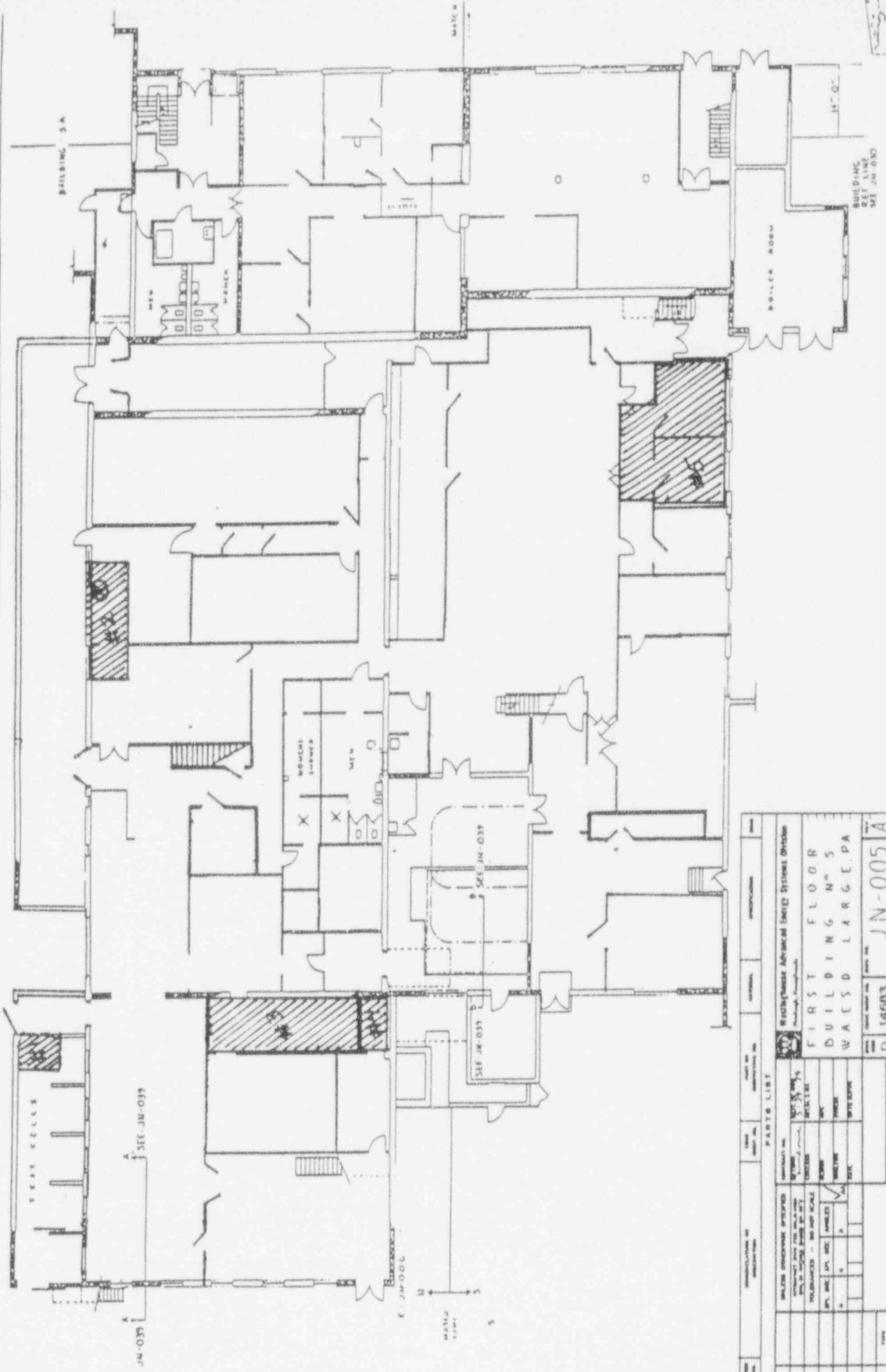
H.P. SIGNATURE *Tom Smith*

DATE: 4.15.92



PAGE 2 OF 2  
 AREAS HAVING  
 ASBESTOS FLOOR TILE  
 REMOVED

PARTS LIST	
WALTON ENGINEERING SERVICES	PROJECT NO. JN-006 A
1000 WEST 10TH AVENUE	DATE 11/15/83
MINNEAPOLIS, MN 55408	BY D 14683
SCALE 1/8" = 1'-0"	SHEET 2 OF 2
NO. 1	NO. 1
NO. 2	NO. 2
NO. 3	NO. 3
NO. 4	NO. 4
NO. 5	NO. 5
NO. 6	NO. 6
NO. 7	NO. 7
NO. 8	NO. 8
NO. 9	NO. 9
NO. 10	NO. 10
NO. 11	NO. 11
NO. 12	NO. 12
NO. 13	NO. 13
NO. 14	NO. 14
NO. 15	NO. 15
NO. 16	NO. 16
NO. 17	NO. 17
NO. 18	NO. 18
NO. 19	NO. 19
NO. 20	NO. 20
NO. 21	NO. 21
NO. 22	NO. 22
NO. 23	NO. 23
NO. 24	NO. 24
NO. 25	NO. 25
NO. 26	NO. 26
NO. 27	NO. 27
NO. 28	NO. 28
NO. 29	NO. 29
NO. 30	NO. 30
NO. 31	NO. 31
NO. 32	NO. 32
NO. 33	NO. 33
NO. 34	NO. 34
NO. 35	NO. 35
NO. 36	NO. 36
NO. 37	NO. 37
NO. 38	NO. 38
NO. 39	NO. 39
NO. 40	NO. 40
NO. 41	NO. 41
NO. 42	NO. 42
NO. 43	NO. 43
NO. 44	NO. 44
NO. 45	NO. 45
NO. 46	NO. 46
NO. 47	NO. 47
NO. 48	NO. 48
NO. 49	NO. 49
NO. 50	NO. 50
NO. 51	NO. 51
NO. 52	NO. 52
NO. 53	NO. 53
NO. 54	NO. 54
NO. 55	NO. 55
NO. 56	NO. 56
NO. 57	NO. 57
NO. 58	NO. 58
NO. 59	NO. 59
NO. 60	NO. 60
NO. 61	NO. 61
NO. 62	NO. 62
NO. 63	NO. 63
NO. 64	NO. 64
NO. 65	NO. 65
NO. 66	NO. 66
NO. 67	NO. 67
NO. 68	NO. 68
NO. 69	NO. 69
NO. 70	NO. 70
NO. 71	NO. 71
NO. 72	NO. 72
NO. 73	NO. 73
NO. 74	NO. 74
NO. 75	NO. 75
NO. 76	NO. 76
NO. 77	NO. 77
NO. 78	NO. 78
NO. 79	NO. 79
NO. 80	NO. 80
NO. 81	NO. 81
NO. 82	NO. 82
NO. 83	NO. 83
NO. 84	NO. 84
NO. 85	NO. 85
NO. 86	NO. 86
NO. 87	NO. 87
NO. 88	NO. 88
NO. 89	NO. 89
NO. 90	NO. 90
NO. 91	NO. 91
NO. 92	NO. 92
NO. 93	NO. 93
NO. 94	NO. 94
NO. 95	NO. 95
NO. 96	NO. 96
NO. 97	NO. 97
NO. 98	NO. 98
NO. 99	NO. 99
NO. 100	NO. 100



PARTS LIST	
WALTON ENGINEERING SERVICES	PROJECT NO. JN-005 A
1000 WEST 10TH AVENUE	DATE 11/15/83
MINNEAPOLIS, MN 55408	BY D 14683
SCALE 1/8" = 1'-0"	SHEET 1 OF 2
NO. 1	NO. 1
NO. 2	NO. 2
NO. 3	NO. 3
NO. 4	NO. 4
NO. 5	NO. 5
NO. 6	NO. 6
NO. 7	NO. 7
NO. 8	NO. 8
NO. 9	NO. 9
NO. 10	NO. 10
NO. 11	NO. 11
NO. 12	NO. 12
NO. 13	NO. 13
NO. 14	NO. 14
NO. 15	NO. 15
NO. 16	NO. 16
NO. 17	NO. 17
NO. 18	NO. 18
NO. 19	NO. 19
NO. 20	NO. 20
NO. 21	NO. 21
NO. 22	NO. 22
NO. 23	NO. 23
NO. 24	NO. 24
NO. 25	NO. 25
NO. 26	NO. 26
NO. 27	NO. 27
NO. 28	NO. 28
NO. 29	NO. 29
NO. 30	NO. 30
NO. 31	NO. 31
NO. 32	NO. 32
NO. 33	NO. 33
NO. 34	NO. 34
NO. 35	NO. 35
NO. 36	NO. 36
NO. 37	NO. 37
NO. 38	NO. 38
NO. 39	NO. 39
NO. 40	NO. 40
NO. 41	NO. 41
NO. 42	NO. 42
NO. 43	NO. 43
NO. 44	NO. 44
NO. 45	NO. 45
NO. 46	NO. 46
NO. 47	NO. 47
NO. 48	NO. 48
NO. 49	NO. 49
NO. 50	NO. 50
NO. 51	NO. 51
NO. 52	NO. 52
NO. 53	NO. 53
NO. 54	NO. 54
NO. 55	NO. 55
NO. 56	NO. 56
NO. 57	NO. 57
NO. 58	NO. 58
NO. 59	NO. 59
NO. 60	NO. 60
NO. 61	NO. 61
NO. 62	NO. 62
NO. 63	NO. 63
NO. 64	NO. 64
NO. 65	NO. 65
NO. 66	NO. 66
NO. 67	NO. 67
NO. 68	NO. 68
NO. 69	NO. 69
NO. 70	NO. 70
NO. 71	NO. 71
NO. 72	NO. 72
NO. 73	NO. 73
NO. 74	NO. 74
NO. 75	NO. 75
NO. 76	NO. 76
NO. 77	NO. 77
NO. 78	NO. 78
NO. 79	NO. 79
NO. 80	NO. 80
NO. 81	NO. 81
NO. 82	NO. 82
NO. 83	NO. 83
NO. 84	NO. 84
NO. 85	NO. 85
NO. 86	NO. 86
NO. 87	NO. 87
NO. 88	NO. 88
NO. 89	NO. 89
NO. 90	NO. 90
NO. 91	NO. 91
NO. 92	NO. 92
NO. 93	NO. 93
NO. 94	NO. 94
NO. 95	NO. 95
NO. 96	NO. 96
NO. 97	NO. 97
NO. 98	NO. 98
NO. 99	NO. 99
NO. 100	NO. 100

APPENDIX C

BUILDING 5, SECOND FLOOR

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 3-25-92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	GM -1	GM-2	Alpha-1	Alpha-2				
BACKGROUND	21.8 CPM	25.4 CPM	.95 CPM	.05 CPM	E-520			ASP-1
SERIAL NO.					5242			1891
EFFICIENCY	26.1 %	17.54 %	38.9 %	39.8 %	PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	2	N/A	1 0	8	N/A	N/A	≤ Bkg.	≤ Bkg.
			2 0	0				
			3 0	0			Avg. Bkg.: 270 DPM	Avg. Bkg: 37.5 DPM
			4 0	0			Efficiency: 13%	Efficiency: 20.2%
			5 0	0				
			6 5	0				
			7 0	8				
			8 0	57				
			9 0	0				
			10 0	46				
			11 0	8				
			12 0	0				
			13 0	0				
			14 0	0				
			15 0	0				
			16 0	11				
			17 5	23				
			18 0	46				
			19 0	23				

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-25-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA				ALPHA				INSTRUMENT	GAMMA/BETA-GAMMA			ALPHA
	GM -1	GM-2	Alpha-1	Alpha-2	Alpha-1	Alpha-2	SERIAL NO.	PROBE					
BACKGROUND	21.8 CPM	25.4 CPM	.95 CPM	.05 CPM			5242					ASP-1	
EFFICIENCY	26.1 %	17.54 %	38.9 %	39.8 %				7mg/cm <sup>2</sup>				1891	
												AC-3	

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	2	N/A	20	0	N/A	N/A	≤ Bkg.	≤ Bkg.
			21	0				
			22	0			Avg. Bkg.: 270 DPM	Avg. Bkg: 37.5 DPM
			23	0			Efficiency: 13%	Efficiency: 20.2%
			24	0				
			25	0				
			26	0				
			27	0				
			28	0				
			29	0				
			30	0				
			31	0				
			32	0				
			33	0				
			34	0				
			35	0				
			36	0				
			37	0				
			38	0				
			39	0				

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

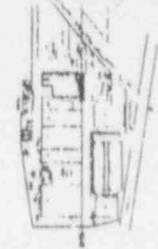
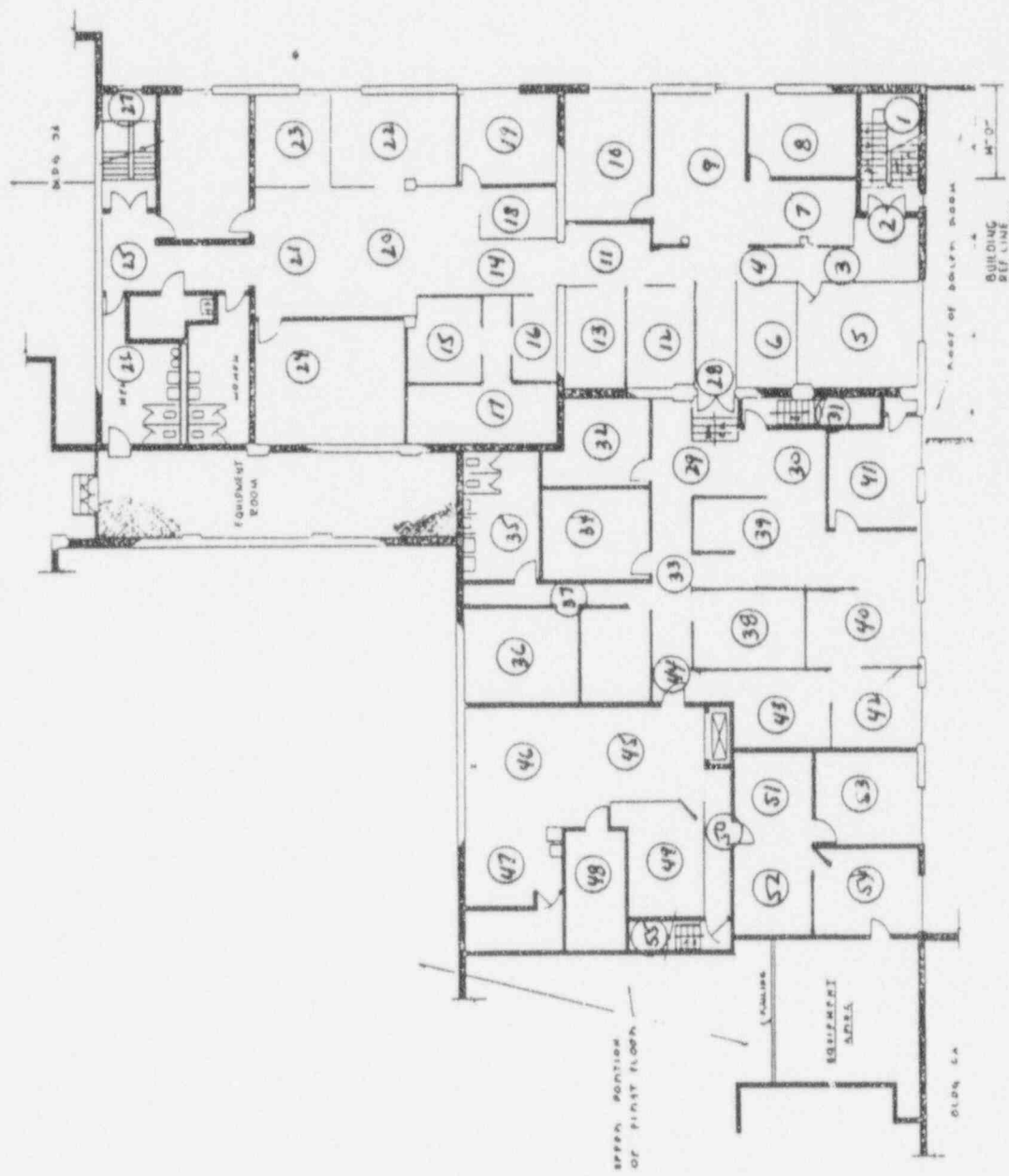
SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-25-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	GM -1	GM-2	Alpha-1	Alpha-2				
BACKGROUND	21.8 CPM	25.4 CPM	.95 CPM	.05 CPM	E-520			ASP-1
EFFICIENCY	26.1 %	17.54 %	38.9 %	39.8 %	SERIAL NO. 5242			1891
					PROBE 7mg/cm <sup>2</sup>			AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	2	N/A	39	0	N/A	N/A	≤ Bkg.	≤ Bkg.
			40	0				
			41	0				
			42	0			Avg. Bkg.: 270 DPM	Avg. Bkg: 37.5 DPM
			43	0			Efficiency: 13%	Efficiency: 20.2%
			44	5				
			45	0				
			46	0				
			47	0				
			48	0				
			49	0				
			50	0				
			51	0				
			52	0				
			53	0				
			54	0				
			55	0				

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS





PARTS LIST		DESCRIPTION	
QTY	UNIT	DESCRIPTION	REF
1	BRICK	BRICK	
1	CONCRETE	CONCRETE	
1	WOOD	WOOD	
1	GLASS	GLASS	
1	PAINT	PAINT	
1	PLASTER	PLASTER	
1	CEILING	CEILING	
1	FLOORING	FLOORING	
1	MECHANICAL	MECHANICAL	
1	ELECTRICAL	ELECTRICAL	
1	HEATING	HEATING	
1	Cooling	Cooling	
1	Other	Other	

**LEGEND**  
 [Symbol] BRICK  
 [Symbol] CONCRETE  
 [Symbol] WOOD  
 [Symbol] GLASS  
 [Symbol] PAINT  
 [Symbol] PLASTER  
 [Symbol] CEILING  
 [Symbol] FLOORING  
 [Symbol] MECHANICAL  
 [Symbol] ELECTRICAL  
 [Symbol] HEATING  
 [Symbol] Cooling

**SCALE : FEET**  
 0 5 10 15 20 25

PROJECT NO.	14683
DATE	JN-007
BY	
CHECKED BY	
APPROVED BY	
SCALE	
PROJECT TITLE	Waupese Advanced Energy Systems Division
FLOOR	SECOND FLOOR
BUILDING NO.	BUILDING N° 5
LOCATION	WAUPESE LARGE, PA



APPENDIX D

BUILDING 5, THIRD FLOOR

SURVEYOR: Larry Smith      SIGNATURE: [Signature]      DATE: 4/2/92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	.85 CPM		.20 CPM		SERIAL NO.	4478		1891
EFFICIENCY	17.1 %		32.6 %		PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
S	3	N/A	1	0	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			2	5				
			3	5				
			4	0				
			5	5				
			6	12				
			7	0				
			8	0				
			9	5				
			10	0				
			11	0				
			12	0				
			13	0				
			14	0				
			15	0				
			16	0				
			17	0				
			18	0				
			19	5				

Efficiency: 63.4%      Efficiency: 20.2%  
Avg. Bkg: 1183 DPM      Avg. Bkg: 74.3 DPM  
Per 100 cm<sup>2</sup>      Per 100 cm<sup>2</sup>

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4/2/92	FORM SERIAL NUMBER: Preliminary
-----------------------	-------------------------------	--------------	---------------------------------

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4				
BACKGROUND	.85 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		ASP-1
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		1891
								AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
5	3	N/A	20	0	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			21	0				
			22	0				
			23	0				
			24	0			Efficiency: 63.4%	Efficiency: 20.2%
			25	0			Avg. Bkg: 1183 DPM	Avg. Bkg: 74.3 DPM
			26	0			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			27	0				

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



APPENDIX E

BUILDING 6, FIRST FLOOR

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-19-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4		E-520		
BACKGROUND	2.50 CPM		.05 CPM		SERIAL NO.	5245		ASP-1
EFFICIENCY	43.2 %		33.2 %		PROBE	7 mg/cm <sup>2</sup>		1891 AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER 1M/ HOUR	BETA-GAMMA RADIATION CONTACT mR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
6	1	N/A	1 See		N/A	4 Bkg.	4 Bkg.	
	2		2 Attached					
	3		3 Printout			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM	
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
	19							
	20							

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-19-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	E	SAC-4	E-520	
BACKGROUND	2.50	CPM	.05	CPM	CPM	5245	ASP-1
EFFICIENCY	43.2	%	33.2	%	%	7 mg/cm <sup>2</sup>	1891 AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
6	1	N/A	See	Attached	N/A	N/A	Bkg.	
			20	Printout			Avg. Bkg. = 270 DPM	
			21				Avg. Bkg. = 37.5 DPM	
			22				Efficiency = 13%	
			23				Efficiency = 20.2%	
			24					
			25					
			26					
			27					
			28					
			29					
			30					
			31					
			32					
			33					
			34					
			35					
			36					
			37					
			38					

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

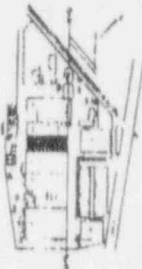
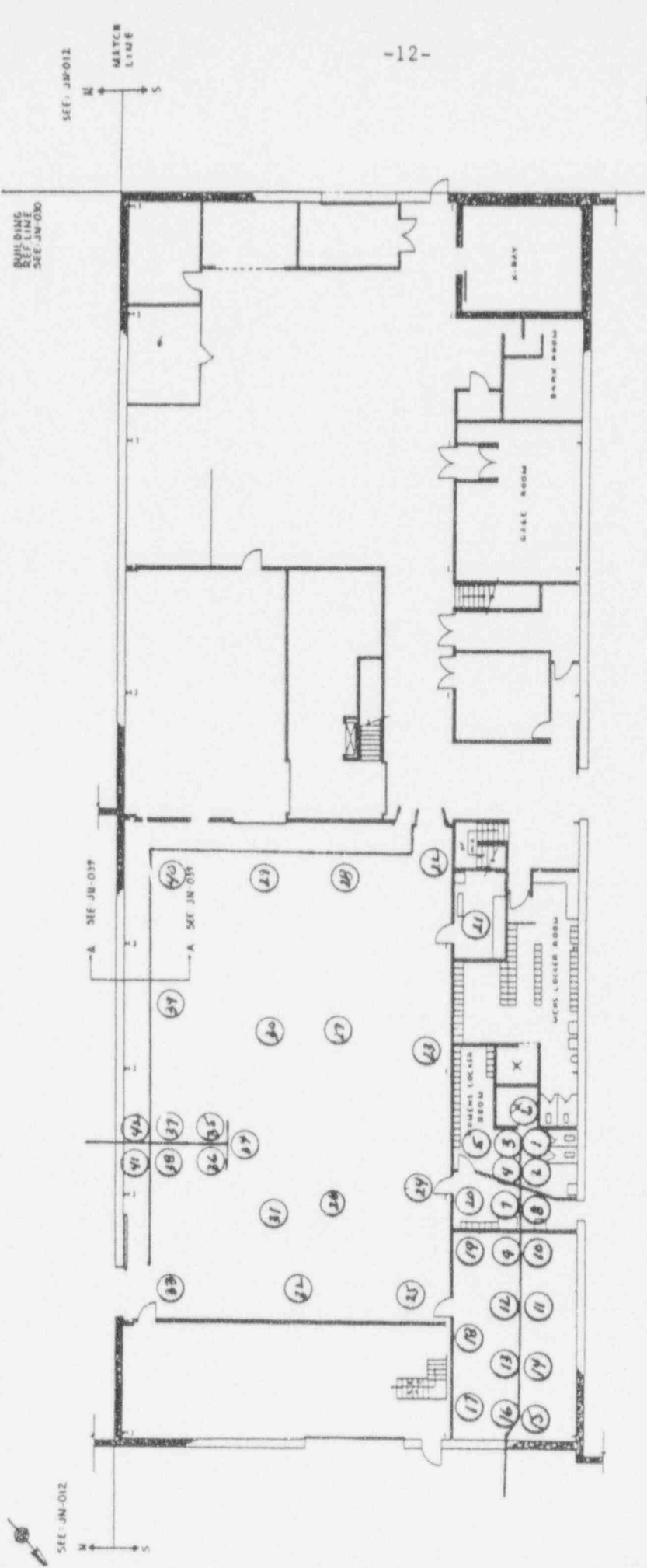


SURVEYOR: Larry Smith SIGNATURE: *Larry Smith*

COUNTER NO.:	BETA-GAMMA			ALPHA			INSTRU
	TENNELEC	E	MS-2	TENNELEC	E	SAC-4	
BACKGROUND	2.50	CPM	CPM	.05	CPM	CPM	SERIAL
EFFICIENCY	43.2	%	%	33.2	%	%	PROBE

BUILDING/AREA	FLOOR	GRID	SHEAR				GAMMA RADIATION ONE METER UR/HOUR	
			ALPHA		BETA			
SAMPLE NUMBER	BETA COUNTS	BETA DPM	BETA 3 SIGMA	ALPHA COUNTS	ALPHA DPM	ALPHA 3 SIGMA	TIME MINS	N/A
1	0	-5.7	1.0	0	-0.1	0.1	0.33	↓
2	0	-5.7	1.0	0	-0.1	0.1	0.33	
3	2	8.2	7.4	0	-0.1	0.1	0.33	
4	0	-5.7	1.0	0	-0.1	0.1	0.33	
5	2	8.2	7.4	0	-0.1	0.1	0.33	
6	1	1.2	5.3	0	-0.1	0.1	0.33	
7	1	1.2	5.3	0	-0.1	0.1	0.33	
8	0	-5.7	1.0	0	-0.1	0.1	0.33	
9	0	-5.7	1.0	0	-0.1	0.1	0.33	
10	1	1.2	5.3	0	-0.1	0.1	0.33	
11	2	8.2	7.4	0	-0.1	0.1	0.33	
12	2	8.2	7.4	0	-0.1	0.1	0.33	
13	1	1.2	5.3	0	-0.1	0.1	0.33	
14	0	-5.7	1.0	0	-0.1	0.1	0.33	
15	1	1.2	5.3	0	-0.1	0.1	0.33	
16	1	1.2	5.3	0	-0.1	0.1	0.33	
17	1	1.2	5.3	0	-0.1	0.1	0.33	
18	1	1.2	5.3	0	-0.1	0.1	0.33	
19	0	-5.7	1.0	0	-0.1	0.1	0.33	
20	0	-5.7	1.0	0	-0.1	0.1	0.33	
21	0	-5.7	1.0	0	-0.1	0.1	0.33	
22	1	1.2	5.3	0	-0.1	0.1	0.33	
23	0	-5.7	1.0	0	-0.1	0.1	0.33	
24	0	-5.7	1.0	0	-0.1	0.1	0.33	
25	2	8.2	7.4	0	-0.1	0.1	0.33	
26	2	8.2	7.4	0	-0.1	0.1	0.33	
27	0	-5.7	1.0	0	-0.1	0.1	0.33	
28	1	1.2	5.3	0	-0.1	0.1	0.33	
29	1	1.2	5.3	0	-0.1	0.1	0.33	
30	0	-5.7	1.0	0	-0.1	0.1	0.33	
31	1	1.2	5.3	0	-0.1	0.1	0.33	
32	1	1.2	5.3	0	-0.1	0.1	0.33	
33	2	8.2	7.4	0	-0.1	0.1	0.33	
34	0	-5.7	1.0	0	-0.1	0.1	0.33	
35	6	36.2	12.8	0	-0.1	0.1	0.33	
36	1	1.2	5.3	0	-0.1	0.1	0.33	
37	2	8.2	7.4	0	-0.1	0.1	0.33	
38	1	1.2	5.3	0	-0.1	0.1	0.33	
39	1	1.2	5.3	0	-0.1	0.1	0.33	
40	1	1.2	5.3	0	-0.1	0.1	0.33	
41	0	-5.7	1.0	0	-0.1	0.1	0.33	
42	1	1.2	5.3	0	-0.1	0.1	0.33	

10 CENTIMETERS



NO.	DESCRIPTION	QTY	UNIT	AMOUNT	REMARKS	DATE
PARTS LIST						
ALL DIMENSIONS SHOWN UNLESS OTHERWISE NOTED DIMENSIONS IN PARENTHESIS ARE FOR REFERENCE ONLY DIMENSIONS IN NOT SCALE UNLESS NOTED OTHERWISE ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS NOTED OTHERWISE						
1	CONCRETE					
2	BRICK					
3	CONCRETE BLOCK					
4	CONCRETE BLOCK					
5	DIRTYWALL & PANELING					
SCALE : FEET 0 5 10 15 20 25						
PROJECT NO. JN-011 DRAWING NO. D 14663 SHEET NO. 1 OF 1 DATE: 10/1/54						

**LEGEND**  
 (---) BRICK  
 (---) CONCRETE  
 (---) CONCRETE BLOCK  
 (---) CONCRETE BLOCK  
 (---) DIRTYWALL & PANELING  
 SCALE : FEET  
 0 5 10 15 20 25

SEE JN-012

SEE JN-013

BUILDING REF LINE SEE JN-013

SEE JN-012  
MATCH LINE

SEE JN-013

SEE JN-013

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4/2/92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	.85 CPM		.20 CPM		SERIAL NO.	4478		1891
EFFICIENCY	17.1 %		32.6 %		PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
←	1	N/A	1	0	7	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			2	0	0				
			3	0	0				
			4	0	7				
			5	0	0			Efficiency: 63.4%	Efficiency: 20.2%
			6	0	7			Avg. Bkg: 1183 DPM	Avg. Bkg: 74.3 DPM
			7	0	18			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			8	0	7				
			9	0	0				
			10	0	7				
			11	0	0				
			12	0	7				
			13	0	0				
			14	0	0				
			15	0	18				
			16	0	7				
			17	0	18				
			18	0	0				
			19	0	0				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4/2/92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA			ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G			
BACKGROUND	.85 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478			1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B			AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
6 ↓	1 ↓	N/A ↓	20	0	N/A ↓	N/A ↓	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			21	5				
			22	0				
			23	5				
			24	0				
			25	0				
			26	0				
Efficiency: 63.4%      Efficiency: 20.2%								
Avg. Bkg: 1183DPM      Avg. Bkg: 74.3 DPM								
Per 100 cm <sup>2</sup> Per 100 cm <sup>2</sup>								
↓								
↓								
↓								
↓								
↓								
↓								
↓								
↓								
↓								

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS





SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-24-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	GM-1	GM-2	Alpha-1	Alpha-2				
BACKGROUND	21.4 CPM	25.9 CPM	1.05 CPM	.05 CPM	E520			ASP-1
EFFICIENCY	26.1 %	17.54 %	38.9 %	39.8 %	SERIAL NO. 5245			1891
					PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
6	1	N/A	1	5	N/A	N/A	Avg. Bkg = 270 DPM	Avg Bkg = 37.5 DPM
			2	0			Efficiency: 13%	Efficiency: 20.2%
			3	0			≪ Bkg.	≪ Bkg.
			4	0				
			5	0				
			6	0				
			7	0				
			8	0				
			9	0				
			10	0				
			11	0				
			12	0				
			13	5				
			14	0				
			15	0				
			16	0				
			17	5				
			18	0				
			19	0				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-24-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT		GAMMA/BETA-GAMMA		ALPHA
	GM-1	GM-2	Alpha-1	Alpha-2	INSTRUMENT	SERIAL NO.	CPM	CPM	ASP-1
BACKGROUND	21.4	25.9	1.05	.05	5245	1891			
EFFICIENCY	26.1	17.54	38.9	39.8	7mg/cm <sup>2</sup>				AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
Ga	/	N/A	20	57	N/A	N/A	Avg Bkg = 37.5 DPM	
			21	0			Efficiency: 13%	
			22	34			± Bkg.	
			23	0				
			24	125				
			25	15				
			26	23				
			27	23				
			28	57				
			29	0				
			30	46				
			31	0				
			32	57				
			33	39				
			34	34				
			35	23				
			36	0				
			37	5				
			38	0				

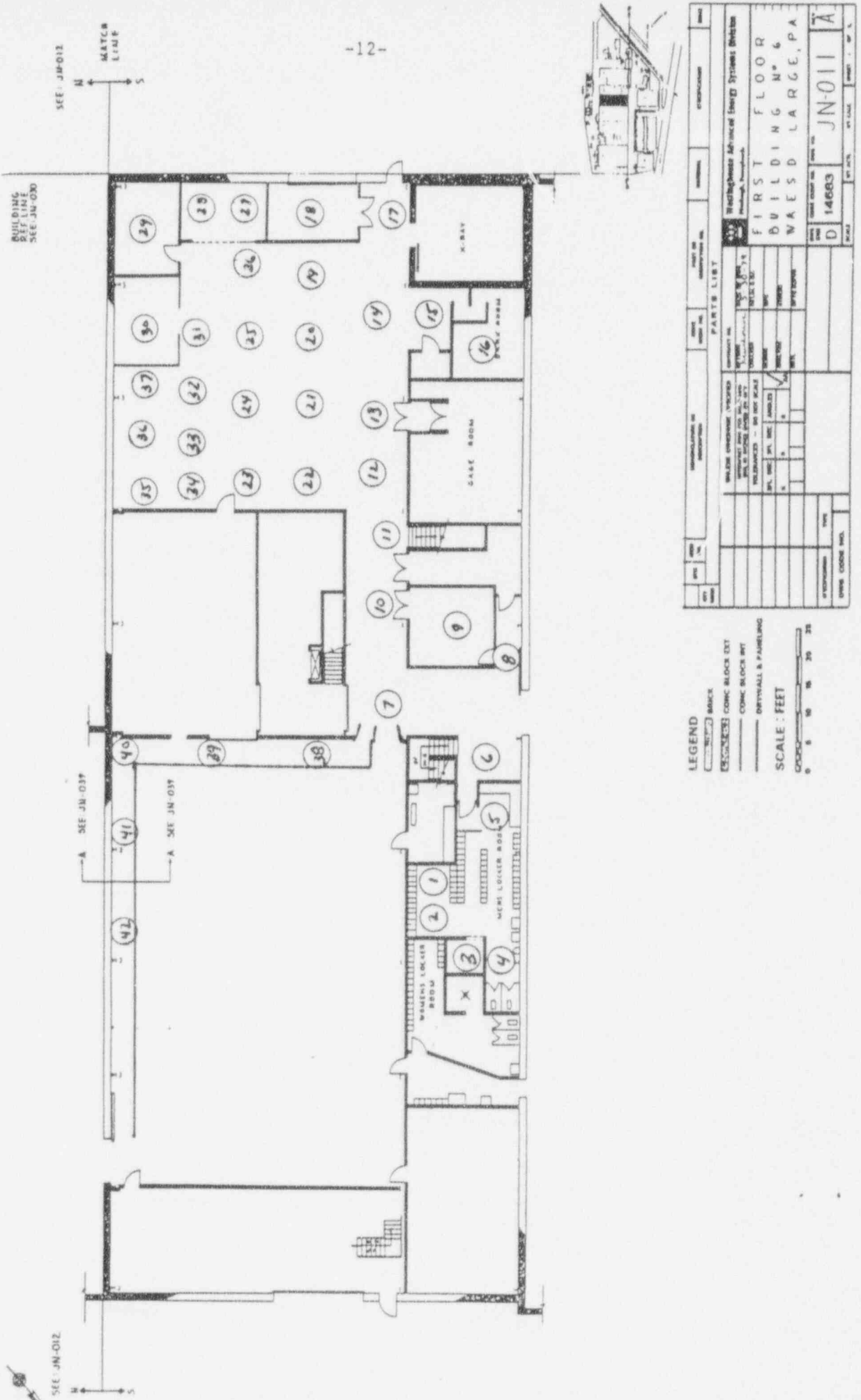
SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 3-24-92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	GM-1	GM-2	Alpha-1	Alpha-2				
BACKGROUND	21.4 CPM	25.9 CPM	1.05 CPM	.05 CPM	E520	5245		ASP-1
EFFICIENCY	26.1 %	17.54 %	38.9 %	39.8 %	7mg/cm <sup>2</sup>			1891
								AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER µR/Hour	BETA-GAMMA RADIATION CONTACT µR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
6	1	N/A	39	0	N/A	N/A	Avg. Bkg = 270 DPM	Avg Bkg = 37.5 DPM
↓	↓	↓	40	0	↓	↓	Efficiency: 13%	Efficiency: 20.2%
↓	↓	↓	41	0	↓	↓	≤ Bkg.	≤ Bkg.
↓	↓	↓	42	0	↓	↓	↓	↓
(Remaining rows are crossed out with diagonal lines)								

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



**LEGEND**  
 [Symbol] BRICK  
 [Symbol] CONCRETE  
 [Symbol] CONCRETE BLOCK EXT  
 [Symbol] CONCRETE BLOCK INT  
 [Symbol] PARTITION & PANELING  
**SCALE : FEET**  
 0 5 10 15 20 25

NO.	REV.	DATE	DESCRIPTION	BY	CHECKED
<b>PARTS LIST</b>					
BUILDING: Washington Advanced Energy Systems Division ADDRESS: 1400 ... CITY: ... STATE: ... ZIP: ...					
PROJECT NO.: JN-011 DRAWING NO.: JN-011 SHEET NO.: 4 OF 4					



LOCATION : <u>BLDG 6</u>	SURVEYOR : "HP STAFF"	SURVEY DATE <u>3-30-92</u>
<u>VENTILATION DUCTS</u>	COUNTED BY : "HP STAFF"	COUNT DATE <u>3-30-92</u>

COUNTER NUMBER	BETA/GAMMA		ALPHA	
	CPM	%	CPM	%
	<u>CANBERA</u>		<u>CANBERA</u>	
BACKGROUND (CPM)	<u>1.80</u> CPM		<u>.20</u> CPM	
EFFICIENCY (%)	<u>17.1</u> %		<u>32.6</u> %	

ACTIVITY IN: MICROCURIES  DPM  CPM

	α	β		α	β		α	β		α	β		α	β
1			21			-1			61			81		
2			22			-2			62			82		
3			23			-3			63			83		
4			24			-4			64			84		
5			25			-5			65			85		
6	↓	↓	26			-6			66			86		
7			27			-7			67			87		
8			28			-8			68			88		
9			29			-9			69			89		
10	↓	↓	30			-10			70			90		
11			31			-11			71			91		
12			32			-12			72			92		
13			33			-13			73			93		
14			34			-14			74			94		
15			35			-15			75			95		
16			36			-16			76			96		
17			37			-17			77			97		
18			38			-18			78			98		
19			39			-19			79			99		
20			40			-20			80			100		

REMARKS : — <200 DPM / 100cm<sup>2</sup> βT — <10 DPM / 100cm<sup>2</sup> α

SMEARS                      LOCATION  
 1-5                              A  
 6-10                             B



HIGH VOLTAGE: 1450

DISC WINDOW: 300

START SAMPLE: 1

STOP SAMPLE: 99

ERROR (SIGMA): 2.99

REPEAT #: 0

A EFFIC (%): 32.60

A CROSTLK (%): 4.00E-3

A BKGND (CPM): .20

B EFFIC (%): 17.10

B BKGND (CPM): 1.80

BKGD TIME (M): 20.00

VOL (cm<sup>2</sup>): 1.00

ALARM (dpm/V): 200.00

USER EQUATION:

SAMPLE #	TIME (M)	TIME	DATE
SAMPLE # 1	TIME (M): .25	TIME: 15:30:05	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 0	NET: 0	+/- .89	dpm/cm <sup>2</sup> : 0 +/- 5.24
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 2	TIME (M): .25	TIME: 15:30:32	DATE: MAR 30, 1992
ALPHA GROSS: 1	NET: 3.80	+/- 11.66	dpm/cm <sup>2</sup> : 11.65 +/- 35.76
BETA GROSS: 0	NET: 0	+/- .89	dpm/cm <sup>2</sup> : 0 +/- 5.24
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 3	TIME (M): .25	TIME: 15:31:00	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
ETA GROSS: 0	NET: 0	+/- .89	dpm/cm <sup>2</sup> : 0 +/- 5.24
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 4	TIME (M): .25	TIME: 15:31:28	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 0	NET: 0	+/- .89	dpm/cm <sup>2</sup> : 0 +/- 5.24
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 5	TIME (M): .25	TIME: 15:31:55	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 2	NET: 6.20	+/- 14.91	dpm/cm <sup>2</sup> : 31.25 +/- 87.23
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 6	TIME (M): .25	TIME: 15:32:23	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 0	NET: 0	+/- .89	dpm/cm <sup>2</sup> : 0 +/- 5.24
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 7	TIME (M): .25	TIME: 15:32:50	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 1	NET: 2.20	+/- 8.91	dpm/cm <sup>2</sup> : 12.86 +/- 52.13
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 8	TIME (M): .25	TIME: 15:33:19	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 1	NET: 2.20	+/- 8.91	dpm/cm <sup>2</sup> : 12.86 +/- 52.13
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 9	TIME (M): .25	TIME: 15:33:47	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 0	NET: 0	+/- .89	dpm/cm <sup>2</sup> : 0 +/- 5.24
GAMMA GROSS: 0	C FACTOR: 1.0000		
SAMPLE # 10	TIME (M): .25	TIME: 15:34:15	DATE: MAR 30, 1992
ALPHA GROSS: 0	NET: 0	+/- .29	dpm/cm <sup>2</sup> : 0 +/- .91
BETA GROSS: 0	NET: 0	+/- .89	dpm/cm <sup>2</sup> : 0 +/- 5.24
GAMMA GROSS: 0	C FACTOR: 1.0000		



SURVEY TYPE: ROUTINE <input type="checkbox"/> SPECIAL <input type="checkbox"/> RWP <input checked="" type="checkbox"/> (RWP # )		SURVEY DATE: 3-30-92
LOCATION: BLDG. 6		SURVEY TIME: 1300
INSTRUMENT: PAC-4G	SERIAL # 4478	PROBE TYPE: AC-21-B
INSTRUMENT: ASP-1	SERIAL # 1891	PROBE TYPE: AC-3

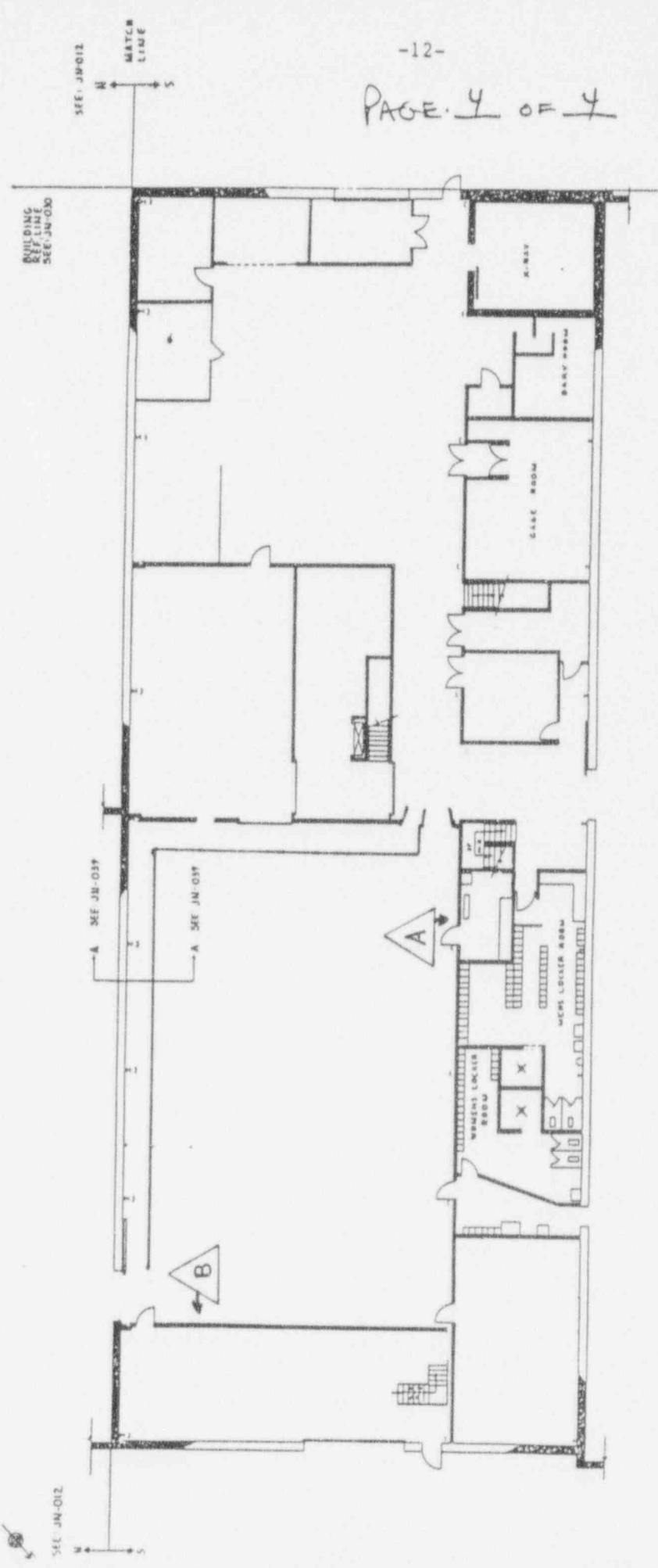
DESCRIPTION OF SURVEY

	BETA CONTACT NET DPM/100cm <sup>2</sup>	ALPHA CONTACT NET DPM/100cm <sup>2</sup>
SAMPLE LOCATION "A" INSIDE DUCT	≤ BKG	≤ BKG
SAMPLE LOCATION "B" INSIDE DUCT	315 DPM	≤ BKG

SKETCH

SEE ATTACHED MAP FOR  
SURVEY POINTS A & B

AC-3 ASP-1	REMARKS	AC-21 B PAC 4G
EFFICIENCY - 20.2%	- - - -	63.4%
AVG. BKG - 37.1 DPM/50cm <sup>2</sup>	- - - -	473 DPM/50cm <sup>2</sup>
AVG BKG - 74.2 DPM/100cm <sup>2</sup>	- - - -	946 DPM/100cm <sup>2</sup>
H.P. SIGNATURE <i>Jerry Sth</i>		DATE: 3-30-92



△ - DENOTES SURVEY LOCATIONS

**LEGEND**  
 [Symbol] BRICK  
 [Symbol] CONCRETE  
 [Symbol] CONCRETE BLOCK EXT  
 [Symbol] CONCRETE BLOCK INT  
 [Symbol] GYPSUM WALL & PARTITION  
 SCALE: FEET  
 0 10 20 30 40

NO.	DATE	DESCRIPTION	BY	CHECKED	APPROVED
<b>PARTS LIST</b>					
1. 1/2" x 1/2" x 1/2" BRICK 2. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 3. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 4. 1/2" x 1/2" x 1/2" CONCRETE 5. 1/2" x 1/2" x 1/2" BRICK 6. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 7. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 8. 1/2" x 1/2" x 1/2" CONCRETE 9. 1/2" x 1/2" x 1/2" BRICK 10. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 11. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 12. 1/2" x 1/2" x 1/2" CONCRETE 13. 1/2" x 1/2" x 1/2" BRICK 14. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 15. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 16. 1/2" x 1/2" x 1/2" CONCRETE 17. 1/2" x 1/2" x 1/2" BRICK 18. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 19. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 20. 1/2" x 1/2" x 1/2" CONCRETE 21. 1/2" x 1/2" x 1/2" BRICK 22. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 23. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 24. 1/2" x 1/2" x 1/2" CONCRETE 25. 1/2" x 1/2" x 1/2" BRICK 26. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 27. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 28. 1/2" x 1/2" x 1/2" CONCRETE 29. 1/2" x 1/2" x 1/2" BRICK 30. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 31. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 32. 1/2" x 1/2" x 1/2" CONCRETE 33. 1/2" x 1/2" x 1/2" BRICK 34. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 35. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 36. 1/2" x 1/2" x 1/2" CONCRETE 37. 1/2" x 1/2" x 1/2" BRICK 38. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 39. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 40. 1/2" x 1/2" x 1/2" CONCRETE 41. 1/2" x 1/2" x 1/2" BRICK 42. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 43. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 44. 1/2" x 1/2" x 1/2" CONCRETE 45. 1/2" x 1/2" x 1/2" BRICK 46. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 47. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 48. 1/2" x 1/2" x 1/2" CONCRETE 49. 1/2" x 1/2" x 1/2" BRICK 50. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 51. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 52. 1/2" x 1/2" x 1/2" CONCRETE 53. 1/2" x 1/2" x 1/2" BRICK 54. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 55. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 56. 1/2" x 1/2" x 1/2" CONCRETE 57. 1/2" x 1/2" x 1/2" BRICK 58. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 59. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 60. 1/2" x 1/2" x 1/2" CONCRETE 61. 1/2" x 1/2" x 1/2" BRICK 62. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 63. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 64. 1/2" x 1/2" x 1/2" CONCRETE 65. 1/2" x 1/2" x 1/2" BRICK 66. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 67. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 68. 1/2" x 1/2" x 1/2" CONCRETE 69. 1/2" x 1/2" x 1/2" BRICK 70. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 71. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 72. 1/2" x 1/2" x 1/2" CONCRETE 73. 1/2" x 1/2" x 1/2" BRICK 74. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 75. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 76. 1/2" x 1/2" x 1/2" CONCRETE 77. 1/2" x 1/2" x 1/2" BRICK 78. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 79. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 80. 1/2" x 1/2" x 1/2" CONCRETE 81. 1/2" x 1/2" x 1/2" BRICK 82. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 83. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 84. 1/2" x 1/2" x 1/2" CONCRETE 85. 1/2" x 1/2" x 1/2" BRICK 86. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 87. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 88. 1/2" x 1/2" x 1/2" CONCRETE 89. 1/2" x 1/2" x 1/2" BRICK 90. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 91. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 92. 1/2" x 1/2" x 1/2" CONCRETE 93. 1/2" x 1/2" x 1/2" BRICK 94. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 95. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 96. 1/2" x 1/2" x 1/2" CONCRETE 97. 1/2" x 1/2" x 1/2" BRICK 98. 1/2" x 1/2" x 1/2" CONCRETE BLOCK 99. 1/2" x 1/2" x 1/2" GYPSUM WALL & PARTITION 100. 1/2" x 1/2" x 1/2" CONCRETE					
PROJECT NO. JN-011 DRAWING NO. 14603 SHEET NO. 1 OF 1 DATE: 11/1/58 DRAWN BY: JN-011 CHECKED BY: JN-011 APPROVED BY: JN-011 CONTRACTOR: WASHINGTON ADVANCED ENERGY SYSTEMS DIVISION ADDRESS: WASHINGTON, PENNSYLVANIA BUILDING NO. 6 MAESD LARGE, PA					

BUILDING  
 REF. LINE  
 SEE JN-030

SEE: JN-012

MATCH  
 LINE

SEE: JN-012

APPENDIX F

BUILDING 6, SECOND FLOOR

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4/2/92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	.85 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
6	2	N/A	1	0	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified	
			2	0					7
			3	0					0
			4	0					0
			5	0					7
			6	0					7
			7	0					0
			8	0					7
			9	0					7
			10	0					0
			11	0					7
			12	0					0
			13	0					7
			14	14					7
			15	0					18
			16	0					7
			17	0					0
			18	0					7
			19	0					7

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4/2/92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	.85 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		ASP-1
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		1891
								AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
G	2	N/A	20	0	7	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			21	0	7				
			22	0	18				
			23	0	0				
			24	0	7				
			25	0	0				
			26	0	7				
			27	0	0				
			28	0	7				
			29	0	0				
			30	0	0				
			31	0	18				
			32	0	0				
			33	0	7				
			34	0	0				
			35	0	18				
			36	5	0				
			37	5	0				
			38	0	7				

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



SURVEYOR: Larry Smith  
 SIGNATURE: *Larry Smith*  
 DATE: 4/2/92  
 FORM SERIAL NUMBER: Preliminary

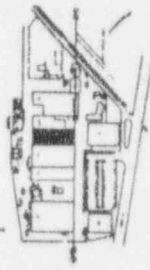
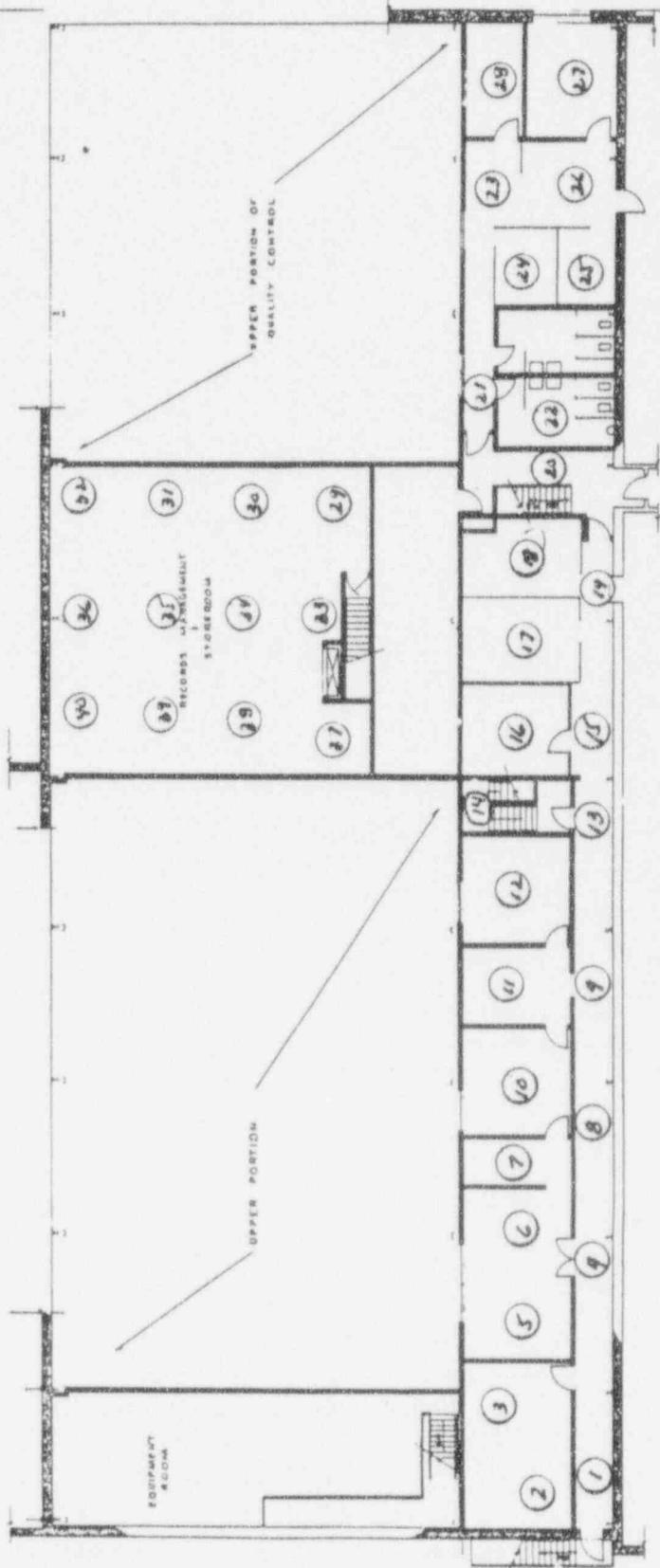
COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4	PAC-4G		
BACKGROUND	.85 CPM		.20 CPM		4478		ASP-1
EFFICIENCY	17.1 %		32.6 %		AC-21B		1891
							AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
G ↓	2 ↓	N/A ↓	0	18	N/A ↓	N/A ↓	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			46	7			Efficiency: 63.4% Avg. Bkg: 1183DPM Per 100 cm <sup>2</sup>	Efficiency: 20.2% Avg. Bkg: 74.3 DPM Per 100 cm <sup>2</sup>

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

Page 1 of 4

BUILDING REF LINE SEE JN-030



**LEGEND**  
 [Symbol] BRICK  
 [Symbol] CONCRETE BLOCK EXT  
 [Symbol] CONCRETE BLOCK INT  
 [Symbol] METALS & PANELING  
 SCALE: FEET  
 0 5 10 15 20 25

NO.	DATE	DESCRIPTION	BY	CHKD.
1				
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**PARTS LIST**

NO.	DESCRIPTION	QTY.	UNIT
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**Notes:**  
 UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE IN INCHES  
 FINISHES - SEE SPECIFICATIONS  
 MATERIALS & HANDLING  
 SCALE: FEET  
 0 5 10 15 20 25

**Project Information:**  
 Building: Washington Memorial Energy Systems Division  
 Building No: 6  
 Floor: SECOND FLOOR  
 Location: WAESD LARGE, PA  
 Drawing No: JN-013  
 Date: 14883  
 Scale: 1/4" = 1'-0"

O - DESIGNATES SURVEY POINTS

APPENDIX G  
BUILDING 6A, FIRST FLOOR

SURVEYOR: <u>Larry Smith</u>	SIGNATURE: <u>[Signature]</u>	DATE: <u>3-20-92</u>	FORM SERIAL NUMBER: <u>Preliminary</u>
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC E	MS-2	TENNELEC E	SAC-4		E-520		
BACKGROUND	2.15 CPM	CPM	.05 CPM	CPM	SERIAL NO.	5245		1891
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE	7 mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
6A	1	N/A	1	See	N/A	N/A	≤ Bkg.	≤ Bkg.
			2	Attached				
			3	Printout			Avg. Bkg. = 270	Avg. Bkg. = 37.5
			4				DPM	DPM
			5					
			6				Efficiency = 13%	Efficiency = 20.2%
			7					
			8					
			9					
			10					
			11					
			12					
			13					
			14					
			15					
			16					
			17					
			18					
			19					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *[Signature]*      DATE: 3-20-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC E	MS-2	TENNELEC E	SAC-4				
BACKGROUND	2.15 CPM	CPM	.05 CPM	CPM	E-520			ASP-1
EFFICIENCY	43.2 %	%	33.2 %	%	SERIAL NO. 5245			1891
					PROBE 7 mg/cm <sup>2</sup>			AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
6A	1	N/A	20	See	N/A	N/A	≤ Bkg.	≤ Bkg.
			21	Attached				
			22	Printout			Avg. Bkg. = 270	Avg. Bkg. = 37.5
			23				DPM	DPM
			24					
			25				Efficiency = 13%	Efficiency = 20.2%
			26					
			27					
			28					
			29					
			30					
			31					
			32					
			33					
			34					
			35					
			36					
			37					
			38					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

*[Signature]*

DATE: 3-20-92	FORM SERIAL NUMBER: Preliminary
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		GAMMA/BETA-GAMMA		ALPHA
SAC-4	INSTRUMENT	E-520		ASP-1
CPM	SERIAL NO.	5245		1891
X	PROBE	7 mg/cm <sup>2</sup>		AC-3

				GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
6A	1	N/A		N/A	N/A	≤ Bkg.	≤ Bkg.
			39	See			
			40	Attached			
			41	Printout		Avg. Bkg. = 270	Avg. Bkg. = 37.5
			42			DPM	DPM
			43				
			44			Efficiency = 13%	Efficiency = 20.2%
			45				
			46				
			47				
			48				
			49				
			50				
			51				
			52				
			53				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



BUILDING/AREA	FLOOR	GRID	SMEAR				GAMMA RATE ONE MINUTE UR/H	
			ALPHA	BETA	ALPHA	BETA		
SAMPLE NUMBER	BETA COUNTS	BETA DPM	BETA 3 SIGMA	ALPHA COUNTS	ALPHA DPM	ALPHA 3 SIGMA	TIME MINS	N/
1	1	2.0	5.3	0	-0.1	0.1	0.33	
2	0	-4.9	0.9	0	-0.1	0.1	0.33	
3	2	9.0	7.4	0	-0.1	0.1	0.33	
4	1	2.0	5.3	0	-0.1	0.1	0.33	
5	2	9.0	7.4	0	-0.1	0.1	0.33	
6	0	-4.9	0.9	0	-0.1	0.1	0.33	
7	2	9.0	7.4	1	0.9	5.2	0.33	
8	1	2.0	5.3	0	-0.1	0.1	0.33	
9	1	2.0	5.3	0	-0.1	0.1	0.33	
10	1	2.0	5.3	0	-0.1	0.1	0.33	
11	1	2.0	5.3	0	-0.1	0.1	0.33	
12	1	2.0	5.3	0	-0.1	0.1	0.33	
13	1	2.0	5.3	0	-0.1	0.1	0.33	
14	1	2.0	5.3	0	-0.1	0.1	0.33	
15	0	-4.9	0.9	0	-0.1	0.1	0.33	
16	0	-4.9	0.9	0	-0.1	0.1	0.33	
17	1	2.0	5.3	0	-0.1	0.1	0.33	
18	0	-4.9	0.9	0	-0.1	0.1	0.33	
19	0	-4.9	0.9	0	-0.1	0.1	0.33	
20	0	-4.9	0.9	0	-0.1	0.1	0.33	
21	0	-4.9	0.9	0	-0.1	0.1	0.33	
22	0	-4.9	0.9	0	-0.1	0.1	0.33	
23	1	2.0	5.3	0	-0.1	0.1	0.33	
24	0	-4.9	0.9	0	-0.1	0.1	0.33	
25	1	2.0	5.3	1	0.9	5.2	0.33	
26	1	2.0	5.3	0	-0.1	0.1	0.33	
27	2	9.0	7.4	0	-0.1	0.1	0.33	
28	2	9.0	7.4	0	-0.1	0.1	0.33	
29	0	-4.9	0.9	0	-0.1	0.1	0.33	
30	1	2.0	5.3	0	-0.1	0.1	0.33	
31	2	9.0	7.4	0	-0.1	0.1	0.33	
32	0	-4.9	0.9	0	-0.1	0.1	0.33	
33	1	2.0	5.3	0	-0.1	0.1	0.33	
34	0	-4.9	0.9	0	-0.1	0.1	0.33	
35	4	23.0	10.4	0	-0.1	0.1	0.33	
36	1	2.0	5.3	0	-0.1	0.1	0.33	
37	1	2.0	5.3	0	-0.1	0.1	0.33	
38	1	2.0	5.3	0	-0.1	0.1	0.33	
39	2	9.0	7.4	0	-0.1	0.1	0.33	
40	0	-4.9	0.9	0	-0.1	0.1	0.33	
41	2	9.0	7.4	0	-0.1	0.1	0.33	
42	2	9.0	7.4	0	-0.1	0.1	0.33	
43	3	16.0	9.0	0	-0.1	0.1	0.33	
44	0	-4.9	0.9	0	-0.1	0.1	0.33	
45	21	43.5	13.7	0	-0.1	0.1	1.00	
46	2	9.0	7.4	0	-0.1	0.1	0.33	
47	1	2.0	5.3	0	-0.1	0.1	0.33	
48	0	-4.9	0.9	0	-0.1	0.1	0.33	
49	2	9.0	7.4	0	-0.1	0.1	0.33	
50	1	2.0	5.3	0	-0.1	0.1	0.33	
51	1	2.0	5.3	0	-0.1	0.1	0.33	
52	1	2.0	5.3	0	-0.1	0.1	0.33	
53	0	-4.9	0.9	0	-0.1	0.1	0.33	
54	0	-4.9	0.9	0	-0.1	0.1	0.33	

CENTIMETERS





LOCATION <b>BLOG 6A</b>	SURVEYOR <b>L. Smith</b>	SURVEY DATE <b>3-31-92</b>
	COUNTED BY <b>L. Smith</b>	COUNT DATE <b>3-31-92</b>

BETA/GAMMA				ALPHA			
COUNTER NO.	<b>CANBERRA</b>			<b>CANBERRA</b>			
BKG. (CPM)	<b>1.04</b> CPM	CPM	CPM	CPM	<b>.3</b> CPM	CPM	CPM
EFF. (%)	<b>17.1</b> %	%	%	%	<b>32.6</b> %	%	%

ACTIVITY IN :	REMARKS : <b>&lt; 200 DPM / 100 cm<sup>2</sup>β</b> <b>&lt; 10 DPM / 100cm<sup>2</sup>α</b>
<input type="checkbox"/> μCi <input checked="" type="checkbox"/> DPM <input type="checkbox"/> CPM	SURVEY INSTRU. MODEL <b>PAC 46</b> SN. NO. <b>4478</b> PROBE TYPE <b>AC-21-B</b>
	<b>ASPI</b> <b>1891</b> <b>AC-3</b>

	α	β	α	β	α	β	α	β	α	β	α	β
1	<b>SEE</b>		<b>16</b>	<b>SEE</b>		<b>31</b>		<b>46</b>		<b>61</b>		
2	<b>ATTACHED</b>		<b>17</b>	<b>ATTACHED</b>		<b>32</b>		<b>47</b>		<b>62</b>		
3	<b>PRINTOUT</b>		<b>18</b>	<b>PRINTOUT</b>		<b>33</b>		<b>48</b>		<b>63</b>		
4			<b>19</b>	↓		<b>34</b>		<b>49</b>		<b>64</b>		
5			<b>20</b>	↓		<b>35</b>		<b>50</b>		<b>65</b>		
6			<b>21</b>			<b>36</b>		<b>51</b>		<b>66</b>		
7			<b>22</b>			<b>37</b>		<b>52</b>		<b>67</b>		
8			<b>23</b>			<b>38</b>		<b>53</b>		<b>68</b>		
9			<b>24</b>			<b>39</b>		<b>54</b>		<b>69</b>		
10			<b>25</b>			<b>40</b>		<b>55</b>		<b>70</b>		
11			<b>26</b>			<b>41</b>		<b>56</b>		<b>71</b>		
12			<b>27</b>			<b>42</b>		<b>57</b>		<b>72</b>		
13			<b>28</b>			<b>43</b>		<b>58</b>		<b>73</b>		
14			<b>29</b>			<b>44</b>		<b>59</b>		<b>74</b>		
15	↓	↓	<b>30</b>			<b>45</b>		<b>60</b>		<b>75</b>		

SMEAR NOS.	SMEAR LOCATION
<b>1-5</b>	<b>VENT DUCT (POINT A)</b>
<b>6-10</b>	<b>VENT DUCT (POINT B)</b>
<b>11-15</b>	<b>VENT DUCT (POINT C)</b>
<b>16-20</b>	<b>VENT DUCT (POINT D)</b>

ACTION ITEMS OR COMMENTS	DATE CORRECTED	HP INIT.
<b>SEE ATTACHED MAP FOR LOCATIONS</b>	<b>N/A</b>	<b>JR</b>
↓	↓	↓

( SEE BACK FOR AREA DIAGRAM, SMEAR LOCATIONS, AND RADIATION LEVELS )

PROGRAM # : 1  
 RESET COUNT : 99999 ALPHA  
 SET TIME (M) : 50  
 HIGH VOLTAGE : 1450  
 PULSE WINDOW : 300  
 START SAMPLE : 1  
 STOP SAMPLE : 99  
 ERROR (SIGMA) : 2.99  
 REPEAT # : 0  
 EFFIC (%) : 32.60  
 CROSSLK (%) : 4.00E-3  
 BKGND (CPM) : 20  
 EFFIC (%) : 17.10  
 BKGND (CPM) : 1.80  
 READ TIME (M) : 20.00  
 SOURCE (cm2) : 1.00  
 LARM (dpm/V) : 200.00  
 USER EQUATION :

PAGE 4 OF 5

SAMPLE # : 1 TIME (M) : 50 TIME : 13:04:20 DATE : MAR 31, 1992  
 ALPHA GROSS : 1 NET : 1.80 +/- 5.68 dpm/cm2 : 5.52 +/- 17.42  
 BETA GROSS : 3 NET : 4.19 +/- 8.71 dpm/cm2 : 24.56 +/- 50.94  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # : 2 TIME (M) : 50 TIME : 13:05:03 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 0 NET : 0 +/- .89 dpm/cm2 : 0 +/- 5.24  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # : 3 TIME (M) : 50 TIME : 13:05:55 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 1 NET : .20 +/- 2.09 dpm/cm2 : 1.16 +/- 12.23  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # : \*\*\*\*\* TIME (M) : 50 TIME : 13:06:37 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 1 NET : .20 +/- 2.09 dpm/cm2 : 1.16 +/- 12.23  
 GAMMA GROSS : 0 C FACTOR : 15106110

SAMPLE # : 4 TIME (M) : 50 TIME : 13:07:20 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 1 NET : .20 +/- 2.09 dpm/cm2 : 1.16 +/- 12.23  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # : 5 TIME (M) : 50 TIME : 13:08:03 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 1 NET : .20 +/- 2.09 dpm/cm2 : 1.16 +/- 12.23  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # : 6 TIME (M) : 50 TIME : 13:08:46 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 2 NET : 2.20 +/- 6.33 dpm/cm2 : 12.86 +/- 37.05  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # : 7 TIME (M) : 50 TIME : 13:09:29 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 2 NET : 2.20 +/- 6.33 dpm/cm2 : 12.86 +/- 37.05  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # : 8 TIME (M) : 50 TIME : 13:10:13 DATE : MAR 31, 1992  
 ALPHA GROSS : 0 NET : 0 +/- .29 dpm/cm2 : 0 +/- .91  
 BETA GROSS : 1 NET : .20 +/- 2.09 dpm/cm2 : 1.16 +/- 12.23  
 GAMMA GROSS : 0 C FACTOR : 1.0000

SAMPLE # 10 TIME (M) : 50 TIME: 13:10:56 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 1 NET: 20 +/- 2.09 dpm/cm2: 1.16 +/- 12.23  
GAMMA GROSS: 0 C FACTOR: 1.0000

PAGE 3 of 5

SAMPLE # 11 TIME (M) : 50 TIME: 13:11:39 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 0 NET: 0 +/- 89 dpm/cm2: 0 +/- 5.24  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # 12 TIME (M) : 50 TIME: 13:12:22 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 2 NET: 2.20 +/- 6.33 dpm/cm2: 12.86 +/- 37.05  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # 13 TIME (M) : 50 TIME: 13:13:05 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 2 NET: 2.20 +/- 6.33 dpm/cm2: 12.86 +/- 37.05  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # 14 TIME (M) : 50 TIME: 13:13:48 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 0 NET: 0 +/- 89 dpm/cm2: 0 +/- 5.24  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # 15 TIME (M) : 50 TIME: 13:14:31 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 2 NET: 2.20 +/- 6.33 dpm/cm2: 12.86 +/- 37.05  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # 16 TIME (M) : 50 TIME: 13:15:14 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 0 NET: 0 +/- 89 dpm/cm2: 0 +/- 5.24  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # 17 TIME (M) : 50 TIME: 13:16:05 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 2 NET: 2.20 +/- 6.33 dpm/cm2: 12.86 +/- 37.05  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # \*\*\*\* TIME (M) : 50 TIME: 13:16:49 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 0 NET: 0 +/- 89 dpm/cm2: 0 +/- 5.24  
GAMMA GROSS: 0 C FACTOR: 15106110

SAMPLE # 19 TIME (M) : 50 TIME: 13:17:32 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 1 NET: 20 +/- 2.09 dpm/cm2: 1.16 +/- 12.23  
GAMMA GROSS: 0 C FACTOR: 1.0000

SAMPLE # 20 TIME (M) : 50 TIME: 13:18:23 DATE: MAR 31, 1992  
ALPHA GROSS: 0 NET: 0 +/- 29 dpm/cm2: 0 +/- 91  
BETA GROSS: 2 NET: 2.20 +/- 6.33 dpm/cm2: 12.86 +/- 37.05  
GAMMA GROSS: 0 C FACTOR: 1.0000



SURVEY TYPE: ROUTINE <input type="checkbox"/> SPECIAL <input type="checkbox"/> RWP <input checked="" type="checkbox"/> (RWP # )		SURVEY DATE: 3-31-92
LOCATION: BLDG 6A VENT DUCTS		SURVEY TIME: 1300
INSTRUMENT: PAC-4G	SERIAL # 4478	PROBE TYPE: AC-21B
INSTRUMENT: ASP-1	SERIAL # 1891	PROBE TYPE: AC-3

DESCRIPTION OF SURVEY

SAMPLE POINT	BETA CONTACT IN NET DPM/100cm <sup>2</sup>	ALPHA CONTACT IN NET DPM/100cm <sup>2</sup>
POINT 'A'	≤ BKG	≤ BKG
POINT 'B'	≤ BKG	≤ BKG
POINT 'C'	≤ BKG	≤ BKG
POINT 'D'	≤ BKG	≤ BKG

SKETCH

SEE ATTACHED MAP FOR SURVEY POINT LOCATIONS.

	REMARKS PAC-4G AC-21B	ASP-1 AC-3
EFFICIENCY	20.2 %	63.4 %
AVG. BKG / 50 cm <sup>2</sup>	37.1 DPM/50cm <sup>2</sup>	513 DPM/50 cm <sup>2</sup>
AVG BKG / 100 cm <sup>2</sup>	74.2 DPM/100cm <sup>2</sup>	1025 DPM/100 cm <sup>2</sup>
H.P. SIGNATURE	DATE: 3-31-92	





APPENDIX H

BUILDING 7, FIRST FLOOR

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 4-1-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra		Canberra			PAC-4G		
BACKGROUND	1.0	CPM	CPM	.35	CPM	SERIAL NO.	4478	1891
EFFICIENCY	17.1	%	%	32.6	%	PROBE	AC-21B	AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
7	1	N/A	1	0	6	N/A	N/A	≤ Bkg. Unless Specified
			2	0	0			↓
			3	0	18			158
			4	0	0			≤ BKG
			5	0	0			Efficiency: 63.4%
			6	0	0			Efficiency: 20.2%
			7	0	18			Avg. Bkg.: 1183 DPM
			8	0	0			Avg. Bkg.: 74.3 DPM
			9	0	0			Per 100 cm <sup>2</sup>
			10	0	0			
			11	0	6			
			12	0	0			
			13	0	18			
			14	5	0			
			15	0	18			158
			16	0	18			≤ BKG
			17	0	6			
			18	0	0			
			19	0	6			

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 4-1-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/P .A-GAMMA		ALPHA			
	Canberra		Canberra			PAC-4G			ASP-1		
BACKGROUND	1.0	CPM		CPM	.35	CPM		CPM	SERIAL NO. 4478		1891
EFFICIENCY	17.1	%		%	32.6	%		%	PROBE AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SNEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
7	1	N/A	20	0	6	N/A	N/A	≤ Bkg. Unless	≤ Bkg. Unless
			21	5	6			Specified	Specified
			22	0	6				
			23	0	18				
			24	0	6				
			25	0	18				
			26	5	6			Efficiency: 63.4%	Efficiency: 20.2%
			27	5	0			Avg. Bkg.: 1183 DPM	Avg. Bkg.: 74.3 DPM
			28	0	0			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			29	0	18				
			30	0	29				
			31	0	18				
			32	0	0				
			33	0	181				
			34	0	29				
			35	0	18				
			36	0	6				
			37	0	6				
			38	0	6				

SNEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 4-1-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra		Canberra			PAC-4G		
BACKGROUND	1.0	CPM	CPM	.35	CPM	SERIAL NO.	4478	1891
EFFICIENCY	17.1	%	%	32.6	%	PROBE	AC-21B	AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM	
			ALPHA	BETA					
7	1	N/A	39	0	6	N/A	N/A	≤ Bkg. Unless Specified	≤ Bkg. Unless Specified
			40	0	6				
			41	0	18				
			42	0	0				
			43	0	0				
			44	0	6				
			45	0	6			Efficiency: 63.4%	Efficiency: 20.2%
			46	0	0			Avg. Bkg.: 1183 DPM	Avg. Bkg.: 74.3 DPM
			47	0	0			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			48	0	0				
			49	0	0				
			50	0	6				
			51	0	6				
			52	0	0			158	
			53	0	6			≤ BKG	
			54	0	0				
			55	0	6				
			56	0	0				
			57	0	18				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4-1-92	FORM SERIAL NUMBER: Preliminary
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra		Canberra			PAC-4G		
BACKGROUND	1.0 CPM	CPM	.35 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
7	II	N/A	58	0	N/A	N/A	≤ Bkg. Unless	≤ Bkg. Unless
			59	0			Specified	Specified
			60	0				
			61	0				
			62	0			158	
			63	0			↓	
			64	0			Efficiency: 63.4%	Efficiency: 20.2%
			65	0			Avg. Bkg.: 1183 DPM	Avg. Bkg.: 74.3 DPM
			66	0			Per 100 cm <sup>2</sup>	Per 100 cm <sup>2</sup>
			67	0			↓	
			68	0			158	
			69	0			≤ BKG	
			70	0				
			71	5				
			72	0				
			73	0				
			74	0				
			75	0				
			76	0				

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



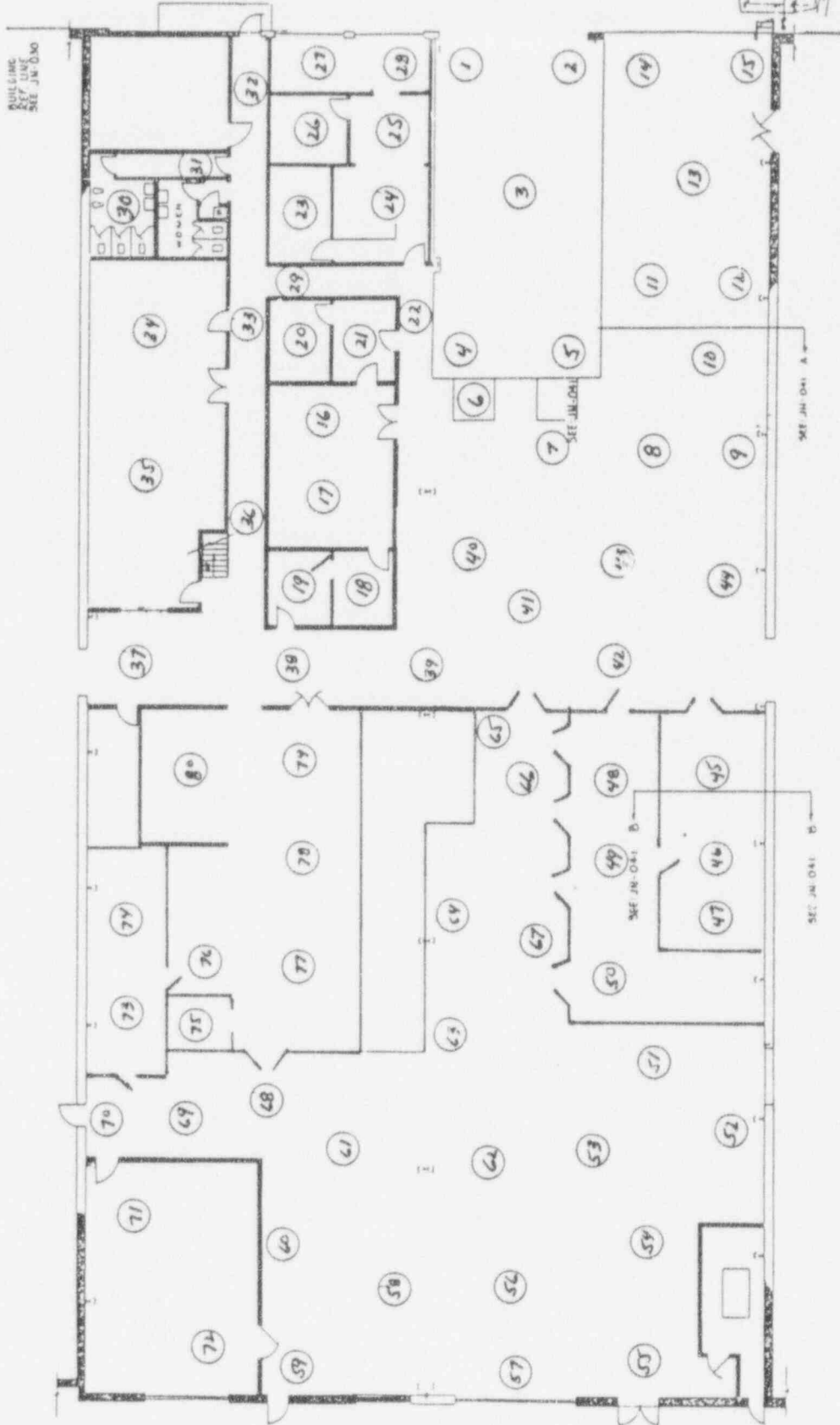
SURVEYOR: Larry Smith      SIGNATURE: *[Signature]*      DATE: 4-1-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT		GAMMA/BETA-GAMMA		ALPHA
	Canberra	CPM	Canberra	CPM	Serial No.	CPM	PAC-4G	4478	ASP-1
BACKGROUND	1.0	CPM	.35	CPM					
EFFICIENCY	17.1	%	32.6	%	PROBE		AC-21B		1891
									AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
7	1	N/A	77	0	N/A	/A	≤ Bkg. Unless Specified	≤ Bkg. Unless Specified
			78	0				
			79	0				
			80	5				
Efficiency: 63.4%								
Avg. Bkg.: 1183 DPM								
Per 100 cm <sup>2</sup>								
Efficiency: 20.2%								
Avg. Bkg.: 74.3 DPM								
Per 100 cm <sup>2</sup>								

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

PAGE 6 OF 6



BUILDING  
NO. 14883  
SEE JN-010

NO.	NAME	DATE	REVISION	BY	CHKD.	APP'D.
1	ISSUED FOR CONSTRUCTION	10/1/58				
2	REVISION					
3	REVISION					
4	REVISION					
5	REVISION					
6	REVISION					
7	REVISION					
8	REVISION					
9	REVISION					
10	REVISION					
11	REVISION					
12	REVISION					
13	REVISION					
14	REVISION					
15	REVISION					

PARTS LIST	
NO.	DESCRIPTION
1	CONCRETE
2	BRICK
3	GLASS
4	WOOD
5	PAINT
6	ROOFING
7	MECHANICAL
8	ELECTRICAL
9	PLUMBING
10	FINISHES
11	FIXTURES
12	EQUIPMENT
13	LANDSCAPE
14	UTILITIES
15	OTHER

PROJECT NO.	14883
DATE	10/1/58
BY	JN-014
CHKD.	
APP'D.	
TITLE	FIRST FLOOR
BUILDING NO.	14883
W.A.E.S.D.	WAESD LARGE, PA.

LEGEND

BRICK

CONCRETE

CONCRETE BLOCK EXT.

CONCRETE BLOCK INT.

DRYWALL & PARTING

SCALE: FEET

0 5 10 15 20 25

○ - INDICATES SURVEY POINTS

APPENDIX I

BUILDING 8A, FIRST FLOOR

SURVEYOR: Larry Smith		SIGNATURE: <i>Larry Smith</i>		DATE: 6-8-92	FORM SERIAL NUMBER: Preliminary
COUNTER NO.: Canberra		INSTRUMENT		GAMMA/BETA-GAMMA	
BACKGROUND CPM		SERIAL NO.		PAC-4G	
EFFICIENCY 17.1 %		CPM		4478	
		PROBE		AC-21-B	
		ALPHA		ALPHA	
		CANberra		ASP-i	
		CPM		1891	
		32.6 %		AC-3	

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER UP/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
8A	1	N/A	1 0	6	N/A	N/A	≤ BKG	≤ BKG
			2 0	18			90	
			3 6	0			≤ BKG	
			4 0	6			90	
			5 0	0			180	
			6 0	0			180	
			7 0	0			90	
			8 6	0			90	
			9 0	0			180	
			10 0	0			90	
			11 0	6			90	
			12 0	6			90	
			13 0	6			180	
			14 0	0			90	
			15 0	6			90	
			16 0	18			≤ BKG	
			17 0	18			≤ BKG	
			18 0	6			90	
			19 0	18			≤ BKG	

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

INSTRUMENT  
 PAC-4G  
 EFF C.F. BKG  
 55.1 1.8 150 CPM

SURVEYOR: Larry Smith SIGNATURE: *Larry Smith* DATE: 6-8-92 FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	CPM	Canberra	CPM		PAC-4G		
BACKGROUND					4478			1891
EFFICIENCY	17.1	X	32.6	X	AC-21-B			AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UeR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
EA	1	N/A	20	0	N/A	N/A	90	± BKG
			21	0			90	
			22	0			90	
			23	0			100	
			24	0			± BKG	
			25	0			90	
			26	0			± BKG	
			27	6			± BKG	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

INSTRUMENT: PAC-4G  
 EFF: 55.1  
 C.F.: 1.5  
 BKG: 150 CPM





SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 6-10-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA			ALPNA
	Canberra	CPM	Canberra	CPM	INSTRUMENT	PAC-4G	ASP-1	
BACKGROUND	.55	CPM	.05	CPM	SERIAL NO.	4478	1891	
EFFICIENCY	17.1	%	32.6	%	PROBE	AC-21-B	AC-3	

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT uR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
8A	1 st.	N/A	1 6	8	N/A	N/A	≤ BKG	≤ BKG
			2 0	0			↓	
			3 0	0			90	
			4 0	8			70	
			5 0	0			90	
			6 0	8			≤ BKG	
			7 0	8			90	
			8 6	0			6 BKG	
			9 0	0			≤ BKG	
			10 0	8			180	
			11 0	8			90	
			12 0	8			≤ BKG	
			13 0	0			90	
			14 0	0			90	
			15 0	0			90	
			16 0	0			90	
			17 0	0			90	
			18 0	0			270	
			19 0	8			90	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

Instrument	Efficiency	C. F.	Background
PAC-4G	55.1	1.8	150 cpm
ASP-1	20.2	5.0	5 cpm

SURVEYOR: Larry Smith      SIGNATURE: *[Signature]*      DATE: 6-10-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT		GAMMA/BETA-GAMMA		ALPHA
	Canberra	CPM	Canberra	CPM	PAC-4G	SERIAL NO.	PAC-4G	SERIAL NO.	ASP-1
BACKGROUND	17.1	X	.55	CPM	4478		4478		1891
EFFICIENCY			32.6	X	AC-21-B	PROBE	AC-21-B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT uR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
8A	1 st.	N/A	20	0	N/A	N/A	≤ BKG	
			21	0			90	
			22	0			180	
			23	0			90	
			24	0	32		90	
			25	0	8		≤ BKG	
			26	0	0		90	
			27	0	8		≤ BKG	
			28	0	0		90	
			29	0	0		90	
			30	0	0		90	
			31	0	8		≤ BKG	
			32	0	0		90	
			33	0	0		180	
			34	0	20		90	
			35	0	8		180	
			36	0	0		≤ BKG	
			37	0	8		90	
			38	0	0		180	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

Instrument Efficiency C. F. Background  
 PAC-4G 55.1 1.8 150 cpm  
 ASP-1 20.2 5.0 5 cpm

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 6-10-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra		Canberra			PAC-4G		
BACKGROUND	.55 CPM	CPM	.05 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21-B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
8A	1 st.	N/A	39	0	N/A	N/A	90	≤ BKG
			40	0			90	
			41	0			90	
			42	0			90	
			43	0			90	
			44	0			90	
			45	0			180	
			46	0			90	
			47	0			90	
			48	0			90	
			49	0			180	
			50	0			90	
			51	0			90	
			52	0			180	
			53	0			90	
			54	0			≤ BKG	
			55	0			≤ BKG	
			56	0			90	
			57	0			180	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

Instrument	Efficiency	C. F.	Background
PAC-4G	55.1	1.8	150 cpm
ASP-1	20.2	5.0	5 cpm

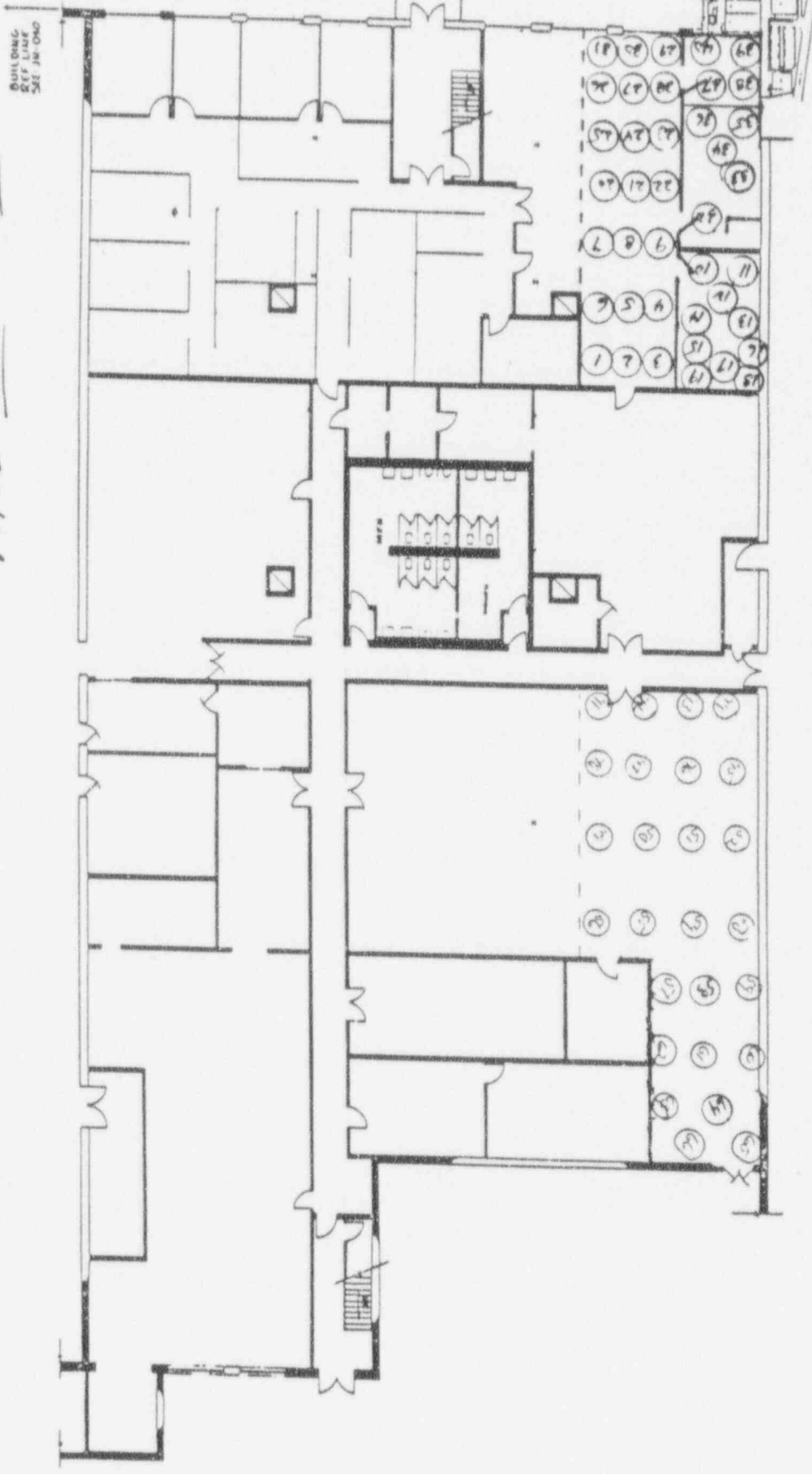
SURVEYOR: Larry Smith		SIGNATURE: <i>Larry Smith</i>		DATE: 6-10-92	FORM SERIAL NUMBER: Preliminary
BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA	
COUNTER NO.:	Canberra	Canberra	INSTRUMENT	PAC-4G	ALPHA
BACKGROUND	.55 CPM	CPM	SERIAL NO.	4478	ASP-1
EFFICIENCY	17.1 %	%	PROBE	AC-21-B	1891
					AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT MR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
8A	1 st.	N/A	58	67	N/A	N/A	90	≤ BKG
			57	0			90	
			60	0			≤ BKG	
			61	8			90	
			62	8			90	
			63	8			≤ BKG	
			64	0			≤ BKG	
			65	32			180	
			66	8			90	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

Instrument	Efficiency	C. F.	Background
PAC-4G	55.1	1.8	150 cpm
ASP-1	20.2	5.0	5 cpm

PAGE 5 OF 5



BUILD DRAWG  
BY J. J. O'NEAL  
DATE JAN 1940

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
PART B LIST					
1	WALERS AND BRACKETS				
2	WALERS FOR THE WALLS				
3	WALERS FOR THE CEILING				
4	WALERS FOR THE FLOOR				
5	WALERS FOR THE ROOF				
6	WALERS FOR THE FOUNDATION				
7	WALERS FOR THE EXTERIOR				
8	WALERS FOR THE INTERIOR				
9	WALERS FOR THE ROOFING				
10	WALERS FOR THE FLOORING				
11	WALERS FOR THE WALLS				
12	WALERS FOR THE CEILING				
13	WALERS FOR THE FLOOR				
14	WALERS FOR THE ROOF				
15	WALERS FOR THE FOUNDATION				
16	WALERS FOR THE EXTERIOR				
17	WALERS FOR THE INTERIOR				
18	WALERS FOR THE ROOFING				
19	WALERS FOR THE FLOORING				
20	WALERS FOR THE WALLS				
21	WALERS FOR THE CEILING				
22	WALERS FOR THE FLOOR				
23	WALERS FOR THE ROOF				
24	WALERS FOR THE FOUNDATION				
25	WALERS FOR THE EXTERIOR				
26	WALERS FOR THE INTERIOR				
27	WALERS FOR THE ROOFING				
28	WALERS FOR THE FLOORING				
29	WALERS FOR THE WALLS				
30	WALERS FOR THE CEILING				
31	WALERS FOR THE FLOOR				
32	WALERS FOR THE ROOF				
33	WALERS FOR THE FOUNDATION				
34	WALERS FOR THE EXTERIOR				
35	WALERS FOR THE INTERIOR				
36	WALERS FOR THE ROOFING				
37	WALERS FOR THE FLOORING				
38	WALERS FOR THE WALLS				
39	WALERS FOR THE CEILING				
40	WALERS FOR THE FLOOR				
41	WALERS FOR THE ROOF				
42	WALERS FOR THE FOUNDATION				
43	WALERS FOR THE EXTERIOR				
44	WALERS FOR THE INTERIOR				
45	WALERS FOR THE ROOFING				
46	WALERS FOR THE FLOORING				
47	WALERS FOR THE WALLS				
48	WALERS FOR THE CEILING				
49	WALERS FOR THE FLOOR				
50	WALERS FOR THE ROOF				
51	WALERS FOR THE FOUNDATION				
52	WALERS FOR THE EXTERIOR				
53	WALERS FOR THE INTERIOR				
54	WALERS FOR THE ROOFING				
55	WALERS FOR THE FLOORING				
56	WALERS FOR THE WALLS				
57	WALERS FOR THE CEILING				
58	WALERS FOR THE FLOOR				
59	WALERS FOR THE ROOF				
60	WALERS FOR THE FOUNDATION				
61	WALERS FOR THE EXTERIOR				
62	WALERS FOR THE INTERIOR				
63	WALERS FOR THE ROOFING				
64	WALERS FOR THE FLOORING				
65	WALERS FOR THE WALLS				
66	WALERS FOR THE CEILING				
67	WALERS FOR THE FLOOR				
68	WALERS FOR THE ROOF				
69	WALERS FOR THE FOUNDATION				
70	WALERS FOR THE EXTERIOR				
71	WALERS FOR THE INTERIOR				
72	WALERS FOR THE ROOFING				
73	WALERS FOR THE FLOORING				
74	WALERS FOR THE WALLS				
75	WALERS FOR THE CEILING				
76	WALERS FOR THE FLOOR				
77	WALERS FOR THE ROOF				
78	WALERS FOR THE FOUNDATION				
79	WALERS FOR THE EXTERIOR				
80	WALERS FOR THE INTERIOR				
81	WALERS FOR THE ROOFING				
82	WALERS FOR THE FLOORING				
83	WALERS FOR THE WALLS				
84	WALERS FOR THE CEILING				
85	WALERS FOR THE FLOOR				
86	WALERS FOR THE ROOF				
87	WALERS FOR THE FOUNDATION				
88	WALERS FOR THE EXTERIOR				
89	WALERS FOR THE INTERIOR				
90	WALERS FOR THE ROOFING				
91	WALERS FOR THE FLOORING				
92	WALERS FOR THE WALLS				
93	WALERS FOR THE CEILING				
94	WALERS FOR THE FLOOR				
95	WALERS FOR THE ROOF				
96	WALERS FOR THE FOUNDATION				
97	WALERS FOR THE EXTERIOR				
98	WALERS FOR THE INTERIOR				
99	WALERS FOR THE ROOFING				
100	WALERS FOR THE FLOORING				

**LEGEND**

BRICK  
 CONCRETE BLOCK  
 CONCRETE BLOCK WITH REBAR  
 CONCRETE BLOCK WITH REBAR AND INSULATION  
 PARTITION WALL  
 WINDOW  
 DOOR  
 STAIRCASE  
 STRUCTURAL STEEL  
 STEEL PIPE  
 STEEL BEAM  
 STEEL COLUMN  
 STEEL JOIST  
 STEEL TRUSS  
 STEEL GIRDER  
 STEEL PURLIN  
 STEEL RAFTER  
 STEEL ROOF DECK  
 STEEL FLOOR DECK  
 STEEL JOIST DECK  
 STEEL TRUSS DECK  
 STEEL GIRDER DECK  
 STEEL PURLIN DECK  
 STEEL RAFTER DECK  
 STEEL ROOF DECK WITH INSULATION  
 STEEL FLOOR DECK WITH INSULATION  
 STEEL JOIST DECK WITH INSULATION  
 STEEL TRUSS DECK WITH INSULATION  
 STEEL GIRDER DECK WITH INSULATION  
 STEEL PURLIN DECK WITH INSULATION  
 STEEL RAFTER DECK WITH INSULATION  
 STEEL ROOF DECK WITH INSULATION AND WATERPROOFING  
 STEEL FLOOR DECK WITH INSULATION AND WATERPROOFING  
 STEEL JOIST DECK WITH INSULATION AND WATERPROOFING  
 STEEL TRUSS DECK WITH INSULATION AND WATERPROOFING  
 STEEL GIRDER DECK WITH INSULATION AND WATERPROOFING  
 STEEL PURLIN DECK WITH INSULATION AND WATERPROOFING  
 STEEL RAFTER DECK WITH INSULATION AND WATERPROOFING

**SCALE: FEET**

PROJECT NO. JN-018  
 DRAWING NO. A  
 DATE: 1/19/40  
 DRAWN BY: J. J. O'NEAL  
 CHECKED BY: [Signature]  
 APPROVED BY: [Signature]

APPENDIX J

BUILDING 9, BASEMENT



SURVEYOR: LARRY SAMM SIGNATURE: [Signature] DATE: 3-5-92 FORM SERIAL NUMBER: Non Reportable

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4	INSTRUMENT		
BACKGROUND	1.81	CPM	.16	CPM	ES20		ASP-1
EFFICIENCY	44.7	%	37.1	%	5242		1891
					30 MC/CM <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT mR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
2	Pit	SEE	1	0	NA	NA	≤ BKG	≤ BKG
		MAP	2	0				
		(All	3	7				
		FLOOR	4	0				
		SURFACE	5	0				
		SMOORS	6	0				
			7	0				
			8	0				
			9	7				
			10	0				
			11	0				
			12	0				
			13	0				
			14	0				
			15	7				
			16	0				
			17	0				
			18	7				
			19	0				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: LARRY SOLIN SIGNATURE: [Signature] DATE: 3-5-92 FORM SERIAL NUMBER: Non Reportable

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4	INSTRUMENT		
BACKGROUND	1.81	CPM	.16	CPM	5220		ASAJ
EFFICIENCY	44.7	%	37.1	%	5242		1891
					30mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	Pit	SEE	0	20	NA	NA	≤ BKG	≤ BKG
		MAP.	0	6				
		(All)	0	13				
		Floor	0	0				
		Surface	0	13				
		Emergency	0	0				
			0	6				
			0	6				
			7	6				
			0	6				
			0	0				
			0	0				
			0	0				
			0	6				
			0	0				
			0	6				
			0	6				
			0	6				
			0	0				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

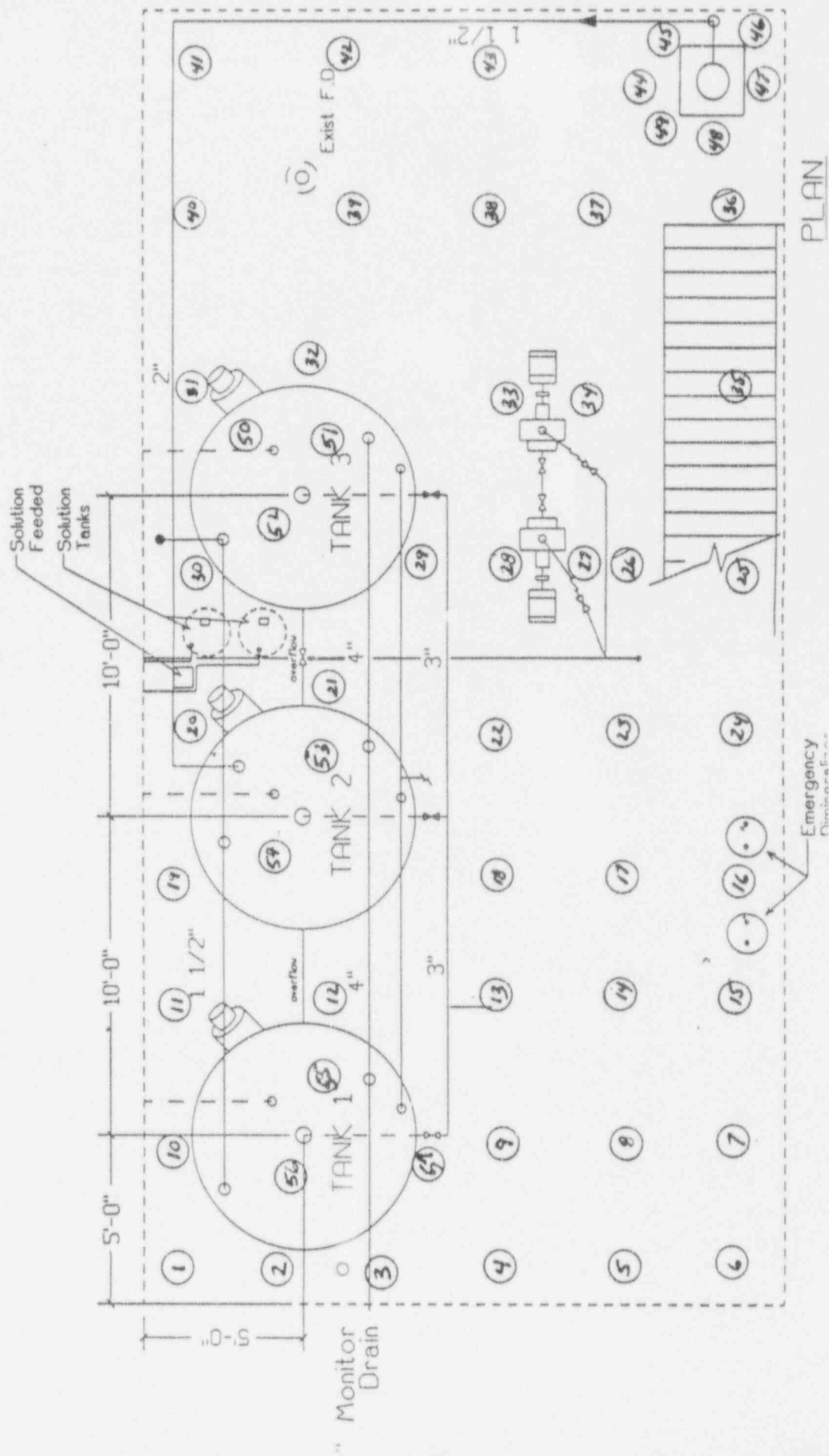
SURVEYOR: LARRY JAINA SIGNATURE: Larry Jaina DATE: 3-5-92 FORM SERIAL NUMBER: NEW REVERSABLE

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4		ES-20		
BACKGROUND	1.81	CPM	16	CPH	5242		1891	
EFFICIENCY	44.7	%	37.1	%	HP160		AC3	

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT mR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	Pit	SEE MAP	39	0	NA	NA	≤ BK G	≤ BK G
		MAP	40	0				
		ALL	41	0				
		FLOOR	42	0				
		WALLS	43	0				
		ROOF	44	0				
		CEILING	45	0				
			46	0				
			47	0				
			48	0				
			49	0				
			50	0				
			51	7				
			52	0				
			53	0				
			54	7				
			55	0				
			56	0				
			57	34				
				29				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

# BUILDING #9 PIT (DETAILS)



SURVEYOR: S. Gillespie SIGNATURE: J. D. Sullivan DATE: 7/23/92 FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4	PAC-4G		
BACKGROUND	CPM	CPM	CPM	CPM	4478		ASP-1
EFFICIENCY	X	X	X	X	AC-21-B		1891
ADUVE Floor Density	FLOOR	GRID	SHEAR		BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
#9 PTH 2-5	00'	N/A	ALPHA	BETA	N/A	180	≤ BKS
	03'					180	
	06'					90	
	09'					90	
	12'					270	
	15'					270	
	18'					180	
	21'					90	
	24'					135	
	27'					180	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS  
 Instrument Data: PAC-4G (Beta) 55.1% Eff. 1.8 C. F. Bkg. 200 DPM  
 ASP-1 (Alpha) 21.8% Eff. 4.6 C. F. Bkg. 5 DPM



P.1011

File Survey Spot # 9

SURVEYOR: S.D. Gillespie SIGNATURE: *S.D. Gillespie* DATE: 7-23-92 FORM SERIAL NUMBER:

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA	
	TENNELEC	MS-2	CPM	CPM	INSTRUMENT	SERIAL NO.		
BACKGROUND	CPM		CPM					
EFFICIENCY	%		%					
ADJCTA WALL	WALLS	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT MB/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
9 Pit left to right			ALPHA	BETA				
0' 6' High		N/A	N/A	N/A	N/A	N/A	63	≤ BKS
5'							63	63
10'							≤ BKS	≤ BKS
15'							63	63
20'							≤ BKS	≤ BKS
0' 3' High							63	63
5'							≤ BKS	≤ BKS
10'							63	63
15'							≤ BKS	≤ BKS
20'							63	63
0' 0' High							≤ BKS	≤ BKS
5'							90	90
10'							≤ BKS	≤ BKS
15'							90	90
20'							≤ BKS	≤ BKS

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

BKS 5 DPM Ac 45(0) 5.19% eff 1.8 CF  
BKS 200 DPM ASP-1 (A) 21.8% eff 4.6 CF



THIS FORM - SPECIAL  
 LRD - 2/92

DECOMMISSIONING SURVEYS - WESTINGHOUSE LARGE SITE

P. 1 of 2

Saucy F. Le Sect #9

SURVEYOR: S. D. Gillespie SIGNATURE: J. D. Jathapani DATE: 7-23-92 FORM SERIAL NUMBER: \_\_\_\_\_

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4			
BACKGROUND	CPM	CPM	CPM	CPM			
EFFICIENCY	%	%	%	%			

EAST WALL BUILDING/AREA	Walls	GRID	SHEAR		GAMMA RADIATION ONE METER W/ HOUR	BETA-GAMMA RADIATION CONTACT W/ HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9 Pit left to right								
0' 6" High		N/A	N/A	N/A	N/A		63	≤ BKS
5'							90	
10'							≤ BKS	
15'							90	
20'							90	
25'							63	
30'							63	
35'							90	
40'							90	
0' 3" High							90	
5'							63	
10'							63	
15'							63	
20'							90	
25'							63	
30'							≤ BKS	
35'							63	
40'							≤ BKS	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

BKS 5' DPM Fac-45 (B) 55.1% eff 1.8 CF  
 BKS 300 Dm AS1-1 (A) 21.8% eff 4.6 CF

SURVEYOR: S. O. Gillispie      SIGNATURE: J. V. Salinas      DATE: 7-23-92      FORM SERIAL NUMBER:

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	HS-2	TENNELEC	SAC-4			
BACKGROUND	CPM	CPM	CPM	CPM			
EFFICIENCY	%	%	%	%			

EAST WALL BUILDING/AREA 9 Pit left to right	WALLS	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT mR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
0' 00" MUSH		N/A	N/A	N/A	N/A	N/A	50 ≤ BKS	≤ BKS
5'							≤ BKS	
10'							50	
15'							63	
20'							≤ BKS	
25'							≤ BKS	
30'							70	
35'							≤ BKS	
40'								

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

NKS 308 DPM 180-49 (B) 35.1% eff 1.8 CF  
BKS 5 DIR ASP-1 (A) 21.8% eff 4.6 CF

SURVEYOR: S.D. Gillor's SIGNATURE: J. M. Salgado DATE: 7-23-92 FORM SERIAL NUMBER: \_\_\_\_\_

COUNTER NO.:	BETA - GAMMA		ALPHA		GAMMA/BETA - GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4			
BACKGROUND	CPM	CPM	CPM	CPM	SERIAL NO.		
EFFICIENCY	%	%	%	%	PROBE		

WALL BUILDING/AREA	Walls	GRID	SHEAR		GAMMA RADIATION ONE METER UP/HOUR	BETA - GAMMA RADIATION CONTACT HR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9 Pit left to right								
0' 6' High		N/A	N/A	N/A	N/A	N/A	≤ BK5	≤ BK5
5'							90	
10'							63	
15'							≤ BK5	
20'							≤ BK5	
25'							63	
30'							≤ BK5	
35'								
40'								
0' 3' High							63	
5'							≤ BK5	
10'							63	
15'							≤ BK5	
20'								
25'								
30'							63	
35'							≤ BK5	
40'							63	

BK5 5 DPM Pac-4g (Beta) 55.1% eff 1.8 C.P.  
BK5 200 DPM ASP-1 (Alpha) 21.8% eff 4.6 C.P.

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

P2 of 2  
File Survey SAI # 9

SURVEYOR: S.D. Gillies SIGNATURE: J.D. Ballupis DATE: 7-27-92 FORM SERIAL NUMBER: \_\_\_\_\_

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	TENNELEC	MS-2	TENNELEC	SAC-4			
BACKGROUND	CPM	CPM	CPM	CPM	INSTRUMENT	SERIAL NO.	
EFFICIENCY	X	X	X	X	PROBE		

WASTY WALL BUILDING/AREA	Walls	GRID	SHEAR		GAMMA RADIATION ONE METER UP/HOUR	BETA-GAMMA RADIATION CONTACT RR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9 Pit left to right								
0'	00' High	N/A	N/A	N/A	N/A	N/A	63	≤ DKS
5'							≤ DKS	
10'							63	
15'							90	
20'							≤ DKS	
25'							63	
30'							90	
35'							≤ DKS	
40'							≤ DKS	

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

DKS 5 DPM PAC-46 (DORA) 56.1 % EFF - 1.8 CF

DKS 200 DPM ASI-1 (APWA) 21.8 % EFF 4.6 CF



File Survey Sect # 9  
FORM SERIAL NUMBER:

DATE: 2-23-92

SIGNATURE: J. D. Gillespie

BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA	
COUNTER NO.:	TEMNELEC	MS-2	TEMNELEC	SAC-4	INSTRUMENT		
BACKGROUND	CPM	CPM	CPM	CPM	SERIAL NO.		
EFFICIENCY	X	X	X	X	PROBE		

BUILDING/AREA	Walls	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT HR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9 Pit left to right		N/A	N/A	N/A	N/A			
0' 6" High								≤ BK5
5'								≤ BK5
10'								≤ BK5
15'								63
20'								90
0' 3" High								/
5'								63
10'								63
15'								≤ BK5
20'								63
0' 0" High								90
5'								/
10'								≤ BK5
15'								63
20'								90

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

BK5 200 DPM PAC-45 (B) 55.1% eff 1.8 CF  
BK5 5 DPM MSP-1 (A) 21.8% eff 4.6 CF

APPENDIX K

BUILDING 9, FIRST FLOOR



SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-23/24-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Tenn E		Tenn E					
BACKGROUND	1.95 CPM		.10 CPM		E-520			ASP-1
EFFICIENCY	43.2 %		33.2 %		SERIAL NO. 5245			1891
					PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER µR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	1	N/A	1	See	N/A	N/A	Bkg.	Bkg.
			2	Attached			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM
			3	Printout			Efficiency = 13%	Efficiency = 20.2%
			4					
			5					
			6					
			7					
			8					
			9					
			10					
			11					
			12					
			13					
			14					
			15					
			16					
			17					
			18					
			19					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-23/24-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA		ALPHA
	Tenn E	CPM	Tenn E	CPM	INSTRUMENT	E-520	
BACKGROUND	1.95	CPM	.10	CPM	SERIAL NO.	5245	ASP-1
EFFICIENCY	43.2	%	33.2	%	PROBE	7mg/cm <sup>2</sup>	1891
							AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER UR/HOUR	BETA-GAMMA RADIATION CONTACT mR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	1	N/A	See	Attached	N/A	N/A	Bkg.	Bkg.
			20	Printout			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM
			21				Efficiency=13%	Efficiency=20.2%
			22					
			23					
			24					
			25					
			26					
			27					
			28					
			29					
			30					
			31					
			32					
			33					
			34					
			35					
			36					
			37					
			38					

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-23/24-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Tenn E		Tenn E			E-520		
BACKGROUND	1.95 CPM	CPM	.10 CPM	CPM	SERIAL NO.	5245		1891
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	1	N/A	39	See	N/A	N/A	Bkg.	Bkg.
			40	Attached			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM
			41	Printout			Efficiency = 13%	Efficiency = 20.2%
			42					
			43					
			44					
			45					
			46					
			47					
			48					
			49					
			50					
			51					
			52					
			53					
			54					
			55					
			56					
			57					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

DATE: 3-23/24-92 FORM SERIAL NUMBER: Preliminary

INSTRUMENT		E-520	GAMMA/BETA-GAMMA		ALPHA
CPM	SERIAL NO.	5245			ASP-1
X	PROBE	7mg/cm <sup>2</sup>			1891
					AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/HOUR	BETA-GAMMA RADIATION CONTACT mR/HOUR	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	1	N/A	See		N/A		Bkg.	Bkg.
			59	Attached			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM
			60	Printout			Efficiency = 13%	Efficiency = 20.2%
			61					
			62					
			63					
			64					
			65					
			66					
			67					
			68					
			69					

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>
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COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT
	Tenn E		Tenn E		
BACKGROUND	1.95 CPM	CPM	.10 CPM	CPM	SERIAL NO.
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE

SAMPLE NUMBER	BETA COUNTS	BETA DPM	BETA 3 SIGMA	ALPHA COUNTS	ALPHA DPM	ALPHA 3 SIGMA	TIME MINS	GAMMA RADIATION ONE METER UR/Hour
1	1	2.4	5.3	0	-0.3	0.2	0.33	N/A
2	2	9.4	7.4	0	-0.3	0.2	0.33	
3	1	2.4	5.3	0	-0.3	0.2	0.33	
4	0	-4.5	0.9	0	-0.3	0.2	0.33	
5	1	2.4	5.3	1	8.8	5.2	0.33	
6	3	16.4	9.0	0	-0.3	0.2	0.33	
7	0	-4.5	0.9	1	8.8	5.2	0.33	
8	0	-4.5	0.9	0	-0.3	0.2	0.33	
9	0	-4.5	0.9	0	-0.3	0.2	0.33	
10	5	30.4	11.7	0	-0.3	0.2	0.33	
11	2	9.4	7.4	1	8.8	5.2	0.33	
12	0	-4.5	0.9	0	-0.3	0.2	0.33	
13	2	9.4	7.4	0	-0.3	0.2	0.33	
14	1	2.4	5.3	0	-0.3	0.2	0.33	
15	2	9.4	7.4	0	-0.3	0.2	0.33	
16	1	2.4	5.3	0	-0.3	0.2	0.33	
17	2	9.4	7.4	0	-0.3	0.2	0.33	
18	0	-4.5	0.9	0	-0.3	0.2	0.33	
19	0	-4.5	0.9	1	8.8	5.2	0.33	
20	0	-4.5	0.9	0	-9.3	0.2	0.33	
21	0	-4.5	0.9	0	-0.3	0.2	0.33	
22	0	-4.5	0.9	0	-0.3	0.2	0.33	
23	2	9.4	7.4	0	-0.3	0.2	0.33	
24	1	2.4	5.3	0	-0.3	0.2	0.33	
25	1	2.4	5.3	0	-0.3	0.2	0.33	
26	0	-4.5	0.9	0	-0.3	0.2	0.33	
27	1	2.4	5.3	0	-0.3	0.2	0.33	
28	0	-4.5	0.9	0	-0.3	0.2	0.33	
29	0	-4.5	0.9	0	-0.3	0.2	0.33	
30	0	-4.5	0.9	0	-0.3	0.2	0.33	
31	0	-4.5	0.9	0	-0.3	0.2	0.33	
32	1	2.4	5.3	0	-0.3	0.2	0.33	
33	1	2.4	5.3	0	-0.3	0.2	0.33	
34	2	9.4	7.4	0	-0.3	0.2	0.33	
35	3	16.4	9.0	0	-0.3	0.2	0.33	
36	2	9.4	7.4	0	-0.3	0.2	0.33	
37	1	2.4	5.3	0	-0.3	0.2	0.33	
38	2	9.4	7.4	0	-0.3	0.2	0.33	
39	5	30.4	11.7	0	-0.3	0.2	0.33	
40	0	-4.5	0.9	0	-0.3	0.2	0.33	
41	1	2.4	5.3	0	-0.3	0.2	0.33	
42	0	-4.5	0.9	0	-0.3	0.2	0.33	
43	2	9.4	7.4	0	-0.3	0.2	0.33	
44	0	-4.5	0.9	0	-0.3	0.2	0.33	
45	37	80.9	18.2	1	2.7	3.0	1.00	
46	0	-4.5	0.9	0	-0.3	0.2	0.33	
47	0	-4.5	0.9	0	-0.3	0.2	0.33	
48	0	-4.5	0.9	0	-0.3	0.2	0.33	

CENTIMETERS

21	0	-4.5	0.9	0	-0.3	0.2	0.33
22	0	-4.5	0.9	0	-0.3	0.2	0.33
23	2	9.4	7.4	0	-0.3	0.2	0.33
24	1	2.4	5.3	0	-0.3	0.2	0.33
25	1	2.4	5.3	0	-0.3	0.2	0.33
26	0	-4.5	0.9	0	-0.3	0.2	0.33
27	1	2.4	5.3	0	-0.3	0.2	0.33
28	0	-4.5	0.9	0	-0.3	0.2	0.33
29	0	-4.5	0.9	0	-0.3	0.2	0.33
30	0	-4.5	0.9	0	-0.3	0.2	0.33
31	0	-4.5	0.9	0	-0.3	0.2	0.33
32	1	2.4	5.3	0	-0.3	0.2	0.33
33	1	2.4	5.3	0	-0.3	0.2	0.33
34	2	9.4	7.4	0	-0.3	0.2	0.33
35	3	16.4	9.0	0	-0.3	0.2	0.33
36	2	9.4	7.4	0	-0.3	0.2	0.33
37	1	2.4	5.3	0	-0.3	0.2	0.33
38	2	9.4	7.4	0	-0.3	0.2	0.33
39	5	30.4	11.7	0	-0.3	0.2	0.33
40	0	-4.5	0.9	0	-0.3	0.2	0.33
41	1	2.4	5.3	0	-0.3	0.2	0.33
42	0	-4.5	0.9	0	-0.3	0.2	0.33
43	2	9.4	7.4	0	-0.3	0.2	0.33
44	0	-4.5	0.9	0	-0.3	0.2	0.33
45	37	80.9	18.2	1	2.7	3.0	1.00
46	0	-4.5	0.9	0	-0.3	0.2	0.33
47	0	-4.5	0.9	0	-0.3	0.2	0.33
48	0	-4.5	0.9	0	-0.3	0.2	0.33
49	3	16.4	9.0	0	-0.3	0.2	0.33
50	2	9.4	7.4	0	-0.3	0.2	0.33
51	2	9.4	7.4	0	-0.3	0.2	0.33
52	0	-4.5	0.9	0	-0.3	0.2	0.33
53	4	23.4	10.4	0	-0.3	0.2	0.33
54	1	2.4	5.3	0	-0.3	0.2	0.33
55	1	2.4	5.3	0	-0.3	0.2	0.33
56	2	9.4	7.4	0	-0.3	0.2	0.33
57	0	-4.5	0.9	0	-0.3	0.2	0.33
58	2	9.4	7.4	0	-0.3	0.2	0.33
59	2	9.4	7.4	0	-0.3	0.2	0.33
60	0	-4.5	0.9	0	-0.3	0.2	0.33
61	0	-4.5	0.9	0	-0.3	0.2	0.33
62	2	9.4	7.4	0	-0.3	0.2	0.33
63	0	-4.5	0.9	0	-0.3	0.2	0.33
64	3	16.4	9.0	0	-0.3	0.2	0.33
65	1	2.4	5.3	0	-0.3	0.2	0.33
66	2	9.4	7.4	0	-0.3	0.2	0.33
67	2	9.4	7.4	0	-0.3	0.2	0.33
68	2	9.4	7.4	0	-0.3	0.2	0.33
69	0	-4.5	0.9	0	-0.3	0.2	0.33

CENTIMETERS





SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-23/24-92      FORM SERIAL NUMBER: Preliminary

	BETA-GAMMA		ALPHA		GAMMA/BETA-GAMMA			ALPHA
COUNTER NO.:	Tenn E		Tenn E		INSTRUMENT	E-520		ASP-1
BACKGROUND	1.95 CPM	CPM	.10 CPM	CPM	SERIAL NO.	5245		1891
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	1	N/A	1	See	N/A	N/A	Bkg.	Bkg.
			2	Attached			Avg.Bkg.=270 DPM	Avg.Bkg.=37.5 DPM
			3	Printout			Efficiency=13%	Efficiency=20.2%
			4					
			5					
			6					
			7					
			8					
			9					
			10					
			11					
			12					
			13					
			14					
			15					
			16					
			17					
			18					
			19					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 3-23/24-92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Tenn E		Tenn E			E-520		
BACKGROUND	1.95 CPM	CPM	.10 CPM	CPM	SERIAL NO.	5245		1891
EFFICIENCY	43.2 %	%	33.2 %	%	PROBE	7mg/cm <sup>2</sup>		AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER UR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	1	N/A	20	See	N/A	N/A	Bkg.	Bkg.
			21	Attached			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM
			22	Printout			Efficiency = 13%	Efficiency = 20.2%
			23					
			24					
			25					
			26					
			27					
			28					
			29					
			30					
			31					
			32					
			33					
			34					
			35					
			36					
			37					
			38					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

*[Signature]* DATE: 3-23/24-92 FORM SERIAL NUMBER: Preliminary

		GAMMA/BETA-GAMMA		ALPHA
	INSTRUMENT	E-520		ASP-1
CPM	SERIAL NO.	5245		1891
%	PROBE	7mg/cm <sup>2</sup>		AC-3

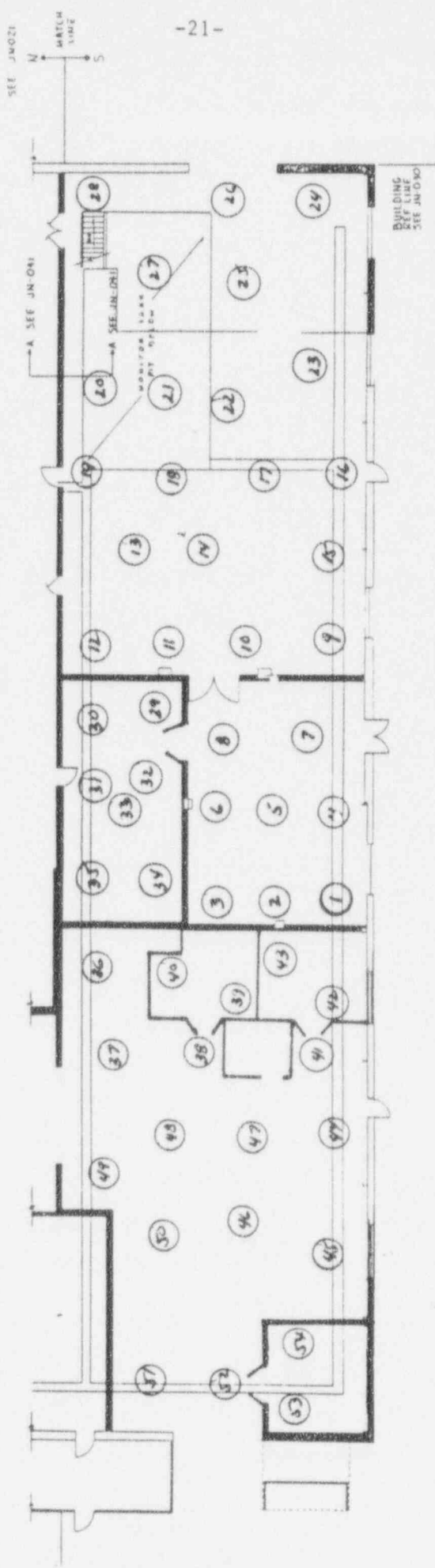
BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
9	1	N/A	39	See	N/A	N/A	Bkg.	Bkg.
			40	Attached			Avg. Bkg. = 270 DPM	Avg. Bkg. = 37.5 DPM
			41	Printout			Efficiency = 13%	Efficiency = 20.2%
			42					
			43					
			44					
			45					
			46					
			47					
			48					
			49					
			50					
			51					
			52					
			53					
			54					

SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

COUNTER NO.:	Tenn E		Tenn E		INST	
BACKGROUND	1.95	CPM	CPM	.10	CPM	SER:
EFFICIENCY	43.2	%	%	33.2	%	PROF

SAMPLE NUMBER	BETA COUNTS	BETA DPM	BETA 3 SIGMA	ALPHA COUNTS	ALPHA DPM	ALPHA 3 SIGMA	TIME MINS	GAMMA RADIATION
								ONE METER UR/Hour
1	2	9.4	7.4	0	-0.3	0.2	0.33	N/A
2	1	2.4	5.3	0	-0.3	0.2	0.33	
3	2	9.4	7.4	0	-0.3	0.2	0.33	
4	0	-4.5	0.9	0	-0.3	0.2	0.33	
5	0	-4.5	0.9	0	-0.3	0.2	0.33	
6	0	-4.5	0.9	0	-0.3	0.2	0.33	
7	1	2.4	5.3	0	-0.3	0.2	0.33	
8	0	-4.5	0.9	0	-0.3	0.2	0.33	
9	1	2.4	5.3	0	-0.3	0.2	0.33	
10	0	-4.5	0.9	0	-0.3	0.2	0.33	
11	0	-4.5	0.9	0	-0.3	0.2	0.33	
12	0	-4.5	0.9	0	-0.3	0.2	0.33	
13	1	2.4	5.3	0	-0.3	0.2	0.33	
14	1	2.4	5.3	0	-0.3	0.2	0.33	
15	1	2.4	5.3	0	-0.3	0.2	0.33	
16	0	-4.5	0.9	0	-0.3	0.2	0.33	
17	2	9.4	7.4	0	-0.3	0.2	0.33	
18	2	9.4	7.4	0	-0.3	0.2	0.33	
19	1	2.4	5.3	0	-0.3	0.2	0.33	
20	1	2.4	5.3	0	-0.3	0.2	0.33	
21	1	2.4	5.3	0	-0.3	0.2	0.33	
22	2	9.4	7.4	0	-0.3	0.2	0.33	
23	2	9.4	7.4	0	-0.3	0.2	0.33	
24	3	16.4	9.0	0	-0.3	0.2	0.33	
25	1	2.4	5.3	0	-0.3	0.2	0.33	
26	1	2.4	5.3	0	-0.3	0.2	0.33	
27	3	16.4	9.0	0	-0.3	0.2	0.33	
28	1	2.4	5.3	0	-0.3	0.2	0.33	
29	2	9.4	7.4	0	-0.3	0.2	0.33	
30	1	2.4	5.3	0	-0.3	0.2	0.33	
31	1	2.4	5.3	0	-0.3	0.2	0.33	
32	1	2.4	5.3	0	-0.3	0.2	0.33	
33	0	-4.5	0.9	0	-0.3	0.2	0.33	
34	1	2.4	5.3	0	-0.3	0.2	0.33	
35	1	2.4	5.3	0	-0.3	0.2	0.33	
36	1	2.4	5.3	0	-0.3	0.2	0.33	
37	4	23.4	10.4	0	-0.3	0.2	0.33	
38	1	2.4	5.3	0	-0.3	0.2	0.33	
39	3	16.4	9.0	0	-0.3	0.2	0.33	
40	0	-4.5	0.9	0	-0.3	0.2	0.33	
41	2	9.4	7.4	0	-0.3	0.2	0.33	
42	1	2.4	5.3	0	-0.3	0.2	0.33	
43	5	30.4	11.7	1	8.8	5.2	0.33	
44	1	2.4	5.3	0	-0.3	0.2	0.33	
45	39	85.5	18.7	0	-0.3	0.2	1.00	
46	0	-4.5	0.9	0	-0.3	0.2	0.33	
47	1	2.4	5.3	0	-0.3	0.2	0.33	
48	0	-4.5	0.9	0	-0.3	0.2	0.33	
49	0	-4.5	0.9	0	-0.3	0.2	0.33	
50	0	-4.5	0.9	0	-0.3	0.2	0.33	
51	1	2.4	5.3	0	-0.3	0.2	0.33	
52	0	-4.5	0.9	0	-0.3	0.2	0.33	
53	0	-4.5	0.9	0	-0.3	0.2	0.33	
54	0	-4.5	0.9	0	-0.3	0.2	0.33	

NTIMETERS



REV	DATE	DESCRIPTION	BY	CHK	APP	DATE	PROJECT NO.	PROJECT NAME	SCALE	SHEET NO.	TOTAL SHEETS
1											
PARTS LIST											
BUILDING FIRST FLOOR BUILDING NO. 9 WAREHOUSE LARGE PA											
PROJECT NO. JN-020 SHEET NO. A											

**LEGEND**  
 [Symbol] BRICK  
 [Symbol] CONCRETE BLOCK EXT  
 [Symbol] CONCRETE BLOCK INT  
 [Symbol] DRYWALL & PANELING  
**SCALE: FEET**  
 0 5 10 15 20 25





LOCATION : <u>Bldg 9</u>	SURVEYOR : "HMP STAFF"	SURVEY DATE <u>3-30-92</u>
<u>VENTILATION DUSTS</u>	COUNTED BY : "HMP STAFF"	COUNT DATE <u>3-30-92</u>

COUNTER NUMBER	BETA/GAMMA		ALPHA	
	<u>CANBERRA</u>		<u>CANBERRA</u>	
BACKGROUND (CPM)	<u>1.80</u> CPM	CPM	<u>.20</u> CPM	CPM
EFFICIENCY (%)	<u>17.1</u> %	%	<u>36.6</u> %	%

ACTIVITY IN: MICROCURIES  DPM  CPM

	α	β		α	β		α	β		α	β		α	β
1	0	13	21				61					81		
2	0	0	22				62					82		
3	0	13	23				63					83		
4	0	36	24				64					84		
5	0	13	25				65					85		
6	0	0	26				66					86		
7	0	13	27				67					87		
8	0	0	28				68					88		
9			29				69					89		
10			30				70					90		
11			31				71					91		
12			32				72					92		
13			33				73					93		
14			34				74					94		
15			35				75					95		
16			36				76					96		
17			37				77					97		
18			38				78					98		
19			39				79					99		
20			40				80					100		

REMARKS : — <200 DPM / 100cm<sup>2</sup> βT — <10 DPM / 100cm<sup>2</sup> α

SMARS LOCATION  
 1-5 - - - - - A  
 6-8 - - - - - B



SURVEY TYPE: ROUTINE <input type="checkbox"/> SPECIAL <input type="checkbox"/> RWP <input checked="" type="checkbox"/> (RWP # )		SURVEY DATE: 3-30-92
LOCATION: BLDG 9		SURVEY TIME: 1400
INSTRUMENT: PAC 4G	SERIAL # 4478	PROBE TYPE: AC-21 B
INSTRUMENT: ASP-1	SERIAL # 1891	PROBE TYPE: AC-3

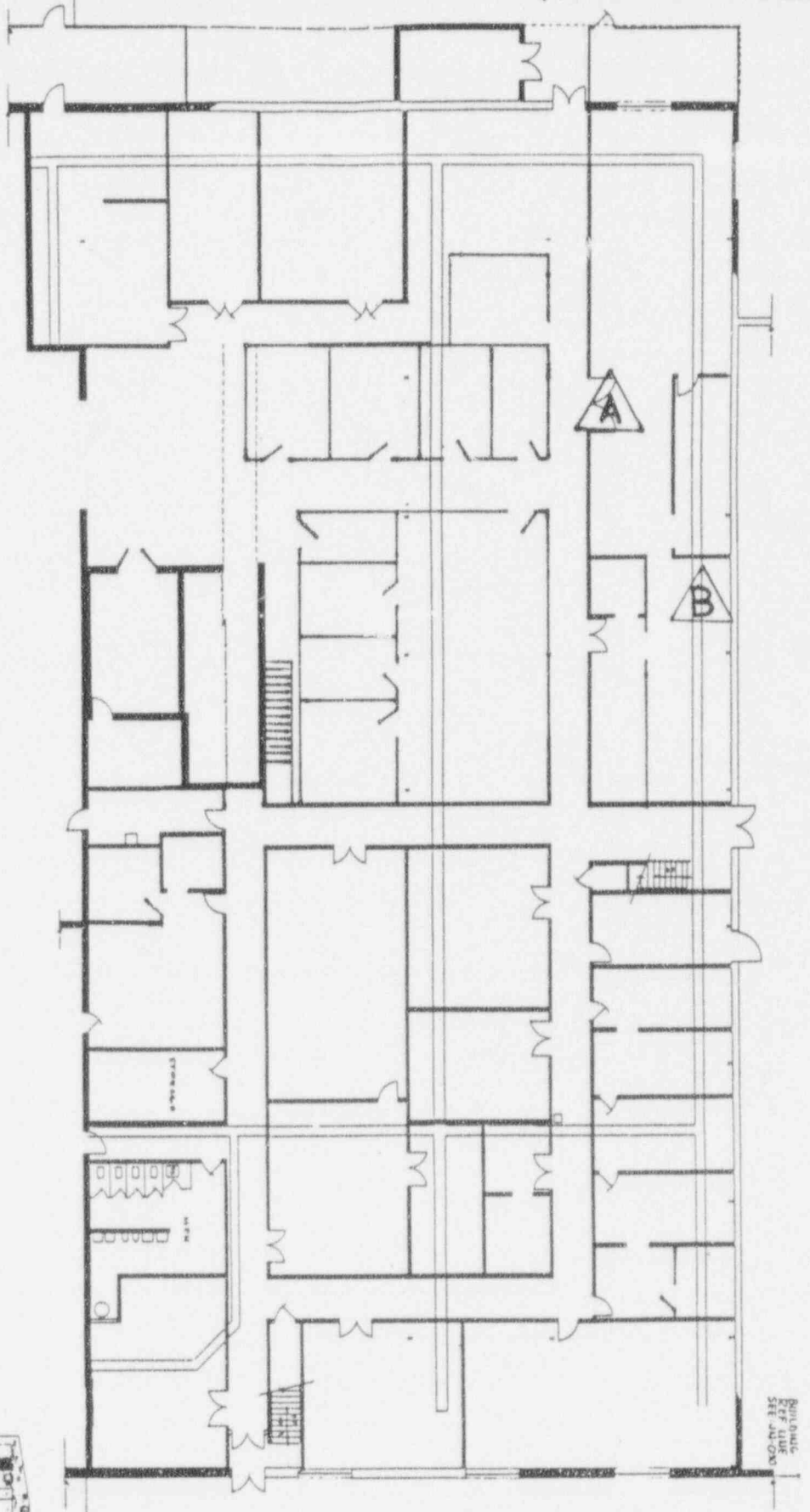
DESCRIPTION OF SURVEY		
	BETA CONTACT	ALPHA CONTACT
	NET DPM/100 cm <sup>2</sup>	NET DPM/100 cm <sup>2</sup>
SAMPLE LOCATN 'A' INSIDE DUCT	473 DPM	≤ BKG
SAMPLE LOCATN 'B' INSIDE DUCT	≤ BKG	≤ BKG

SKETCH

SEE ATTACHED MAP FOR  
SURVEY POINTS A & B.

	AC-3 ASP-1	REMARKS	AC-21 B PAC4G
EFFICIENCY	20.2 %		63.4 %
AVG. BKG.	37.1 DPM / 50 cm <sup>2</sup>		473 DPM / 50 cm <sup>2</sup>
AVG. BKG.	74.2 DPM / 100 cm <sup>2</sup>		946 DPM / 100 cm <sup>2</sup>
H.P. SIGNATURE			DATE:

△ DENOTES SURVEY LOCATIONS



BUILDING  
KEY LIND  
SEE JN-021

-22-

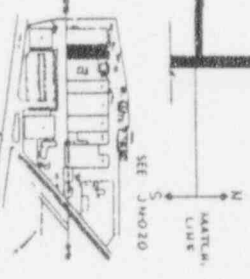
**LEGEND**

EXTERIOR FINISH  
CONCRETE BLOCK EXT  
CONCRETE BLOCK INT  
BRICK WALL & FINISHING

**SCALE: FEET**

0 5 10 15 20 25

NO.	DESCRIPTION	DATE	BY	REVISION
1	ISSUED FOR CONSTRUCTION	10/1/71	JN	
2	REVISED TO SHOW CHANGES	10/1/71	JN	
3	REVISED TO SHOW CHANGES	10/1/71	JN	
4	REVISED TO SHOW CHANGES	10/1/71	JN	
5	REVISED TO SHOW CHANGES	10/1/71	JN	
6	REVISED TO SHOW CHANGES	10/1/71	JN	
7	REVISED TO SHOW CHANGES	10/1/71	JN	
8	REVISED TO SHOW CHANGES	10/1/71	JN	
9	REVISED TO SHOW CHANGES	10/1/71	JN	
10	REVISED TO SHOW CHANGES	10/1/71	JN	
11	REVISED TO SHOW CHANGES	10/1/71	JN	
12	REVISED TO SHOW CHANGES	10/1/71	JN	
13	REVISED TO SHOW CHANGES	10/1/71	JN	
14	REVISED TO SHOW CHANGES	10/1/71	JN	
15	REVISED TO SHOW CHANGES	10/1/71	JN	
16	REVISED TO SHOW CHANGES	10/1/71	JN	
17	REVISED TO SHOW CHANGES	10/1/71	JN	
18	REVISED TO SHOW CHANGES	10/1/71	JN	
19	REVISED TO SHOW CHANGES	10/1/71	JN	
20	REVISED TO SHOW CHANGES	10/1/71	JN	
21	REVISED TO SHOW CHANGES	10/1/71	JN	
22	REVISED TO SHOW CHANGES	10/1/71	JN	
23	REVISED TO SHOW CHANGES	10/1/71	JN	
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25	REVISED TO SHOW CHANGES	10/1/71	JN	
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91	REVISED TO SHOW CHANGES	10/1/71	JN	
92	REVISED TO SHOW CHANGES	10/1/71	JN	
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94	REVISED TO SHOW CHANGES	10/1/71	JN	
95	REVISED TO SHOW CHANGES	10/1/71	JN	
96	REVISED TO SHOW CHANGES	10/1/71	JN	
97	REVISED TO SHOW CHANGES	10/1/71	JN	
98	REVISED TO SHOW CHANGES	10/1/71	JN	
99	REVISED TO SHOW CHANGES	10/1/71	JN	
100	REVISED TO SHOW CHANGES	10/1/71	JN	



APPENDIX L

HYDROGEN BUILDING

SURVEYOR: Larry Smith      SIGNATURE: *Larry Smith*      DATE: 4/2/92      FORM SERIAL NUMBER: Preliminary

COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	.85 CPM	CPM	.20 CPM	CPM	SERIAL NO.	4478		1891
EFFICIENCY	17.1 %	%	32.6 %	%	PROBE	AC-21B		AC-3

BUILDING/AREA	FLOOR	GRID	SHEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
HYDROGEN FACILITY	1	N/A	1	5	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
			2	0				
			3	5				
			4	0				
			5	0				
			6	0				
			7	0				
			8	0				
			9	0				
			10	0				
			11	0				
			12	0				
			13	0				
			14	5				
			15	5				
			16	0				
			17	0				
			18	0				
			19	0				

SHEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS

SURVEYOR: Larry Smith	SIGNATURE: <i>Larry Smith</i>	DATE: 4/2/92	FORM SERIAL NUMBER: Preliminary
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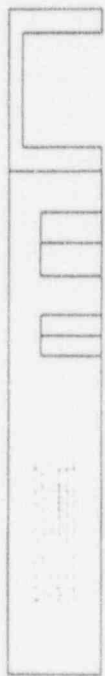
COUNTER NO.:	BETA-GAMMA		ALPHA		INSTRUMENT	GAMMA/BETA-GAMMA		ALPHA
	Canberra	MS-2	Canberra	SAC-4		PAC-4G		
BACKGROUND	.85 CPM		.20 CPM		SERIAL NO. 4478			1891
EFFICIENCY	17.1 %		32.6 %		PROBE AC-21B			AC-3

BUILDING/AREA	FLOOR	GRID	SMEAR		GAMMA RADIATION ONE METER uR/Hour	BETA-GAMMA RADIATION CONTACT mR/Hour	BETA RADIATION CONTACT DPM/100 SQUARE CM	ALPHA RADIATION CONTACT DPM/100 SQUARE CM
			ALPHA	BETA				
HYDROGEN FACILITY	1	N/A	20	0	N/A	N/A	≤ Bkg. Unless specified	≤ Bkg. Unless specified
	↓	↓	21	0	↓	↓		
Efficiency: 63.4%							Efficiency: 20.2%	
Avg. Bkg: 1183 DPM							Avg. Bkg: 74.3 DPM	
Per 100 cm <sup>2</sup>							Per 100 cm <sup>2</sup>	

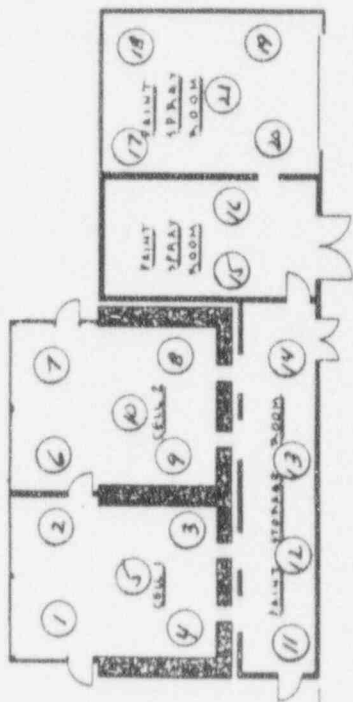
SMEAR LEVELS ARE IN UNITS OF DPM/100 SQUARE CENTIMETERS



PAGE 3 OF 3

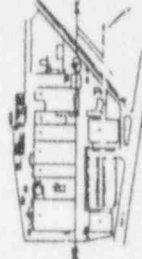


ELEVATION



2x5" 0"

BUILDING REF. LINE  
SEE JN-030



O - DESIGNATES SURUSH JOINTS

REV	DATE	DESCRIPTION	BY	CHKD

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL

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