



000110572

DATE 5/16/96	
TO Distribution	DEPT. BLDG. T130F
FROM James R. Thomson	DEPT. BLDG. E/C/D T130F
PHONE 5124	

**MEMORANDA**

"SAY IT IN WRITING"

SUBJECT: BUILDING 707 "A" MODULE GLOVE BOX REMOVAL CHARACTERIZATION PLAN

DISCUSSION

Attached for your information and files is the Building 707 "A" Module Characterization Plan. Note that it has been determined that lead paint samples will not be required due to the fact that process knowledge exists from other modules that would indicate that there is lead paint on these glove boxes. Additional sampling during the strip-out process may be required, however; if it is determined that additional samples need to be taken, the results will be added to the final completion characterization report at a later date.

Sampling activities will begin as scheduled this week.

RESPONSE REQUIREMENTS

No response is required. Questions concerning this characterization plan or the scheduling of sampling activities should be addressed to Mary T. Aycock at X5309.

MTA:dlu

Attachment:  
As Stated

Distribution:

- Dyn  
B. Bateman - T130G  
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K-H

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G. Beers - T891C  
C. Bicher - T130F  
D. Booco - T130F

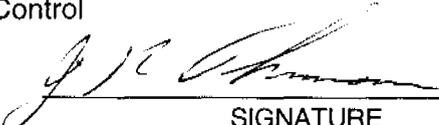
RMRS

- G. Bracken - T130B  
D. Coyne - T439D  
B. Garcia - T764B  
S. Garcia - T664  
C. Guthrie - T130F  
M. Nelson - T764B  
C. Trump - T893A

SSOC

- R. Ballenger - T893B  
J. Elkins - 750  
D. Fisher - T706A  
G. Trieste - 750

RMRS Corres Control

  
\_\_\_\_\_  
SIGNATURE

Y14



Rocky Mountain  
Remediation Services, L.L.C.  
*. . . protecting the environment*

## Salt Residue Stabilization and Repack Project Building 707, Module A Characterization Plan

### ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Prepared by

Rocky Mountain Remediation Services

May 1996

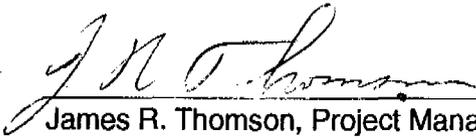
REVIEWED FOR CLASSIFICATION  
By W. G. Gomer  
Date 5/10/96  
UNU

2

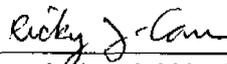
**Salt Residue Stabilization and Repack Project  
Building 707, Module A Characterization Plan**

**Revision 0  
May 1996**

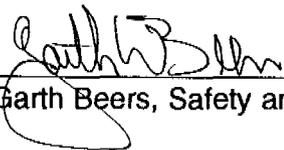
This characterization plan has been reviewed and approved by:

  
James R. Thomson, Project Manager

5/8/96  
Date

  
Ricky Carr, Industrial Hygiene Manager

5/10/96  
Date

  
Garth Beers, Safety and Health Supervisor

5/8/96  
Date

This characterization plan was prepared by:

  
Mary T. Aycock, Environmental Engineer, SEG, CO

5/8/96  
Date

# SALT RESIDUE STABILIZATION AND REPACK PROJECT BUILDING 707, MODULE A CHARACTERIZATION PLAN

## 1.0 INTRODUCTION

Preliminary characterization is being performed for this project to establish a baseline of information concerning the physical, chemical and radiological condition of the facility. This can include taking samples or conducting inspections designed to compliment the information from the screening characterization.

The Salt Residue Stabilization and Repack Subproject (Module A) is a subproject to the Residue Elimination Project. Rocky Mountain Remediation Services, L. L. C. (RMRS) is providing a subcontract service to Kaiser-Hill Company, L. L. C. (Kaiser-Hill) Project Management for the site preparation portion of the Salt Project. Safe Sites of Colorado (SSOC) Residue Stabilization provides for overall Residue Program Management. In this role, SSOC Residue Stabilization is Kaiser-Hill Project Management's customer. In addition, Buildings 707 and 779 are SSOC operated buildings.

The following is a summary of the Salt Site Preparation scope for Module A. The project will include the removal of three (3) gloveboxes with interior equipment to include: A-80, A-110, and A125. The project also includes removal of the following equipment:

- Removal of the optical comparator at glovebox A-75.
- Removal of all internal equipment from the following gloveboxes:
  - A-70
  - A-75
  - A-90
  - A-120
  - A-125
- Removal of equipment in the caged area to include a B-box, solvent sink with pumps, and other miscellaneous equipment.
- Removal of storage cabinets at west end of module (6 ea.).
- Site preparation of Non-Destructive Assay (NDA) areas to include removal of portions of the chainveyor in Room 167, removal of carousel type glovebox in Room 167, removal miscellaneous equipment in Room 169, equipment removal from the X-ray support offices, Rooms 171, 175, 179, 180, and the Dark Room, Room 173.

## 2.0 PURPOSE AND SCOPE

The purpose of the proposed sampling activities is (1) to quantify and qualify the physical and chemical characteristics of radiological and hazardous material contamination and the extent of contaminant distribution; (2) to quantify and qualify environmental parameters that effect potential human exposure from existing and residual radiological or hazardous material contamination; (3) to support evaluation of detailed planning of a preferred approach for decontamination, equipment removal, and waste disposal; (4) to support required project plan considerations of dose assessments and As Low As Reasonably Achievable (ALARA) analyses to support selection of cleanup criteria and approach; and (5) to support the estimate of waste to be generated during site preparation operations.

### **3.0 BACKGROUND RADIATION SURVEYS AND ACTIVITY LEVELS**

The radiological survey data collected during the characterization activities will consist of two types (1) field measurements using portable instruments, and (2) sample analyses using fixed laboratory equipment or systems.

Contamination surveys have been conducted in accordance with the Radiological Operating Instructions (ROIs) Manual for the Building 707 Module "A". The results of selected contamination surveys are included as Attachment A. Additional surveys will be conducted by Radiological Operations personnel and Nuclear Safeguards prior to the start of construction and the results will be included in the final characterization report. Results from media and swipe samples collected will also be included in the final report.

Holdup measurements for the gloveboxes, included in this project, have been performed and the results listed in several reports (see references). Table 1 (included as attachment B) gives a summary of these results. Additional measurements will be performed in conjunction with various strip-out activities associated with the project.

### **4.0 FACILITY INVESTIGATION REPORTS AND DOCUMENTS**

The following documents were reviewed prior to the start of work and serve as references for preliminary characterization of the Module "A" gloveboxes:

Transmittal of Final Data and Reports for Plutonium Holdup in Untoward Areas, Building 707-RDC-168-93, EG&G Rocky Flats, Inc. memorandum dated August 13, 1993.

Waste Stream and Residue Description and Characterization, Module A, Process Number 707-1, WSRIC Manual 707-V5.0.

Integrated Work Control Program (IWCP) titled "Module A Utilities/Sheilding Glovebox Disconnection" Work Control Number: 368400-02.

IWCP titled "NDA Miscellaneous Removal" Work Control Number: 368400-03.

IWCP titled "Module A Utilities/Sheilding Glovebox Disconnection and Carousel" Work Control Number: 368400-04.

IWCP titled "NDA Lifting/Size Reduction Crating Strip and Size Reduce Carousel" Work Control Number: 368400-07.

IWCP titled "Module A Lifting/Size Reduction/ Crating" Work Control Number: 368400-09.

Standard Work Package: "Deactivate Gloveboxes and Portions of the Chainveyors in Module "D", Building 707"; Work Control Number: TP077620.

### **5.0 FACILITY DRAWINGS**

Facility drawings that are related to this project have been included in the work control packages listed above beginning with the prefix Number 368400. These drawings were reviewed and used during the facility walk-down to identify specific areas, equipment, process lines, and other details of the project which may require detailed characterization review.

### **6.0 FACILITY WALK-DOWN**

A facility walk-down was conducted on April 16, 1996 and April 23, 1996 to identify areas where samples would be taken. Health and Safety personnel, Construction Management, the field sampling supervisor, Waste Management representatives, and the project engineers participated

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in the walk-down. Areas requiring sampling were identified during the walk-through. In addition, process lines were examined to determine if they could be accessed for sampling without modification. From this review it was determined that "cold taps" may have to be used to access the lines for sampling.

## 7.0 SAMPLING PLAN

Data collected during the characterization activities will consist of two types: (1) field measurements using portable instruments or test kits and (2) sample analyses of media using fixed laboratory equipment or systems. Radiological surveys will be performed by trained RMRS Radiological Control Technicians (RCTs) using field instrumentation in accordance with the ROI Manual.

Samples collected for the sole purpose of meeting Occupational Safety and Health Act (OSHA) requirements (29 CFR 1926.1101) for building inspection for asbestos-containing materials (ACM) will be collected in accordance with Asbestos Hazard Emergency Response Act (AHERA). A state-certified inspector shall perform the asbestos sampling and the samples will be shipped to a laboratory certified to perform bulk asbestos analysis in accordance with 29 CFR 1926.1101.

The following table lists the locations and the types of samples that will be required for characterization purposes. A trained sampling team was selected to perform the sampling activities required for characterization purposes. Analysis for characterization purposes will be performed using Environmental Protection Agency (EPA) approved procedures using laboratory facilities located on site. Data Quality Objectives (DQOs) are established for the analytical methods referenced and are available through the on site Kaiser-Hill Analytical Projects Office (APO) in Building 881. Sample types given below are identified by Glove Box number (GB) and by the Tie-Point Number (TP). Note that due to the design of the glovebox system tie points, prior to sampling sample liquid coolants will first be drained into one-liter containers which have been designed to meet CSOL requirements.

	<u>Sample Type/One(1) Each</u>	<u>Analysis/EPA Method</u>
1.	GBA70 (TP38/37) Coolant	Gross A/B, Fingerprint
2.	GBA70 (TP56/55) Drain	Verify EMPTY
3.	GBA90 (TP25/26) Coolant	Gross A/B, Fingerprint
4.	GBA110 (TP16/15) Coolant	Gross A/B, Fingerprint
5.	GBA120 (TP 4) Coolant	Gross A/B, Fingerprint
6.	GBA120 (TP5/6) Drain	Verify EMPTY
7.	GB125 (TP9) Coolant Bypass	Gross A/B, Fingerprint
8.	GB125 (TP10) Coolant Bypass	Gross A/B, Fingerprint
9.	GB125 (TP11) Coolant Lathe	Gross A/B, Fingerprint
10.	GB125 (TP12) Coolant Lathe	Gross A/B, Fingerprint
11.	GB125 (TP8/7) Drain	Verify EMPTY
12.	Freon Composite*	Building (SSOC) to Sample
13.	Dark Room Developer Lines	Gross A/B, Fingerprint
14.	Dark Room Water Lines	Gross A/B

15. Dark Room Water Line Insulation

Asbestos (EPA/600/R-93/116)

\*One Freon Composite sample will be taken from GBA70 (TP36), GBA90 (TP27/23), GBA110 (TP22/23), and GBA125 (TP35/23). The Building (SSOC) personnel are draining these lines under a separate work package.

## 8.0 DOCUMENTATION

During characterization activities, several direct, indirect and sample media samples will be measured, obtained, and analyzed for radiological and hazardous material contaminants. The results will be used to determine the extent and magnitude of the contaminants and the basis for estimating waste quantities and decontamination options. Sample collection, analysis, and the associated documentation will follow standard written procedures and meet the recommendations and requirements of applicable regulatory agencies. A "chain of custody" sample tracking form will be used for each sample collected to account for the sample from collection to the point of analysis. Samples will be collected and documented in accordance with Laboratory Procedure No. L-6294-A "Sampling Within an RBA/CA." Asbestos samples will be collected and documented in accordance with the Industrial Hygiene (IH) Procedure Manual

Results of all characterization activities will be documented in applicable field notebooks and summarized in a summary characterization report. This report will be distributed to appropriate project personnel to support decisions made for waste management, industrial hygiene, decontamination, and other activities which may involve hazardous and radiological contaminants. Radiation protection for the sampling event and the sampling team will be addressed under a Radiological Work Permit (RWP). Additional personal protective equipment for the IH sampling activity will be as specified by the IH manager.

## 9.0 REFERENCES

The Department of Energy (DOE)/EM-0142P Decommissioning Handbook, March 1994, U.S. DOE Office of Environmental Restoration.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, U.S. EPA SW-846, 1986, Third Edition.

Transmittal of Final Data and Reports for Plutonium Holdup in Untoward Areas, Building 707-RDC-168-93, EG&G Rocky Flats, Inc. memorandum dated August 13, 1993.

Waste Stream and Residue Description and Characterization, Module A, Process Number 707-1, WSRIC Manual 707-V5.0.

IWCP titled "Module A Utilities/Sheilding Glovebox Disconnection" Work Control Number: 368400-02.

IWCP titled "NDA Miscellaneous Removal" Work Control Number: 368400-03.

IWCP titled "Module A Utilities/Sheilding Glovebox Disconnection and Carousel" Work Control Number: 368400-04.

IWCP titled "NDA Lifting/Size Reduction Crating Strip and Size Reduce Carousel" Work Control Number: 368400-07.

IWCP titled "Module A Lifting/Size Reduction/ Crating" Work Control Number: 368400-09.

Standard Work Package: "Deactivate Gloveboxes and Portions of the Chainveyors in Module "D", Building 707"; Work Control Number: TP077620.

Health and Safety Plan for A Module and NDA Demolition, Building 707, RFETS, Revision 0, April 1996.

**ATTACHMENT A**  
**CONTAMINATION SURVEYS**

May 7, 1996

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

CONTAMINATION SURVEY  
ALPHA - SWIPE

INSTRUMENT DATA

MFG. <u>EBERLINE</u>	MFG. <u>EBERLINE</u>	MFG. <u>EBERLINE</u>
MODEL <u>Sac-4</u>	MODEL <u>Sac-4</u>	MODEL <u>Sac-4</u>
SERIAL # <u>841</u>	SERIAL # <u>964</u>	SERIAL # <u>1072</u>
CAL DATE <u>1-9-96</u>	CAL DATE <u>12-11-95</u>	CAL DATE <u>10-25-95</u>
CAL DUE <u>7-9-96</u>	CAL DUE <u>6-11-96</u>	CAL DUE <u>4-96</u>
BKG. <u>0.2</u>	BKG. <u>0.1</u>	BKG. <u>0.5</u>
MFG. _____	MFG. _____	MFG. _____
MODEL _____	MODEL _____	MODEL _____
SERIAL # _____	SERIAL # _____	SERIAL # _____
CAL DATE _____	CAL DATE _____	CAL DATE _____
CAL DUE _____	CAL DUE _____	CAL DUE _____
BKG. _____	BKG. _____	BKG. _____

BUILDING 707  
BASELINE - MODULE A

RWP # 95-707-1002  
DATE: 3-23-96 TIME: 1800

RCT \_\_\_\_\_ EMP.# \_\_\_\_\_

COMMENTS

NO READINGS FOR PYROCHEM UNIT

CONTAMINATION RESULTS

DPM/100cm2 REMOVABLE (SWIPE)

1. <u>&lt; 18</u>	16. <u>&lt; 18</u>	31. <u>&lt; 18</u>	46. <u>&lt; 18</u>	61. <u>&lt; 18</u>	76. _____
2. <u>&lt; 18</u>	17. <u>&lt; 18</u>	32. <u>&lt; 18</u>	47. <u>&lt; 18</u>	62. <u>&lt; 18</u>	77. _____
3. <u>&lt; 18</u>	18. <u>&lt; 18</u>	33. <u>&lt; 18</u>	48. <u>&lt; 18</u>	63. <u>&lt; 18</u>	78. _____
4. <u>&lt; 18</u>	19. <u>&lt; 18</u>	34. <u>&lt; 18</u>	49. <u>&lt; 18</u>	64. <u>&lt; 18</u>	79. _____
5. <u>&lt; 18</u>	20. <u>&lt; 18</u>	35. <u>&lt; 18</u>	50. <u>&lt; 18</u>	65. <u>&lt; 18</u>	80. _____
6. <u>&lt; 18</u>	21. <u>&lt; 18</u>	36. <u>&lt; 18</u>	51. <u>&lt; 18</u>	66. <u>&lt; 18</u>	81. _____
7. <u>&lt; 18</u>	22. <u>&lt; 18</u>	37. <u>&lt; 18</u>	52. <u>&lt; 18</u>	67. <u>&lt; 18</u>	82. _____
8. <u>&lt; 18</u>	23. <u>&lt; 18</u>	38. <u>&lt; 18</u>	53. <u>&lt; 18</u>	68. <u>&lt; 18</u>	83. _____
9. <u>&lt; 18</u>	24. <u>&lt; 18</u>	39. <u>&lt; 18</u>	54. <u>&lt; 18</u>	69. <u>&lt; 18</u>	84. _____
10. <u>&lt; 18</u>	25. <u>&lt; 18</u>	40. <u>&lt; 18</u>	55. <u>&lt; 18</u>	70. <u>&lt; 18</u>	85. _____
11. <u>&lt; 18</u>	26. <u>&lt; 18</u>	41. <u>&lt; 18</u>	56. <u>&lt; 18</u>	71. _____	86. _____
12. <u>&lt; 18</u>	27. <u>&lt; 18</u>	42. <u>&lt; 18</u>	57. <u>&lt; 18</u>	72. _____	87. _____
13. <u>&lt; 18</u>	28. <u>&lt; 18</u>	43. <u>&lt; 18</u>	58. <u>&lt; 18</u>	73. _____	88. _____
14. <u>&lt; 18</u>	29. <u>&lt; 18</u>	44. <u>&lt; 18</u>	59. <u>&lt; 18</u>	74. _____	89. _____
15. <u>&lt; 18</u>	30. <u>&lt; 18</u>	45. <u>&lt; 18</u>	60. <u>&lt; 18</u>	75. _____	90. _____

DATE REVIEWED: 3/25/96

9

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

## INSTRUMENT DATA

MFG. <u>LIPLUM</u>	MFG. _____	MFG. _____
MODEL <u>22-1-A</u>	MODEL _____	MODEL _____
SERIAL # <u>56252</u>	SERIAL # _____	SERIAL # _____
CAL. DATE <u>7-95</u>	CAL. DATE _____	CAL. DATE _____
CAL. DUE <u>7-96</u>	CAL. DUE _____	CAL. DUE _____
BKG <u>&lt;250</u>	BKG _____	BKG _____
MFG. _____	MFG. _____	MFG. _____
MODEL _____	MODEL _____	MODEL _____
SERIAL # _____	SERIAL # _____	SERIAL # _____
CAL. DATE _____	CAL. DATE _____	CAL. DATE _____
CAL. DUE _____	CAL. DUE _____	CAL. DUE _____
BKG _____	BKG _____	BKG _____

## CONTAMINATION SURVEY ALPHA

707

### OVERHEAD MODULE A

AREA STATUS: -

- WITHIN LIMITS
- LIMITS EXCEEDED
- POSTED
- DEPOSTED
- SURVEY COPY POSTED

## COMMENTS

# 45, 46 & 47 HIGH CONTAMINATION ARE

NO ACCESS

## CONTAMINATION RESULTS

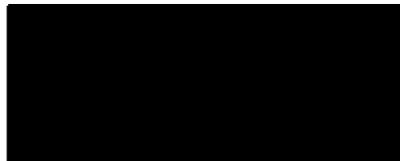
### (WIPE DPM)

1. <u>&lt;500</u>	26. <u>&lt;500</u>	51. <u>&lt;500</u>	76. _____
2. <u>&lt;500</u>	27. <u>&lt;500</u>	52. <u>&lt;500</u>	77. _____
3. <u>&lt;500</u>	28. <u>&lt;500</u>	53. <u>&lt;500</u>	78. _____
4. <u>&lt;500</u>	29. <u>&lt;500</u>	54. <u>&lt;500</u>	79. _____
5. <u>&lt;500</u>	30. <u>&lt;500</u>	55. <u>&lt;500</u>	80. _____
6. <u>&lt;500</u>	31. <u>&lt;500</u>	56. <u>&lt;500</u>	81. _____
7. <u>&lt;500</u>	32. <u>&lt;500</u>	57. <u>&lt;500</u>	82. _____
8. <u>&lt;500</u>	33. <u>&lt;500</u>	58. <u>&lt;500</u>	83. _____
9. <u>&lt;500</u>	34. <u>&lt;500</u>	59. <u>&lt;500</u>	84. _____
10. <u>&lt;500</u>	35. <u>&lt;500</u>	60. <u>&lt;500</u>	85. _____
11. <u>&lt;500</u>	36. <u>&lt;500</u>	61. <u>&lt;500</u>	86. _____
12. <u>&lt;500</u>	37. <u>&lt;500</u>	62. <u>&lt;500</u>	87. _____
13. <u>&lt;500</u>	38. <u>&lt;500</u>	63. <u>&lt;500</u>	88. _____
14. <u>&lt;500</u>	39. <u>&lt;500</u>	64. <u>&lt;500</u>	89. _____
15. <u>&lt;500</u>	40. <u>&lt;500</u>	65. <u>&lt;500</u>	90. _____
16. <u>&lt;500</u>	41. <u>&lt;500</u>	66. <u>&lt;500</u>	91. _____
17. <u>&lt;500</u>	42. <u>&lt;500</u>	67. <u>&lt;500</u>	92. _____
18. <u>&lt;500</u>	43. <u>&lt;500</u>	68. <u>&lt;500</u>	93. _____
19. <u>&lt;500</u>	44. <u>&lt;500</u>	69. <u>&lt;500</u>	94. _____
20. <u>&lt;500</u>	45. <u>&lt;500</u>	70. <u>&lt;500</u>	95. _____
21. <u>&lt;500</u>	46. <u>&lt;500</u>	71. _____	96. _____
22. <u>&lt;500</u>	47. <u>&lt;500</u>	72. _____	97. _____
23. <u>&lt;500</u>	48. <u>&lt;500</u>	73. _____	98. _____
24. <u>&lt;500</u>	49. <u>&lt;500</u>	74. _____	99. _____
25. <u>&lt;500</u>	50. <u>&lt;500</u>	75. _____	100. _____

DATE: 12-28-95

TIME: 2100

RWP # 95-707-1002

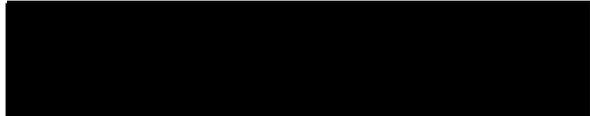


RCT \_\_\_\_\_

EMP. # \_\_\_\_\_

DATE REVIEWED:

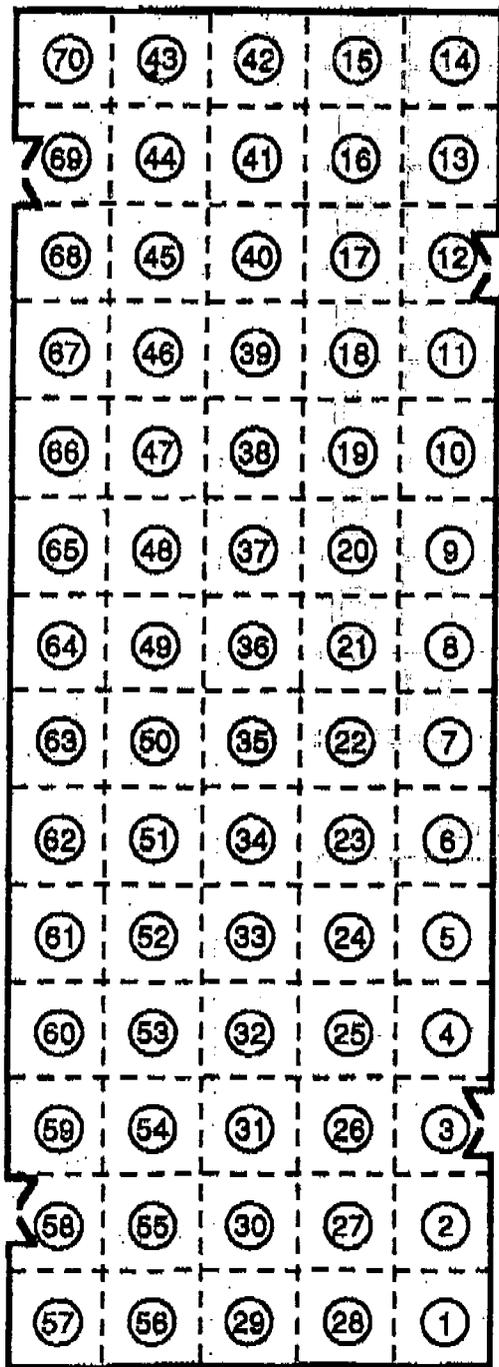
12-29-95



**RADIOLOGICAL OPERATIONS**

**MODULE A - OVERHEAD**

Drawing Showing Survey Points



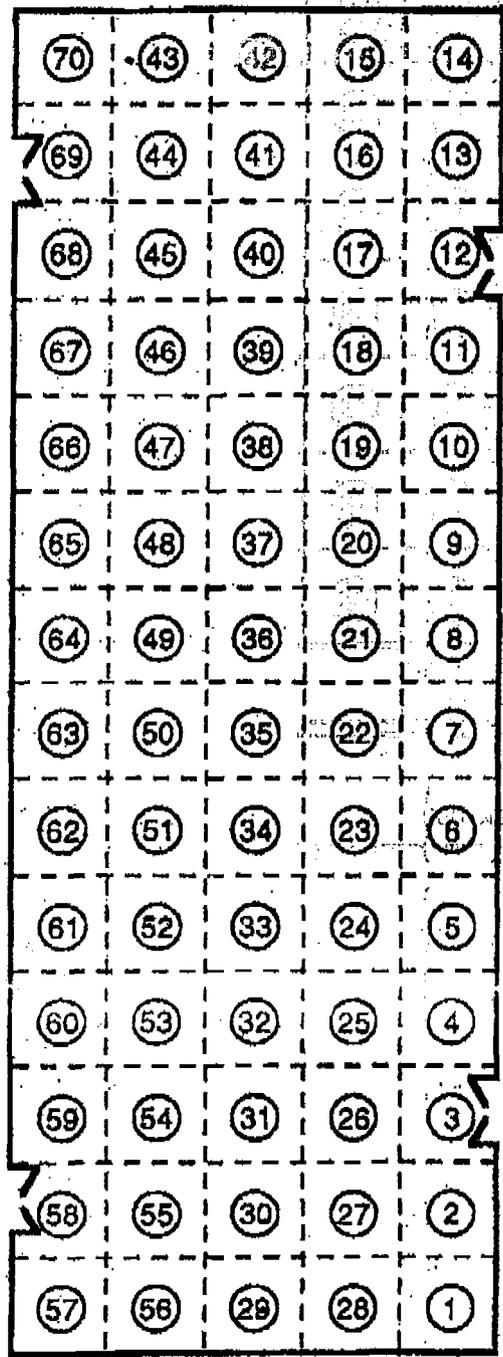
1 REPRESENTATIVE WIPE IN APPROX.  
1 SQUARE METER PER 10 SQUARE  
METER AREA INCLUDING CONDUIT,  
LIGHTS, CEILING, DUCTS, AND PIPES.

⊕ 70 - Total Survey Points

**RADIOLOGICAL OPERATIONS**

**MODULE A - BASELINE**

Drawing Showing Survey Points



1 REPRESENTATIVE SWIPE IN APPROX.  
1 SQUARE METER PER 10 SQUARE  
METER AREA.

70 - Total Survey Points

12

ATTACHMENT B  
HOLDUP MEASUREMENT RESULTS

TABLE 1



May 7, 1996

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# Table 1

HOLDUP MEASUREMENT RESULTS FOR UNTOWARD AREAS						1 Sigma
LOCATION	ACTIVITY DESCRIPTION	FILTERS	EQUIPMENT	GLOVEBOX	TOTAL	Unc.
MOD. J	J-50 BURN BOX		768	414	1182	502
MOD. A	A-100 L & S LATHE		21	401	422	175
MOD. E	EB-6 ELECTRON BEAM WELDER		20		20	30
MOD. E	EB-7 ELECTRON BEAM WELDER		20		20	30
MOD. E	EB-8 ELECTRON BEAM WELDER		20		20	30
MOD. E	EB-9 ELECTRON BEAM WELDER		20		20	30
MOD. J	J-45 FURNACE	58	369	830	1257	290
MOD. K	K-55 FURNACE	289	457	939	1685	387
MOD. K	K-65 FURNACE	73	613	1298	1984	680
MOD. K	K-85 FURNACE	115	216	292	623	296
RM. 146	X-Y RETRIEVER AND SHUTTLE AREA			520	520	269
MOD. C	C-125 LATHE		30	185	215	82
MOD. B	B-100 ROLLING MILL		1021	2	1023	628
MOD. K	K-75 FURNACE	100	253	694	1047	474
MOD. J	J-35 FURNACE	45	319	766	1130	343
MOD. A	A-45 FURNACE	201	68	285	554	309
MOD. A	A-35 FURNACE	140	27	111	278	249
MOD. B	B-85 TANK				200	100
MOD. J	J-55 FURNACE	117	82	388	587	125
MOD. A	A-70 LATHE		54	88	142	89
MOD. A	A-125 LATHE		220	880	1100	1639
MOD. C	C-115 LATHE		169	474	643	510
MOD. C	C-110 DIP TANKS		826	1465	2291	669
MOD. C	C-110 PRESS BOX		502	1839	2341	957
2ND FL.	HYDRAULIC				0	1
MOD. A	A-110 LATHE		27	288	315	227
MOD. A	A-25 FURNACE REMEASUREMENT	163	118	457	738	355
MOD. C	C-95 DRILL PRESS		398	468	866	585
MOD. J	J-25 FURNACE REMEASUREMENT	105	165	989	1259	810
MOD. A	A-40 FURNACE			109	109	21
2ND FL.	Rm 210 HP VAC. SYS. VP108 PUMP				1	2
2ND FL.	Rm 210 HP VAC. SYS. VP10C PUMP		14		14	5
2ND FL.	Rm 210 HP VAC. SYS. VP11 PUMP		5		1	3
2ND FL.	CHUCK VAC SYS CT CONNECTS		2		2	1
MOD. A	A-25 / A-35 STOKES PUMP (and Pipes)				148	72
MOD. A	A-45 / A-55 STOKES PUMP		91		91	40
MOD. J	J-25 / J-35 STOKES PUMP		410		410	183
MOD. K	K-55 / K-65 STOKES PUMP		174		174	88
MOD. B	B-20 L & S LATHE		80	570	650	496
MOD. J	J-45 / J-55 STOKES PUMP		176		176	77
MOD. K	K-75 / K-85 STOKES PUMP		196		196	99
MOD. B	B-65 & MACHINE				1337	1826
MOD. B	B-85 PRESS		1104	237	1341	1636
MOD. B	B-25B				1377	1680
MOD. B	B-105				997	1185
MOD. B	B-70				968	252
MOD. B	B-80				1423	312
MOD. J	J-15 PUMPS & PIPES		13		13	18
MOD. J	J-10 FURNACE PUMPS & PIPES		7		7	20
MOD. J	J-20 FURNACE PUMPS & PIPES		-3		-3	48
MOD. B	B-95A FURNACE		258	1386	1642	693
MOD. B	B-95 FURNACE		303	833	1136	564
MOD. A	A-55 FURNACE	127	77	148	352	240

All values in terms of grams Pu.  
 Results for filters, equipment, and glovebox are reported if appropriate.

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