

MARTIN MARIETTA ASTRO SPACE

POST OFFICE BOX 8555
PHILADELPHIA, PENNSYLVANIA 19101

March 29, 1995

Mr. John D. Kinneman
Chief, Site Decommissioning Section
Division of Radiation Safety and Safeguards
United States Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

RE: Retired License Nos. SMB-01005 & 37-02006-06

Docket #
040-08023
(Retired)

Dear Mr. Kinneman:

This responds to your July 28, 1994 request for information regarding the survey and release of various facilities listed for use on retired NRC License Nos. SMB-01005 and 37-02006-06.

Regarding retired License No. SMB-01005, documents relating to the closeout activities at the Third Avenue, King of Prussia site, and the Morgantown Test Facility in Elverson are enclosed as attachments "A" and "B" respectively. No survey/release documents relating to the Allendale Road site have been located to date.

Please note that none of these three facilities were transferred to Martin Marietta Corporation (MMC) when MMC purchased the assets of General Electric Aerospace in 1993, and MMC has never owned, leased or controlled any of these facilities. In fact, none of these facilities were listed on NRC License No. SUB-831 when that license was transferred to MMC in 1993.

Regarding retired License No. 37-02006-06, documents relating to closeout activities for Rooms U8614 and U8604 of Building 100 at Goddard Boulevard are enclosed at Attachment "C". No survey/release documents relating to any of the other facilities referred to in your July 28, 1994 letter have been located.

Again, please be advised that several facilities listed on retired License No. 37-02006-05 were never transferred from GE to MMC in 1993 -- these include D and Luzerne Streets, D and Schuylkill Streets, GE High Power Laboratory at 7500 Eastwick Avenue and 401 E. Hunting Park Avenue, Cabot, Cabot and Forbes Building No. 1 at Allendale Road, and Morgantown Test Facility in Elverson. MMC has never owned, leased, or otherwise controlled any of these properties.

D-69

John D. Kinneman

March 29, 1995

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Additionally, several of the facilities/sites listed on retired License No. 37-02006-06 were not listed on License No. 37-02006-05 when the latter was transferred from General Electric to MMC in 1993. These facilities/sites include Green River Launch Site, White Sands Missile Range, Hickum AFB, Morgantown Test Facility in Elverson, and D and Schuylkill Streets. Further, MMC has never engaged in any licensed activities at Vandenberg AFB or Cape Kennedy AFS, where we understand radioactive material use by GE was discontinued in the 1980's.

Your letter specifically requests information regarding any facilities licensed under retired License No. SMB-01005 or 37-02006-06 that have been vacated or sold by MMC. Of the facilities transferred to MMC in 1993, only the facility at 3198 Chestnut Street has been sold or vacated by MMC. That facility was recently removed from License No. 37-02006-05 (by Amendment 45) after full closeout surveys were performed.

As explained above, the facilities which are the subject of your inquiry were, with few exceptions, long ago vacated by GE and were never transferred to MMC. We have been unable to locate further documents pertaining to these facilities. I hope the information we have been able to supply is helpful to you.

Very truly yours,


John L. Andrews
Radiation Safety Officer

cc: S. J. Mucha, M.D.

M. West

E. Wisser

M.A. Warner, M.D.

ATTACHMENT A

Oesterling Consulting Service

717 South Park Avenue
Audubon, Pennsylvania 19407

215-666-6048

8 January 1982

DECONTAMINATION AND SURVEY REPORT PROJECT GEARED 81-2

Facility: Impact test room operated by the General Electric Advanced Energy Department in bldg. ~~5~~⁷, Third Ave., King of Prussia, PA.

8 is correct.

Radioactive Material: As stated by the General Electric Co. representatives, the radioactive material was natural thorium as the oxide.

Guidelines for Surface Decontamination for Decommissioning Facilities:

The US Nuclear Regulatory Commission has the following guidelines for residual contamination by natural thorium:

Direct measurement -- 1000 dpm/100 cm² averaged over one square meter
-- 3000 dpm/100 cm² maximum in any 100 cm² area

Removable by wipe sample -- 200 dpm/100 cm² maximum

Instrumentation and Calibration: For both direct and wipe sample measurements, the detector was a thin window Geiger-Müller tube sensitive to both alpha and beta radiations. The detector was connected to a count ratemeter for direct measurements and to a scaler for wipe sample measurements. Calibration was performed on 28 December 1981. The release survey was performed from 28 December 1981 through 31 December 1981.

A natural thorium standard of suitable quality was unavailable. Consequently, counting efficiencies were determined for two beta spectra with different maximum energies and for one alpha emitter. The results were as follows:

Nuclide Standard	Counting Efficiency
Co60	0.29
C136	0.35
Pu239	0.12

The three counting efficiencies were combined with the observation that alpha and beta emissions from natural thorium are about equal in a thin sample. The resulting composite counting efficiency = 0.21.

The detector sensitive area is 65 cm². The background count rate was nearly constant at an average value of 80 cpm. The yielded minimum detectable activities at the 95% confidence level of 60 dpm with a 30 second count on a wipe and 150 dpm/100 cm² direct.

Wipe samples were taken with hard surface paper as recommended by the USNRC. Areas of 1000 cm² were wiped. If detectable activity was observed in that area, then areas of 100 cm² were wiped in the suspect area.

Decontamination Method: Virtually all decontamination was performed by disassembly of structures followed by wiping with detergent solutions. Porous materials, such as wood and floor tile, with a high probability of contamination were disposed directly to contaminated waste. Most small items of low value were disposed to radioactive waste.

Survey Results: A comprehensive survey was performed after completion of decontamination to confirm the status of the facility. The results are tabulated in Table I.

Conclusions and Recommendations: The survey results indicate that the facility can be released and decommissioned. The only item with any significant contamination is the granite block. The radiation level from the granite appears to be intrinsic, since the same levels were observed in an area where the surface had been chipped away to accomplish decontamination.



Richard G. Oesterling,
Certified Health Physicist (70-17)

TABLE I
SURVEY RESULTS

Location	Direct (dpm/100cm ²)		Removable (dpm/100cm ²)	
	average	maximum	average	maximum
1. Floor area under and east from framework	<150	290	<20	<60
2. Floor area west from framework	<150	600	<20	<60
3. Frame support rails	<150	200	<20	<60
4. Catch box door	<150	290	<20	<60
5. Catch box side plate	<150	<150	<20	<60
6. Catch box top plate	<150	210	<20	<60
7. Granite block flange	<150	500	<60	<60
8. Granite block support plate	<150	<150	<20	<60
9. Muzzle support structure	<150	<150	<20	<60
10. Gun muzzle & barrel	<150	<150	<20	<60
11. Projectile carrier	<150	<150	<60	<60
12. Granite block from room	880	880	<20	<60
13. Catch box tray	<150	<150	<20	<60
14. Camera	<150	<150	<60	<60
15. Camera stand & floor plate	<150	<150	<60	<60
16. Room walls	<150	<150	<20	<60
17. Room ceiling & light fixture	<150	<150	<20	<60
18. Crane standards, wheels, casters	<150	<150	<20	<60
19. Crane bridge rail	<150	290	<20	<60
20. Exhaust fan inner surfaces	<150	<150	<60	<60
21. Exhaust ductwork	<150	<150	<20	<60
22. Assorted metal and plastic plate	<150	<150	<20	<60

Oesterling Consulting Service

717 South Park Avenue
Audubon, Pennsylvania 19407
215-666-6048
2 July 1981

Ms. Veronica Konrad
General Electric Co.
Advanced Energy Dept.
King of Prussia, Pa

Dear Ms. Konrad:

The work on purchase order J19000DE5227 has been completed with the delivery of the enclosed survey report. Also attached is an invoice for services.

Please note in the survey report that, although the contamination levels are low, there are inaccessible locations which have a high probability of contamination greater than the NRC guidelines. Therefore, I can't recommend releasing this facility without further decontamination..

I was able to effect some savings which are reflected in the invoice.

Thank you for the opportunity to be of service.

Sincerely yours,



Richard G. Oesterling,
Certified Health Physicist (70-17)

cc: S. Dadd w/ report
A. W. Kobylinski
w/ report
T. Waddell w/report
& invoice

Oesterling Consulting Service

717 South Park Avenue
Audubon, Pennsylvania 19407
215-666-6048

2 July 1981

SURVEY REPORT - PROJECT GEAED81-1

Facility: Impact test room operated by the General Electric Advanced energy Department in bldg. 8, Third Ave., King of Prussia, Pa.

Radioactive material and NRC surface contamination guidelines:

direct measurement		removable
average	maximum	
1000 dpm/100cm ²	3000 dpm/100cm ²	200 dpm/100cm ²

Survey meter: Eberline model PAC-4G alpha survey meter calibrated through August 1981.

Survey Results:

<u>Location</u>	<u>Direct dpm/100cm²</u>	<u>Removable dpm/100cm²</u>
1. accessible floor area	<25	<10
2. under COPA gun muzzle	5000 max.	
3. catch box interior	<200	<20
4. granite block outside catch box	<200	<20
5. exterior surfaces of framework	<200	<20
6. camera and stand	<200	<20
7. room walls	<200	<20
8. crane	<200	<20
9. metal stand	<200	<20
10. COPA gun muzzle	<200	<20
11. granite block inside catch box	500	<200
12. catch box interior	<200	<50

Conclusions and recommendations:

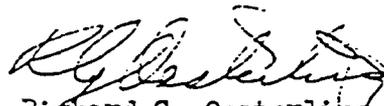
The survey results indicate that the room generally can be released. Item #2 indicates contamination under the catch box framework which exceeds the NRC guidelines for surface contamination. The location surveyed for item #11 was such that the instrument probe was unable to the surface most heavily contaminated.

→ access

Survey Report - Project GEAED81-1 p. 2

The recommendation at this time is to decontaminate the area under the catch box and the granite block surface inside the catch box. The recommended work would require disassembly of the catch box framework. In addition, the interior of the exhaust duct should be surveyed. This survey requires dismantling of the duct, which was beyond the scope of this project.

The overall conclusion is that the facility should not be released for general use until the recommended decontamination has been performed.



Richard G. Cesterling,
Certified Health Physicist (70-17)

ATTACHMENT B

GENERAL ELECTRIC

COMPANY

RADIATION SURVEY RECORD

MISSILE AND

SPACE DIVISION

No. <u>1</u>	Date <u>4/6/72</u>	Time	Routine <input type="checkbox"/> Special <input type="checkbox"/>
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Location: MORGANTOWN

Reason For Special Survey: FINAL CLEANUP

No.	ITEMS	DOSE RATES				READINGS		SMEAR		DIST
		β mrem/hr	γ mr/hr	Neutron mrem/hr	Total mrem/hr	$\beta\gamma$ cpm	α cpm	$\beta\gamma$ cpm	α cpm	
1	<u>Air Tanks</u>								<u>0</u>	
2	<u>"</u>								<u>0</u>	
3	<u>RAD MATERIALS BOX</u>								<u>0</u>	
4	<u>"</u>								<u>0</u>	
5	<u>Oven</u>								<u>0</u>	
6	<u>"</u>								<u>0</u>	
7	<u>Camera</u>								<u>0</u>	
8	<u>"</u>								<u>0</u>	
9	<u>OVEN</u>								<u>0</u>	
10	<u>"</u>								<u>0</u>	
11	<u>MISC. BOXES</u>								<u>0</u>	
12	<u>"</u>								<u>0</u>	
13	<u>"</u>								<u>0</u>	
14	<u>"</u>								<u>0</u>	

COMMENTS: ALL RADIATION SURVEYS BACKGROUND
(LESS THAN 0.1 MR/HR)

SURVEYOR RO McClinton

GENERAL ELECTRIC

COMPANY

RADIATION SURVEY RECORD

MISSILE AND

SPACE DIVISION

No. <u>2</u>	Date <u>4/6/72</u>	Time	Routine <input type="checkbox"/> Special <input type="checkbox"/>
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Location: MORGANTOWN

Reason For Special Survey: Final cleanup

No.	ITEMS	DOSE RATES				READINGS		SMEAR		DIST
		β mrem/hr	γ mr/hr	Neutron mrem/hr	Total mrem/hr	$\beta\gamma$ cpm	α cpm	$\beta\gamma$ cpm	α cpm	
1	Chair							1		
2	"							1		
3	metal							0		
4	dustpan							0		
5	sledge hammer							1		
6	outside vacuum							2		
7	"							1		
8	Camera							0		
9	"							1		
10	TONGS							0		
11	Block							0		
12	IMPACT ROOM							0		
13	"							3		
14	"							2		

COMMENTS:

SURVEYOR *P. M. ...*

GENERAL ELECTRIC

COMPANY

RADIATION SURVEY RECORD

MISSILE AND

SPACE DIVISION

No. 3	Date 4/6/72	Time	Routine <input type="checkbox"/> Special <input type="checkbox"/>
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Location: *MORGANTOWN*

Reason For Special Survey: *FINAL CLEANUP*

No.	ITEMS	DOSE RATES				READINGS		SMEAR		DIST
		β mrem/hr	γ mr/hr	Neutron mrem/hr	Total mrem/hr	β cpm	α cpm	β cpm	α cpm	
1	<i>UPSTAIRS IMPACT RM</i>							0		
2	<i>"</i>							0		
3	<i>"</i>							0		
4	<i>BOX MISCEL.</i>							0		
5	<i>"</i>							0		
6	<i>RECORDER</i>							0		
7	<i>CAMERA-H.P. BLOC</i>							0		
8	<i>"</i>							0		
9	<i>"</i>							0		
10	<i>"</i>							0		
11	<i>CONTROL RM IMPACT BLOC</i>							0		
12	<i>"</i>							0		
13	<i>"</i>							0		
14	<i>"</i>							0		

COMMENTS:

SURVEYOR *Ed McVick*

GENERAL ELECTRIC

COMPANY

RADIATION SURVEY RECORD

MISSILE AND

SPACE DIVISION

No. <u>4</u>	Date <u>4/6/72</u>	Time	Routine <input type="checkbox"/> Special <input checked="" type="checkbox"/>
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Location: MORGANTOWN

Reason For Special Survey: FINAL CLEANUP

No.	ITEMS	DOSE RATES				READINGS		SMEAR		DIST
		β mrem/hr	γ mr/hr	Neutron mrem/hr	Total mrem/hr	$\beta\gamma$ cpm	α cpm	$\beta\gamma$ cpm	α cpm	
1	<u>WOODEN BOXES</u>								<u>0</u>	
2	<u>"</u>								<u>0</u>	
3	<u>"</u>								<u>3</u>	
4	<u>"</u>								<u>1</u>	
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

COMMENTS:

SURVEYOR *Ed McVick*

ATTACHMENT C



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

MAR 22 1991

Docket No. 040-07344

License No. SUB-831

General Electric Company
ATTN: John F. McLaverty
Senior Industrial Hygienist
P.O. Box 8555
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: Closeout Survey

This refers to your letter dated January 11, 1991 providing a closeout survey for Area U8614 of Building 100 at your Valley Forge facility.

Thank you for informing us of the actions documented in your letter. Based on the results of your survey, this area may be released for unrestricted use.

Your cooperation with us is appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Kinneman", written over a circular stamp.

John D. Kinneman, Chief
Nuclear Materials Safety Section B
Division of Radiation Safety
and Safeguards

cc:
Public Document Room (PDR)
Nuclear Safety Information Center (NSIC)
Commonwealth of Pennsylvania



GE Aerospace

R50
File

General Electric Company
PO Box 2555 Philadelphia, PA 19101
215 354-1300

100-U8614

February 15, 1991

U.S. Nuclear Regulatory Commission
Division of Radiation Safety & Safeguards
Region 1
475 Allendale Road
King of Prussia, PA 19406

Subject: Notification of Disposition of Equipment and Facility Release
For Unrestricted Use

References: License No. SUB-831
37-02006-05

Gentlemen:

A radiation survey was conducted on February 7, 8, and 11, 1991 at General Electric Valley Forge in U8614 of Building 100 which is designated as the Radioactive Material Use Lab. The purpose of the survey was to assure that prior to renovation work no contamination would be present in and around the glove box, exhaust hood, workbench, and storage cabinet where radioactive materials were used or stored and that these specific items could then be processed as surplus materials.

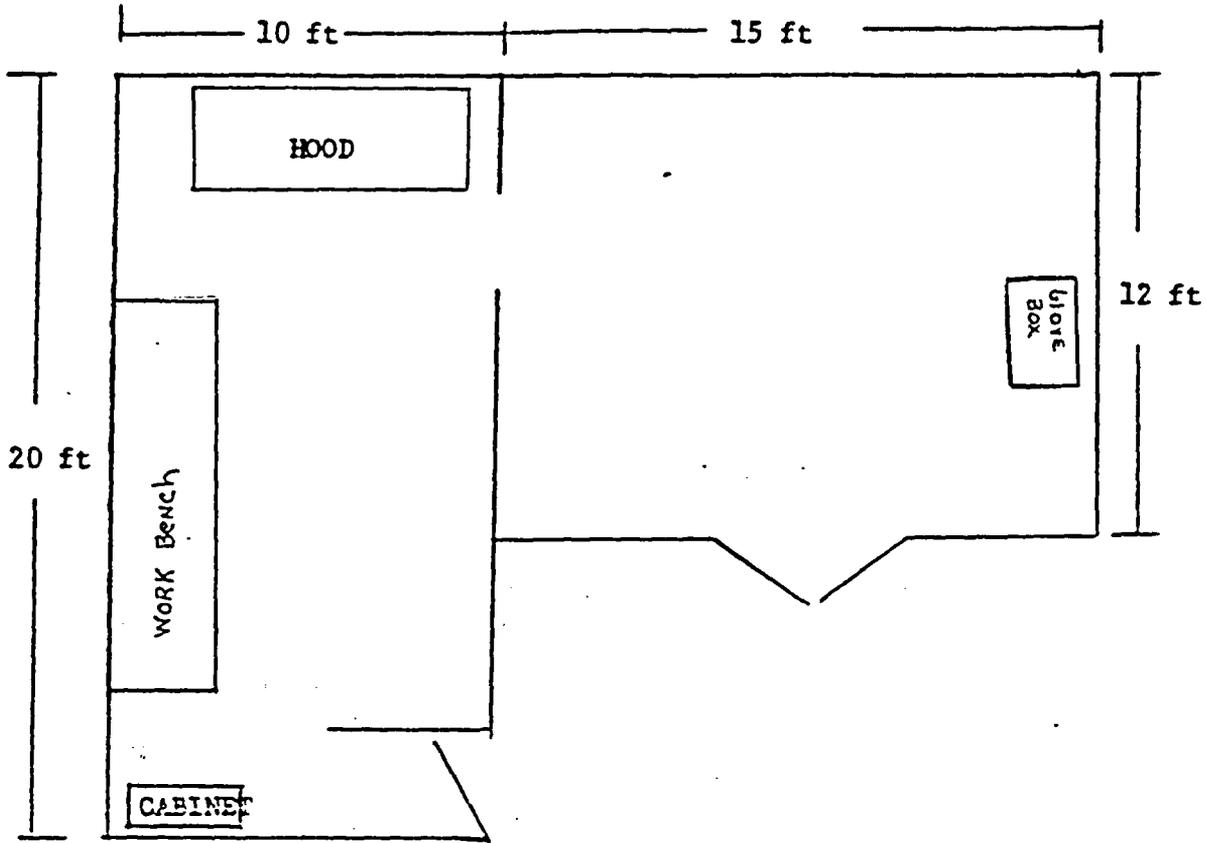
The area in question is scheduled for renovation beginning in early March, 1991. The laboratory along with adjacent rooms are being converted to an Assembly and Inspection Area.

A sketch of the dimensions of the room in which these items are found is enclosed in this report for your review. The glove box measures 3.5'x 5'x 2' with a work area of approximately 3'x 3'x 2'. The Hepa filtered exhaust hood measures 7.5'x 6'x 6' with a work area of approximately 7'x 3'x 3'. The workbench measures 10'x 3'x 3'. The cabinet measures 6'x 3'x 1.5'. Radioactive materials were stored on the bottom shelf of the cabinet.

The radioactive material used in this area was depleted uranium. For approximately ten years there has not been a need to utilize radioactive materials or the above equipment.

The most significant portion of the survey involved the exhaust hood where the four HEPA filters needed to be removed. The filters were removed, bagged, and labeled as radioactive materials and stored in our Health Physics vault. There was some debris on the filter housing (rust, dirt, filter degradation) which was washed down with a detergent solution. This material was bagged and placed with the filters in the vault. The hood, workbench, glove box, and cabinet were then monitored for fixed and removable contamination.

Fixed beta and gamma radiation was measured using an Eberline Model RM-20 Radiation Monitor with an HP-260 hand probe (windows thickness 1.4 to 2.0 mg/cm², mica). An Eberline E-520 Geiger Counter with an HP-270 hand probe (window thickness 30 mg/cm²) was also used to obtain radiation levels from the surfaces of the equipment.



RADIOACTIVE MATERIAL USE LAB ROOM U8614 KING OF PRUSSIA

MARTIN MARIETTA CORPORATION**ASTRO SPACE
P.O. BOX 8555
PHILADELPHIA, PA 19101
PHONE: (215) 354-1000
FAX: (215) 354-3974**

January 25, 1994

Mr. Eric Reber
Nuclear Materials Safety Branch
US Nuclear Regulatory Commission, Region 1
475 Allendale Road
King of Prussia, PA 19406-1415

Subject: Final Radiation Survey, Room U8609⁴ in Bldg. 100, King of Prussia Facility.
Notification of Release for Unrestricted Use

Reference: NRC License No's. 37-02006-5, SUB-831

Our Room U8609⁴ is a radioactive materials laboratory slated for alternate use. This room is in Bldg. 100 at our Mall Bl'vd. (formerly Goddard Bl'vd.) facility in King of Prussia. The room had been used for preparation of radioactive samples for laboratory study including some machining operations. Samples included byproduct and thoria-containing material.

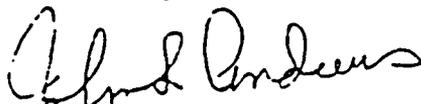
A close out (final) radiation survey was recently conducted in this room; its purpose was to identify removable radioactive contamination still present, if any. As RSO, I conducted the measurements by taking swipes at 14 locations and then performing readouts using our Nuclear Measurements Corp. Model PC-55 proportional gas radiation counter which is sensitive to alpha, beta and gamma radiation. This instrument was last calibrated by RMC Calibration Services on Nov. 19, 1993.

The attached two pages detail the swipe locations and results. Where there was a non-zero alpha first reading, a second swipe was taken and read as any real contamination would result in a second non-zero reading.

All locations were found to be at background levels and we therefore conclude the area is releasable for unrestricted usage. Please review and certify this conclusion relative to Room U8609; there is a plan to repaint the room in a few weeks to prepare it for the alternate use.

If there are any questions or concerns regarding this matter, please contact the undersigned at (610) 354-3840.

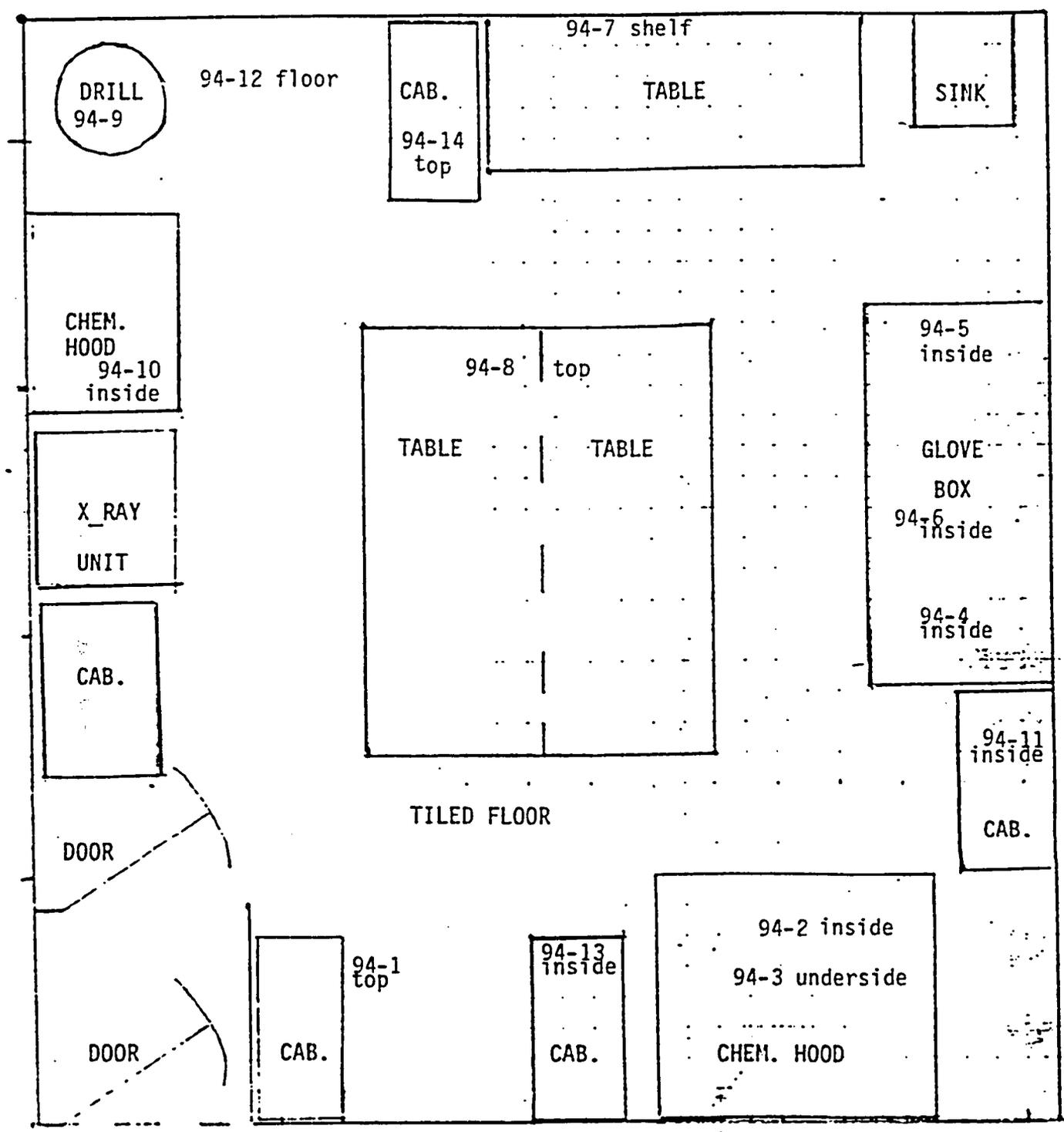
Sincerely,



John L. Andrews
Radiation Safety Officer, Martin Marietta Corp.

16.5 feet, room width

22.5 feet, room length



ROOM U8609 layout and swipe locations

4

Swipe Readings, U8609 (1/94)

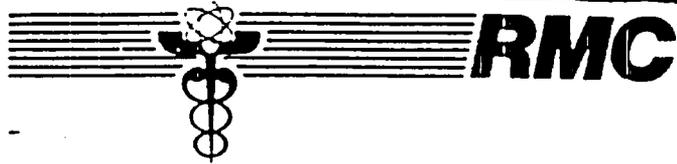
SWIPE #	FIRST READING*		SECOND READING*	
	alpha	beta/gamma	alpha	beta/gamma
94-1	0	35		
94-2, A	1	36	1 *	31
94-3	0	37		
94-4, A	1	40	0	31
94-5, A	2	30	0	35
94-6	0	47		
94-7	0	29		
94-8	0	29		
94-9	0	26		
94-10	0	37		
94-11	0	32		
94-12	0	26		
94-13, A	2	39	0	20
94-14, A	1	21	0	27
bkg'd	0	41	0	44

*: Occured at reset.

Date 1/14/1994

1/20/1994

*: One minute count time for all readings.



CERTIFICATE OF CALIBRATION

Radiation Management Consultants certifies that the instrument listed below was calibrated and inspected before shipment and has met the manufacturer's published specifications. RMC certifies that our calibration measurements are traceable to the National Bureau of Standards. Applicable corrections are made to correct to 22°C and 760 mmHg.

RMC SERVICE NO. _____ 018022
 INSTRUMENT IDENTIFICATION NMC (Manufacturer) PC-55 (Model) 81-2712-1 (Serial Number)

CALIBRATION SOURCE ID. 90 Sr7Y SN9108 99 Tc SN78A/8A 60Co S/N 14
210Pb S/N 8102 137Cs S/N 122 230Th S/N 1312 239Pu S/N P-1858

INSTRUMENT READING

RANGE	CALIBRATION POINT	Before Adjustment		After Calibration	
		AVERAGE RESPONSE		4πEFF RESPONSE	
	0.0096 μCi ⁹⁰ SrY	11560	CPM	55.3 %	FOR BETA-GAMMA
	0.0102 μCi ⁹⁹ Tc	13250	CPM	58.4 %	FOR BETA-GAMMA
	0.397 μCi ⁶⁰ Co	6900	CPM	0.78%	FOR BETA-GAMMA
	0.00258 μCi ²³⁹ Pu	3258	CPM	51.0 %	FOR ALPHA
	0.00258 μCi ²³⁹ Pu	490	CPM	7.6 %	FOR BETA-GAMMA
	0.0027 μCi ²¹⁰ Pb	2600	CPM	43.3 %	FOR ALPHA
	0.0027 μCi ²¹⁰ Pb	5900	CPM	98.2 %	FOR BETA-GAMMA
	6.258 μCi ¹³⁷ Cs	240300	CPM	1.73%	FOR BETA-GAMMA
	0.0073 μCi ²³⁰ Th	6780	CPM	41.8 %	FOR ALPHA
	0.0073 μCi ²³⁰ Th	5181	CPM	32%	FOR BETA-GAMMA
	TEST SWITCH @ 3600 CPM @ 0.1 MIN	360	COUNTS		
	@ 1.0 MIN	3600			

COMMENTS

TEST SWITCH AND TIMER CIRCUIT TESTED BEFORE ANY RESPONSES TAKEN

Calibration Performed by Harold W. Harber Date Nov. 19, 1993

I certify that the above information is correct.

Authorized Agent C. E. McRae Title RSD Date 11-20-93

(RMC is not responsible for damage incurred during shipment or use of this instrument)

Interoffice Memo



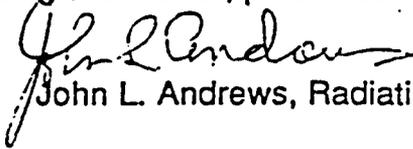
August 16, 1994

To: Lou Stilp, Facilities

Subject: Supplement to Final Radiation Survey*, Room U8604, Bldg. 100

Additional swipe tests have been done, similar to the last Survey, to identify removable radioactive contamination in the overhead exhaust ducting for Room U8604 (the 'beryllium' room) and on the personnel platform used to change filters. These tests found only background levels and thus the ducting work requires no work restrictions due to radioactivity concerns. Detailed swipe data is recorded below.

If there are any questions or concerns regarding this matter, please contact me.


John L. Andrews, Radiation Safety Officer
ext. 4-3840

SWIPE RESULTS FOR U8604 OVERHEAD DUCT AREA

Location	Swipe #	Readings	
		alpha	beta/gamma
Platform floor	8-3	1	28
Duct floor, ahead of prefilter	8-1	1	12
Duct side, ahead of prefilter	8-2	0	12
Side duct floor, ahead of prefilter	8-4	0	17
Th-230 check source expected readings	-	6319 6800	5314 5200
Background, clean swipe		0	50

* Letter to Eric Reber, NRC (1/25/94) (Referenced Room U8609, in error).

80:91 22 SEP 95

RECEIVED-REGION 1