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Company of Colorado

October 12, 1995  
Fort St. Vrain  
P-95092

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

ATTN: Mr. Michael F. Weber, Chief  
Decommissioning and  
Regulatory Issues Branch

Docket No. 50-267

**SUBJECT: Fort St. Vrain Final Survey, Transmittal of Survey Package Examples  
For Information**

Dear Mr. Weber:

Enclosed for your information are copies of Fort St. Vrain Final Survey Packages which were requested during the recent site visit and inspection by Messrs. David Fauver, Lawrence Bell, Clayton Pittiglio, and Robert Evans (Region IV), accompanied by representatives of the Oak Ridge Institute for Science and Education.

The following are included:

- Package #0344, Production Training Complex
- Package #0346, Various Group A Buildings
- Package #0350, Visitor Center
- Package #B005, Various Group B Buildings, Survey Unit B005
- Package #B014, Various Group B Buildings, Survey Unit B014
- Package #0342, Production Training Complex, Suspect Affected Areas

If you have any questions regarding this information, please contact Mr. M. H. Holmes at (303) 620-1701.

Sincerely,

Mary J. Fisher  
Decommissioning Program Director

170091

9510170412 951012  
PDR ADOCK 05000267  
W PDR

NH1011



P-95092  
October 12, 1995  
Page 2

MJF/SWC

Enclosure

cc: (w/enclosures)

Regional Administrator, Region IV

Mr. Robert M. Quillin, Director  
Radiation Control Division  
Colorado Department of Public Health and Environment

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

Package #: 0344	Building: Production Training Complex	Elevation: 4791	Drawing #: PP1-A	Survey Unit: A005
Survey Unit Description <sup>1</sup> : Production Training Complex - Building #109 - Simulator Room - Non-Suspect Areas				
History of Area(s) <sup>2</sup> :				
<p>The Simulator Room, located in the Production Training Complex, has no history of containing radioactive material other than non-licensed radioactive material in display cases used for demonstration purposes. Display cases, which contained materials such as: Yellow cake (U<sub>3</sub>O<sub>8</sub>), Thorium Oxide (ThO), Brown Oxide (UO<sub>2</sub>), Thorium Dioxide (ThO<sub>2</sub>), Uranium Oxide, and Thorium Ore, were stored for a short time in the Simulator Room. No detectable contamination was found on any external surfaces of the case or floor surfaces.</p> <p>The Simulator Room will be classified as Affected to verify the absence of radioactive material and support assessment of background which will be implemented concurrent with the survey of this area. The upper walls and ceiling are classified as Non-Suspect Affected.</p>				
Special Support Requirements <sup>3</sup> : MK laborer support is needed to remove obstructions in the Simulator Room. Ladders will be needed to survey the upper walls and ceiling.				
Specific Safety Precautions <sup>4</sup> : Observe proper safety precautions when working on ladders.				
Field Operations Coordinator: <i>[Signature]</i> Date: 8-3-95				
Isolation Controls <sup>5</sup> : Level 1 <input checked="" type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/>				
<p>No use, storage or movement of radioactive material is permitted in Group A buildings. All radioactive storage areas outside the Reactor Bldg are controlled by the Radwaste Supervisor. The Radwaste Supervisor has been notified that final surveys of Group A building are to begin and that no radioactive material shall be authorized in these areas.</p> <p>Prior to the final survey of Group A buildings, training sessions will be held with site personnel regarding final survey isolation controls.</p> <p>Final configuration of this area is to be maintained. Authorization must be obtained prior to the painting of surfaces, structural renovation and/or removal of components from this area.</p> <p>Exempt quantity sealed sources used for training purposes will be controlled and periodically monitored to verify source integrity.</p>				

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

**Surface Grid Requirements:**

Non-Suspect affected survey units will not be gridded. Measurement locations will be labeled on the upper wall and ceiling surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.

- <sup>1</sup> The general area addressed by the survey package. (e.g. machine shop, hot service facility, helium storage system, PCRV, etc.).
- <sup>2</sup> Describe functional use and any known abnormal operating conditions which may have impacted the radiological conditions, especially potentials for past contamination.
- <sup>3</sup> Scaffolding, ladders, temporary lighting, installation of a power supply, etc.
- <sup>4</sup> Confined space entry permits, etc. Interface with MK safety as necessary.
- <sup>5</sup> Isolation requirements in accordance with procedure FSV-SC-FRS-I-108, "Final Survey Isolation and Control Measures."

**SURVEY PACKAGE IMPLEMENTATION**

Survey package ready for implementation.

Signed: *Paul A. St...* Date: 8-3-95  
Technical Projects Supervisor

Signed: *Gerald J. Rood* Date: 8/3/95  
Final Survey Lead Engineer

**SURVEY PACKAGE CLOSURE**

Final Survey Package is authorized for closure. All required reviews are completed and data analysis results meet acceptance criteria.

Final Survey Lead Engineer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Technical Projects Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Radiation Protection Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**ATTACHMENT 6.4  
SURVEY UNIT WORK SHEET**

Package #: 0344

Page  1  of  1

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
Production Training Complex, Bldg 109 Simulator Room Drywall above 2 meters - painted	Surface and Structure	Non-Suspect Affected	40	40		
Production Training Complex, Bldg 109 Simulator Room Ceiling - painted drywall	Surface and Structure	Non-Suspect Affected	143	30		

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)

<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas

<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date:  *R. J. [Signature]* / 8/2/95   
Radiological Engineer

Revision 1 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

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## ATTACHMENT 6.8 SURVEY PACKAGE VALIDATION CHECKLIST

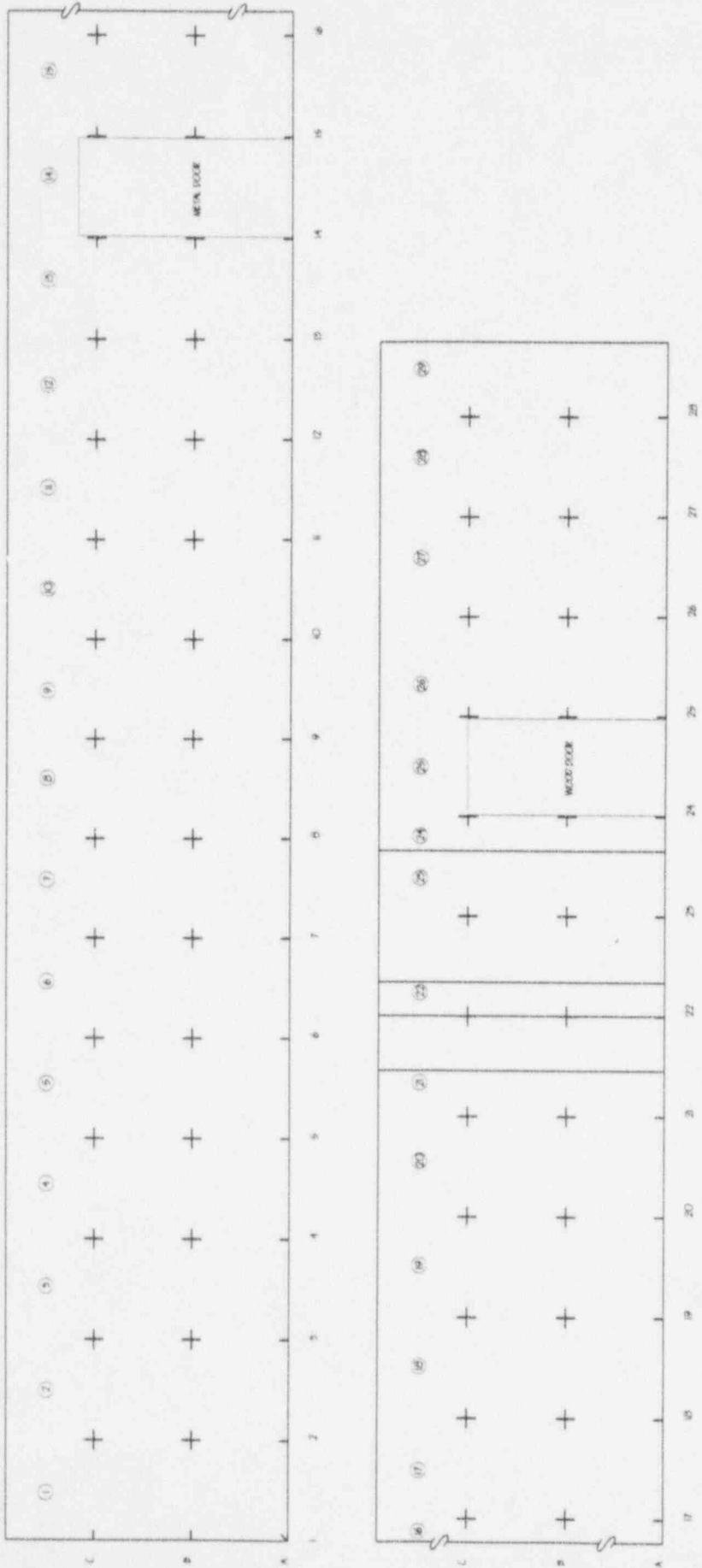
Survey Package # 0344

Page 1 of 1

### DATA REVIEWS

SURVEY DOCUMENTATION REVIEWED FOR COMPLETION:	Remarks
Gamma & Beta Scan Surveys	<i>MSM</i> 9-5-95
Total (Beta) Activity Surveys	<i>MSM</i> 9-5-95
Gamma Exposure Rate Surveys	<i>MSM</i> 9-5-95
Smear Samples	<i>MSM</i> 9-5-95
Soil Samples	N/A
Water Samples	N/A
<b>ALL REQ'D MEASUREMENTS &amp; SAMPLES ACCOUNTED:</b>	
Gamma & Beta Scan Surveys	<i>MSM</i> 9-5-95
Total (Beta) Activity Surveys	<i>MSM</i> 9-5-95
Gamma Exposure Rate Surveys	<i>MSM</i> 9-5-95
Smear Samples	<i>MSM</i> 9-5-95
Soil Samples	N/A
Water Samples	N/A
COMMENTS: _____	
SURVEYS ARE COMPLETED & VALIDATED: <u><i>MSM</i></u> DATE: <u>9-5-95</u> Field Operations Coordinator	
Surveys are completed and the Survey Package review has been completed.	
Final Survey Operations Supervisor:	Date:
Survey package meets acceptance criteria and all required elements of the survey package have been completed.	
Radiological Engineer Signature:	Date:
Survey results & supporting documentation have been reviewed & found to be satisfactory. All data satisfies final survey acceptance criteria per procedure FSV-SC-FRS-I-110, "Final Survey Data Analysis".	
Data Evaluation Engineer Signature:	Date:
Final survey package is complete and ready for closure.	
Final Survey Lead Engineer Signature:	Date:

PRODUCTION TRAINING COMPLEX  
SIMULATOR ROOM  
WALLS (PAINTED DRYWALL)



Survey/Package #: 0344 Master Drawing #: PPI-A Blkdy: PRODUCTION TRAINING COMPLEX - #109 Elev: 4791'

Location Code: 0344COMM01 Description: SIMULATOR ROOM, DRYWALL ABOVE 2 METERS Approx. M<sup>2</sup>: 40 Grid Size: N/A

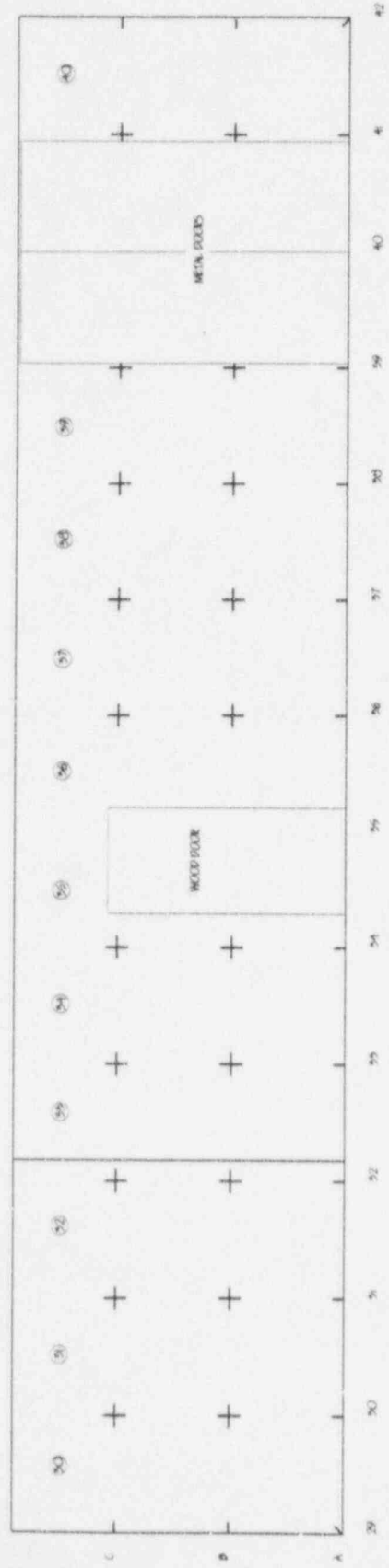
Location Code: Description: Approx. M<sup>2</sup>: Grid Size:

Survey Date/Time: 8/23/98 10900 RP Tech Initials: BRD

Legend: (H) MEASUREMENT LOCATIONS. NOTE: SURVEY PERFORMED 8/19/98, DATA REVIEWED BY ME + STIBLER & DATED 8/23/98

**COPY**

PRODUCTION TRAINING COMPLEX  
SIMULATOR ROOM  
WALL (PAINTED DRYWALL)

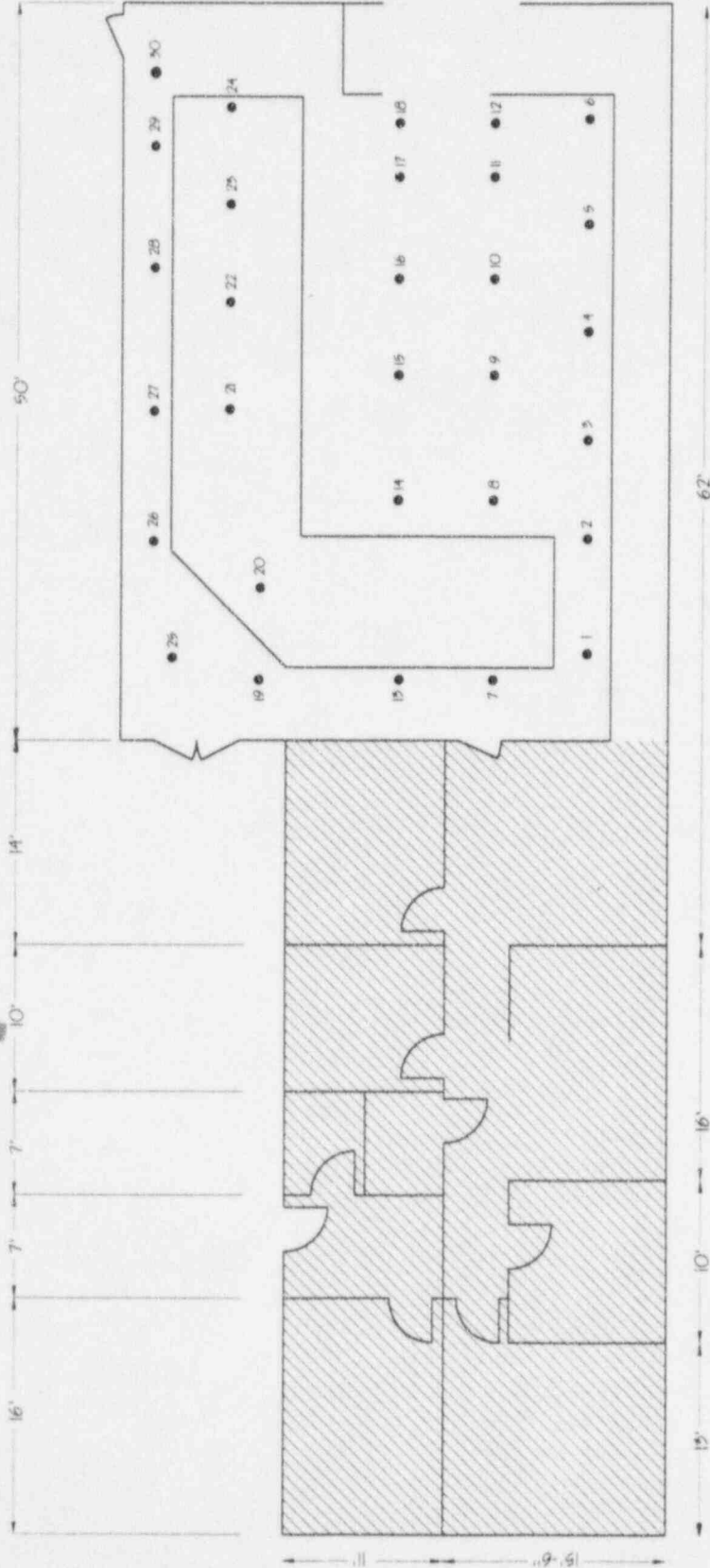


Survey/Package #: 0544 Master Drawing #: PPI-A Elevation: 4791'  
 Location Code: 0544ACOMW01 Description: DRYWALL ABOVE 2 METERS Approx. M<sup>2</sup>: 40 Grid Size: N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Scans  H-3 Scans  Liquid Sample  Surface Sol  Subsurface Sol  Other  
 Location Code: Description:  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Scans  H-3 Scans  Liquid Sample  Surface Sol  Subsurface Sol  Other  
 Survey Date/Time: 8/23/95 10920 RP Tech Initials: **ABD**  
 Approx. M<sup>2</sup>: Grid Size

PRODUCTION TRAINING COMPLEX - BUILDING 109

WEST SIDE  
CEILING

**COPY**



Survey/Package #: 0344      Master Drawing #: PPI-A      Bludge: Production Training Complex - #109      Elev: 4791'

Location Code: 0344COMCOI      Description: CEILING - PAINTED      Approx. M<sup>2</sup>: 143      Grid Size: N/A

Beta Scan    Gamma Scan    Total Activity    Gamma Sp. Rate    Beta/Gamma Scans    H-9 Scans    Liquid Sample    Sediment Sample    Surface Sol    Subsurface Sol    Other

Location Code:      Description:      Approx. M<sup>2</sup>      Grid Size

Beta Scan    Gamma Scan    Total Activity    Gamma Sp. Rate    Beta/Gamma Scans    H-9 Scans    Liquid Sample    Sediment Sample    Surface Sol    Subsurface Sol    Other

Survey Date/Time: 8/23/95 10:00      RP Tech Initials: **AD**

SEARCHED INDEXED      SERIALIZED FILED      NOTE: SURVEY REFORMED 8/23/95, DATA REVIEWED, INDEXED & FILED  
BY MC 8/23/95      RCM/whh



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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM**

Package # 0344	Building PTC	Elevation 4791	Drawing # PP1-A	Survey Unit A005	Page <u>1</u> of <u>3</u>
General Description of Survey Unit: Production Training Center - Building #109 - Simulator Room - Non-Suspect Areas					

FIELD INSTRUMENTATION/INSTRUCTIONS

Instrument & Detector	Measurement Type	Count Time	Location Code	Remarks/Survey Instruction
2350/44-2	Gamma, Fixed Point	15 sec.	0344C0MW01 0344C0MC01	No alarm set point is required.
2350/43-68	Beta, Fixed Point	15 sec.	0344C0MW01 0344C0MC01	Collect a minimum of 12 shielded local area background counts for each surface identified by a location code, using a 15 second count time.  The scaler alarm for fixed point measurements may be set using the following equation: (1250 dpm/100cm <sup>2</sup> * 1.25 * detector efficiency * count time (min.)) + (Bkgd counts (cpm/125cm <sup>2</sup> ) * sample count time (min.)) = alarm set point (counts/125cm <sup>2</sup> ) Note: Bkgd counts is the average of the shielded local area background counts.
2350/43-68	Beta, Scan	N/A	0344C0MW01 0344C0MC01	Perform a beta scan survey over a minimum of 1 square meter at each measurement location.
2350/44-2	Gamma	15 sec.	All	Enter a zero background subtract when downloading survey data.
2350/43-68	Beta	15 sec.	All	Enter a zero background subtract when downloading survey data.
N/A	N/A	N/A	All	Complete the attached location code comparison forms for each survey unit. <del>These forms will be used in the future to assist in download operations once the new location code format is implemented.</del>
N/A	N/A	N/A	All	If any questions arise during the final survey, contact the survey package engineer, the FOC or FSLE.

DAP  
8-22-95

Prepared By/Date: R. J. [Signature] / 8/2/95  
Radiological Engineer Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0344

Page 2 of 3

(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: C	Resurvey # : 0	Grid size: N/A	Beta Scan	*	* Scan at least 1 m <sup>2</sup> at each total surface activity measurement location.	RPT 8/9/95
			Gamma Scan	N/A		N/A
Material Code: M	Surface Code: W01		Total Surface Activity	40	Located within the scan of 1 m <sup>2</sup> . At any area of elevated activity identified during the scan of 1 m <sup>2</sup> , or otherwise selected from those locations most likely to accumulate activity.	RPT 8/9/95
			Exposure Rate	40	At 1 meter from total surface activity measurements.	
Location Code : 0344C0MW01		Area (m <sup>2</sup> ) 40	βγ Smears	40	At same measurement locations as total surface activity measurements.	DD 8/9/95
			Fe-55/H-3 Smears	N/A		JAS 8/9/95
Survey Unit Breakdown and Description: Production Training Center, Bldg. #109 Simulator Room Drywall above 2 meters - painted		Type of material /soil sample	N/A		Type of analyses	N/A
			N/A		<input type="checkbox"/> γ Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	↓
			N/A			
			N/A			

QC    Investigation    Resurvey

Approval:

R. J. [Signature]      12/1/95  
Radiological Engineer      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0344

Page 3 of 3

(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location		
Classification Code: C	Resurvey #: 0	Grid size: N/A	Beta Scan	*	* Scan at least 1 m <sup>2</sup> at each total surface activity measurement location.	<i>DD 8/9/95</i>
			Gamma Scan	N/A		N/A
Material Code: M	Surface Code: C01		Total Surface Activity	30	Located within the scan of 1 m <sup>2</sup> . At any area of elevated activity identified during the scan of 1 m <sup>2</sup> , or otherwise selected from those locations most likely to accumulate activity.	<i>DD 8/9/95</i>
			Exposure Rate	30	At 1 meter from total surface activity measurements.	
Location Code: 0344C0MC01		Area (m <sup>2</sup> ): 143	$\beta\gamma$ Smears	30	At same measurement locations as total surface activity measurements.	<i>DD 8/9/95</i>
			Fe-55/H-3 Smears	N/A		<i>JAS 8/9/95</i>
Survey Unit Breakdown and Description: Production Training Center, Bldg. #109 Simulator Room Ceiling - painted drywall		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe 55	
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	

QC    Investigation    Resurvey

Approval:

*R. [Signature]*      1 8/9/95  
Radiological Engineer      Date

\_\_\_\_\_  
Final Survey Lead Engineer      Date

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**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

Page  1  of  1

Package #: 0344	Bldg. Name: PTC	Elevation: 4791	Survey Unit: A005
-----------------	-----------------	-----------------	-------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N) <sup>1</sup>
456	0344COMCO1 / 0344COMW01	Gamma	95340/091053	D. DETRICK	Y
458	0344COMCO1 / 0344COMW01	BETA	95356/092511	B. DANIEL	Y
459	0344COMW01	Gamma	95340/091053	D. DETRICK	Y
NA					
NA					
NA					
NA					
NA					
NA					
NA					
NA					

<sup>1</sup> IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date:  M. Squires  /  9-5-95   
 Field Operations Coordinator Date

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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: GU Egert Date: 8/8/94  
 Download Station #: 1 Download File #: 459 Time: 15:05  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: DECLAN DETRICK Signature: Declan Detrick Date: 8-8-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 953AD  
 Survey Location description: Production Training Center Bldg #109 Simulator Room Drywall below ZM (Suspect)  
Drywall above ZM (Non-Suspect)  
 (Example: Rr Bldg. Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	<u>PR091053</u>	<u>44-2</u>	<u>1.077721 E+10</u>	<u>N/A</u>	<u>456</u>	<u>459</u>

Local Area Background Measurements

MEAN BKG CPM

--	--	--	--	--	--	--	--

COMMENTS: No TDS Value Applied  
03A4COMW01 = Non-Suspect Affected Sample # 5 = Location # 1  
03A130MWO3 = Suspect Affected Sample # 6 & 7 = Location # 8 & 29  
Samples 6 & 7 of this report are recounts of samples 12 & 33 on File # 434 report.  
Sample 5 of this report is a recount of sample 5 on File # 456 report.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 459, Prod Trng Cplx, Sim Rm, Drywall Below 2 m, Drywall Above 2 m  
 Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. S/N: PR091053 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: *Daniel D. D. [Signature]*  
 Survey Reviewed By: *Daniel L. B. [Signature]*

Date: 8-8-95  
 Date: 9-15-95

Station: 1  
 File: 459  
 Page: 1  
 Survey Date: 8/08/95 Survey Start Time: 13:04  
 Date/Time Report Printed: 8/08/95 3:40 pm

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Micro R/hr	H i
	1	A	RC1CS857	6	60	815441	4539.81	*
	9	A	RC1CS857	6	60	792113	4409.93	*

----- Maximum  
 Average uR/hr: 4474.87 4539.81

Number of Measurements at this Survey Location: 2

	2	A	RC2CS857	6	60	23122	128.73	*
	10	A	RC2CS857	6	60	22803	126.95	*

----- Maximum  
 Average uR/hr: 127.84 128.73

Number of Measurements at this Survey Location: 2

	3	A	RC3CS857	6	60	6149	34.23	*
	11	A	RC3CS857	6	60	6259	34.85	*

----- Maximum  
 Average uR/hr: 34.54 34.85

Number of Measurements at this Survey Location: 2

	4	A	RC4CS857	6	60	3963	22.06	*
	12	A	RC4CS857	6	60	4136	23.03	*

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\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/08/95 Survey Start Time: 14:19  
 Date/Time Report Printed: 8/08/95 3:40 pm

Station: 1  
 File: 459  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
 Average uR/hr: 22.54      Maximum 23.03

Number of Measurements at this Survey Location: 2

8	A		RCBKGPST	6	300	15897	17.70	*
---	---	--	----------	---	-----	-------	-------	---

-----  
 Average uR/hr: 17.70      Maximum 17.70

Number of Measurements at this Survey Location: 1

0	A		RCBKGPB	6	300	15509	17.27	*
---	---	--	---------	---	-----	-------	-------	---

-----  
 Average uR/hr: 17.27      Maximum 17.27

Number of Measurements at this Survey Location: 1

8	6	A	0341BOMW03	8	15	735	16.37	*
29	7	A	0341BOMW03	8	15	732	16.30	*

-----  
 Average uR/hr: 16.33      Maximum 16.37

Number of Measurements at this Survey Location: 2

1	5	A	0344COMW01	8	15	690	15.37	*
---	---	---	------------	---	----	-----	-------	---

-----  
 Average uR/hr: 15.37      Maximum 15.37

Number of Measurements at this Survey Location: 1

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\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/08/95 Survey Start Time: 13:35  
Date/Time Report Printed: 8/08/95 3:40 pm

Station: 1  
File: 459  
Page: 3

Comments

-----  
Total Number of Measurements on this Report: 13

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/8/95  
 Download Station #: 1 Download File #: 458 Time: 13:10  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: BRENT T. DANIEL Signature: [Signature] Date: 8/8/95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95356

Survey Location description: PRODUCTION TRAINING CENTER BLDG #109 SIMULATOR ROOM EXHALL ABOVE 2ND FLOOR & CEILING  
 (Example: Rm Bldg, Level II, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>PR-92511</u>	<u>43-68B</u>	<u>.232</u>	<u>125 cm<sup>2</sup></u>	<u>458</u>	<u>458</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

LOC. CODE# 0344COMW01												LOC. CODE# 0344COMC01		MEAN BKG CPM
89	86	77	82	88	78	95	96	90	141	100	105	* 354 (wci)	* 416 (eci)	
101	104	88	85	93	92	90	101	101	108	132	90			

COMMENTS: NON-SUSPECT AREA - \* NO BKG. VALUE APPLIED

(0344COMW01) (0344COMC01)

M2350 SAMPLE #'S 16-55 = LOC #'S 1-40 / M2350 #'S 68-97 = LOC #'S 1-30

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Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Non-Suspect Affected Surfaces and Structures

File #: 458, Prod Trng Cplx, Sim Rm, Drywall Above 2m + Ceiling  
 Reason: Initial Survey User: BT09816/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Area: 125.0 cm2  
 Detector Type: 125cm2 Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .232

Survey Performed By: *A. Daniel*  
 Survey Reviewed By: *Daniel L. Bl*

Date: *8/8/95*  
 Date: *9-15-95*

Station: 1  
 File: 458  
 Page: 1  
 Survey Date: 8/08/95 Survey Start Time: 07:38  
 Date/Time Report Printed: 8/08/95 13:27:00

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	1	A	SC1TC878	0	60	1612	1612	5559	*
	99	A	SC1TC878	0	60	1638	1638	5648	*
Number of Measurements at this Survey Location: 2									
	2	A	SC2TC878	0	60	1631	1631	5624	*
	100	A	SC2TC878	0	60	1692	1692	5834	*
Number of Measurements at this Survey Location: 2									
	3	A	SC3TC878	0	60	1599	1599	5514	*
	101	A	SC3TC878	0	60	1666	1666	5745	*
Number of Measurements at this Survey Location: 2									
	98	A	SCBKGPST	0	60	488	488	1683	
Number of Measurements at this Survey Location: 1									
	0		SCBKGPPE	0	600	4919	492	1696	

**COPY**

\* Flag is set at 2000 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/08/95 Survey Start Time: 07:33  
 Date/Time Report Printed: 8/08/95 13:27:00

Station: 1  
 File: 458  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
--------	--------	-------------	-----------------	--------	------------------	--------------	-----------------------	--------------------------	-----

Number of Measurements at this Survey Location: 1

56	A		0344COMLAB	1	15	95	380	1310	
57	A		0344COMLAB	1	15	90	360	1241	
58	A		0344COMLAB	1	15	96	384	1324	
59	A		0344COMLAB	1	15	101	404	1393	
60	A		0344COMLAB	1	15	90	360	1241	
61	A		0344COMLAB	1	15	101	404	1393	
62	A		0344COMLAB	1	15	141	564	1945	
63	A		0344COMLAB	1	15	108	432	1490	
64	A		0344COMLAB	1	15	100	400	1379	
65	A		0344COMLAB	1	15	132	528	1821	
66	A		0344COMLAB	1	15	105	420	1448	
67	A		0344COMLAB	1	15	90	360	1241	

Number of Measurements at this Survey Location: 12

4	A		0344COMLAB	1	15	89	356	1228	
5	A		0344COMLAB	1	15	101	404	1393	
6	A		0344COMLAB	1	15	86	344	1186	
7	A		0344COMLAB	1	15	104	416	1434	
8	A		0344COMLAB	1	15	77	308	1062	
9	A		0344COMLAB	1	15	88	352	1214	
10	A		0344COMLAB	1	15	82	328	1131	
11	A		0344COMLAB	1	15	85	340	1172	
12	A		0344COMLAB	1	15	88	352	1214	
13	A		0344COMLAB	1	15	93	372	1283	
14	A		0344COMLAB	1	15	78	312	1076	
15	A		0344COMLAB	1	15	92	368	1269	

Number of Measurements at this Survey Location: 12

1	68	A	0344COMC01	2	15	95	380	1310	
2	69	A	0344COMC01	2	15	112	448	1545	
3	70	A	0344COMC01	2	15	98	392	1352	

\* Flag is set at 2000 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/08/95 Survey Start Time: 10:46  
 Date/Time Report Printed: 8/08/95 13:27:00

Station: 1  
 File: 458  
 Page: 3

Comments

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
4	71	A	0344COMC01	2	15	108	432	1490	
5	72	A	0344COMC01	2	15	95	380	1310	
6	73	A	0344COMC01	2	15	101	404	1393	
7	74	A	0344COMC01	2	15	102	408	1407	
8	75	A	0344COMC01	2	15	119	476	1641	
9	76	A	0344COMC01	2	15	102	408	1407	
10	77	A	0344COMC01	2	15	144	576	1986	
11	78	A	0344COMC01	2	15	135	540	1862	
12	79	A	0344COMC01	2	15	113	452	1559	
13	80	A	0344COMC01	2	15	111	444	1531	
14	81	A	0344COMC01	2	15	93	372	1283	
15	82	A	0344COMC01	2	15	118	472	1628	
16	83	A	0344COMC01	2	15	122	488	1683	
17	84	A	0344COMC01	2	15	113	452	1559	
18	85	A	0344COMC01	2	15	127	508	1752	
19	86	A	0344COMC01	2	15	112	448	1545	
20	87	A	0344COMC01	2	15	133	532	1834	
21	88	A	0344COMC01	2	15	126	504	1738	
22	89	A	0344COMC01	2	15	115	460	1586	
23	90	A	0344COMC01	2	15	98	392	1352	
24	91	A	02.4COMC01	2	15	107	428	1476	
25	92	A	0344COMC01	2	15	131	524	1807	
26	93	A	0344COMC01	2	15	118	472	1628	
27	94	A	0344COMC01	2	15	93	372	1283	
28	95	A	0344COMC01	2	15	115	460	1586	
29	96	A	0344COMC01	2	15	99	396	1366	
30	97	A	0344COMC01	2	15	102	408	1407	

Number of Measurements at this Survey Location: 30

1	16	A	0344COMW01	2	15	119	476	1641	
2	17	A	0344COMW01	2	15	97	388	1338	
3	18	A	0344COMW01	2	15	115	460	1586	
4	19	A	0344COMW01	2	15	100	400	1379	
5	20	A	0344COMW01	2	15	95	380	1310	
6	21	A	0344COMW01	2	15	105	420	1448	
7	22	A	0344COMW01	2	15	101	404	1393	
8	23	A	0344COMW01	2	15	104	416	1434	
9	24	A	0344COMW01	2	15	86	344	1186	
10	25	A	0344COMW01	2	15	97	388	1338	
11	26	A	0344COMW01	2	15	104	416	1434	
12	27	A	0344COMW01	2	15	121	484	1669	
13	28	A	0344COMW01	2	15	89	356	1228	
14	29	A	0344COMW01	2	15	111	444	1531	

\* Flag is set at 2000 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/08/95 Survey Start Time: 09:28  
Date/Time Report Printed: 8/08/95 13:27:00

Station: 1  
File: 458  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
15	30	A	0344COMW01	2	15	86	344	1186	
16	31	A	0344COMW01	2	15	97	388	1338	
17	32	A	0344COMW01	2	15	112	448	1545	
18	33	A	0344COMW01	2	15	102	408	1407	
19	34	A	0344COMW01	2	15	84	336	1159	
20	35	A	0344COMW01	2	15	101	404	1393	
21	36	A	0344COMW01	2	15	95	380	1310	
22	37	A	0344COMW01	2	15	82	328	1131	
23	38	A	0344COMW01	2	15	87	348	1200	
24	39	A	0344COMW01	2	15	90	360	1241	
25	40	A	0344COMW01	2	15	98	392	1352	
26	41	A	0344COMW01	2	15	75	300	1034	
27	42	A	0344COMW01	2	15	86	344	1186	
28	43	A	0344COMW01	2	15	85	340	1172	
29	44	A	0344COMW01	2	15	91	364	1255	
30	45	A	0344COMW01	2	15	83	332	1145	
31	46	A	0344COMW01	2	15	86	344	1186	
32	47	A	0344COMW01	2	15	72	288	993	
33	48	A	0344COMW01	2	15	106	424	1462	
34	49	A	0344COMW01	2	15	88	352	1214	
35	50	A	0344COMW01	2	15	74	296	1021	
36	51	A	0344COMW01	2	15	88	352	1214	
37	52	A	0344COMW01	2	15	97	388	1338	
38	53	A	0344COMW01	2	15	98	392	1352	
39	54	A	0344COMW01	2	15	81	324	1117	
40	55	A	0344COMW01	2	15	98	392	1352	

Number of Measurements at this Survey Location: 40

Total Number of Measurements on this Report: 102

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM

\* Flag is set at 2000 dpm/100 sq. cm. for beta contamination.

COPY



ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/8/95  
 Download Station #: 1 Download File #: 456 Time: 11:35  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: DECLAN DETRICK Signature: [Signature] Date: 8-8-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95340

Survey Location description: Production Training Center Bldg #109 Simulator Room Drywall above 2m. and ceiling  
 (Example: Rx Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	<u>PR091053</u>	44-2	<u>1.077721E+10</u>	<u>N/A</u>	<u>456</u>	<u>459</u>

Local Area Background Measurements

MEAN  
BKG CPM

--	--	--	--	--	--	--	--	--	--	--

COMMENTS: NON-SUSPECT AREA - NO BKG VALUE APPLIED

---

M2350 Sample #s 5-44 = Location #'s 1-40  
45-74 = Location #'s 1-30

Sample 5 was recounted and is in the File # 459 report as sample 5.

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 456, Prod Trng Complex, Sim Rm, Drywall Above 2 m and Ceiling  
 Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. S/N: PR091053 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: Dale D. Dink Date: 8-8-95  
 Survey Reviewed By: Daniel K. Bl Date: 9-15-95

Station: 1  
 File: 456  
 Page: 1  
 Survey Date: 8/08/95 Survey Start Time: 07:53  
 Date/Time Report Printed: 8/08/95 4:54 pm

Loc No	Smp No	HG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i	Count
1	A	RC1CS857	6	60	795733	4430.09	*		
76	A	RC1CS857	6	60	793736	4418.97	*		
								-----	Maximum
Average uR/hr:								4424.53	4430.09

Number of Measurements at this Survey Location: 2

2	A	RC2CS857	6	60	23084	128.52	*		
77	A	RC2CS857	6	60	23096	128.58	*		
								-----	Maximum
Average uR/hr:								128.55	128.58

Number of Measurements at this Survey Location: 2

3	A	RC3CS857	6	60	6363	35.42	*		
78	A	RC3CS857	6	60	6231	34.69	*		
								-----	Maximum
Average uR/hr:								35.06	35.42

Number of Measurements at this Survey Location: 2

4	A	RC4CS857	6	60	4249	23.66	*
79	A	RC4CS857	6	60	3940	21.94	*

**COPY**

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/08/95 Survey Start Time: 11:13  
 Date/Time Report Printed: 8/08/95 3:54 pm

Station: 1  
 File: 456  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	81	A	RC4CS857	6	60	4159	23.15	*

-----  
 Average uR/hr: 22.92      Maximum 23.66

Number of Measurements at this Survey Location: 3  
 -----

	75	A	RCBKGPST	6	300	16688	18.58	*
--	----	---	----------	---	-----	-------	-------	---

-----  
 Average uR/hr: 18.58      Maximum 18.58

Number of Measurements at this Survey Location: 1  
 -----

	0	A	RCBKGPPE	6	300	16402	18.26	*
--	---	---	----------	---	-----	-------	-------	---

-----  
 Average uR/hr: 18.26      Maximum 18.26

Number of Measurements at this Survey Location: 1  
 -----

1	45	A	0344COMC01	8	15	615	13.70	*
2	46	A	0344COMC01	8	15	591	13.16	*
3	47	A	0344COMC01	8	15	699	15.57	*
4	48	A	0344COMC01	8	15	633	14.10	*
5	49	A	0344COMC01	8	15	681	15.17	*
6	50	A	0344COMC01	8	15	651	14.50	*
7	51	A	0344COMC01	8	15	630	14.03	*
8	52	A	0344COMC01	8	15	623	13.87	*
9	53	A	0344COMC01	8	15	681	15.17	*
10	54	A	0344COMC01	8	15	707	15.74	*
11	55	A	0344COMC01	8	15	680	15.14	*
12	56	A	0344COMC01	8	15	600	13.36	*
13	57	A	0344COMC01	8	15	651	14.50	*
14	58	A	0344COMC01	8	15	574	12.78	*
15	59	A	0344COMC01	8	15	616	13.72	*
16	60	A	0344COMC01	8	15	656	14.61	*
17	61	A	0344COMC01	8	15	676	15.05	*
18	62	A	0344COMC01	8	15	600	13.36	*
19	63	A	0344COMC01	8	15	628	13.99	*
20	64	A	0344COMC01	8	15	654	14.56	*
21	65	A	0344COMC01	8	15	628	13.99	*

\* Hi flag set at 5 micro-R/hr above background.

COPY

Survey Date: 8/08/95 Survey Start Time: 10:29  
 Date/Time Report Printed: 8/08/95 3:54 pm

Station: 1  
 File: 456  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
22	66	A	0344COMC01	8	15	658	14.65	*
23	67	A	0344COMC01	8	15	652	14.52	*
24	68	A	0344COMC01	8	15	636	14.16	*
25	69	A	0344COMC01	8	15	698	15.54	*
26	70	A	0344COMC01	8	15	724	16.12	*
27	71	A	0344COMC01	8	15	709	15.79	*
28	72	A	0344COMC01	8	15	685	15.25	*
29	73	A	0344COMC01	8	15	669	14.90	*
30	74	A	0344COMC01	8	15	732	16.30	*

----- Maximum  
 Average uR/hr: 14.58 16.30

Number of Measurements at this Survey Location: 30

2	6	A	0344COMW01	8	15	747	16.64	*
3	7	A	0344COMW01	8	15	751	16.72	*
4	8	A	0344COMW01	8	15	757	16.86	*
5	9	A	0344COMW01	8	15	749	16.68	*
6	10	A	0344COMW01	8	15	748	16.66	*
7	11	A	0344COMW01	8	15	750	16.70	*
8	12	A	0344COMW01	8	15	728	16.21	*
9	13	A	0344COMW01	8	15	719	16.01	*
10	14	A	0344COMW01	8	15	767	17.08	*
11	15	A	0344COMW01	8	15	771	17.17	*
12	16	A	0344COMW01	8	15	719	16.01	*
13	17	A	0344COMW01	8	15	699	15.57	*
14	18	A	0344COMW01	8	15	748	16.66	*
15	19	A	0344COMW01	8	15	699	15.57	*
16	20	A	0344COMW01	8	15	711	15.83	*
17	21	A	0344COMW01	8	15	670	14.92	*
18	22	A	0344COMW01	8	15	643	14.32	*
19	23	A	0344COMW01	8	15	674	15.01	*
20	24	A	0344COMW01	8	15	605	13.47	*
21	25	A	0344COMW01	8	15	586	13.05	*
22	26	A	0344COMW01	8	15	585	13.03	*
23	27	A	0344COMW01	8	15	614	13.67	*
24	28	A	0344COMW01	8	15	645	14.36	*
25	29	A	0344COMW01	8	15	627	13.96	*
26	30	A	0344COMW01	8	15	615	13.70	*
27	31	A	0344COMW01	8	15	693	15.43	*
28	32	A	0344COMW01	8	15	677	15.08	*
29	33	A	0344COMW01	8	15	660	14.70	*
30	34	A	0344COMW01	8	15	648	14.43	*
31	35	A	0344COMW01	8	15	606	13.50	*

← SEE DOWNLOAD #459 FOR MISSING DATA POINT MEAN.

COPY

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/08/95 Survey Start Time: 09:18  
Date/Time Report Printed: 8/08/95 3:54 pm

Station: 1  
File: 456  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Count		H i
						Gross Counts	Micro R/hr	
32	36	A	0344COMW01	8	15	613	13.65	*
33	37	A	0344COMW01	8	15	662	14.74	*
34	38	A	0344COMW01	8	15	614	13.67	*
35	39	A	0344COMW01	8	15	651	14.50	*
36	40	A	0344COMW01	8	15	632	14.07	*
37	41	A	0344COMW01	8	15	605	13.47	*
38	42	A	0344COMW01	8	15	651	14.50	*
39	43	A	0344COMW01	8	15	649	14.45	*
40	44	A	0344COMW01	8	15	724	16.12	*

----- Maximum  
Average uR/hr: 15.08 17.17

Number of Measurements at this Survey Location: 19  
-----

-----  
Total Number of Measurements on this Report: 80

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRH

COPY

\* Hi flag set at 5 micro-R/hr above background.



ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
456	8-8-95 12:17	Delete sample #5 5 & 80	DD	<i>gW Egert</i>	Deleted samples 5 + 80.	<i>gW Egert</i>	8/8/95 15:55

Attach this sheet to the front of the Survey Download Report requiring changes.

COPY

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 456, Prod Trng Complex, Sim Rm, Drywall Above 2 m and Ceiling  
 Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. S/N: PR091053 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: *[Signature]* Date: 8-8-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 8/08/95 Survey Start Time: 07:53 Station: 1  
 Date/Time Report Printed: 8/08/95 11:53 am File: 456  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Count		Gross Counts	Micro R/hr	H i	
				Det No	Time (sec)				
1	A	RC1CS857	RC1CS857	6	60	795733	4430.09	*	
76	A	RC1CS457	RC1CS457	6	60	793736	4418.97	*	
-----							Maximum		
Average uR/hr:							4424.53	4430.09	

Number of Measurements at this Survey Location: 2

2	A	RC2CS857	RC2CS857	6	60	23084	128.52	*	
77	A	RC2CS857	RC2CS857	6	60	23096	128.58	*	
-----							Maximum		
Average uR/hr:							128.55	128.58	

Number of Measurements at this Survey Location: 2

3	A	RC3CS857	RC3CS857	6	60	6363	35.42	*	
78	A	RC3CS857	RC3CS857	6	60	6231	34.69	*	
-----							Maximum		
Average uR/hr:							35.06	35.42	

Number of Measurements at this Survey Location: 2

4	A	RC4CS857	RC4CS857	6	60	4249	23.66	*
79	A	RC4CS857	RC4CS857	6	60	3940	21.94	*

COPY

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/08/95 Survey Start Time: 11:08  
 Date/Time Report Printed: 8/08/95 11:53 am

Station: 1  
 File: 456  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
<del>80</del>	<del>A</del>	<del>RC4CS857</del>	<del>RC4CS857</del>	<del>6</del>	<del>60</del>	<del>4037</del>	<del>23.43</del>	<del>*</del>
81	A	RC4CS857	RC4CS857	6	60	4159	23.15	*

*OKS  
8/8/95*

DELETE THIS POINT. 44.2 DETECTOR  
 MOVED IN RESPONSE CHECK  
 JIG DURING COUNT.

-----  
 Average uR/hr: 22.79      Maximum 23.66

Number of Measurements at this Survey Location: 4

75	A	RCBKGPOST	RCBKGPOST	6	300	16688	18.58	*
----	---	-----------	-----------	---	-----	-------	-------	---

-----  
 Average uR/hr: 18.58      Maximum 18.58

Number of Measurements at this Survey Location: 1

0	A	RCEKGPPE	RCEKGPPE	6	300	16402	18.26	*
---	---	----------	----------	---	-----	-------	-------	---

-----  
 Average uR/hr: 18.26      Maximum 18.26

Number of Measurements at this Survey Location: 1

1	45	A	0344COMC01	8	15	615	13.70	*
2	46	A	0344COMC01	8	15	591	13.16	*
3	47	A	0344COMC01	8	15	699	15.57	*
4	48	A	0344COMC01	8	15	633	14.10	*
5	49	A	0344COMC01	8	15	681	15.17	*
6	50	A	0344COMC01	8	15	651	14.50	*
7	51	A	0344COMC01	8	15	630	14.03	*
8	52	A	0344COMC01	8	15	623	13.87	*
9	53	A	0344COMC01	8	15	681	15.17	*
10	54	A	0344COMC01	8	15	707	15.74	*
11	55	A	0344COMC01	8	15	680	15.14	*
12	56	A	0344COMC01	8	15	600	13.36	*
13	57	A	0344COMC01	8	15	651	14.50	*
14	58	A	0344COMC01	8	15	574	12.78	*
15	59	A	0344COMC01	8	15	616	13.72	*
16	60	A	0344COMC01	8	15	656	14.61	*
17	61	A	0344COMC01	8	15	676	15.05	*
18	62	A	0344COMC01	8	15	600	13.36	*
19	63	A	0344COMC01	8	15	628	13.99	*
20	64	A	0344COMC01	8	15	654	14.56	*

COPY

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/08/95 Survey Start Time: 10:28  
 Date/Time Report Printed: 8/08/95 11:53 am

Station: 1  
 File: 456  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count		Micro R/hr	H i
					Time (sec)	Gross Counts		
21	65	A	0344COMC01	8	15	628	13.99	*
22	66	A	0344COMC01	8	15	658	14.65	*
23	67	A	0344COMC01	8	15	652	14.52	*
24	68	A	0344COMC01	8	15	636	14.16	*
25	69	A	0344COMC01	8	15	698	15.54	*
26	70	A	0344COMC01	8	15	724	16.12	*
27	71	A	0344COMC01	8	15	709	15.79	*
28	72	A	0344COMC01	8	15	685	15.25	*
29	73	A	0344COMC01	8	15	669	14.90	*
30	74	A	0344COMC01	8	15	732	16.30	*

-----  
 Average uR/hr: 14.58      Maximum 16.30

Number of Measurements at this Survey Location: 30

1	5	A	0344COMW01	8	300	679	.76	
2	6	A	0344COMW01	8	15	747	16.64	*
3	7	A	0344COMW01	8	15	751	16.72	*
4	8	A	0344COMW01	8	15	757	16.86	*
5	9	A	0344COMW01	8	15	749	16.68	*
6	10	A	0344COMW01	8	15	748	16.66	*
7	11	A	0344COMW01	8	15	750	16.70	*
8	12	A	0344COMW01	8	15	728	16.21	*
9	13	A	0344COMW01	8	15	719	16.01	*
10	14	A	0344COMW01	8	15	767	17.08	*
11	15	A	0344COMW01	8	15	771	17.17	*
12	16	A	0344COMW01	8	15	719	16.01	*
13	17	A	0344COMW01	8	15	699	15.57	*
14	18	A	0344COMW01	8	15	748	16.66	*
15	19	A	0344COMW01	8	15	699	15.57	*
16	20	A	0344COMW01	8	15	711	15.83	*
17	21	A	0344COMW01	8	15	670	14.92	*
18	22	A	0344COMW01	8	15	643	14.32	*
19	23	A	0344COMW01	8	15	674	15.01	*
20	24	A	0344COMW01	8	15	605	13.47	*
21	25	A	0344COMW01	8	15	586	13.05	*
22	26	A	0344COMW01	8	15	585	13.03	*
23	27	A	0344COMW01	8	15	614	13.67	*
24	28	A	0344COMW01	8	15	645	14.36	*
25	29	A	0344COMW01	8	15	627	13.96	*
26	30	A	0344COMW01	8	15	615	13.70	*
27	31	A	0344COMW01	8	15	693	15.43	*
28	32	A	0344COMW01	8	15	677	15.08	*
29	33	A	0344COMW01	8	15	660	14.70	*

← DELETE THIS POINT.  
 M2350 LOGGED THIS 15 SEC.  
 COUNT AS A 300 SEC. COUNT.  
 RESURVEY OF POINT. SEE  
 DOWNLOAD FILE #. 459

**COPY**

Survey Date: 8/08/95 Survey Start Time: 09:17  
 Date/Time Report Printed: 8/08/95 11:53 am

Station: 1  
 File: 456  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i	Count
30	34	A	0344COMW01	8	15	648	14.43	*	
31	35	A	0344COMW01	8	15	606	13.50	*	
32	36	A	0344COMW01	8	15	613	13.65	*	
33	37	A	0344COMW01	8	15	662	14.74	*	
34	38	A	0344COMW01	8	15	614	13.67	*	
35	39	A	0344COMW01	8	15	651	14.50	*	
36	40	A	0344COMW01	8	15	632	14.07	*	
37	41	A	0344COMW01	8	15	605	13.47	*	
38	42	A	0344COMW01	8	15	651	14.50	*	
39	43	A	0344COMW01	8	15	649	14.45	*	
40	44	A	0344COMW01	8	15	724	16.12	*	

----- Maximum  
 Average uR/hr 15.08 17.17

Number of Measurements at this Survey Location: 40

-----  
 Total Number of Measurements on this Report: 82  
 End of Report  
 C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

COPY

\* Hi flag set at 5 micro-R/hr above background.



**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 8/16/95      Report Date: 8/23/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: 0344C0MC01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02733	1	8.7	23.6	-3.7	
26.02734	2	8.7	23.6	-3.7	
26.02735	3	8.7	23.6	-3.7	
26.02736	4	8.7	23.6	-3.7	
26.02737	5	8.7	23.6	-1.4	
26.02738	6	8.7	23.6	-3.7	
26.02739	7	8.7	23.6	.9	
26.02740	8	8.7	23.6	-6.0	
26.02741	9	8.7	23.6	-3.7	
26.02742	10	8.7	23.6	5.6	
26.02743	11	8.7	23.6	-1.4	
26.02744	12	8.7	23.6	-6.0	
26.02745	13	8.7	23.6	.9	
26.02746	14	8.7	23.6	5.6	
26.02747	15	8.7	23.6	-3.7	
26.02748	16	8.7	23.6	3.2	
26.02749	17	8.7	23.6	.9	
26.02750	18	8.7	23.6	-6.0	
26.02751	19	8.7	23.6	-1.4	
26.02752	20	8.7	23.6	-1.4	
26.02753	21	8.7	23.6	3.2	
26.02754	22	8.7	23.6	-3.7	
26.02755	23	8.7	23.6	-1.4	
26.02756	24	8.7	23.6	.9	
26.02757	25	8.7	23.6	-3.7	
26.02758	26	8.7	23.6	.9	
26.02759	27	8.7	23.6	-1.4	
26.02760	28	8.7	23.6	-3.7	
26.02761	29	8.7	23.6	3.2	
26.02762	30	8.7	23.6	-3.7	

**COPY**

Analysis Date :8/16/95

Report Date: 8/23/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0344C0MW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02763	1	8.7	23.6	-1.4	
26.02764	2	8.7	23.6	.9	
26.02765	3	8.7	23.6	5.6	
26.02766	4	8.7	23.6	.9	
26.02767	5	8.7	23.6	-1.4	
26.02768	6	8.7	23.6	.9	
26.02769	7	8.7	23.6	.9	
26.02770	8	8.7	23.6	-3.7	
26.02771	9	8.7	23.6	.9	
26.02772	10	8.7	23.6	3.2	
26.02773	11	8.7	23.6	3.2	
26.02774	12	8.7	23.6	.9	
26.02775	13	8.7	23.6	-6.0	
26.02776	14	8.7	23.6	-1.4	
26.02777	15	8.7	23.6	-1.4	
26.02778	16	8.7	23.6	-6.0	
26.02779	17	8.7	23.6	-3.7	
26.02780	18	8.7	23.6	-3.7	
26.02781	19	8.7	23.6	-3.7	
26.02782	20	8.7	23.6	-1.4	
26.02783	21	8.7	23.6	-1.4	
26.02784	22	8.7	23.6	.9	
26.02785	23	8.7	23.6	.9	
26.02786	24	8.7	23.6	-3.7	
26.02787	25	8.7	23.6	.9	
26.02788	26	8.7	23.6	3.2	
26.02789	27	8.7	23.6	10.2	
26.02790	28	8.7	23.6	7.9	
26.02791	29	8.7	23.6	.9	
26.02792	30	8.7	23.6	.9	
26.02793	31	8.7	23.6	-1.4	
26.02794	32	8.7	23.6	-6.0	
26.02795	33	8.7	23.6	-3.7	

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Analysis Date :8/16/95      Report Date: 8/23/95      SCN :236.00      Activity (dpm) : 2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0344C0MW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02796	34	8.7	23.6	.9	
26.02797	35	8.7	23.6	-6.0	
26.02798	36	8.7	23.6	7.9	
26.02799	37	8.7	23.6	5.6	
26.02800	38	8.7	23.6	.9	
26.02801	39	8.7	23.6	.9	
26.02802	40	8.7	23.6	-1.4	

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *mg*

Date: 8/24/95

Final Survey Technician Review: *JAS*

Date: 9-5-95

Field Operation Coordinator Review: *hsw*

Date: 9-5-95

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**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

Page 1 of 2

Package #: 0346	Building: Various - See below	Elevation: 4791	Drawing #: PP1-A	Survey Unit: A007
Survey Unit Description <sup>1</sup> : Decommissioning Project Offices - Building #1019, Visitor Center - Building #107, Garden Equipment Storage Building #110, Equipment Storage Building #1001 and Equipment Storage Building #1002				
History of Area(s) <sup>2</sup> :				
<p>The Decommissioning Project Offices the Visitor Center and the (3) Equipment Storage Buildings have no history of containing radioactive material other than non-licensed radioactive material in display cases used for demonstration purposes and stored in the south hallway area of the Visitor Center. This area was classified as Affected and is addressed in separate survey packages (#0340/0343).</p> <p>The floors and lower walls of these buildings will be surveyed as an Unaffected survey unit.</p>				
Special Support Requirements <sup>3</sup> : Various items need to be moved/removed in Storage Buildings #1001 and #1002 to allow for uniformly distributed measurement locations.				
Specific Safety Precautions <sup>4</sup> : None				
Field Operations Coordinator: <i>Daniel L. Blum</i> Date: 8-10-95				
Isolation Controls <sup>5</sup> : Level 1 <input checked="" type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/>				
<p>No use, storage or movement of radioactive material is permitted in Group A buildings. All radioactive storage areas outside the Reactor Bldg are controlled by the Radwaste Supervisor. The Radwaste Supervisor has been notified that final surveys of Group A building are to begin and that no radioactive material shall be authorized in these areas.</p> <p>Prior to the final survey of Group A buildings, training sessions will be held with site personnel regarding final survey isolation controls.</p> <p>Final configuration of this area is to be maintained. Authorization must be obtained prior to the painting of surfaces, structural renovation and/or removal of components from this area.</p>				

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

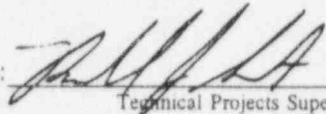
**Surface Grid Requirements:**

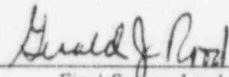
Unaffected survey units will not be gridded. Measurement locations will be labeled on the floor and lower wall surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.

- <sup>1</sup> The general area addressed by the survey package. (e.g. machine shop, hot service facility, helium storage system, PCRV, etc.).
- <sup>2</sup> Describe functional use and any known abnormal operating conditions which may have impacted the radiological conditions, especially potentials for past contamination.
- <sup>3</sup> Scaffolding, ladders, temporary lighting, installation of a power supply, etc.
- <sup>4</sup> Confined space entry permits, etc. Interface with MK safety as necessary.
- <sup>5</sup> Isolation requirements in accordance with procedure FSV-SC-FRS-1-108, "Final Survey Isolation and Control Measures."

**SURVEY PACKAGE IMPLEMENTATION**

Survey package ready for implementation.

Signed:  Date: 8/9/95  
Technical Projects Supervisor

Signed:  Date: 8/9/95  
Final Survey Lead Engineer

**SURVEY PACKAGE CLOSURE**

Final Survey Package is authorized for closure. All required reviews are completed and data analysis results meet acceptance criteria.

Final Survey Lead Engineer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Technical Projects Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Radiation Protection Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**ATTACHMENT 6.4  
SURVEY UNIT WORK SHEET**

Package #: 0346

Page  1  of  2

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
Decommissioning Project Offices, Bldg. #1019 Carpeted Floors over wood	Surface and Structure	Unaffected	1040	30		
Decommissioning Project Offices, Bldg. #1019 Vinyl Floors/Walls over wood	Surface and Structure	Unaffected	1596	38		
Garden Equipment Storage Bldg. #110 Concrete Floors - bare	Surface and Structure	Unaffected	110	10		
Garden Equipment Storage Bldg. #110 Equipment Storage Building #1001 Drywall Walls - bare	Surface and Structure	Unaffected	113	10		
Garden Equipment Storage Bldg. #110 Wood Floors/Walls - bare	Surface and Structure	Unaffected	113	8	10	
Equipment Storage Building #1001 Equipment Storage Building #1002 Vinyl Floors over wood	Surface and Structure	Unaffected	69	8	6	
Equipment Storage Building #1002 Drywall Walls - painted	Surface and Structure	Unaffected	135	10		
Visitor Center, Bldg. #107 Carpeted Floors over concrete	Surface and Structure	Unaffected	389	30		
Visitor Center, Bldg. #107 Concrete Floors/Walls - bare	Surface and Structure	Unaffected	39	6		
Visitor Center, Bldg. #107 Vinyl Floors/Walls over concrete	Surface and Structure	Unaffected	89	11		
Visitor Center, Bldg. #107 Brick walls	Surface and Structure	Unaffected	177	15		

**COPY**

Visitor Center, Bldg. #107 Drywall Walls - painted	Surface and Structure	Unaffected	56	10		
Visitor Center, Bldg. #107 Cinder Block Walls - painted	Surface and Structure	Unaffected	8	4		
Visitor Center, Bldg. #107 Wood Paneling Walls	Surface and Structure	Unaffected	28	3		
Visitor Center, Bldg. #107 Drywall Walls - bare	Surface and Structure	Unaffected	13	2		

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)

<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas

<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date: \_\_\_\_\_ / \_\_\_\_\_

Radiological Engineer

Revision 1 By/Date: \_\_\_\_\_ / 8/15/95

Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_

Radiological Engineer

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**ATTACHMENT 6.4  
SURVEY UNIT WORK SHEET**

Package #: 0346

Page  1  of  2

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
Decommissioning Project Offices, Bldg. #1019 Carpeted Floors over wood	Surface and Structure	Unaffected	1040	30		
Decommissioning Project Offices, Bldg. #1019 Vinyl Floors/Walls over wood	Surface and Structure	Unaffected	1596	38		
Garden Equipment Storage Bldg. #110 Concrete Floors - bare	Surface and Structure	Unaffected	110	10		
Garden Equipment Storage Bldg. #110 Equipment Storage Building #1001 Drywall Walls - bare	Surface and Structure	Unaffected	113	10		
Garden Equipment Storage Bldg. #110 Wood Floors/Walls - bare	Surface and Structure	Unaffected	84	8		
Equipment Storage Building #1001 Equipment Storage Building #1002 Vinyl Floors over wood	Surface and Structure	Unaffected	98	8		
Equipment Storage Building #1002 Drywall Walls - painted	Surface and Structure	Unaffected	135	10		
Visitor Center, Bldg. #107 Carpeted Floors over concrete	Surface and Structure	Unaffected	389	30		
Visitor Center, Bldg. #107 Concrete Floors/Walls - bare	Surface and Structure	Unaffected	39	6		
Visitor Center, Bldg. #107 Vinyl Floors/Walls over concrete	Surface and Structure	Unaffected	89	11		
Visitor Center, Bldg. #107 Brick walls	Surface and Structure	Unaffected	177	15		

**COPY**

Visitor Center, Bldg. #107 Drywall Walls - painted	Surface and Structure	Unaffected	56	10		
Visitor Center, Bldg. #107 Cinder Block Walls - painted	Surface and Structure	Unaffected	8	4		
Visitor Center, Bldg. #107 Wood Paneling Walls	Surface and Structure	Unaffected	28	3		
Visitor Center, Bldg. #107 Drywall Walls - bare	Surface and Structure	Unaffected	13	2		

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)

<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas

<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date: *R. J. Kelly* / 8/9/95  
Radiological Engineer

Revision 1 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

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## ATTACHMENT 6.8 SURVEY PACKAGE VALIDATION CHECKLIST

Survey Package # 0346

Page 1 of 1

### DATA REVIEWS

SURVEY DOCUMENTATION REVIEWED FOR COMPLETION:	Remarks
Gamma & Beta Scan Surveys	<i>mcm</i> 9-5-95
Total (Beta) Activity Surveys	<i>mcm</i> 9-5-95
Gamma Exposure Rate Surveys	<i>mcm</i> 9-5-95
Smear Samples	<i>mcm</i> 9-5-95
Soil Samples	N/A
Water Samples	/A
<b>ALL REQ'D MEASUREMENTS &amp; SAMPLES ACCOUNTED:</b>	
Gamma & Beta Scan Surveys	<i>mcm</i> 9-5-95
Total (Beta) Activity Surveys	<i>mcm</i> 9-5-95
Gamma Exposure Rate Surveys	<i>mcm</i> 9-5-95
Smear Samples	<i>mcm</i> 9-5-95
Soil Samples	N/A
Water Samples	/A
<p>COMMENTS: <u>CARPET SAMPLES WERE REMOVED FROM VISITORS CENTER AND ANALYZED. DOWNLOAD FILE #492 CORRECTED &amp; REVIEWED ON 9-21-95 mcm</u>  <u>ALSO ATTACHMENT 6.4 UPDATED ON 9-21-95 mcm</u></p>	
<p>SURVEYS ARE COMPLETED &amp; VALIDATED: <u><i>mcm</i></u> DATE: <u>9-5-95</u>  Field Operations Coordinator</p>	
<p>Surveys are completed and the Survey Package review has been completed.</p>	
Final Survey Operations Supervisor:	Date:
<p>Survey package meets acceptance criteria and all required elements of the survey package have been completed.</p>	
Radiological Engineer Signature:	Date:
<p>Survey results &amp; supporting documentation have been reviewed &amp; found to be satisfactory. All data satisfies final survey acceptance criteria per procedure FSV-SC-FRS-I-110, "Final Survey Data Analysis".</p>	
Data Evaluation Engineer Signature:	Date:
<p>Final survey package is complete and ready for closure.</p>	
Final Survey Lead Engineer Signature:	Date:



**ATTACHMENT 6.9  
FINAL SURVEY SUPPORT REQUEST**

Survey Package # 0346	Building 1001 / 1002	Elevation 4791'	Drawing # PP1-A	Survey Unit A007
General Description of Survey Unit: Equipment Storage Building #1001 and Equipment Storage Building #1002				
RP Contact (Field Operations Coordinator) <i>Darrel Blain or Mike Miles</i>	Date Request Initiated <i>8-10-95</i>	Date Needed By <i>8-16-95</i>	Survey Start Date <i>8-16-95</i>	

**SAFETY <sup>1</sup>**

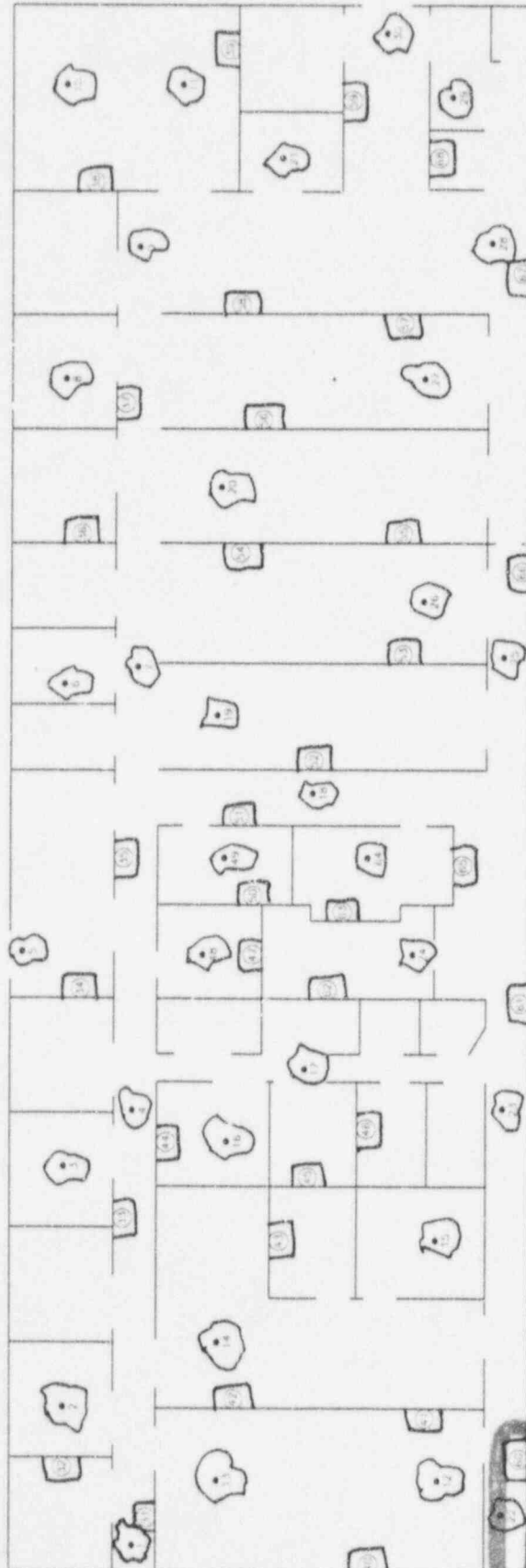
Description	Remarks

**GENERAL SUPPORT <sup>2</sup>**

Description	Remarks
Various items need to be moved/removed to allow for uniformly distributed measurement locations.	<i>Contact <del>Contact</del> Darrel Blain or Mike Miles. 10/08/31-95</i>

<sup>1</sup> Personnel Safety Evaluation, Confined Space Entry Permits, etc.  
<sup>2</sup> Ladders, Scaffolding, Lighting, etc.

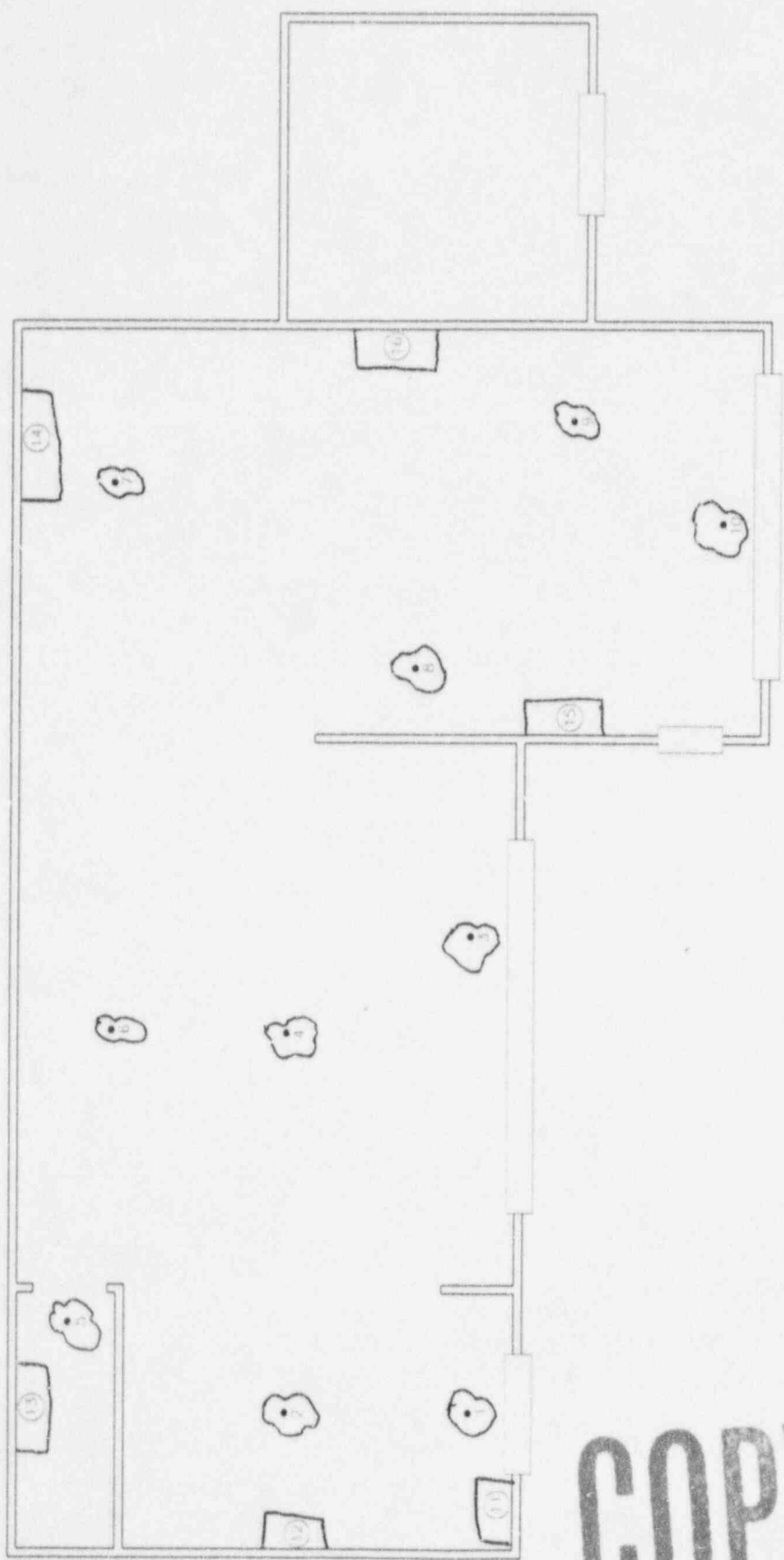
DECOMMISSIONING PROJECT OFFICES - #1019



COPY

Survey/Package #: 0346	Master Drawing #: PPI-A	Bldg: DECOMMISSIONING PROJECT OFFICES - #1019	Elev: 479'
Location Code: 0346A00301	Description: CARPETED FLOORS OVERS WOOD	Approx. M <sup>2</sup> : 1040	Grid Size: N/A
<input type="checkbox"/> Beta Scan	<input type="checkbox"/> Total Activity	<input type="checkbox"/> Surface Std	<input type="checkbox"/> Other
Location Code: 0346A00301	Description: VINYL FLOORS / WALLS OVER WOOD	Approx. M <sup>2</sup> : 1596	Grid Size: N/A
<input type="checkbox"/> Beta Scan	<input type="checkbox"/> Total Activity	<input type="checkbox"/> Surface Std	<input type="checkbox"/> Other
Survey Dates/Time: 8-16-95 / 1000	RP Tech Initials: DD		
LEGEND	● FLOOR MEASUREMENT LOCATION	□ = B <sup>-</sup> scan on walls	☁ = B <sup>-</sup> scan on floor
	● WALL MEASUREMENT LOCATION		
			FILE: RP_A\FPACKE\0346 (GR)

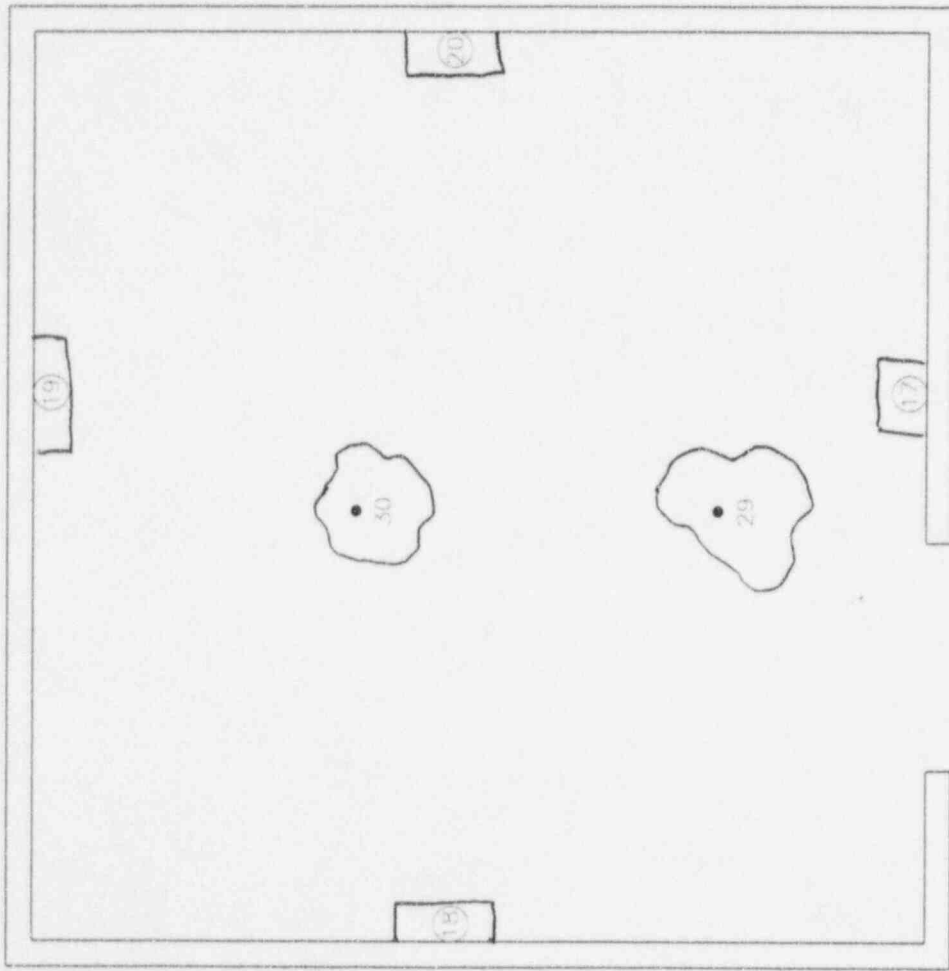
GARDEN EQUIPMENT STORAGE - #110



**COPY**

Survey/Package #: 0346	Masker Drawing #: PPI-A	Bldg: GARDEN EQUIPMENT STORAGE - #110	Elev. 4791'
Location Code: 0346A0A0B0Z	Description: CONCRETE FLOORS	Approx. M <sup>2</sup> 110	Grid Size N/A
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Seizars	<input type="checkbox"/> Liquid Sample <input type="checkbox"/> H-3 Seizars <input type="checkbox"/> Sealant Sample <input type="checkbox"/> Surface Soil <input type="checkbox"/> Sub-surface Soil <input type="checkbox"/> Other	Approx. M <sup>2</sup> 84	Grid Size
Location Code: 0346A0L0B0Z	Description: DRYWALL WALLS - BARE		
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Seizars	<input type="checkbox"/> Liquid Sample <input type="checkbox"/> H-3 Seizars <input type="checkbox"/> Sealant Sample <input type="checkbox"/> Surface Soil <input type="checkbox"/> Sub-surface Soil <input type="checkbox"/> Other		
* Survey Date/Time: 8/16/95 1100W RP Tech Initials: <i>RPD</i> * - LATE ENTRY 8/29/95			
<input type="checkbox"/> WALL MEASUREMENT LOCATION <input type="checkbox"/> FLOOR MEASUREMENT LOCATION	[ ] = B-SCAN ON WALL [ ] = B-SCAN ON FLOOR		
FILE: RP_A\FACE\0346.GPJ			

STORAGE BUILDING - #1001



COPY

Survey/Package #: 0346      Master Drawing #: PPI-A      Bldg: STORAGE BUILDING - #1001      Elev: 4791'

Location Code: 0346AO.B02      Description: DRYWALL WALLS - BARE      Approx. M<sup>2</sup> 29      Grid Size N/A

Beta Scan     Gamma Scan     Total Activity     Gamma Exp. Rate     H-3 Smears     Lead/Gamma Smears     Liquid Sample     Surface Sample     Surface Sol     Sub-surface Sol     Other

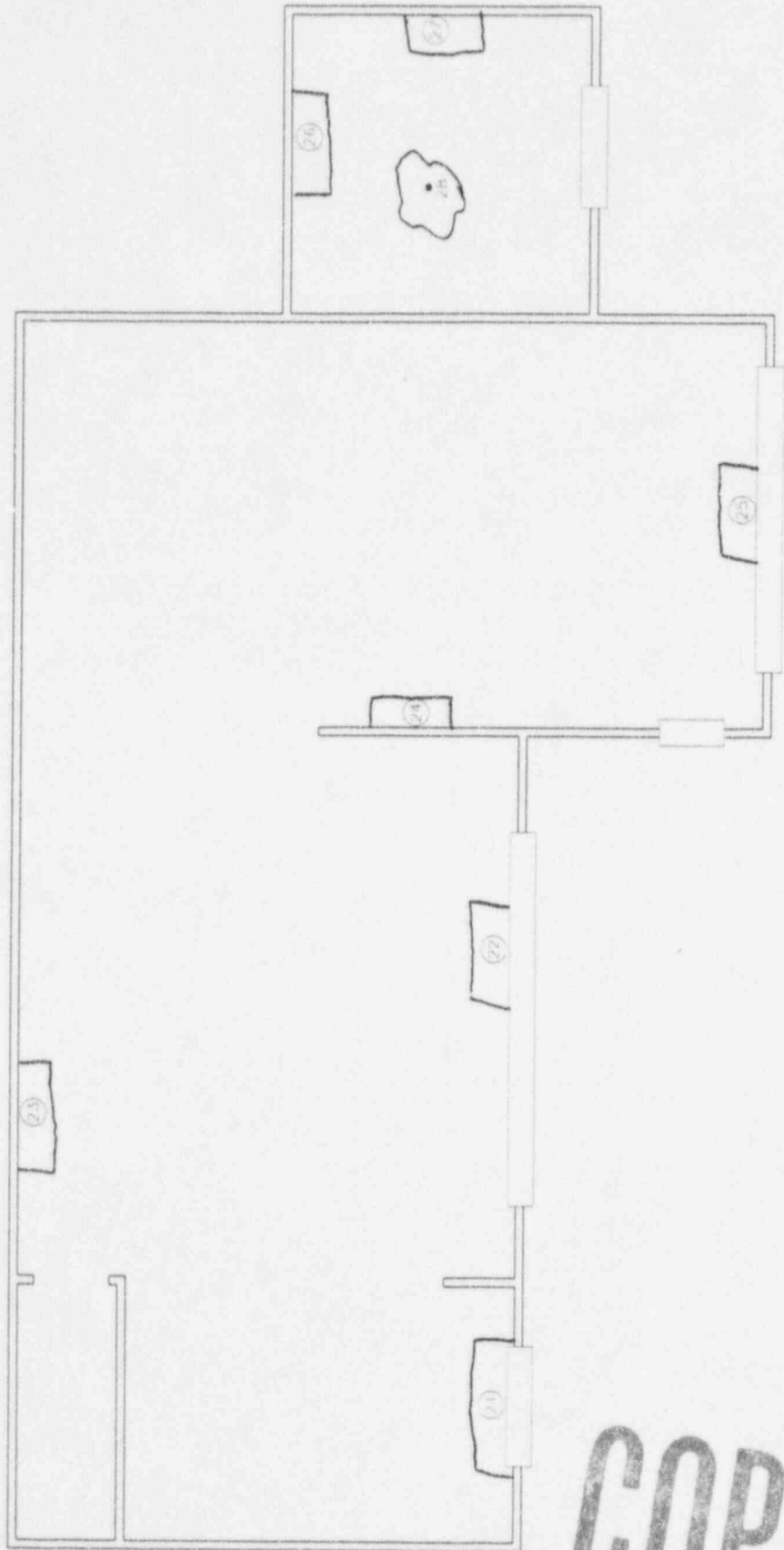
Location Code: 0346AO.B02      Description: WOOD FLOORS / WALLS - BARE      Approx. M<sup>2</sup> 29      Grid Size N/A  
 Beta Scan     Gamma Scan     Total Activity     Gamma Exp. Rate     H-3 Smears     Lead/Gamma Smears     Liquid Sample     Surface Sample     Surface Sol     Sub-surface Sol     Other

\*Survey Date/Time: 5/16/95 11000 RP Tech Initials: *RPD*      \* - LAKE ENERGY *APR 8/9/95*

INFL MEASUREMENT LOCATION       FLOOR MEASUREMENT LOCATION       B' SCAN ON WALL       B' SCAN ON FLOOR

FILE: RP\_AVPACKAGE\0346.L01

GARDEN EQUIPMENT STORAGE - #110



COPY

Survey/Package #: 0346  
 Location Code: 0346AO.1B02  
 Master Drawing #: PPI-A  
 Description: WOOD FLOORS \ WALLS - BARE  
 Bldg: GARDEN EQUIPMENT STORAGE - #110 Elev: 4791'  
 Approx. M<sup>2</sup> BA Grid Size N/A

Beta Scan  
 Gamma Scan  
 Total Activity  
 Gamma Exp. Rate  
 Beta/Gamma Scores  
 H-5 Scores  
 Liquid Sample  
 Sediment Sample  
 Surface Sol  
 Subsurface Sol  
 Other

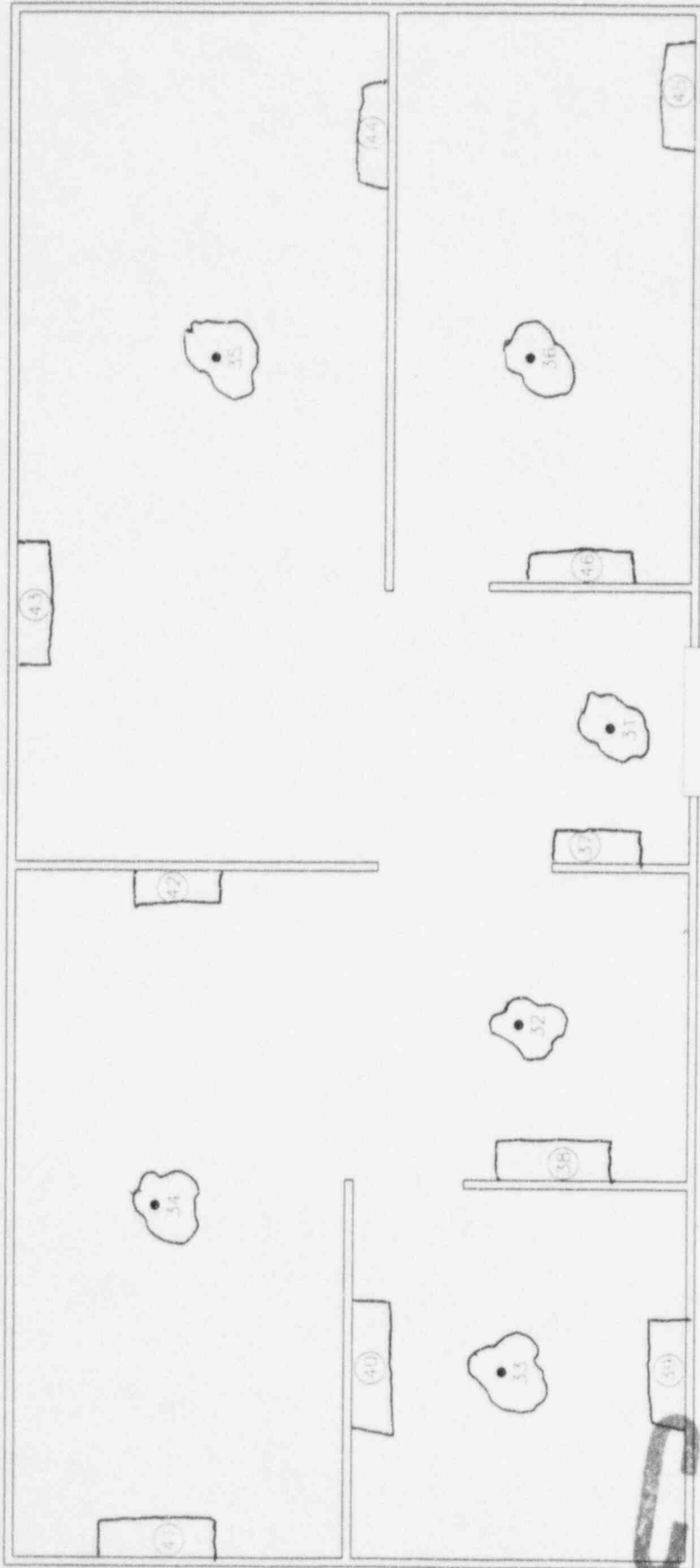
Location Code:  
 Beta Scan  
 Gamma Scan  
 Total Activity  
 Gamma Exp. Rate  
 Beta/Gamma Scores  
 H-5 Scores  
 Liquid Sample  
 Sediment Sample  
 Surface Sol  
 Subsurface Sol  
 Other

Survey Date/Time: 8/16/95 1000 RP Tech Initials: BPO  
 \* - LATE ENTRY BPO/D/S/P/S  
 [ ] = B-SCAN AVAILABLE [ ] = B-SCAN ON FLOOR

Legend: [ ] WALL MEASUREMENT LOCATION [ ] FLOOR MEASUREMENT LOCATION  
 File: RP\_A\PACKAGE\0346 (0)



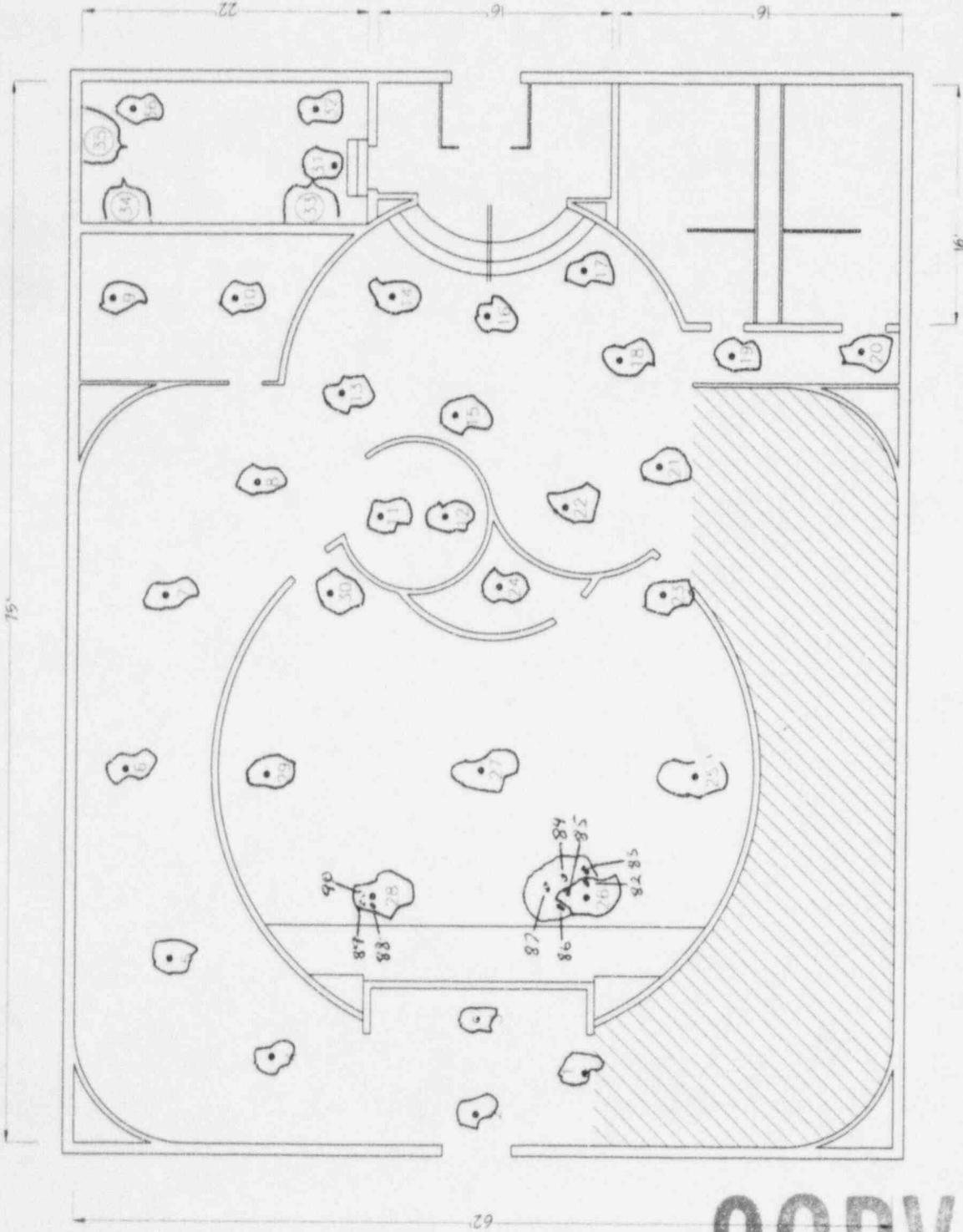
STORAGE BUILDING - #1002



COPY

Survey/Package #: 0346	Master Drawing #: PPI-A	Bldg: STORAGE BUILDING - #1002	Elev: 4791'
Location Code: 0346A00B02	Description: VINYL FLOORS OVER WOOD	Approx. M <sup>2</sup> : 69	Grid Size: N/A
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Seals <input type="checkbox"/> HI-9 Seals <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Substrate Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Subsurface Sol <input type="checkbox"/> Other	<input type="checkbox"/> HI-9 Seals <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Substrate Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Subsurface Sol <input type="checkbox"/> Other	Approx. M <sup>2</sup> : 134	Grid Size: N/A
Location Code: 0346A00B02	Description: DRYWALL WALLS - PAINTED		
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Seals <input type="checkbox"/> HI-9 Seals <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Substrate Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Subsurface Sol <input type="checkbox"/> Other	<input type="checkbox"/> HI-9 Seals <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Substrate Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Subsurface Sol <input type="checkbox"/> Other		
*Survey Date/Time: 5/16/95 1100	RP Tech Initials: <i>RPD</i>	* - LATE ENTRY <i>RPD/bjps</i>	
Legend: <input type="checkbox"/> WALL MEASUREMENT LOCATION <input type="checkbox"/> FLOOR MEASUREMENT LOCATION	E = B SEAMER WALL <input type="checkbox"/> = B SEAMER FLOOR		
FILE: RP_A\FNAGE\0346 (03)			

VISITOR CENTER - #107



COPY

Survey/Package #: 0346  
 Location Code: 0346AOCEB03  
 Description: CARPETED FLOORS OVER CONCRETE  
 Bidder: VISITOR CENTER - #107  
 Elev: 4791'

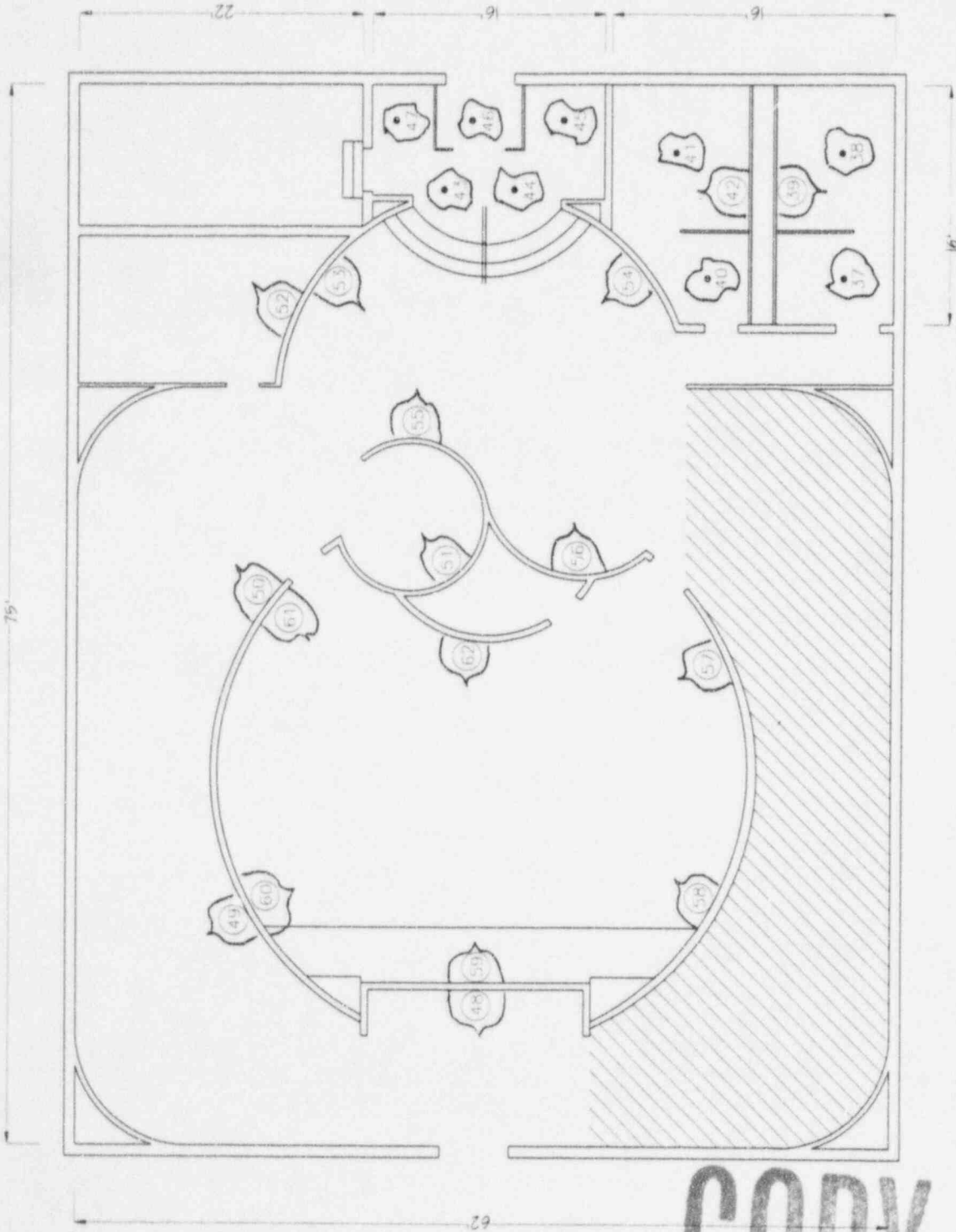
Location Code: 0346AOAB03  
 Description: CONCRETE FLOORS / WALLS - BARE  
 Bidder: VISITOR CENTER - #107  
 Elev: 389  
 Approx. M<sup>2</sup>: 389  
 Grid Size: N/A

Survey Date/Time: 8-16-05 / 1500  
 Tech Initials: [Handwritten initials]

Legend:  
 (Symbol) AREA NOT REPAIRED IN SERIES  
 (Symbol) WALL MEASUREMENT LOCATION  
 (Symbol) FLOOR MEASUREMENT LOCATION  
 (Symbol) = B-SURFACE AND PLATE

FILE: GRP\_A\PACKAGE\0346 (00)

VISITOR CENTER - #107

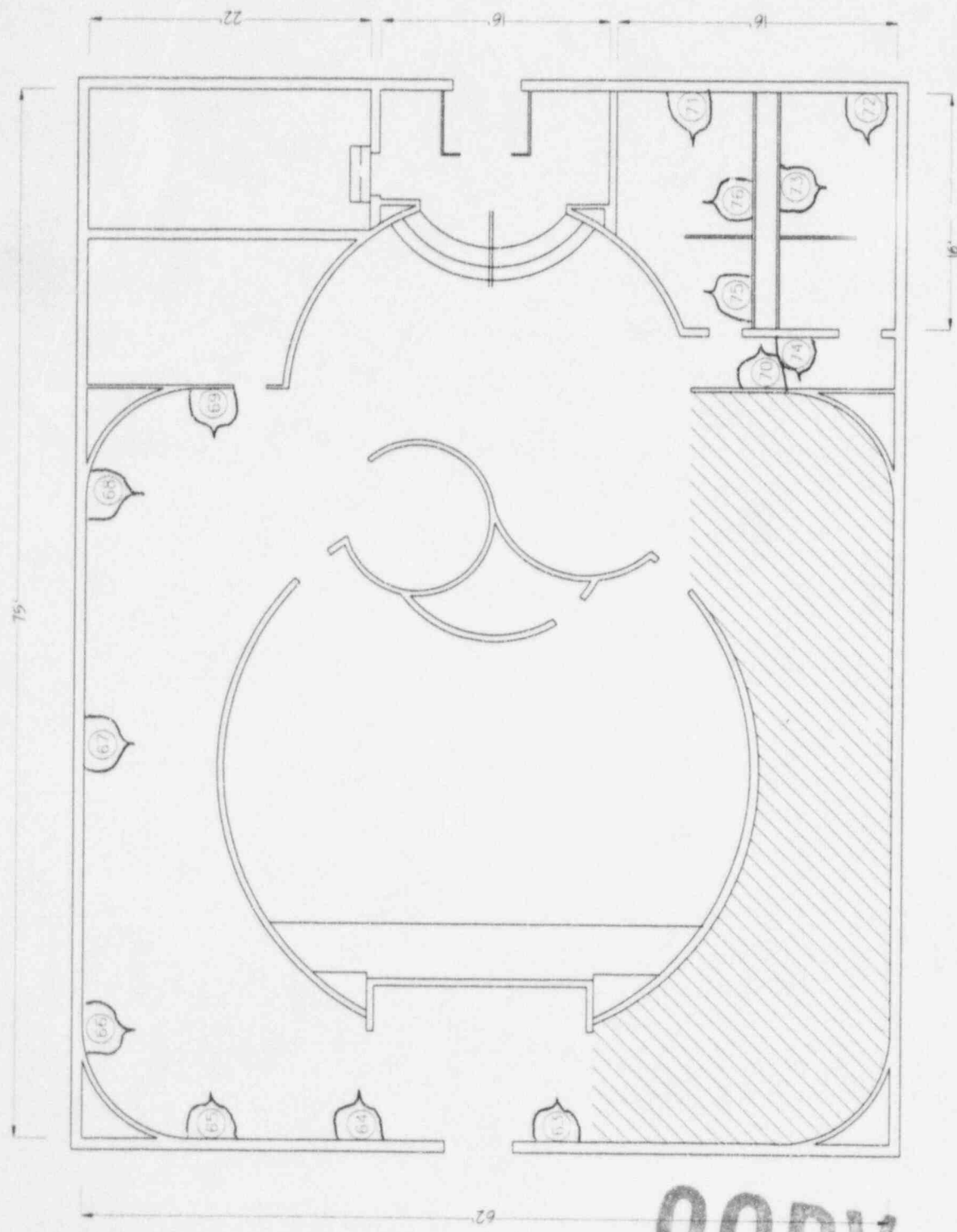


**COPY**

Survey/Package #: 0346	Master Drawing #: PPI-A	Bldg: VISITOR CENTER - #107	Elev. 4791'
Location Code: 0346A00B03	Description: VINYL FLOORS / WALLS OVER CONCRETE	Approx. M <sup>2</sup> 89	Grid Size N/A
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Scan Rate <input type="checkbox"/> Beta/Gamma Scan Rate	<input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Other	<input type="checkbox"/> Surface Sol <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Other	<input type="checkbox"/> Surface Sol <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Other
Location Code: 0346A01B03	Description: BRICK WALLS	Approx. M <sup>2</sup> 177	Grid Size N/A
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Scan Rate <input type="checkbox"/> Beta/Gamma Scan Rate	<input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Other	<input type="checkbox"/> Surface Sol <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Other	<input type="checkbox"/> Surface Sol <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Other
Survey Date/Time: 8-16-95	RP Tech Initials: DD		

AREA NOT INCLUDED IN SURVEY  
 WALL MEASUREMENT LOCATION  
 FLOOR MEASUREMENT LOCATION  
 N/A = B SCAN ON WALLS

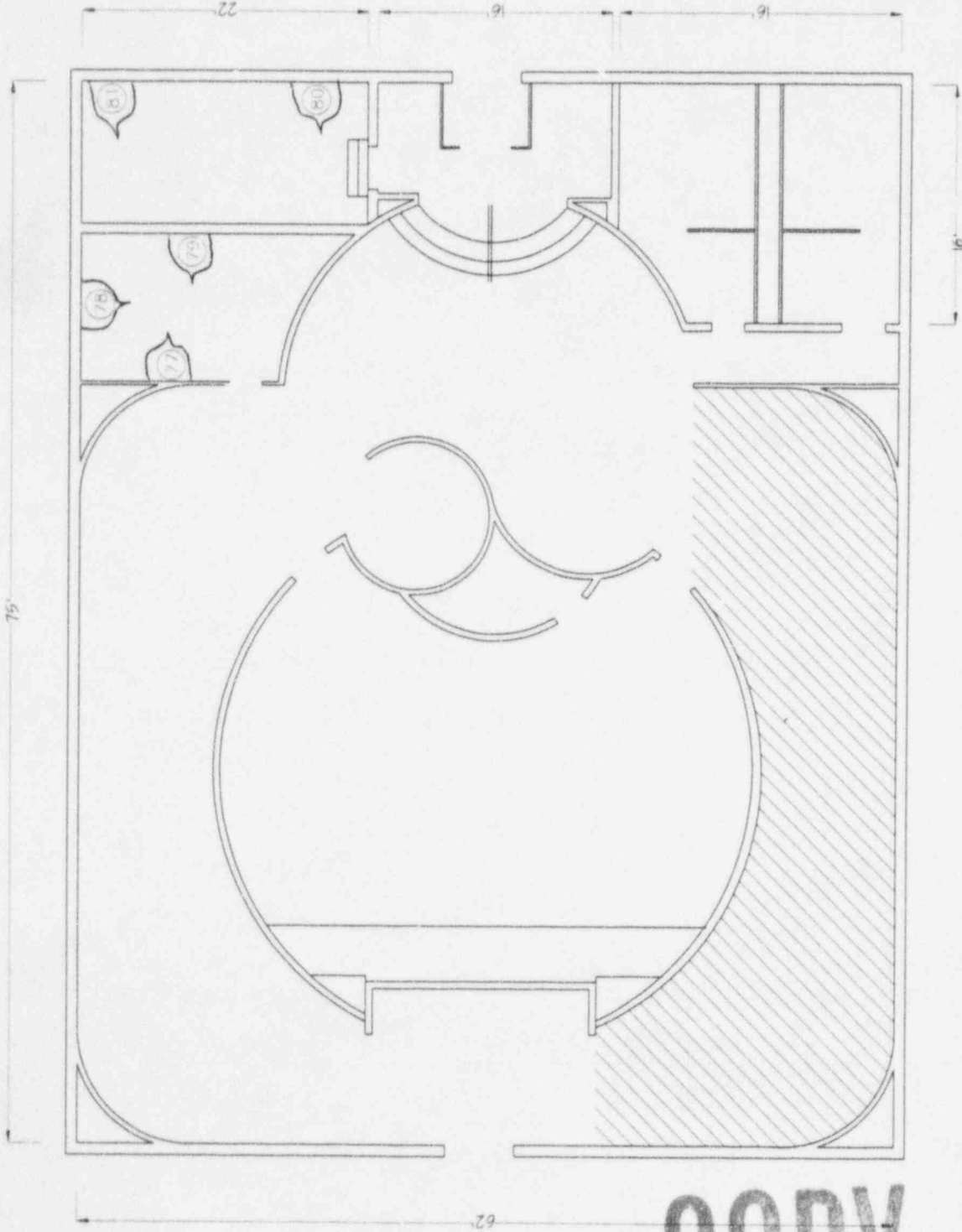
VISITOR CENTER - #107



**COPY**

Survey/Package #: 0346	Master Drawing #: PPI-A	Bldg: VISITOR CENTER - #107	Elev: 4791'
Location Code: 0346A0MBO3	Description: DRYWALL - PAINTED	Approx. M <sup>2</sup> : 56	Grid Size: N/A
<input type="checkbox"/> Beta Scan	<input type="checkbox"/> Gamma Scan	<input type="checkbox"/> Surface Sol	<input type="checkbox"/> Other
<input type="checkbox"/> Total Activity	<input type="checkbox"/> Gamma Tap Rate	<input type="checkbox"/> Surface Sol	<input type="checkbox"/> Other
<input type="checkbox"/> Beta Scan	<input type="checkbox"/> Gamma Scan	<input type="checkbox"/> Surface Sol	<input type="checkbox"/> Other
<input type="checkbox"/> Total Activity	<input type="checkbox"/> Gamma Tap Rate	<input type="checkbox"/> Surface Sol	<input type="checkbox"/> Other
Location Code: 0346A0BBO3	Description: CINDER BLOCK WALLS - PAINTED	Approx. M <sup>2</sup> : 8	Grid Size: N/A
<input type="checkbox"/> Beta Scan	<input type="checkbox"/> Gamma Scan	<input type="checkbox"/> Surface Sol	<input type="checkbox"/> Other
<input type="checkbox"/> Total Activity	<input type="checkbox"/> Gamma Tap Rate	<input type="checkbox"/> Surface Sol	<input type="checkbox"/> Other
Survey Date/Time: 8/16/95	RP Tech Initials: RP		

VISITOR CENTER - #107



Survey/Package #: 0546  
 Location Code: 0546AOLB05  
 Location Code: 0546AOLB05  
 Survey Date/Time: 8-16-95 / 1500 RP Tech Initials: *DD/BZD*

Master Drawing #: PPI-A  
 Description: WOOD PANELING WALLS  
 Description: DRWALL WALLS - BARE

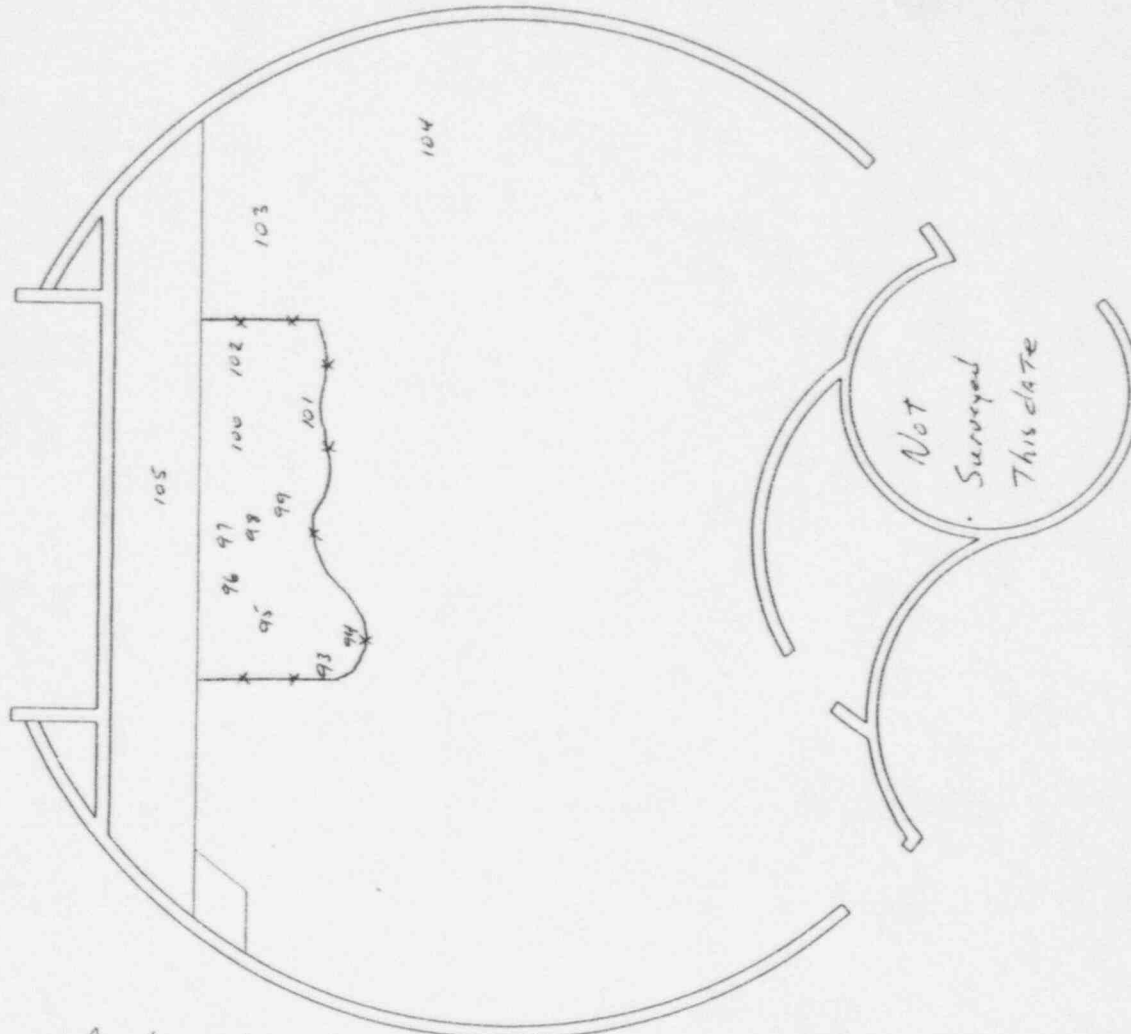
Bldg: VISITOR CENTER - #107  
 Elev: 4791'  
 Approx. M<sup>2</sup>: 28 Grid Size: N/A  
 Approx. M<sup>2</sup>: 15 Grid Size: N/A

Legend:  
 (●) WALL MEASUREMENT LOCATION  
 (●) FLOOR MEASUREMENT LOCATION

NOT RATED IN SURVEY  
 FILE: RP\_A\A\A\A\0546.CAD



VISITOR CENTER - #107  
FLOOR - CENTER MEETING AREA



**COPY**

— x — x — x — Area of elevated readings > 1250 dpm/100 cm<sup>2</sup>

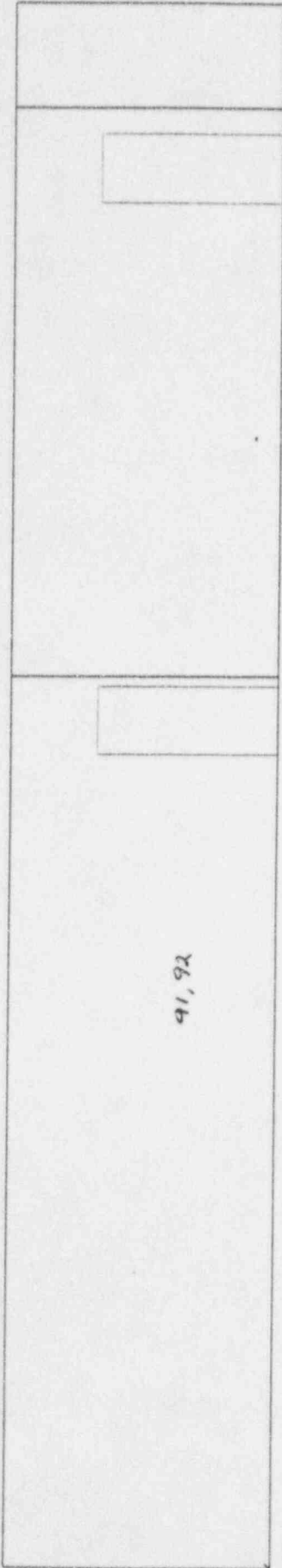


Survey/Package #: 0346 Master Drawing #: PPI-A Bldg: VISITOR CENTER - #107 Elev: 4791'  
 Location Code: 0346AGCB03 Description: CARPETED FLOORS OVER CONCRETE Approx. M<sup>2</sup> 96 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Sol  Subsurface Sol  Other  
 Location Code: 0346AGCB03 Description: PAINTED WOOD FLOOR Approx. M<sup>2</sup> 8 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Sol  Subsurface Sol  Other  
 Survey Date/Time: 8-21-95 / 1530 RP Tech Initials: rew

VISITOR CENTER - #107  
CENTER MEETING ROOM

NORTH WALL

EAST WALL



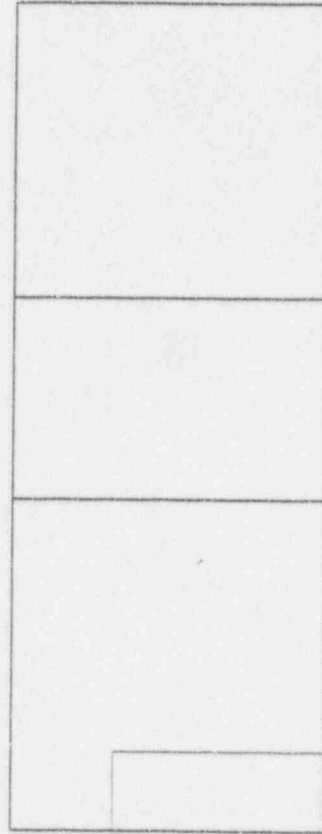
91, 92

CLOSET WALLS

WEST

NORTHEAST

SOUTHEAST



COPY

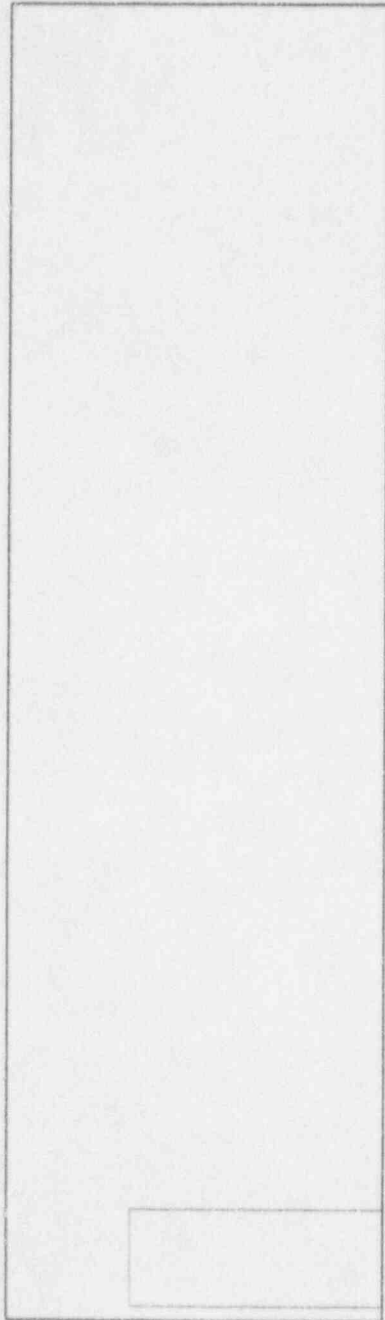
Survey/Package #: 0346  
 Location Code: 0546ACB05  
 Master Drawing #: PPI-A  
 Description: BRICK WALLS UP TO 2 METERS  
 Bidq: VISITOR CENTER - #107  
 Elev: 4791'  
 Approx. M<sup>2</sup>: 108  
 Grid Size: N/A

Location Code: 0546ACB05  
 Description: RP Tech Initials: R.S.W.  
 Survey Date/Time: 8-22-95 / 1200

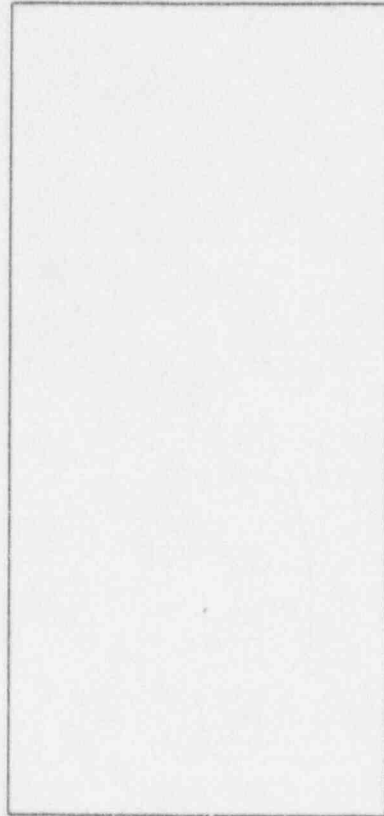
Legend: (●) WALL MEASUREMENT LOCATION (○) FLOOR SCAN LOCATION (□) WALL SCAN LOCATION

VISITOR CENTER - #107  
CENTER MEETING ROOM

SOUTH WALL



WEST WALL



**COPY**

Survey/Package #: 0346  
 Location Code: 0346AG0805  
 Master Drawing #: PPI-A  
 Description: BRICK WALLS UP TO 2 METERS  
 Bidq: VISITOR CENTER - #107  
 Elev: 4791'  
 Approx. M<sup>2</sup>: 56  
 Grid Size: N/A

Beta Scan  Gamma Scan  Gamma Exp Rate  Gamma Exp Rate  Total Activity  Beta/Gamma Scans  H-3 Scans  Liquid Sample  Solid Sample  Surface Sed  Subsurface Sed  Other

Beta Scan  Gamma Scan  Gamma Exp Rate  Gamma Exp Rate  Total Activity  Beta/Gamma Scans  H-3 Scans  Liquid Sample  Solid Sample  Surface Sed  Subsurface Sed  Other

Survey Date/Time: 8-22-95 / 1200 RP Tech Initials: RCW

Approx. M<sup>2</sup>:  
 Grid Size:

## ATTACHMENT 6.5 SURVEY INSTRUCTION FORM

Package # 0346	Building Various	Elevation 4791	Drawing # PP1-A	Survey Unit A007	Page <u>1</u> of <u>    </u>
General Description of Survey Unit: Decommissioning Project Offices - Bldg. #1019, Visitor Center - Bldg. #107, Garden Equipment Storage Bldg. #110, Equipment Storage Bldg. #1001 and Equipment Storage Bldg. #1002.					

### FIELD INSTRUMENTATION/INSTRUCTIONS

Instrument & Detector	Measurement Type	Count Time	Location Code	Remarks/Survey Instruction
2350/44-2	Gamma, Fixed Point	15 sec.	All	Collect exposure rate measurements at one meter from the surface at the location of the total activity measurements. No alarm set point is required.
2350/43-68	Beta, Fixed Point	15 sec.	All	Collect a minimum of 12 shielded local area background counts for each surface identified by a location code, using a 15 second count time.  The scaler alarm for fixed point measurements may be set using the following equation: (1250 dpm/100cm <sup>2</sup> * 1.25 * detector efficiency * count time (min.)) + (Bkgd counts (cpm/125cm <sup>2</sup> ) * sample count time (min.)) = alarm set point (counts/125cm <sup>2</sup> ) Note: Bkgd counts is the average of the shielded local area background counts.
2350/43-68	Beta, Scan	N/A	All	Perform a beta scan survey over a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.
2350/44-2	Gamma	15 sec.	All	Enter a zero background subtract when downloading survey data.
2350/43-68	Beta	15 sec.	All	Enter a zero background subtract when downloading survey data.
N/A	N/A	N/A	All	Complete the attached location code comparison forms for each survey unit. <del>These forms will be used in the future to assist in download operations</del> once the new location code format is implemented.
N/A	N/A	N/A	All	If any questions arise during the final survey, contact the survey package engineer, the FOC or FSLE.

Prepared By/Date: B. Juty / 8/9/95  
Radiological Engineer / Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

Page 2 of         
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: A	Resurvey #: 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	BTD 8/17/95
			Gamma Scan	N/A		
Material Code: C	Surface Code: B01		Total Surface Activity	30	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	BTD 8/17/95
			Exposure Rate	30	At 1 meter from total surface activity measurements.	BTD 8/17/95
Location Code: 0346A0CB01		Area (m <sup>2</sup> ): 1040	$\beta\gamma$ Smears	30	At same measurement locations as total surface activity measurements.	BTD 8/17/95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Decommissioning Project Offices, Bldg. #1019 Carpeted Floors over wood		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cs-137 <input type="checkbox"/> Other:	
			N/A			
			N/A			

QC     Investigation     Resurvey

Approval:

R. J. [Signature]    / 8/19/95  
Radiological Engineer    Date

\_\_\_\_\_/\_\_\_\_\_  
Final Survey Lead Engineer    Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

Page 3 of       
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	BPD 8/17/95
			Gamma Scan	N/A		
Material Code: D	Surface Code: B01		Total Surface Activity	38	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	BPD 8/17/95
			Exposure Rate	38	At 1 meter from total surface activity measurements.	BPD 8/17/95
Location Code : 0346A0DB01		Area (m <sup>2</sup> ) 1596	$\beta\gamma$ Smears	38	At same measurement locations as total surface activity measurements.	BPD 8/17/95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Decommissioning Project Offices, Bldg. #1019 Vinyl Floors/Walls over wood		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55	
			N/A		<input type="checkbox"/> Cs-136 <input type="checkbox"/> Other:	

QC     Investigation     Resurvey

Approval:

R. J. [Signature]    1 8/9/95  
Radiological Engineer    Date

\_\_\_\_\_  
Final Survey Lead Engineer    Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

Page 4 of       
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan •	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>RJD 8/17/95</i>
			Gamma Scan N/A		
Material Code: A	Surface Code: B02		Total Surface Activity 10	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>RJD 8/17/95</i>
			Exposure Rate 10	At 1 meter from total surface activity measurements.	<i>RJD 8/17/95</i>
Location Code : 0346A0AB02		Area (m <sup>2</sup> ) 110	$\beta\gamma$ Smears 10	At same measurement locations as total surface activity measurements.	<i>RJD 8/17/95</i>
			Fe-55/H-3 Smears N/A		
Survey Unit Breakdown and Description: Garden Equipment Storage Bldg. #110 Concrete Floors - bare		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC    Investigation    Resurvey

Approval:

*R. J. D.*      1 8/9/95  
Radiological Engineer      Date

\_\_\_\_\_  
Final Survey Lead Engineer      Date

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## ATTACHMENT 6.5 SURVEY INSTRUCTION FORM - (Cont.)

Survey Package #: 0346

Page 5 of     

(RPT initial &  
date)

Location Code Assignments	Survey Type	Number	Measurement/Sample Location			
Classification Code: <b>A</b>	Resurvey # : <b>0</b>	Grid size: <b>N/A</b>	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>PAD 8/1/95</i>
			Gamma Scan	N/A		
Material Code: <b>L</b>	Surface Code: <b>B02</b>		Total Surface Activity	10	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>PAD 8/1/95</i>
			Exposure Rate	10	At 1 meter from total surface activity measurements.	<i>PAD 8/1/95</i>
Location Code : <b>0346A0LB02</b>		Area (m <sup>2</sup> )	$\beta\gamma$ Smears	10	At same measurement locations as total surface activity measurements.	<i>PAD 8/1/95</i>
		113	Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Garden Equipment Storage Bldg. #110 Equipment Storage Bldg. #1001 Drywall Walls - bare		Type of material /soil sample	N/A			Type of analyses
			N/A			<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3
			N/A			<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+ Fe-55
			N/A			<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A			

QC     Investigation     Resurvey

Approval:

*R. Smith*  
\_\_\_\_\_ / 8/9/95  
Radiological Engineer                      Date

\_\_\_\_\_ / \_\_\_\_\_  
Final Survey Lead Engineer                      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

Page 6 of       
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>BPD 8/1/95</i>
			Gamma Scan	N/A		
Material Code: J	Surface Code: B02		Total Surface Activity	10	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>BPD 8/1/95</i>
			Exposure Rate	10	At 1 meter from total surface activity measurements.	<i>BPD 8/1/95</i>
Location Code : 0346A0JB02		Area (m <sup>2</sup> ) 113	$\beta\gamma$ Smears	10	At same measurement locations as total surface activity measurements.	<i>BPD 8/1/95</i>
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Garden Equipment Storage Bldg. #110 Equipment Storage Bldg. #1001 Wood Floors/Walls - bare		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cs-137 <input type="checkbox"/> Other:	
			N/A			
			N/A			

QC     Investigation     Resurvey

Approval:

*R. [Signature]*    1 8/15/95  
Radiological Engineer    Date

\_\_\_\_\_/\_\_\_\_\_  
Final Survey Lead Engineer    Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & da8e)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location		
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	BPD 8/17/95
			Gamma Scan	N/A		
Material Code: M	Surface Code: B02	N/A	Total Surface Activity	10	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	BPD 8/17/95
			Exposure Rate	10	At 1 meter from total surface activity measurements.	BPD 8/17/95
Location Code : 0346A0MB02		Area (m <sup>2</sup> ) 135	$\beta\gamma$ Smears	10	At same measurement locations as total surface activity measurements.	rcw 8/11/95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Equipment Storage Bldg. #1002 Drywall Walls - painted		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe 55 <input type="checkbox"/> H-3+Fe-55	
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	

QC     Investigation     Resurvey

Approval:

R. J. [Signature]    1 8/9/95  
Radiological Engineer    Date

\_\_\_\_\_  
Final Survey Lead Engineer    Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments

Survey Type    Number

Measurement/Sample Location

Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	RJD 8/7/95
			Gamma Scan	N/A		
Material Code: C	Surface Code: B03	N/A	Total Surface Activity	30	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	RJD 8/7/95
			Exposure Rate	30	At 1 meter from total surface activity measurements.	RJD 8/7/95
Location Code : 0346A0CB03		Area (m <sup>2</sup> ) 389	$\beta\gamma$ Smears	30	At same measurement locations as total surface activity measurements.	RJD 8/7/95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Carpeted Floors over concrete		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55 <input type="checkbox"/> C1-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			

QC     Investigation     Resurvey

Approval:

R. J. D.    8/9/95  
Radiological Engineer    Date

\_\_\_\_\_/\_\_\_\_\_  
Final Survey Lead Engineer    Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan *	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	RJD 8/19/95
			Gamma Scan N/A		
Material Code: A	Surface Code: B03		Total Surface Activity 6	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	RJD 8/19/95
			Exposure Rate 6	At 1 meter from total surface activity measurements.	RJD 8/19/95
Location Code : 0346A0AB03		Area (m <sup>2</sup> ) 39	$\beta\gamma$ Smears 6	At same measurement locations as total surface activity measurements.	RJD 8/19/95
			Fe-55/H-3 Smears N/A		
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Concrete Floors/Walls - bare		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> C1-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC    Investigation    Resurvey

Approval:

R. J. D.      /      8/19/95  
Radiological Engineer      Date

\_\_\_\_\_/\_\_\_\_\_  
Final Survey Lead Engineer      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey #: 0	Grid size: N/A	Beta Scan *	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>MD 8/19/95</i>
			Gamma Scan		
Material Code: D	Surface Code: B03		Total Surface Activity	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>MD 8/19/95</i>
			Exposure Rate	At 1 meter from total surface activity measurements.	<i>MD 8/19/95</i>
Location Code: 0346A0DB03		Area (m <sup>2</sup> ) 89	$\beta\gamma$ Smears	At same measurement locations as total surface activity measurements.	<i>MD 8/19/95</i>
			Fe-55/H-3 Smears		
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Vinyl Floors/Walls over concrete		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC     Investigation     Resurvey

Approval:

*R. Jett*                      1 8/19/95  
Radiological Engineer                      Date

\_\_\_\_\_/\_\_\_\_\_  
Final Survey Lead Engineer                      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: A	Resurvey #: 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>BP 8/19/95</i>
			Gamma Scan	N/A		
Material Code: T	Surface Code: B03		Total Surface Activity	15	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>BP 8/19/95</i>
			Exposure Rate	15	At 1 meter from total surface activity measurements.	<i>BP 8/19/95</i>
Location Code: 0346A0TB03		Area (m <sup>2</sup> ) 177	$\beta\gamma$ Smears	15	At same measurement locations as total surface activity measurements.	<i>BP 8/19/95</i>
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Brick Walls		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55	
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	

QC    Investigation    Resurvey

Approval:

*R. Jett*                      1 8/19/95  
Radiological Engineer                      Date

\_\_\_\_\_  
Final Survey Lead Engineer                      Date

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### ATTACHMENT 6.5 SURVEY INSTRUCTION FORM - (Cont.)

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location		
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>BTD 8/1/95</i>
			Gamma Scan	N/A		
Material Code: M	Surface Code: B03		Total Surface Activity	10	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>BTD 8/1/95</i>
			Exposure Rate	10	At 1 meter from total surface activity measurements.	<i>BTD 8/1/95</i>
Location Code :  0346A0MB03		Area (m <sup>2</sup> )  56	$\beta\gamma$ Smears	10	At same measurement locations as total surface activity measurements.	<i>BTD 8/1/95</i>
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description:  Visitor Center, Bldg. #107 Drywall Walls - painted		Type of material /soil sample	N/A		Type of analyses  <input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cs-137 <input type="checkbox"/> Other:	
			N/A			
			N/A			
			N/A			

QC     Investigation     Resurvey

Approval: *R. Kelly* 1 8/9/95  
Radiological Engineer                      Date

\_\_\_\_\_  
Final Survey Lead Engineer                      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan *	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>RJD 8/17/95</i>
			Gamma Scan	N/A	
Material Code: B	Surface Code: B03		Total Surface Activity	4 Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>RJD 8/17/95</i>
			Exposure Rate	4 At 1 meter from total surface activity measurements.	<i>RJD 8/17/95</i>
Location Code : 0346A0BB03	Area (m <sup>2</sup> ) 8		$\beta\gamma$ Smears	4 At same measurement locations as total surface activity measurements.	<i>RJD 8/17/95</i>
			Fe-55/H-3 Smears	N/A	
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Cinder block Walls - painted	Type of material /soil sample	N/A		Type of analyses	
		N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cf-254 <input type="checkbox"/> Other:	
		N/A			
		N/A			

QC     Investigation     Resurvey

Approval:

*R. J. Dwyer*                      1 8/19/95  
Radiological Engineer                      Date

\_\_\_\_\_  
Final Survey Lead Engineer                      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan •	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>BP 8/1/95</i>
			Gamma Scan N/A		
Material Code: J	Surface Code: B03		Total Surface Activity 3	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>BP 8/1/95</i>
			Exposure Rate 3	At 1 meter from total surface activity measurements.	<i>BP 8/1/95</i>
Location Code: 0346A0JB03		Area (m <sup>2</sup> ) 28	$\beta\gamma$ Smears 3	At same measurement locations as total surface activity measurements.	<i>BP 8/1/95</i>
			Fe-55/H-3 Smears N/A		<i>BP 8/1/95</i>
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Wood Paneling Walls		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC    Investigation    Resurvey

Approval:

*R. J. [Signature]*      1 8/9/95  
Radiological Engineer      Date

\_\_\_\_\_  
Final Survey Lead Engineer      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: A	Resurvey # : 0	Grid size:  N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	P.D. 8/17/95
			Gamma Scan	N/A		
Material Code: L	Surface Code: B03		Total Surface Activity	2	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	P.D. 8/17/95
			Exposure Rate	2	At 1 meter from total surface activity measurements.	P.D. 8/17/95
Location Code :  0346A0LB03		Area (m <sup>2</sup> )  13	$\beta\gamma$ Smears	2	At same measurement locations as total surface activity measurements.	P.D. 8/17/95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description:  Visitor Center, Bldg. #107 Drywall Walls - bare		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			

QC    Investigation    Resurvey

Approval:

P. J. [Signature]      1 8/17/95  
Radiological Engineer      Date

\_\_\_\_\_  
Final Survey Lead Engineer      Date

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ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)

Survey Package #: 0346

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Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey #: G	Grid size: N/A	Beta Scan	*	* Scan 100% of accessible floor surfaces. <i>RCW 8-23-95</i>
			Gamma Scan	N/A	
Material Code: C	Surface Code: B03	Area (m <sup>2</sup> ): 96	Total Surface Activity	*	* Collect total activity (fixed) measurements at area(s) of elevated activity identified during the scan. <i>RCW 8-23-95</i>
			Exposure Rate	N/A	
Location Code: 0346AGCB03		Area (m <sup>2</sup> ): 96	$\beta\gamma$ Smears	N/A	
			Fe-55/H-3 Smears	N/A	
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Center Meeting Room Carpeted Floors over concrete		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC    Investigation    Resurvey

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Approval: *Dina P...* / 8-23-95  
Radiological Engineer                      Date

*Gerald J. Rood* / 8/23/95  
Final Survey Lead Engineer                      Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey # : G	Grid size: N/A	Beta Scan	*	* Scan 100% of accessible floor surfaces.  <i>RCW 8-23-95</i>
			Gamma Scan	N/A	
Material Code: K	Surface Code: B03		Total Surface Activity	*	* Collect total activity (fixed) measurement at area of elevated activity identified during the scan.  <i>RCW 8-23-95</i>
			Exposure Rate	N/A	
Location Code : 0346AGKB03		Area (m <sup>2</sup> ) 8	$\beta\gamma$ Smears	N/A	
			Fe-55/H-3 Smears	N/A	
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Center Meeting Room Painted Wood Floor		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:

QC    Investigation    Resurvey

Approval:

*D. A. [Signature]* / 8-23-95  
Radiological Engineer                          Date

*Sheld J. [Signature]* / 8/23/95  
Final Survey Lead Engineer                          Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

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Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: A	Resurvey #: G	Grid size: N/A	Beta Scan	* Scan 100% of accessible wall (below 2 m) surfaces.	rew 8-23-95	
Material Code: <i>Handwritten: T, 8-29-95</i>	Surface Code: B03		Gamma Scan	N/A		
			Total Surface Activity	*	* Collect total activity (fixed) measurements at area(s) of elevated activity identified during the scan.	rew 8-23-95
			Exposure Rate	N/A		
Location Code: 0346AG/B03 <i>Handwritten: T, 8-29-95</i>	Area (m <sup>2</sup> ) 164	$\beta\gamma$ Smears	N/A			
		Fe-55/H-3 Smears	N/A			
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Center Meeting Room Brick walls up to 2 meters		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55	
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	

QC    Investigation    Resurvey

Approval:

*Dwight P. ...* / 8-23-95  
Radiological Engineer                      Date

*Muhammad J. ...* / 8/23/95  
Final Survey Lead Engineer              Date

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**ATTACHMENT 6.1  
FINAL SURVEY DATA INVESTIGATION FORM**

<b>Survey Package #:</b> 0346	<b>Location Code(s):</b> 0346AGCB03, 0346AGKB03
<b>Description of Problem:</b> <p>Visitor Center - Auditorium carpeted floor and wood stage, unaffected.</p> <p>The required number of shielded local area background counts was not obtained. The Survey Instruction Form, Attachment 6.1 page 1, called for 12 shielded local area background counts for each surface identified by a location code. Six (6) shielded local area background counts were obtained for location code 0346AGCB03 and zero (0) shielded local area background counts were obtained for location code 0346AGKB03.</p>	
<b>Follow-up Actions:</b> <p>FSV-SC-FRS-I-103, Rev 1, requires between 3-6 shielded local area background counts within the survey unit, therefore, by obtaining just 6 shielded local area background counts for location code 0346AGKB03, procedure FSV-SC-FRS-I-103 was not violated and the survey results for location code 0346AGKB03 will be considered valid. The measurements from location code 0346AGKB03 were taken on elevated areas of the carpeted floor and will be used for information only. A complete set of measurements will be obtained on the carpeted floor using survey package 0350, after remediation is performed on the carpet.</p> <p>Since zero (0) shielded local area background counts were obtained for location code 0346AGKB03, a shielded local area background value of zero will be assumed. This will result in conservative values for location code 0346AGKB03 measurements. Note: only one (1) measurement (location #105) was taken using location code 0346AGKB03. This measurement was taken on an elevated area of the wooden stage and will be used for information only. A complete set of measurements will be obtained on the wooden stage using survey package 0350, after remediation is performed on the stage.</p> <p>No further follow-up actions are required.</p>	
<b>Disposition:</b> <p>Data analysis and release criteria for the carpeted floors and wooden stage will be performed on the measurement results obtained from survey package 0350.</p>	
<b>Investigation Performed By:</b> <u><i>D. A. [Signature]</i></u>	<b>Date:</b> <u>8-31-95</u>
<b>Reviewed By:</b> <u><i>Chuck Burtell</i></u> (Data Evaluation Engineer)	<b>Date:</b> <u>8-31-95</u>

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**ATTACHMENT 6.1  
FINAL SURVEY DATA INVESTIGATION FORM**

<b>Survey Package #:</b> 0346	<b>Location Code(s):</b> 0346AGCB03
<b>Description of Problem:</b> Visitor Center - Auditorium carpeted floor, unaffected. Elevated count rates were identified during the scan survey portion of the final survey.	
<b>Follow-up Actions:</b> Two carpet samples were removed for qualitative analysis by gamma spectroscopy and indicated that the elevated activity was due primarily to uranium (U-238). A trace amount of cobalt-60 was also detected at a level which would not have been detected by the initial field measurements. (less than 1% of the observed count rate) A scan survey over 100% of the floor and lower wall surfaces was performed. Fixed point measurements were collected at areas of elevated count rate found during the scan survey. Refer to the attached survey results and survey map for additional detail. Only the local area background (shielded count) will be used for background correction of the total surface activity measurements. The material background component will be assigned a value of zero (0). The carpeted floor surface and lower walls were reclassified as suspect affected and will be resurveyed in accordance with the instruction in Survey Package# 0350.	
<b>Disposition:</b> Portions of the carpet indicating elevated count rate will be removed.	
<b>Investigation Performed By:</b> <i>R. C. Wood</i>	<b>Date:</b> 8-23-95
<b>Reviewed By:</b> <i>Dina P...</i> (Data Evaluation Engineer)	<b>Date:</b> 8-23-95

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**ATTACHMENT 6.1  
FINAL SURVEY DATA INVESTIGATION FORM**

<b>Survey Package #: 0346</b>	<b>Location Code(s): 0346A0CB03</b>
<b>Description of Problem:</b> Visitor Center - Auditorium carpeted floor, unaffected. Elevated count rates were identified during the scan survey portion of the final survey. Additional scan surveys of the immediate vicinity were performed, and several areas of elevated activity were identified. The areas of elevated activity were marked for additional investigation.	
<b>Follow-up Actions:</b> Initially, smear samples were collected from the immediate area and were found to be less than the MDA. Two carpet samples were removed for qualitative analysis by gamma spectroscopy and indicated that the elevated activity was due to uranium (U-238). The activity is likely to be from the radioactive material previously used by the licensee for demonstration purposes. The carpeted floor surface and lower walls were reclassified as suspect affected and will be resurveyed in accordance with Survey Package# 0350. Because the source of the activity has been well-defined, the entire Visitor Center will not be reclassified. The results from the second final survey will be reviewed to verify that the activity is confined to the floor surface adjacent to the stage area. The resurvey will also include total and removable surface activity measurements for alpha activity. Only the local area background (shielded count) will be used for background correction of the total surface activity measurements. The material background component will be assigned a value of zero (0). The results of the second final survey will be archived in Survey Package#0350, Location Codes 0350BGCF01, 0350BGQW01, and 0350BGKF01. <i>068-30-95</i>	
<b>Disposition:</b> The activity is believed to have originated from the display cases used for demonstration purposes. The activity is not believed to be directly related to licensed activities. It will be recommended to the licensee that the carpet be remediated in the event that activity is verified in excess of the MDA.	
<b>Investigation Performed By:</b> <i>[Signature]</i>	<b>Date:</b> <i>8-18-95</i>
<b>Reviewed By:</b> <i>[Signature]</i> (Data Evaluation Engineer)	<b>Date:</b> <i>8/27/95</i>

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**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

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Package #: 0346	Bldg. Name: Various	Elevation: 4791	Survey Unit: A007
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Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N)¹
478	0346A0D001	B-	95356/PRO92511	P. DETARK / 8/17/95	Y
479	0346A0C001	B-	95340/PRO91050	D. DETARK / 8/16/95	
480	0346A0A002	B-	98635/PRO95528	R. L. WORRICK / 8/15/95	
	0346A0D002				
	0346A0J002				
	0346A0L002				
	0346A0M002				
487	0346A0C003	B-	98635/PRO95528	R. L. WORRICK / 8/16/95	
	0346A0J002				
488	0346A0A003	B-	95340/PRO91050	P. DETARK / 8/16/95	

IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date: M. Smith / 9-5-95  
Field Operations Coordinator Date



**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

11-9-2-95  
Page 2 of 3

Package #: 0346	Bldg. Name: VARIOUS	Elevation: 4791	Survey Unit: A007
-----------------	---------------------	-----------------	-------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N)
458	0346A0DB03	B-	95340/0R091050	P. DETRICK 8/16/95	Y
	0346A0DB03				
	0346A0JB03				
	0346A0LB03				
	0346A0MB03				
	0346A0TB03				
481	0346A0AB02	Y	95356/0R092506	P. DETRICK 8/15/95	
	0346A0AB03				
	0346A0CB01				
	0346A0CB03				
	0346A0DB01				

IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date: M. Smith / 9-5-95  
Field Operations Coordinator

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ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS

Rev 9-21-95 4

Page 3 of 3

Package #: <u>0346</u>	Bldg. Name: <u>VARIOUS</u>	Elevation: <u>4791</u>	Survey Unit: <u>A007</u>
------------------------	----------------------------	------------------------	--------------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N)
<u>481</u>	<u>0346A0DB02</u>	<u>Y</u>	<u>95356/PA092506</u>	<u>D. DETRICK 8/15/95</u>	<u>Y</u>
	<u>0346A0DB03</u>				
	<u>0346A0JB02</u>				
	<u>0346A0LB02</u>				
	<u>0346A0MB02</u>				
<u>483</u>	<u>0346A0BB03</u>	<u>Y</u>	<u>95340/PRO91053</u>	<u>D. DETRICK 8/16/95</u>	
	<u>0346A0JB03</u>				
	<u>0346A0LB03</u>				
	<u>0346A0MB03</u>				
	<u>0346A0TB03</u>				
<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	

IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date: M. Smith, 9-5-95  
Field Operations Coordinator

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**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

Package #: <u>0346</u>	Bldg. Name: <u>VARIOUS</u>	Elevation: <u>4791'</u>	Survey Unit: <u>A007</u>
------------------------	----------------------------	-------------------------	--------------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N)¹
492	0346A6CB0C	Alpha	98635/PRO95528	Warrick / 8-17-95	Y
493	0346A6CB0C	Beta	98635/PRO95528	Warrick / 8-17-95	Y
500	0346A6CB03	Beta	95359/PRO92525	Warrick / 8-18-95	Y
503	0346A6TB03	Beta	95359/PRO92525	Warrick / 8-22-95	Y

IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date: Memiles / 9-21-95  
Field Operations Coordinator

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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/22/95  
 Download Station #: 1 Download File #: 503 Time: 13:15  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger C. Worrick Signature: [Signature] Date: 8-22-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95359

Survey Location description: Visitor Center, Brick walls in Presentation Room, Beta Scan  
 (Example: Rr Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): INVESTIGATION

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>92525</u>	<u>43-68B</u>	<u>.198</u>	<u>125</u>	<u>503</u>	<u>503</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

											MEAN BKG CPM	
<u>143</u>	<u>130</u>	<u>144</u>	<u>117</u>	<u>128</u>	<u>136</u>	<u>136</u>	<u>118</u>	<u>108</u>	<u>132</u>	<u>138</u>	<u>102</u>	<u>511 raw 8/23/95</u> <u>521</u>

COMMENTS: Performed 100% B-Scan of Brick walls up to 2m in the Presentation Room and Projector Room of the visitor center. raw

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 503, Visitors Center, Presentation Room, Brick Walls  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .198

Survey Performed By: Bl. Smith  
 Survey Reviewed By: M. Miller

Date: 8-22-95  
 Date: 9-5-95

Station: 1  
 Survey Date: 8/22/95 Survey Start Time: 06:09 File: 503  
 Date/Time Report Printed: 8/30/95 08:16:13 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net Data DPM per 100 cm <sup>2</sup>	H i
67	A	SC1TC886	0	60	1344	1344	5430 *		
85	A	SC1TC886	0	60	1403	1403	5669 *		
Number of Measurements at this Survey Location:							2		
68	A	SC2TC886	0	60	1448	1448	5851 *		
86	A	SC2TC886	0	60	1482	1482	5988 *		
Number of Measurements at this Survey Location:							2		
69	A	SC3TC886	0	60	1440	1440	5818 *		
87	A	SC3TC886	0	60	1432	1432	5786 *		
Number of Measurements at this Survey Location:							2		
84	A	SCBKGPOST	0	60	433	433	1749 *		
Number of Measurements at this Survey Location:							1		
66	A	SCBKGPRE	0	600	3976	398	1606 *		

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/22/95 Survey Start Time: 06:07  
Date/Time Report Printed: 8/30/95 08:16:13

Station: 1  
File: 503  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

70	A		0346AGTLAB	1	15	130	520	2101	*
71	A		0346AGTLAB	1	15	144	576	2327	*
72	A		0346AGTLAB	1	15	117	468	1891	*
73	A		0346AGTLAB	1	15	128	512	2069	*
74	A		0346AGTLAB	1	15	136	544	2198	*
75	A		0346AGTLAB	1	15	136	544	2198	*
76	A		0346AGTLAB	1	15	118	472	1907	*
77	A		0346AGTLAB	1	15	108	432	1745	*
78	A		0346AGTLAB	1	15	132	528	2133	*
79	A		0346AGTLAB	1	15	138	552	2230	*
80	A		0346AGTLAB	1	15	102	408	1648	*
81	A		0346AGTLAB	1	15	143	572	2311	*

Number of Measurements at this Survey Location: 12

91	82	A	0346AGTB03	2	15	211	844	3410	*
92	83	A	0346AGTB03	2	15	191	764	3087	*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 22

End of Report

01559:C:\PDOX35\M2350\TLOGRRVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

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\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
503	8-30-95 0745	Sample Points 70-81: change location code to 0346ACTLAB	RCW	gW Egest	Changed Loc Code on samp. 70-81 to 0346ACTLAB	gW Egest	8/30/95 08:10
503	8-30-95 0745	Sample Points 82, 83: change location code to 0346ACTB03	RCW	gW Egest	Changed Loc Code on Samp. 82+83 to 0346ACTB03.	gW Egest	8/30/95 08:10
503	8-30-95 0745	Sample Points 82, 83 = map points 91 and 92	RCW	gW Egest	Added Loc. Nums 91+92 to samp. 82+83	gW Egest	8/30/95 08:15

Attach this sheet to the front of the Survey Download Report requiring changes.

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 503, Visitors Center, Presentation Room, Brick Walls  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .198

Survey Performed By: g. Ward

Date: 8-22-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 503  
 Page: 1  
 Survey Date: 8/22/95 Survey Start Time: 06:09  
 Date/Time Report Printed: 8/23/95 11:04:05

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
67	A		SC1TC886	0	60	1344	1344	5430	*
85	A		SC1TC886	0	60	1403	1403	5669	*
Number of Measurements at this Survey Location:							2		
68	A		SC2TC886	0	60	1448	1448	5851	*
86	A		SC2TC886	0	60	1482	1482	5988	*
Number of Measurements at this Survey Location:							2		
69	A		SC3TC886	0	60	1440	1440	5818	*
87	A		SC3TC886	0	60	1432	1432	5786	*
Number of Measurements at this Survey Location:							2		
84	A		SCBKGPOST	0	60	433	433	1749	*
Number of Measurements at this Survey Location:							1		
66	A		SCBKGPRE	0	600	3976	398	1606	*

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\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/22/95 Survey Start Time: 06:07  
Date/Time Report Printed: 8/23/95 11:04:05

Station: 1  
File: 503  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

70	A		0346AGQLAB	1	15	130	520	2101	*
71	A		0346AGQLAB	1	15	144	576	2327	*
72	A		0346AGQLAB	1	15	117	468	1891	*
73	A		0346AGQLAB	1	15	128	512	2069	*
74	A		0346AGQLAB	1	15	136	544	2198	*
75	A		0346AGQLAB	1	15	136	544	2198	*
76	A		0346AGQLAB	1	15	118	472	1907	*
77	A		0346AGQLAB	1	15	108	432	1745	*
78	A		0346AGQLAB	1	15	132	528	2133	*
79	A		0346AGQLAB	1	15	138	552	2230	*
80	A		0346AGQLAB	1	15	102	408	1648	*
81	A		0346AGQLAB	1	15	143	572	2311	*

Number of Measurements at this Survey Location: 12

82	A		0346AGQB03	2	15	211	844	3410	*
83	A		0346AGQB03	2	15	191	764	3087	*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 22

End of Report

01559.C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWS

<sup>8/23/95</sup>  
These two points ~~was~~ were taken on the North wall where an audible increase in the count rate was detected. Rcw 8-23-95

**COPY**

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Radiological Engineering & Decommissioning Services  
 Port St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 503, Visitors Center, Presentation Room, Brick Walls  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .198

Survey Performed By: *J. J. W. Smith*

Date: 8/22/95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 503  
 Page: 1  
 Survey Date: 8/22/95 Survey Start Time: 06:09  
 Date/Time Report Printed: 8/22/95 13:38:06

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
67			SC1TC886	0	60	1344	1344	5430	*
85			SC1TC886	0	60	1403	1403	5669	*

Number of Measurements at this Survey Location: 2

68			SC2TC886	0	60	1448	1448	5851	*
86			SC2TC886	0	60	1482	1482	5988	*

Number of Measurements at this Survey Location: 2

69			SC3TC886	0	60	1440	1440	5818	*
87			SC3TC886	0	60	1432	1432	5786	*

Number of Measurements at this Survey Location: 2

84			SCBKGPST	0	60	433	433	1749	*
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Number of Measurements at this Survey Location: 1

66			SCBKGPPE	0	600	3976	398	1606	*
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\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1  
 Survey Date: 8/22/95 Survey Start Time: 06:07 File: 503  
 Date/Time Report Printed: 8/22/95 13:38:06 Page: 2

Comments

Loc No	Map No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

70			0346AGTLAB	1	15	130	520	2101	*
71			0346AGTLAB	1	15	144	576	2327	*
72			0346AGTLAB	1	15	117	468	1891	*
73			0346AGTLAB	1	15	128	512	2069	*
74			0346AGTLAB	1	15	136	544	2198	*
75			0346AGTLAB	1	15	136	544	2198	*
76			0346AGTLAB	1	15	118	472	1907	*
77			0346AGTLAB	1	15	108	432	1745	*
78			0346AGTLAB	1	15	132	528	2133	*
79			0346AGTLAB	1	15	138	552	2230	*
80			0346AGTLAB	1	15	102	408	1648	*
81			0346AGTLAB	1	15	143	572	2311	*

Number of Measurements at this Survey Location: 12

82			0346AGTB03	2	15	211	844	3410	*
83			0346AGTB03	2	15	191	764	3087	*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 22

End of Report

01559:C:\PDOX35\M2150\TLOGREVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

*These two points taken at the same point on the north wall where an audible increase in count rate was detected. Rew 8/23/95*

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\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
SD3	8/22/95 1330	Delete Sample Parts 0-65, They Are in File #520 Sample Part 68 to <del>SC3</del> <sup>new locator</sup> SC2TC886 " " 69 to SC3 TC886	RCW	JW Egart	Deleted samples 0-65. Changed Loc. Code on samp. 68 to SC2TC886 and on samp. 69 to SC3TC886.	JW Egart	8/22/95 13:40

Attach this sheet to the front of the Survey Download Report requiring changes.

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Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 503, Visitors Center, Presentation Room, Brick Walls  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .198

Survey Performed By: *R. J. W. Smith*

Date: 8/22/95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 503  
 Page: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26  
 Date/Time Report Printed: 8/22/95 13:28:06

Comments

Loc No	Sam No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1			SC1TC886	0	60	1366	1366	5519	*
18			SC1TC886	0	60	1368	1368	5527	*
22			SC1TC886	0	60	1373	1373	5547	*
63			SC1TC886	0	60	1375	1375	5556	*
67			SC1TC886	0	60	1344	1344	5430	*
68			SC1TC886 <i>low</i>	0	60	1448	1448	5851	*
69			SC1TC886 <i>8/18/95</i>	0	60	1440	1440	5818	*
85			SC1TC886	0	60	1403	1403	5669	*

Number of Measurements at this Survey Location: 8

2			SC2TC886	0	60	1489	1489	6016	*
19			SC2TC886	0	60	1474	1474	5956	*
23			SC2TC886	0	60	1517	1517	6129	*
64			SC2TC886	0	60	1524	1524	6158	*
86			SC2TC886	0	60	1482	1482	5988	*

Number of Measurements at this Survey Location: 5

3			SC3TC886	0	60	1415	1415	5717	*
20			SC3TC886	0	60	1404	1404	5673	*
24			SC3TC886	0	60	1445	1445	5838	*
65			SC3TC886	0	60	1465	1465	5919	*
87			SC3TC886	0	60	1432	1432	5786	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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Survey Date: 8/22/95 Survey Start Time: 12:54  
 Date/Time Report Printed: 8/22/95 13:28:06

Station: 1  
 File: 503  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 5

17			SCBKGPOST	0	60	402	402	1624	*
62			SCBKGPOST	0	60	444	444	1794	*
84			SCBKGPOST	0	60	433	433	1749	*

Number of Measurements at this Survey Location: 3

0			SCBKGPPE	0	600	4056	406	1639	*
21			SCBKGPPE	0	600	3707	371	1498	*
66			SCBKGPPE	0	600	3976	398	1606	*

Number of Measurements at this Survey Location: 3

25			0346AGCB03	1	15	147	588	2376	*
26			0346AGCB03	1	15	147	588	2376	*
27			0346AGCB03	1	15	136	544	2198	*
28			0346AGCB03	1	15	159	636	2570	*
29			0346AGCB03	1	15	159	636	2570	*
30			0346AGCB03	1	15	154	616	2489	*
31			0346AGCB03	1	15	140	560	2263	*
32			0346AGCB03	1	15	158	632	2554	*
33			0346AGCB03	1	15	146	584	2360	*
34			0346AGCB03	1	15	159	636	2570	*
35			0346AGCB03	1	15	155	620	2505	*
36			0346AGCB03	1	15	145	580	2343	*

Number of Measurements at this Survey Location: 12

4			0346AGCLAB	1	15	159	636	2570	*
5			0346AGCLAB	1	15	162	648	2618	*
6			0346AGCLAB	1	15	149	596	2408	*
7			0346AGCLAB	1	15	145	580	2343	*
8			0346AGCLAB	1	15	139	556	2246	*
9			0346AGCLAB	1	15	142	568	2295	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY**  
**SUPERSEDED**

Survey Date: 8/18/95 Survey Start Time: 07:23  
 Date/Time Report Printed: 8/22/95 13:26:06

Station: 1  
 File: 503  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	10		0346AGCLAB	1	15	157	628	2537	*
	11		0346AGCLAB	1	15	153	612	2472	*
	12		0346AGCLAB	1	15	8486	33944	137147	*
	13		0346AGCLAB	1	15	168	672	2715	*
	14		0346AGCLAB	1	15	164	656	2651	*
	15		0346AGCLAB	1	15	167	668	2699	*
	16		0346AGCLAB	1	15	124	496	2004	*

Number of Measurements at this Survey Location: 13

	50		0346AGTLAB	1	15	135	540	2182	*
	51		0346AGTLAB	1	15	143	572	2311	*
	52		0346AGTLAB	1	15	152	608	2457	*
	53		0346AGTLAB	1	15	122	488	1972	*
	54		0346AGTLAB	1	15	114	456	1842	*
	55		0346AGTLAB	1	15	115	460	1859	*
	56		0346AGTLAB	1	15	134	536	2166	*
	57		0346AGTLAB	1	15	140	560	2263	*
	58		0346AGTLAB	1	15	142	568	2295	*
	59		0346AGTLAB	1	15	121	484	1956	*
	60		0346AGTLAB	1	15	128	512	2069	*
	61		0346AGTLAB	1	15	123	492	1988	*
	70		0346AGTLAB	1	15	130	520	2101	*
	71		0346AGTLAB	1	15	144	576	2327	*
	72		0346AGTLAB	1	15	117	468	1891	*
	73		0346AGTLAB	1	15	128	512	2069	*
	74		0346AGTLAB	1	15	136	544	2198	*
	75		0346AGTLAB	1	15	136	544	2198	*
	76		0346AGTLAB	1	15	118	472	1907	*
	77		0346AGTLAB	1	15	108	432	1745	*
	78		0346AGTLAB	1	15	132	528	2133	*
	79		0346AGTLAB	1	15	138	552	2230	*
	80		0346AGTLAB	1	15	102	408	1648	*
	81		0346AGTLAB	1	15	143	572	2311	*

Number of Measurements at this Survey Location: 24

	37		0346AGCB03	2	15	304	1216	4913	*
	38		0346AGCB03	2	15	278	1112	4493	*
	39		0346AGCB03	2	15	260	1040	4202	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
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Survey Date: 8/21/95 Survey Start Time: 09:45  
Date/Time Report Printed: 8/22/95 13:28:06

Station: 1  
File: 503  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	K
	40		0346AGCB03	2	15	345	1380	5576	*
	41		0346AGCB03	2	15	372	1488	6012	*
	42		0346AGCB03	2	15	394	1576	6368	*
	43		0346AGCB03	2	15	559	2236	9034	*
	44		0346AGCB03	2	15	311	1244	5026	*
	45		0346AGCB03	2	15	445	1780	7192	*
	46		0346AGCB03	2	15	350	1400	5657	*
	47		0346AGCB03	2	15	540	2160	8727	*
	48		0346AGCB03	2	15	267	1068	4315	*
	49		0346AGCB03	2	15	260	1040	4202	*

Number of Measurements at this Survey Location: 13

82			0346AGTB03	2	15	211	844	3410	*
83			0346AGTB03	2	15	191	764	3087	*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 88

End of Report

01559:C:\PDOX15\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWB

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/21/95  
 Download Station #: 1 Download File #: 500 Time: 16:50  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: R. Warrick Signature: [Signature] Date: 8-21-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95359

Survey Location description: Visitor Center, Carpeted Floor over concrete, wood stage, brick wall scan  
 (Example: Rt Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only

Other (explain): Investigation

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>92525</u>	<u>43-68B</u>	<u>.199</u>	<u>125</u>	<u>500</u>	<u>500</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

MEAN  
BKG CPM

<u>147</u>	<u>147</u>	<u>136</u>	<u>159</u>	<u>159</u>	<u>154</u>	<u>140</u>	<u>158</u>	<u>146</u>	<u>159</u>	<u>155</u>	<u>145</u>	<u>602</u> <u>150</u> <u>8/21/95</u>
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COMMENTS: This survey file covers scan and data points performed on 8/18/95 and 8/21/95. There are two sets of source checks.

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 500, Visitors Center, Carpeted Floor Over Concrete, Wood Stage, Brick Wall Scan  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .199

Survey Performed By: *R. L. Smith*  
 Survey Reviewed By: *K. S. L...*

Date: 8-30-95  
 Date: 9-5-95

Station: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26 File: 500  
 Date/Time Report Printed: 8/30/95 08:04:14 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
	1	A	SC1TC886	0	60	1366	1366	5491	*
	18	A	SC1TC886	0	60	1368	1368	5499	*
	22	A	SC1TC886	0	60	1373	1373	5520	*
	63	A	SC1TC886	0	60	1375	1375	5528	*

Number of Measurements at this Survey Location: 4

	2	A	SC2TC886	0	60	1489	1489	5986	*
	19	A	SC2TC886	0	60	1474	1474	5926	*
	23	A	SC2TC886	0	60	1517	1517	6098	*
	64	A	SC2TC886	0	60	1524	1524	6127	*

Number of Measurements at this Survey Location: 4

	3	A	SC3TC886	0	60	1415	1415	5688	*
	20	A	SC3TC886	0	60	1404	1404	5644	*
	24	A	SC3TC886	0	60	1445	1445	5809	*
	65	A	SC3TC886	0	60	1465	1465	5889	*

Number of Measurements at this Survey Location: 4

	17	A	SCBKGPOST	0	60	402	402	1616	*
	62	A	SCBKGPOST	0	60	444	444	1785	*

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/21/95 Survey Start Time: 15:50  
Date/Time Report Printed: 8/30/95 08:04:14

Station: 1  
File: 500  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Court Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 2

0	A	SCBKGP	PRE	0	600	4056	406	1631	*
21	A	SCBKGP	PRE	0	600	3707	371	1490	*

Number of Measurements at this Survey Location: 2

4	A	0346AGCLAB	1	15	159	636	2557	*
5	A	0346AGCLAB	1	15	162	648	2605	*
6	A	0346AGCLAB	1	15	149	596	2396	*
7	A	0346AGCLAB	1	15	145	580	2332	*
8	A	0346AGCLAB	1	15	139	556	2235	*
9	A	0346AGCLAB	1	15	142	568	2283	*
10	A	0346AGCLAB	1	15	157	628	2525	*
11	A	0346AGCLAB	1	15	153	612	2460	*
13	A	0346AGCLAB	1	15	168	672	2702	*
14	A	0346AGCLAB	1	15	164	656	2637	*
15	A	0346AGCLAB	1	15	167	668	2685	*
16	A	0346AGCLAB	1	15	124	496	1994	*
25	A	0346AGCLAB	1	15	147	588	2364	*
26	A	0346AGCLAB	1	15	147	588	2364	*
27	A	0346AGCLAB	1	15	136	544	2187	*
28	A	0346AGCLAB	1	15	159	636	2557	*
29	A	0346AGCLAB	1	15	159	636	2557	*
30	A	0346AGCLAB	1	15	154	616	2476	*
31	A	0346AGCLAB	1	15	140	560	2251	*
32	A	0346AGCLAB	1	15	158	632	2541	*
33	A	0346AGCLAB	1	15	146	584	2348	*
34	A	0346AGCLAB	1	15	159	636	2557	*
35	A	0346AGCLAB	1	15	155	620	2492	*
36	A	0346AGCLAB	1	15	145	580	2332	*

Number of Measurements at this Survey Location: 24

50	A	0346AGTLAB	1	15	135	540	2171	*
51	A	0346AGTLAB	1	15	143	572	2299	*
52	A	0346AGTLAB	1	15	152	608	2444	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/21/95 Survey Start Time: 13:10  
Date/Time Report Printed: 8/30/95 08:04:14

Station: 1  
File: 500  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
	53	A	0346AGTLAB	1	15	122	488	1962	*
	54	A	0346AGTLAB	1	15	114	456	1833	*
	55	A	0346AGTLAB	1	15	115	460	1849	*
	56	A	0346AGTLAB	1	15	134	536	2155	*
	57	A	0346AGTLAB	1	15	140	560	2251	*
	58	A	0346AGTLAB	1	15	142	568	2283	*
	59	A	0346AGTLAB	1	15	121	484	1946	*
	60	A	0346AGTLAB	1	15	128	512	2058	*
	61	A	0346AGTLAB	1	15	123	492	1978	*

Number of Measurements at this Survey Location: 12

93	37	A	0346AGCB03	2	15	304	1216	4888	*
94	38	A	0346AGCB03	2	15	278	1112	4470	*
95	39	A	0346AGCB03	2	15	260	1040	4181	*
96	40	A	0346AGCB03	2	15	345	1380	5548	*
97	41	A	0346AGCB03	2	15	372	1488	5982	*
98	42	A	0346AGCB03	2	15	394	1576	6336	*
99	43	A	0346AGCB03	2	15	559	2236	8989	*
100	44	A	0346AGCB03	2	15	311	1244	5001	*
101	45	A	0346AGCB03	2	15	445	1780	7156	*
102	46	A	0346AGCB03	2	15	350	1400	5628	*
103	47	A	0346AGCB03	2	15	540	2160	8683	*
104	48	A	0346AGCB03	2	15	267	1068	4293	*

Number of Measurements at this Survey Location: 12

105	49	A	0346AGKB03	2	15	260	1040	4181	*
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Number of Measurements at this Survey Location: 1

Total Number of Measurements on this Report: 65

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
500	8-30-95 0745	Sample Points 50-61: Change location code to 0346AGTLAB	RCW	gW Egest	Changed Loc. Code on samples 50-61 to 0346AGTLAB.	gW Egest	8/30/95 07:55
500	8-30-95 0745	Sample Point 49: Change location code to 0346AGKB03	RCW	gW Egest	Changed Loc. Code on samp. 49 to 0346AGKB03.	gW Egest	8/30/95 07:55
500	8-30-95 0745	Sample Points 37-49 = map points 93-105	RCW	gW Egest	Added Loc Nums 93-105 to samp 37-49.	gW Egest	8/30/95 08:00

Attach this sheet to the front of the Survey Download Report requiring changes.

**COPY**



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 500, Visitors Center, Carpeted Floor Over Concrete, Wood Stage, Brick Wall Scan  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .199

Survey Performed By: *JL Wood* Date: 8-23-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1 | Comments  
 File: 500  
 Page: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26  
 Date/Time Report Printed: 8/23/95 10:47:01

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	A		SC1TC886	0	60	1366	1366	5491	*
18	A		SC1TC886	0	60	1368	1368	5499	*
22	A		SC1TC886	0	60	1373	1373	5520	*
63	A		SC1TC886	0	60	1375	1375	5528	*

Number of Measurements at this Survey Location: 4

2	A		SC2TC886	0	60	1489	1489	5986	*
19	A		SC2TC886	0	60	1474	1474	5926	*
23	A		SC2TC886	0	60	1517	1517	6098	*
64	A		SC2TC886	0	60	1524	1524	6127	*

Number of Measurements at this Survey Location: 4

3	A		SC3TC886	0	60	1415	1415	5688	*
20	A		SC3TC886	0	60	1404	1404	5644	*
24	A		SC3TC886	0	60	1445	1445	5809	*
65	A		SC3TC886	0	60	1465	1465	5889	*

Number of Measurements at this Survey Location: 4

17	A		SCBKGPOST	0	60	402	402	1616	*
62	A		SCBKGPOST	0	60	444	444	1785	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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**SUPERSEDED**

Survey Date: 8/21/95 Survey Start Time: 15:50  
Date/Time Report Printed: 8/23/95 10:47:01

Station: 1  
File: 500  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 2

0	A		SCBKGPPE	0	600	4056	406	1631	*
21	A		SCBKGPPE	0	600	3707	371	1490	*

Number of Measurements at this Survey Location: 2

4	A		0346AGCLAB	1	15	159	636	2557	*
5	A		0346AGCLAB	1	15	162	648	2605	*
6	A		0346AGCLAB	1	15	149	596	2396	*
7	A		0346AGCLAB	1	15	145	580	2332	*
8	A		0346AGCLAB	1	15	139	556	2235	*
9	A		0346AGCLAB	1	15	142	568	2283	*
10	A		0346AGCLAB	1	15	157	628	2525	*
11	A		0346AGCLAB	1	15	153	612	2460	*
12	A		0346AGCLAB	1	15	168	672	2702	*
14	A		0346AGCLAB	1	15	164	656	2637	*
15	A		0346AGCLAB	1	15	167	668	2685	*
16	A		0346AGCLAB	1	15	124	496	1994	*
25	A		0346AGCLAB	1	15	147	588	2364	*
26	A		0346AGCLAB	1	15	147	588	2364	*
27	A		0346AGCLAB	1	15	136	544	2187	*
28	A		0346AGCLAB	1	15	159	636	2557	*
29	A		0346AGCLAB	1	15	159	636	2557	*
30	A		0346AGCLAB	1	15	154	615	2476	*
31	A		0346AGCLAB	1	15	140	560	2251	*
32	A		0346AGCLAB	1	15	158	632	2541	*
33	A		0346AGCLAB	1	15	146	584	2348	*
34	A		0346AGCLAB	1	15	159	636	2557	*
35	A		0346AGCLAB	1	15	155	620	2492	*
36	A		0346AGCLAB	1	15	145	580	2332	*

Number of Measurements at this Survey Location: 24

50	A		0346AGQLAB	1	15	135	540	2171	*
51	A		0346AGQLAB	1	15	143	572	2299	*
52	A		0346AGQLAB	1	15	152	608	2444	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY  
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Survey Date: 8/21/95 Survey Start Time: 13:10  
 Date/Time Report Printed: 8/23/95 10:47:01

Station: 1  
 File: 500  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	53	A	0346AGQLAB	1	15	122	488	1962	*
	54	A	0346AGQLAB	1	15	114	456	1833	*
	55	A	0346AGQLAB	1	15	115	460	1849	*
	56	A	0346AGQLAB	1	15	134	536	2155	*
	57	A	0346AGQLAB	1	15	140	560	2251	*
	58	A	0346AGQLAB	1	15	142	568	2283	*
	59	A	0346AGQLAB	1	15	121	484	1946	*
	60	A	0346AGQLAB	1	15	128	512	2058	*
	61	A	0346AGQLAB	1	15	123	492	1978	*

Number of Measurements at this Survey Location: 12

	37	A	0346AGCB03	2	15	304	1216	4888	*
	38	A	0346AGCB03	2	15	278	1112	4470	*
	39	A	0346AGCB03	2	15	260	1040	4181	*
	40	A	0346AGCB03	2	15	345	1380	5548	*
	41	A	0346AGCB03	2	15	372	1488	5982	*
	42	A	0346AGCB03	2	15	394	1576	6336	*
	43	A	0346AGCB03	2	15	559	2236	8989	*
	44	A	0346AGCB03	2	15	311	1244	5001	*
	45	A	0346AGCB03	2	15	445	1780	7156	*
	46	A	0346AGCB03	2	15	350	1400	5628	*
	47	A	0346AGCB03	2	15	540	2160	8683	*
	48	A	0346AGCB03	2	15	267	1068	4293	*
	49	A	0346AGCB03	2	15	260	1040	4181	*

Number of Measurements at this Survey Location: 13

Total Number of Measurements on this Report: 65

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

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\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
500	8/23/95 10:30	Sample Points 50-61 Change Location code to 0346AGQLAB	RCW	JW Egert	Changed Loc. Code on samp. 50-61 to 0346AGQLAB	JW Egert	8/23/95 10:45
503	8/23/95 10:50	Sample Points 70-81 Change Location code to 0346AGQLAB Sample Points 82-83 Change Location code to 0346AGQB03	RCW	JW Egert	Changed Loc. Code on samp. 70-81 to 0346AGQLAB and on samp. 82-83 to 0346AGQB03	JW Egert	8/23/95 10:55

Attach this sheet to the front of the Survey Download Report requiring changes.

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Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 500, Visitors Center, Carpeted Floor Over Concrete, Wood Stage, Brick Wall Scar.  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .199

Survey Performed By: *JF Wainick* Date: 8/22/95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 File: 500  
 Page: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26  
 Date/Time Report Printed: 8/22/95 10:23:38

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	A		SC1TC886	0	60	1366	1366	5491	*
18	A		SC1TC886	0	60	1368	1368	5499	*
22	A		SC1TC886	0	60	1373	1373	5520	*
63	A		SC1TC886	0	60	1375	1375	5528	*

Number of Measurements at this Survey Location: 4

2	A		SC2TC886	0	60	1489	1489	5986	*
19	A		SC2TC886	0	60	1474	1474	5926	*
23	A		SC2TC886	0	60	1517	1517	6098	*
64	A		SC2TC886	0	60	1524	1524	6127	*

Number of Measurements at this Survey Location: 4

3	A		SC3TC886	0	60	1415	1415	5688	*
20	A		SC3TC886	0	60	1404	1404	5644	*
24	A		SC3TC886	0	60	1445	1445	5809	*
65	A		SC3TC886	0	60	1465	1465	5889	*

Number of Measurements at this Survey Location: 4

17	A		SCBKGPOST	0	60	402	402	1616	*
62	A		SCBKGPOST	0	60	444	444	1785	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
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Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 2

0	A		SCBKGPRES	0	600	4056	406	1631	*
21	A		SCBKGPRES	0	600	3707	371	1490	*

Number of Measurements at this Survey Location: 2

4	A		0346AGCLAB	1	15	159	636	2557	*
5	A		0346AGCLAB	1	15	162	648	2605	*
6	A		0346AGCLAB	1	15	149	596	2396	*
7	A		0346AGCLAB	1	15	146	580	2332	*
8	A		0346AGCLAB	1	15	139	556	2235	*
9	A		0346AGCLAB	1	15	142	568	2283	*
10	A		0346AGCLAB	1	15	157	628	2525	*
11	A		0346AGCLAB	1	15	153	612	2460	*
13	A		0346AGCLAB	1	15	168	672	2702	*
14	A		0346AGCLAB	1	15	164	656	2637	*
15	A		0346AGCLAB	1	15	167	668	2685	*
16	A		0346AGCLAB	1	15	124	496	1994	*
25	A		0346AGCLAB	1	15	147	588	2364	*
26	A		0346AGCLAB	1	15	147	588	2364	*
27	A		0346AGCLAB	1	15	136	544	2187	*
28	A		0346AGCLAB	1	15	159	636	2557	*
29	A		0346AGCLAB	1	15	159	636	2557	*
30	A		0346AGCLAB	1	15	154	616	2476	*
31	A		0346AGCLAB	1	15	140	560	2251	*
32	A		0346AGCLAB	1	15	158	632	2541	*
33	A		0346AGCLAB	1	15	146	584	2348	*
34	A		0346AGCLAB	1	15	159	636	2557	*
35	A		0346AGCLAB	1	15	155	620	2492	*
36	A		0346AGCLAB	1	15	145	580	2332	*

*Avg Bkgd Act. (local area shielded)  
 2418.8 dpm/100cm<sup>2</sup>*

Number of Measurements at this Survey Location: 24

50	A		0346AGTLAB	1	15	135	540	2171	*
51	A		0346AGTLAB	1	15	143	572	2299	*
52	A		0346AGTLAB	1	15	152	608	2444	*

**COPY  
 SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/21/95 Survey Start Time: 13:10  
 Date/Time Report Printed: 8/22/95 10:23:38

Station: 1  
 File: 500  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
53	A		0346AGTLAB	1	15	122	488	1962	*
54	A		0346AGTLAB	1	15	114	456	1833	*
55	A		0346AGTLAB	1	15	115	460	1849	*
56	A		0346AGTLAB	1	15	134	536	2155	*
57	A		0346AGTLAB	1	15	140	560	2251	*
58	A		0346AGTLAB	1	15	142	568	2283	*
59	A		0346AGTLAB	1	15	121	484	1946	*
60	A		0346AGTLAB	1	15	128	512	2058	*
61	A		0346AGTLAB	1	15	123	492	1978	*

Number of Measurements at this Survey Location: 12

37	A		0346AGCB03	2	15	304	1216	4888	*
38	A		0346AGCB03	2	15	278	1112	4470	*
39	A		0346AGCB03	2	15	260	104	4181	*
40	A		0346AGCB03	2	15	345	1380	5548	*
41	A		0346AGCB03	2	15	372	1488	5982	*
42	A		0346AGCB03	2	15	394	1576	6336	*
43	A		0346AGCB03	2	15	559	2236	8989	*
44	A		0346AGCB03	2	15	311	1244	5001	*
45	A		0346AGCB03	2	15	445	1780	7156	*
46	A		0346AGCB03	2	15	350	1400	5628	*
47	A		0346AGCB03	2	15	540	2160	8683	*
48	A		0346AGCB03	2	15	267	1068	4293	*
49	A		0346AGCB03	2	15	260	1040	4181	*

Number of Measurements at this Survey Location: 13

Total Number of Measurements on this Report: 65

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

Net Activity = local area bkup - gross act.

2469.2  
 2051.2  
 1762.2  
 3129.2  
 3563.2  
 3917.2  
 6570.2  
 2582.2  
 4737.2  
 3209.2  
 6264.2  
 1874.2  
 1762.2

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY**  
**SUPERSEDED**

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
500	8/21/95 1630	Delete Sample Point # 12 Meter glitch	rcw	gW Egert	Deleted sample # 12.	gW Egert	8/22/95 10:20
500	8/21/95 1630	Samples 25-36: Change location code to 0346AGCLAB	rcw	gW Egert	Changed Loc. Code on samples 25-36 to 0346AGCLAB.	gW Egert	8/22/95 10:20

Attach this sheet to the front of the Survey Download Report requiring changes.

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 500, Visitors Center, Carpeted Floor Over Concrete, Wood Stage, Brick Wall Scan  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .199

Survey Performed By: Ray C. White

Date: 8-22-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 500  
 Page: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26  
 Date/Time Report Printed: 8/21/95 17:01:38

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	A		SC1TC886	0	60	1366	1366	5491	*
18	A		SC1TC886	0	60	1368	1368	5499	*
22	A		SC1TC886	0	60	1373	1373	5520	*
63	A		SC1TC886	0	60	1375	1375	5528	*

Number of Measurements at this Survey Location: 4

2	A		SC2TC886	0	60	1489	1489	5986	*
19	A		SC2TC886	0	60	1474	1474	5926	*
23	A		SC2TC886	0	60	1517	1517	6098	*
64	A		SC2TC886	0	60	1524	1524	6127	*

Number of Measurements at this Survey Location: 4

3	A		SC3TC886	0	60	1415	1415	5688	*
20	A		SC3TC886	0	60	1404	1404	5644	*
24	A		SC3TC886	0	60	1445	1445	5809	*
65	A		SC3TC886	0	60	1465	1465	5889	*

Number of Measurements at this Survey Location: 4

17	A		SCBKGPOST	0	60	402	402	1616	*
62	A		SCBKGPOST	0	60	444	444	1785	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
 SUPERSEDED**

Survey Date: 8/21/95 Survey Start Time: 15:50  
 Date/Time Report Printed: 8/21/95 17:01:38

Station: 1  
 File: 500  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 2

0	A		SCBKGPPE	0	600	4056	406	1631	*
21	A		SCBKGPPE	0	600	3707	371	1490	*

Number of Measurements at this Survey Location: 2

25	A		0346PGCB03 LAB	1	15	147	588	2364	*
26	A		0346AGCB03	1	15	147	588	2364	*
27	A		0346AGCB03	1	15	136	544	2187	*
28	A		0346AGCB03	1	15	159	636	2557	*
29	A		0346AGCB03	1	15	159	636	2557	*
30	A		0346AGCB03	1	15	154	616	2476	*
31	A		0346AGCB03	1	15	140	560	2251	*
32	A		0346AGCB03	1	15	158	632	2541	*
33	A		0346AGCB03	1	15	146	584	2348	*
34	A		0346AGCB03	1	15	159	636	2557	*
35	A		0346AGCB03	1	15	155	620	2492	*
36	A		0346AGCB03 LAB	1	15	145	580	2332	*

rcw  
8-22-95

Number of Measurements at this Survey Location: 12

4	A		0346AGCLAB	1	15	159	636	2557	*
5	A		0346AGCLAB	1	15	162	648	2605	*
6	A		0346AGCLAB	1	15	149	596	2396	*
7	A		0346AGCLAB	1	15	145	580	2332	*
8	A		0346AGCLAB	1	15	139	556	2235	*
9	A		0346AGCLAB	1	15	142	568	2283	*
10	A		0346AGCLAB	1	15	157	628	2525	*
11	A		0346AGCLAB	1	15	153	612	2460	*
12	A		0346AGCLAB	1	15	0406	3324	136458	*
13	A		0346AGCLAB	1	15	168	672	2702	*
14	A		0346AGCLAB	1	15	164	656	2637	*
15	A		0346AGCLAB	1	15	167	668	2685	*
16	A		0346AGCLAB	1	15	124	496	1994	*

Delete - Meter Glitch rcw 8-22-95

**COPY  
SUPERSEDED**



Survey Date: 8/18/95 Survey Start Time: 07:33  
Date/Time Report Printed: 8/21/95 17:01:38

Station: 1  
File: 500  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 13

50	A		0346AGTLAB	1	15	135	540	2171	*
51	A		0346AGTLAB	1	15	143	572	2299	*
52	A		0346AGTLAB	1	15	152	608	2444	*
53	A		0346AGTLAB	1	15	122	488	1962	*
54	A		0346AGTLAB	1	15	114	456	1833	*
55	A		0346AGTLAB	1	15	115	460	1849	*
56	A		0346AGTLAB	1	15	134	536	2155	*
57	A		0346AGTLAB	1	15	140	560	2251	*
58	A		0346AGTLAB	1	15	142	568	2283	*
59	A		0346AGTLAB	1	15	121	484	1946	*
60	A		0346AGTLAB	1	15	128	512	2058	*
61	A		0346AGTLAB	1	15	123	492	1978	*

Number of Measurements at this Survey Location: 12

37	A		0346AGCB03	2	15	304	1216	4888	*
38	A		0346AGCB03	2	15	278	1112	4470	*
39	A		0346AGCB03	2	15	260	1040	4181	*
40	A		0346AGCB03	2	15	345	1380	5548	*
41	A		0346AGCB03	2	15	372	1488	5982	*
42	A		0346AGCB03	2	15	394	1576	6336	*
43	A		0346AGCB03	2	15	559	2236	8989	*
44	A		0346AGCB03	2	15	311	1244	5001	*
45	A		0346AGCB03	2	15	445	1780	7156	*
46	A		0346AGCB03	2	15	350	1400	5628	*
47	A		0346AGCB03	2	15	540	2160	8683	*
48	A		0346AGCB03	2	15	267	1068	4293	*
49	A		0346AGCB03	2	15	260	1040	4181	*

Number of Measurements at this Survey Location: 13

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
SUPERSEDED**

Survey Date: 8/21/95 Survey Start Time: 10:48  
Date/Time Report Printed: 8/21/95 17:01:38

Station: 1  
File: 500  
Page: 4

Comments

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Total Number of Measurements on this Report: 66

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: GLE Egert Date: 8/17/95  
 Download Station #: 1 Download File #: 493 Time: 14:20  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger W. Wick Signature: Roger W. Wick Date: 8-17-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 98635

Survey Location description: Visitor Center Carpet Samples  
 (Example: Rx Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): Investigation

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>95528</u>	<u>43-68B</u>	<u>.221</u>	<u>125</u>		
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

MEAN  
BKG CPM

<u>452</u>	<u>442</u>	<u>459</u>	<u>464</u>	<u>461</u>	<u>430</u>									<u>448</u>
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COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 493, Visitors Center, Carpet Samples  
 Reason: Investigation User: RCW1152/98635  
 M2150 S/N: 98635 Det. SN: PR095528 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 448 cpm Efficiency: .221

Survey Performed By: [Signature]  
 Survey Reviewed By: [Signature]

Date: 8/17/95  
 Date: 8-17-95

Survey Date: 8/17/95 Survey Start Time: 13:44 Station: 1 File: 493 Comments  
 Date/Time Report Printed: 8/17/95 16:16:56 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	A		SC1TC882	0	60	1643	1643	4326	*
14	A		SC1TC882	0	60	1529	1529	3913	*
Number of Measurements at this Survey Location: 2									
2	A		SC2TC882	0	60	1556	1556	4011	*
15	A		SC2TC882	0	60	1515	1515	3862	*
Number of Measurements at this Survey Location: 2									
3	A		SC3TC882	0	60	1520	1520	3881	*
16	A		SC3TC882	0	60	1605	1605	4188	*
Number of Measurements at this Survey Location: 2									
13	A		SCBKGPST	0	60	439	439	-33	
Number of Measurements at this Survey Location: 1									
0	A		SCBKGPPE	0	600	5756	576	462	

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/17/95 Survey Start Time: 13:40  
 Date/Time Report Printed: 8/17/95 16:16:56

Station: 1  
 File: 493  
 Page: 2

Comments

Loc No	Sam No	NG Loc Code	Survey Loc Code	Det No	Coun. Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

4	A		0346AGCLAB	1	60	432	432	-58	
5	A		0346AGCLAB	1	60	442	442	-22	
6	A		0346AGCLAB	1	60	459	459	40	
10	A		0346AGCLAB	1	60	464	464	58	
11	A		0346AGCLAB	1	60	461	461	47	
12	A		0346AGCLAB	1	60	430	430	-65	

Number of Measurements at this Survey Location: 6

7	A		0346AGCBOC	2	60	2247	2247	6512 *	
8	A		0346AGCBOC	2	60	869	869	1524 *	

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 16

End of Report

01559:C:\PDOX35\M2350\TLOGRBEVU;R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWB

*Location code for Sample Points 7+8 designated by FSLC. These carpet samples were surveyed away from the visitor Center. New Sample #'s 7+8 see special analysis sheets 95-412 and 95-415. Daniel G. Blv 9-5-95*

**COPY**



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

**COPY**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
493	8-17-95 1430	Delete #9	RW	JW Egert	Deleted samp. # 9	JW Egert	8/17/95 14:30

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 493, Visitors Center, Carpet Samples  
 Reason: Investigation User: RCW1152/98635  
 M2350 S/N: 98635 Det. SN: PR095528 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 448 cpm Efficiency: .221

Survey Performed By: *J. W. Smith* Date: 8/17/95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 File: 493  
 Page: 1  
 Survey Date: 8/17/95 Survey Start Time: 12:44  
 Date/Time Report Printed: 8/17/95 14:24:20

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta	
								DPM per 100 cm <sup>2</sup>	H i
1	A		SC1TC882	0	60	1643	1643	4326	*
14	A		SC1TC882	0	60	1529	1529	3913	*
Number of Measurements at this Survey Location:							2		
2	A		SC2TC882	0	60	1556	1556	4011	*
15	A		SC2TC882	0	60	1515	1515	3862	*
Number of Measurements at this Survey Location:							2		
3	A		SC3TC882	0	60	1520	1520	3881	*
16	A		SC3TC882	0	60	1605	1605	4188	*
Number of Measurements at this Survey Location:							2		
13	A		SCBKGPST	0	60	439	439	-33	
Number of Measurements at this Survey Location:							1		
0	A		SCBKGPSE	0	600	5756	576	462	

COPY

SUPERSEDED

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1  
 File: 493  
 Page: 2

Survey Date: 8/17/95 Survey Start Time: 13:40  
 Date/Time Report Printed: 8/17/95 14:24:20

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

4	A		0346AGCLAB	1	60	432	432	-58	
5	A		0346AGCLAB	1	60	442	442	-22	
6	A		0346AGCLAB	1	60	459	459	40	
<del>9</del>	<del>A</del>		<del>0346AGCLAB</del>	<del>1</del>	<del>60</del>	<del>468</del>	<del>468</del>	<del>43</del>	
10	A		0346AGCLAB	1	60	464	464	58	
11	A		0346AGCLAB	1	60	461	461	47	
12	A		0346AGCLAB	1	60	430	430	-65	

*Delete - No Reprint needed rcw 8/17/95*

Number of Measurements at this Survey Location: 7

7	A		0346AGCBOC	2	60	2247	2247	6512	*
8	A		0346AGCBOC	2	60	869	869	1524	*

*Special Analysis Log # 95-412 rcw  
 " " " 95-415 8/17/95*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 17

End of Report  
 01559.C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
 SUPERSEDED**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egeert Signature: [Signature] Date: 8/17/95  
 Download Station #: 1 Download File #: 492 Time: 13:00  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger C. Worrick Signature: [Signature] Date: 8-17-95  
 Print Name: N/A Signature: N/A Date: N/A  
 Instrument Serial #(s): Model 2350: 98635

Survey Location description: Visitor Contact Carpet Samples  
 (Example: Rt Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): INVESTIGATION

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency (α,β) or Calibration Constant (γ)	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta β		43-68B				
<input checked="" type="checkbox"/> Alpha α	<u>95528</u>	43-68A	<u>.193</u>	<u>125</u>	<u>492</u>	<u>492</u>
<input type="checkbox"/> Gamma γ		44-2				

Local Area Background Measurements

										MEAN BKG CPM
<u>1</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>1</u>					<u>1.2</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Alpha Survey Report

File #: 492, Visitors Center, Carpet Samples  
 Reason: Investigation User: RCW1152/98635  
 Instrument Model: 2350 S/N: 98635 Detector Model 43-68 Detector SN: PR095528  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector  
 Background: 1 cpm Efficiency: .193

Survey Performed By: Roger C. Worrick / [Signature]  
 Print Name Signature

Date: 9-21-95

Survey Reviewed By: ME MILES / [Signature]  
 Print Name Signature

Date: 9-21-95

Survey Date: 8/17/95 Survey Start Time: 12:23 Station: 1  
 Date/Time Report Printed: 9/21/95 13:28:16 File: 492  
 Page: 1 Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net dpm per 100 cm2	H
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--Detector Setup # 3

----Location Code: SC1TC683  
 NG Location Code: A

1	60	4499	4499	18644	*
13	60	4209	4209	17442	*

Number of Measurements: 2 Average: 18043 dpm per 100 cm2  
 Average: 4354 cpm per det. area

----Location Code: SC2TC683  
 NG Location Code: A

2	60	4813	4813	19945	*
15	60	4842	4842	20065	*

Number of Measurements: 2 Average: 20005 dpm per 100 cm2  
 Average: 4828 cpm per det. area

----Location Code: SC3TC683  
 NG Location Code: A

3	60	4873	4873	20194	*
---	----	------	------	-------	---

\* Flag is set at 75 dpm/100 sq. cm. for alpha contamination.

COPY



Survey Date: 8/17/95 Survey Start Time: 12:57  
Date/Time Report Printed: 9/21/95 13:28:16

Station: 1  
File: 492  
Page: 2

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net dpm per 100 cm2	H
-----------------	---------------	------------------	--------------	------------------------	---------------------	---

--Detector Setup # 3

---Location Code: SC3TC683  
NG Location Code: A

16	60	4605	4605	19083	*
----	----	------	------	-------	---

Number of Measurements: 2      Average: 19639 dpm per 100 cm2  
Average: 4739 cpm per det. area

---Location Code: SCBKGPOST  
NG Location Code: A

12	60	1	1	-1
----	----	---	---	----

Number of Measurements: 1      Average: -1 dpm per 100 cm2  
Average: 1 cpm per det. area

---Location Code: SCBKGPRE  
NG Location Code: A

0	600	8	1	-2
---	-----	---	---	----

Number of Measurements: 1      Average: -2 dpm per 100 cm2  
Average: 1 cpm per det. area

--Detector Setup # 4

---Location Code: 0346AGCLAB  
NG Location Code: A

4	60	1	1	-1
5	60	2	2	3
6	60	0	0	-5
9	60	2	2	3
10	60	1	1	-1
11	60	1	1	-1

Number of Measurements: 6      Average: -0 dpm per 100 cm2  
Average: 1 cpm per det. area

**COPY**

\* Flag is set at 75 dpm/100 sq. cm. for alpha contamination.

Survey Date: 8/17/95 Survey Start Time: 12:47  
Date/Time Report Printed: 9/21/95 13:28:16

Station: 1  
File: 492  
Page: 3

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net dpm per 100 cm2	H
-----------------	---------------	------------------	--------------	------------------------	---------------------	---

--Detector Setup # 4 --  
---Location Code: 0346AGCLAB  
NG Location Code: A

--Detector Setup # 5 --  
---Location Code: 0346AGCB0C  
NG Location Code: A

7	120	24	12	45
8	120	18	9	32

Number of Measurements: 2      Average: 39 dpm per 100 cm2  
   Average: 11 cpm per det. area

-----  
Total Number of Measurements on this Report: 16

End of Report

C:\PDOX35\M2350\TLOGREVU.R1    8-17-95    GWE  
   9-14-95    GWE

**COPY**

ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET

COPY

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
492	9-21-95 1315	Sample Points 7,8. change location code to 0346 AGCBOC	rew	JW Egert	Changed Loc. Code to 0346 AGCBOC on samples 7 + 8.	JW Egert	9/21/95 13:30

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Alpha Survey Report

File #: 492, Visitors Center, Carpet Samples  
 Reason: Investigation User: RCW1152/98635  
 M2150 S/N: 98635 Det. SN: PR095528 Detector Model: 43-68A  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Alpha)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 1 cpm Efficiency: .193

Survey Performed By: [Signature] Date: 8/17/95  
 Survey Reviewed By: [Signature] Date: 8-17-95

Station: 1  
 Survey Date: 8/17/95 Survey Start Time: 12:23 File: 492  
 Date/Time Report Printed: 8/17/95 13:18:51 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net dpm per 100 cm <sup>2</sup>	H
Number of Measurements at this Survey Location: 2									
	1	A	SC1TC683	3	60	4499	4499	18644	*
	13	A	SC1TC683	3	60	4209	4209	17442	*
Number of Measurements at this Survey Location: 2									
	2	A	SC2TC683	3	60	4813	4813	19945	*
	15	A	SC2TC683	3	60	4842	4842	20065	*
Number of Measurements at this Survey Location: 2									
	3	A	SC3TC683	3	60	4873	4873	20194	*
	16	A	SC3TC683	3	60	4605	4605	19083	*
Number of Measurements at this Survey Location: 2									
	12	A	SCBKGPOST	3	60	1	1	-1	
Number of Measurements at this Survey Location: 1									
	0	A	SCBKGPRE	3	600	8	1	-2	
Number of Measurements at this Survey Location: 1									

A Thorium Source was used for source checks.  
 TC is used instead of TH for procedural compliance.  
 RW

Total Number of Measurements on this Report: 8  
 \* Flag is set at 50 dpm/100 sq. cm. for alpha contamination.

**COPY  
 SUPERSEDED**

Survey Date: 8/17/95 Survey Start Time: 12:15  
 Date/Time Report Printed: 8/17/95 13:18:51

Station: 1  
 File: 492  
 Page: 2

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net dpm per 100 cm2	H
	4	A	0346AGCLAB	4	60	1	1	-1	
	5	A	0346AGCLAB	4	60	2	2	3	
	6	A	0346AGCLAB	4	60	0	0	-5	
	9	A	0346AGCLAB	4	60	2	2	3	
	10	A	0346AGCLAB	4	60	1	1	-1	
	11	A	0346AGCLAB	4	60	1	1	-1	

Comments

Number of Measurements at this Survey Location: 6

7	A	0346AGCB0	<sup>C</sup> 0346AGCB0	4	120	24	12	45	
8	A	0346AGCB0	0346AGCB0	4	120	18	9	32	

*RAW 8/17/95*  
*Chemistry Special Analysis*  
*Log # 3*

95-412  
 95-415

Number of Measurements at this Survey Location: 2

End of Report

C:\PDOX35\M2350\TLOGREVU.R1 8-17-95 GWE

Total Number of Measurements on this Report: 16

\* Flag is set at 50 dpm/100 sq. cm. for alpha contamination.

**COPY  
 SUPERSEDED**



**ATTACHMENT 6.2**  
**CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
492	8-17-95 13:15	Delete # 14. Bad geometry	RCW	g.w. East	Deleted samp. # 14	g.w. East	8/17/95 13:20
492	8-17-95 13:15	# 15 to SC2 TC683 # 16 to SC3 TC683	RCW	g.w. East	Changed Loc Codes for samp. 15 to SC2 TC683 and samp. 16 to SC3 TC683.	g.w. East	8/17/95 13:20

Attach this sheet to the front of the Survey Download Report requiring changes.

**SUPERSEDED**  
**COPY**  
 RP-INST.234.1.3

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Alpha Survey Report

File #: 492, Visitors Center, Carpet Samples  
 Reason: Investigation User: RCW1152/98635  
 M2350 S/N: 98635 Det. SN: PR095528 Detector Model: 43-68A  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector (Alpha)  
 Detector Area: 125.0 cm2 Background: 1 cpm Efficiency: .193

Survey Performed By: [Signature] Date: 8/17/95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 Survey Date: 8/17/95 Survey Start Time: 12:23 File: 492  
 Date/Time Report Printed: 8/17/95 13:12:18 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net dpm per 100 cm2	H i	Comments
	1	A	SC1TC683	3	60	4499	4499	18644	*	
	13	A	SC1TC683	3	60	4209	4209	17442	*	
	<del>14</del>	A	<del>SC1TC683</del>	<del>3</del>	<del>60</del>	<del>3941</del>	<del>3941</del>	<del>15429</del>	<del>*</del>	Delete - Bad Geometry
	15	A	SC1TC683	3	60	4842	4842	20065	*	Rew 8/17/95
	16	A	SC1TC683	3	60	4605	4605	19083	*	
Number of Measurements at this Survey Location: 5										
	2	A	SC2TC683	3	60	4813	4813	19945	*	
Number of Measurements at this Survey Location: 1										
	3	A	SC3TC683	3	60	4873	4873	20194	*	
Number of Measurements at this Survey Location: 1										
	12	A	SCBKGPST	3	60	1	1	-1		
Number of Measurements at this Survey Location: 1										
	0	A	SCBKGPPE	3	600	8	1	-2		
Number of Measurements at this Survey Location: 1										

Total Number of Measurements on this Report: 9  
 \* Flag is set at 50 dpm/100 sq. cm. for alpha contamination.

**COPY  
 SUPERSEDED**

Survey Date: 8/17/95 Survey Start Time: 12:15  
Date/Time Report Printed: 8/17/95 13:12:18

Station: 1  
File: 492  
Page: 2

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net dpm per 100 cm2	H	Comments
	4	A	0346AGCLAB	4	60	1	1	-1		
	5	A	0346AGCLAB	4	60	2	2	3		
	6	A	0346AGCLAB	4	60	0	0	-5		
	9	A	0346AGCLAB	4	60	2	2	3		
	10	A	0346AGCLAB	4	60	1	1	-1		
	11	A	0346AGCLAB	4	60	1	1	-1		

Number of Measurements at this Survey Location: 6  
-----

	7	A	0346AGCB03	5	120	24	12	45		
	8	A	0346AGCB03	5	120	18	9	32		

Number of Measurements at this Survey Location: 2  
-----

End of Report

C:\PDOX35\N2350\TLOGREVU.R1 8-17-95 GWR

Total Number of Measurements on this Report: 17

\* Flay is set at 50 dpm/100 sq. cm. for alpha contamination.

**COPY**  
**SUPERSEDED**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/16/95  
 Download Station #: 1 Download File #: 488 Time: 17:10  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Duclan Detrick Signature: [Signature] Date: 8-16-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95340

Survey Location description: Visitor Center Bldg #107 Walls & Floors  
 (Example: Rx Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only

Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	PR 091050	43-68B	.215	125 cm <sup>2</sup>	488	488
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input type="checkbox"/> Gamma $\gamma$		44-2				

Local Area Background Measurements

0346A0ALAB											MEAN BKG CPM	
152	153	144	123	147	165	139	149	167	168	167	154	612 513 8-31-95

COMMENTS: No background value Applied. Unaffected area

Background: 0346A0BLAB	112, 130, 131, 126, 123, 127, 117, 109, 113, 137, 105, 122	484
0346A0DLAB	171, 207, 170, 179, 160, 170, 176, 139, 144, 146, 186, 168	672
0346A0JLAB	117, 105, 85, 102, 111, 101, 136, 122, 120, 122, 122, 108	450
0346A0LLAB	90, 112, 101, 107, 93, 72, 92, 88, 105, 77, 100, 105	381
0346A0MLAB	130, 131, 132, 126, 143, 154, 163, 152, 128, 139, 153, 145	505
0346A0TLAB	125, 119, 140, 157, 117, 141, 134, 129, 146, 139, 170, 164	560

COPY

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 488, Visitors Center, Walls and Floors  
 Reason: Initial Survey User: DAD1275/95340  
 Instrument Model: 2350 S/N: 95340 Detector Model: 43-68B Detector S/N: PR091050  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .215

Survey Performed By: DECLAN DETRICK / *Declan Detrick* Date: 9-18-95  
 Print Name Signature  
 Survey Reviewed By: Darrel L. Blain / *Darrel L. Blain* Date: 9-18-95  
 Print Name Signature

Survey Date: 8/16/95 Survey Start Time: 09:51 Station: 1 File: 488 Comments  
 Date/Time Report Printed: 9/15/95 15:16:53 Page: 1

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm <sup>2</sup>	H
---Detector Setup # 0						
----Location Code: SC1TC883						
NG Location Code: A						
	1	60	1438	1438	5351	*
	140	60	1519	1519	5652	*
Number of Measurements: 2		Average: 5501		dpm per 100 cm <sup>2</sup>		
		Average: 1479		cpm per det. area		

----Location Code: SC2TC883						
NG Location Code: A						
	2	60	1564	1564	5820	*
	141	60	1599	1599	5950	*
Number of Measurements: 2		Average: 5885		dpm per 100 cm <sup>2</sup>		
		Average: 1582		cpm per det. area		

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Station: 1

Survey Date: 8/16/95 Survey Start Time: 09:56

File: 488

Comments

Date/Time Report Printed: 9/15/95 15:16:53

Page: 2

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
-----	-----	-----	-----	-----	-----	-----

--Detector Setup # 0

----Location Code: SCJTC863

NG Location Code: A

3	60		1560	5805	*
142	60	1.76	1496	5567	*

Number of Measurements: 2      Average: 5686 dpm per 100 cm2  
 Average: 1528 cpm per det. area

----Location Code: SCBKGPST

NG Location Code: A

139	600		4566	457	1699	*
-----	-----	--	------	-----	------	---

Number of Measurements: 1      Average: 1699 dpm per 100 cm2  
 Average: 457 cpm per det. area

----Location Code: SCBKGPST

NG Location Code: A

0	600		4557	456	1696	*
---	-----	--	------	-----	------	---

Number of Measurements: 1      Average: 1696 dpm per 100 cm2  
 Average: 456 cpm per det. area

--Detector Setup # 1

----Location Code: 0346A0ALAB

NG Location Code: A

121	15		162	648	2411	*
122	15		153	612	2277	*
123	15		144	576	2143	*
124	15		123	492	1831	*
125	15		147	588	2188	*
126	15		165	660	2456	*
127	15		139	556	2069	*
128	15		149	596	2218	*
129	15		167	668	2486	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/16/95 Survey Start Time: 13:08  
Date/Time Report Printed: 9/15/95 15:16:53

Station: 1  
File: 488  
Page: 3

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H i
-----Detector Setup # 1-----						
----Location Code: 0346A0ALAB						
NG Location Code: A						
	130	15	168	672	2500	*
	131	15	167	668	2486	*
	132	15	154	616	2292	*

Number of Measurements: 12      Average: 2280 dpm per 100 cm2  
Average: 613 cpm per det. area

----Location Code: 0346A0BLAB  
NG Location Code: A

	33	15	112	448	1667	*
	34	15	130	520	1935	*
	35	15	131	524	1950	*
	36	15	126	504	1875	*
	37	15	123	492	1831	*
	38	15	127	508	1890	*
	39	15	117	468	1741	*
	40	15	109	436	1622	*
	41	15	113	452	1682	*
	42	15	137	548	2039	*
	43	15	105	420	1563	*
	44	15	122	488	1816	*

Number of Measurements: 12      Average: 1801 dpm per 100 cm2  
Average: 484 cpm per det. area

----Location Code: 0346A0DLAB  
NG Location Code: A

	98	15	171	684	2545	*
	99	15	207	828	3081	*
	100	15	170	680	2530	*
	101	15	179	716	2664	*
	102	15	160	640	2381	*
	103	15	170	680	2530	*
	104	15	176	704	2620	*
	105	15	139	556	2069	*
	106	15	144	576	2143	*

**COPY**

Survey Date: 8/16/95 Survey Start Time: 12:26 Station: 1  
 Date/Time Report Printed: 9/15/95 15:16:53 File: 488  
 Page: 4

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
107		15	146	584	2173	*
108		15	186	744	2768	*
109		15	168	672	2500	*

Number of Measurements: 12 Average: 2500 dpm per 100 cm2  
 Average: 672 cpm per det. area

----Location Code: 0346A0JLAB  
 NG Location Code: A

18		15	117	468	1741	*
19		15	105	420	1563	*
20		15	85	340	1265	*
21		15	102	408	1518	*
22		15	111	444	1652	*
23		15	101	404	1503	*
24		15	136	544	2024	*
25		15	122	488	1816	*
26		15	120	480	1786	*
27		15	122	488	1816	*
28		15	122	488	1816	*
29		15	108	432	1607	*

Number of Measurements: 12 Average: 1676 dpm per 100 cm2  
 Average: 450 cpm per det. area

----Location Code: 0346A0LLAB  
 NG Location Code: A

4		15	90	360	1340	*
5		15	112	448	1667	*
6		15	101	404	1503	*
7		15	107	428	1593	*
8		15	93	372	1384	*
9		15	72	288	1072	*
10		15	92	368	1369	*
11		15	88	352	1310	*
12		15	105	420	1563	*

**COPY**

Survey Date: 8/16/95 Survey Start Time: 10:34  
Date/Time Report Printed: 9/15/95 15:16:53

Station: 1  
File: 488  
Page: 5

Comments

Location	Sample	Count	Gross	Gross	Net beta	
Number	Number	(sec)	Counts	CPM per Det Area	DPM per 100 cm2	H i

--Detector Setup # 1

----Location Code: 0346A0LLAB  
NG Location Code: A

13	15	77	308	1146	
14	15	100	400	1488	*
15	15	105	420	1563	*

Number of Measurements: 12      Average: 1416 dpm per 100 cm2  
Average: 381 cpm per det. area

----Location Code: 0346A0MLAB  
NG Location Code: A

49	15	130	520	1935	*
50	15	131	524	1950	*
51	15	132	528	1965	*
52	15	126	504	1875	*
53	15	143	572	2128	*
54	15	154	616	2292	*
55	15	163	652	2426	*
56	15	152	608	2262	*
57	15	128	512	1905	*
58	15	139	556	2069	*
59	15	153	612	2277	*
60	15	145	580	2158	*

Number of Measurements: 12      Average: 2104 dpm per 100 cm2  
Average: 565 cpm per det. area

----Location Code: 0346A0TLAB  
NG Location Code: A

71	15	125	500	1860	*
72	15	119	476	1771	*
72	15	140	560	2084	*
74	15	157	628	2337	*
75	15	117	468	1741	*
76	15	141	564	2099	*
77	15	134	536	1994	*
78	15	129	516	1920	*
79	15	146	584	2173	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Station: 1  
 Survey Date: 8/16/95 Survey Start Time: 11:18 File: 488  
 Date/Time Report Printed: 9/15/95 15:16:53 Page: 6

Comments

Location	Sample	Count	Gross	Gross	Net beta	
Number	Number	(sec)	Counts	CPM per Det Area	DPM per 100 cm <sup>2</sup>	H

--Detector Setup # 1

----Location Code: 0346A0TLAB

NG Location Code: A

80		15	139	556	2069	*
81		15	170	680	2530	*
82		15	164	656	2441	*

Number of Measurements: 12 Average: 2085 dpm per 100 cm<sup>2</sup>  
 Average: 560 cpm per det. area

--Detector Setup # 2

----Location Code: 0346A0AB03

NG Location Code: A

31	133	15	230	920	3423	*
32	134	15	228	912	3393	*
33	135	15	178	712	2649	*
34	136	15	162	648	2411	*
35	137	15	201	804	2992	*
36	138	15	225	900	3349	*

Number of Measurements: 6 Average: 3036 dpm per 100 cm<sup>2</sup>  
 Average: 816 cpm per det. area

----Location Code: 0346A0BB03

NG Location Code: A

73	45	15	155	620	2307	*
74	46	15	157	628	2337	*
75	47	15	153	612	2277	*
76	48	15	166	664	2471	*

Number of Measurements: 4 Average: 2348 dpm per 100 cm<sup>2</sup>  
 Average: 631 cpm per det. area

**COPY**



Survey Date: 8/16/95 Survey Start Time: 12:28  
Date/Time Report Printed: 9/15/95 15:16:53

Station: 1  
File: 488  
Page: 7

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
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--Detector Setup # 2

----Location Code: 0346AGDB03  
NG Location Code: A

37	110	15	192	768	2858	*
38	111	15	193	772	2873	*
39	112	15	110	440	1637	*
40	113	15	169	676	2515	*
41	114	15	178	712	2649	*
42	115	15	128	512	1905	*
43	116	15	150	600	2233	*
44	117	15	172	688	2560	*
45	118	15	155	620	2307	*
46	119	15	177	708	2634	*
47	120	15	189	756	2813	*

Number of Measurements: 11      Average: 2453 dpm per 100 cm2  
Average: 659 cpm per det. area

----Location Code: 0346A0JB03  
NG Location Code: A

77	30	15	125	500	1860	*
78	31	15	114	456	1697	*
79	32	15	99	396	1473	*

Number of Measurements: 3      Average: 1677 dpm per 100 cm2  
Average: 451 cpm per det. area

----Location Code: 0346A0LB03  
NG Location Code: A

80	16	15	118	472	1756	*
81	17	15	104	416	1548	*

Number of Measurements: 2      Average: 1652 dpm per 100 cm2  
Average: 444 cpm per det. area

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/16/95 Survey Start Time: 11:07  
Date/Time Report Printed: 9/15/95 15:16:53

Station: 1  
File: 488  
Page: 8

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
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--Detector Setup # 2

----Location Code: 0346A0MB03

NG Location Code: A

63	61	15	110	440	1637	*
64	62	15	94	376	1399	*
65	63	15	105	420	1563	*
66	64	15	111	444	1652	*
67	65	15	111	444	1652	*
68	66	15	102	408	1518	*
69	67	15	118	472	1756	*
70	68	15	115	460	1712	*
71	69	15	149	596	2218	*
72	70	15	103	412	1533	*

Number of Measurements: 10      Average: 1664 dpm per 100 cm2  
Average: 447 cpm per det. area

----Location Code: 0346A0TB03

NG Location Code: A

48	83	15	205	820	3051	*
49	84	15	197	788	2932	*
50	85	15	198	792	2947	*
51	86	15	233	932	3468	*
52	87	15	197	788	2932	*
53	88	15	224	896	3334	*
54	89	15	202	808	3007	*
55	90	15	211	844	3140	*
56	91	15	212	848	3155	*
57	92	15	200	800	2977	*
58	93	15	228	912	3393	*
59	94	15	201	804	2992	*
60	95	15	192	768	2858	*
61	96	15	210	840	3126	*
62	97	15	192	768	2858	*

Number of Measurements: 15      Average: 3078 dpm per 100 cm2  
Average: 827 cpm per det. area

COPY

Station: 1

Survey Date: 8/16/95 Survey Start Time: 11:28

File: 488

Comments

Date/Time Report Printed: 9/15/95 1 53

Page: 9

-----  
Total Number of Measurements on this Report: 143

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA 9/12/95 JWB  
7-25-95 MRM

**COPY**

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

**COPY**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
488	9-15-95 1220	Sample #s 0, 1, 2, 3, 139, 140, 141, 142. Change Location code from RC to SC	D. DETRICK	JW Egan	Changed Loc. Codes from RC... to SC... on samples 0-3 and 139-142.	JW Egan	9/15/95 13:50 over 9/15/95 14:50
494	9-15-95 1222	Sample #'s 0, 1, 2, 3, 176, 177, 178, 179. Change location code from RC to SC	D. DETRICK	JW Egan	Changed Loc. Codes from RC... to SC... on samples 0-3 and 177-179.	JW Egan	9/15/95 15:00
501	9-15-95 1224	Sample #'s 0, 1, 2, 3, 192, 193, 194, 195. Change location code from RC to SC	D. DETRICK	JW Egan	Changed Loc. Codes from RC... to SC... on samples 0-3 and 192-195	JW Egan	9/15/95 15:10

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Port St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 488, Visitors Center, Walls and Floors  
 Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. SN: PR091050 Detector Model: 43-68B  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm2 Background: 0 cpm Efficiency: .215

Survey Performed By: Dan Dittik

Date: 8-17-95

Survey Reviewed By: MSB

Date: 9-5-95

Survey Date: 8/16/95 Survey Start Time: 09:51 Station: 1  
 Date/Time Report Printed: 8/16/95 17:35:40 File: 488  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
Number of Measurements at this Survey Location: 2									
1	A		RC1TC883	0	60	1438	1438	5351	*
140	A		RC1TC883	0	60	1519	1519	5652	*
Number of Measurements at this Survey Location: 2									
2	A		RC2TC883	0	60	1564	1564	5820	*
141	A		RC2TC883	0	60	1599	1599	5950	*
Number of Measurements at this Survey Location: 2									
3	A		RC3TC883	0	60	1560	1560	5805	*
142	A		RC3TC883	0	60	1496	1496	5567	*
Number of Measurements at this Survey Location: 2									
0	A		RCBKGPPE	0	600	4557	456	1696	*
Number of Measurements at this Survey Location: 1									
139	A		SCBKGPPOST	0	600	4566	457	1699	*

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Survey Date: 8/16/95 Survey Start Time: 13:32  
Date/Time Report Printed: 8/16/95 17:35:40

Station: 1  
File: 488  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

121	A		0346A0ALAB	1	15	162	648	2411	*
122	A		0346A0ALAB	1	15	153	612	2277	*
123	A		0346A0ALAB	1	15	144	576	2143	*
124	A		0346A0ALAB	1	15	123	492	1831	*
125	A		0346A0ALAB	1	15	147	588	2188	*
126	A		0346A0ALAB	1	15	165	660	2456	*
127	A		0346A0ALAB	1	15	139	556	2069	*
128	A		0346A0ALAB	1	15	149	596	2218	*
129	A		0346A0ALAB	1	15	167	668	2486	*
130	A		0346A0ALAB	1	15	168	672	2500	*
131	A		0346A0ALAB	1	15	167	668	2486	*
132	A		0346A0ALAB	1	15	154	616	2292	*

Number of Measurements at this Survey Location: 12

33	A		0346A0BLAB	1	15	112	448	1667	*
34	A		0346A0BLAB	1	15	130	520	1935	*
35	A		0346A0BLAB	1	15	131	524	1950	*
36	A		0346A0BLAB	1	15	126	504	1875	*
37	A		0346A0BLAB	1	15	123	492	1831	*
38	A		0346A0BLAB	1	15	127	508	1890	*
39	A		0346A0BLAB	1	15	117	468	1741	*
40	A		0346A0BLAB	1	15	109	436	1622	*
41	A		0346A0BLAB	1	15	113	452	1682	*
42	A		0346A0BLAB	1	15	137	548	2039	*
43	A		0346A0BLAB	1	15	105	420	1563	*
44	A		0346A0BLAB	1	15	122	488	1816	*

Number of Measurements at this Survey Location: 12

98	A		0346A0DLAB	1	15	171	684	2545	*
99	A		0346A0DLAB	1	15	207	828	3081	*
100	A		0346A0DLAB	1	15	170	680	2530	*
101	A		0346A0DLAB	1	15	179	716	2664	*
102	A		0346A0DLAB	1	15	160	640	2381	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/16/95 Survey Start Time: 12:24  
Date/Time Report Printed: 8/16/95 17:35:40

Station: 1

Comments

File: 488

Page: 3

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
103	A		0346A0DLAB	1	15	170	680	2530	*
104	A		0346A0DLAB	1	15	176	704	2620	*
105	A		0346A0DLAB	1	15	139	556	2069	*
106	A		0346A0DLAB	1	15	144	576	2143	*
107	A		0346A0DLAB	1	15	146	584	2173	*
108	A		0346A0DLAB	1	15	186	744	2768	*
109	A		0346A0DLAB	1	15	168	672	2500	*

Number of Measurements at this Survey Location: 12

18	A		0346A0JLAB	1	15	117	468	1741	*
19	A		0346A0JLAB	1	15	105	420	1563	*
20	A		0346A0JLAB	1	15	85	340	1265	*
21	A		0346A0JLAB	1	15	102	408	1518	*
22	A		0346A0JLAB	1	15	111	444	1652	*
23	A		0346A0JLAB	1	15	101	404	1503	*
24	A		0346A0JLAB	1	15	136	544	2024	*
25	A		0346A0JLAB	1	15	122	488	1816	*
26	A		0346A0JLAB	1	15	120	480	1786	*
27	A		0346A0JLAB	1	15	122	488	1816	*
28	A		0346A0JLAB	1	15	122	488	1816	*
29	A		0346A0JLAB	1	15	108	432	1607	*

Number of Measurements at this Survey Location: 12

4	A		0346A0LLAB	1	15	90	360	1340	*
5	A		0346A0LLAB	1	15	112	448	1667	*
6	A		0346A0LLAB	1	15	101	404	1503	*
7	A		0346A0LLAB	1	15	107	428	1593	*
8	A		0346A0LLAB	1	15	93	372	1384	*
9	A		0346A0LLAB	1	15	72	288	1072	*
10	A		0346A0LLAB	1	15	92	368	1369	*
11	A		0346A0LLAB	1	15	88	352	1310	*
12	A		0346A0LLAB	1	15	105	420	1563	*
13	A		0346A0LLAB	1	15	77	308	1146	*
14	A		0346A0LLAB	1	15	100	400	1488	*
15	A		0346A0LLAB	1	15	105	420	1563	*

Number of Measurements at this Survey Location: 12

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/16/95 Survey Start Time: 11:00

File: 488

Date/Time Report Printed: 8/16/95 17:35:40

Page: 4

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
49	A		0346AOMLAB	1	15	130	520	1935	*
50	A		0346AOMLAB	1	15	131	524	1950	*
51	A		0346AOMLAB	1	15	132	528	1965	*
52	A		0346AOMLAB	1	15	126	504	1875	*
53	A		0346AOMLAB	1	15	143	572	2128	*
54	A		0346AOMLAB	1	15	154	616	2292	*
55	A		0346AOMLAB	1	15	163	652	2426	*
56	A		0346AOMLAB	1	15	152	608	2262	*
57	A		0346AOMLAB	1	15	128	512	1905	*
58	A		0346AOMLAB	1	15	139	556	2069	*
59	A		0346AOMLAB	1	15	153	612	2277	*
60	A		0346AOMLAB	1	15	145	580	2158	*

Number of Measurements at this Survey Location: 12

71	A		0346AOTLAB	1	15	125	500	1860	*
72	A		0346AOTLAB	1	15	119	476	1771	*
73	A		0346AOTLAB	1	15	140	560	2084	*
74	A		0346AOTLAB	1	15	157	628	2337	*
75	A		0346AOTLAB	1	15	117	468	1741	*
76	A		0346AOTLAB	1	15	141	564	2099	*
77	A		0346AOTLAB	1	15	134	536	1994	*
78	A		0346AOTLAB	1	15	129	516	1920	*
79	A		0346AOTLAB	1	15	146	584	2173	*
80	A		0346AOTLAB	1	15	139	556	2069	*
81	A		0346AOTLAB	1	15	170	680	2530	*
82	A		0346AOTLAB	1	15	164	656	2441	*

Number of Measurements at this Survey Location: 12

31	133	A	0346A0AB03	2	15	230	920	3423	*
32	134	A	0346A0AB03	2	15	228	912	3393	*
33	135	A	0346A0AB03	2	15	178	712	2649	*
34	136	A	0346A0AB03	2	15	162	648	2411	*
35	137	A	0346A0AB03	2	15	201	804	2992	*
36	138	A	0346A0AB03	2	15	225	900	3349	*

COPY

Survey Date: 8/16/95 Survey Start Time: 13:14  
Date/Time Report Printed: 8/16/95 17:35:40

Station: 1  
File: 488  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
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Number of Measurements at this Survey Location: 6

73	45	A	0346A0BB03	2	15	155	620	2307	*
74	46	A	0346A0BB03	2	15	157	628	2337	*
75	47	A	0346A0BB03	2	15	153	612	2277	*
76	48	A	0346A0BB03	2	15	166	664	2471	*

Number of Measurements at this Survey Location: 4

37	110	A	0346A0DB03	2	15	192	768	2858	*
38	111	A	0346A0DB03	2	15	193	772	2873	*
39	112	A	0346A0DB03	2	15	110	440	1637	*
40	113	A	0346A0DB03	2	15	169	676	2515	*
41	114	A	0346A0DB03	2	15	178	712	2649	*
42	115	A	0346A0DB03	2	15	128	512	1905	*
43	116	A	0346A0DB03	2	15	150	600	2233	*
44	117	A	0346A0DB03	2	15	172	688	2560	*
45	118	A	0346A0DB03	2	15	155	620	2307	*
46	119	A	0346A0DB03	2	15	177	708	2634	*
47	120	A	0346A0DB03	2	15	189	756	2813	*

Number of Measurements at this Survey Location: 11

77	30	A	0346A0JB03	2	15	125	500	1860	*
78	31	A	0346A0JB03	2	15	114	456	1697	*
79	32	A	0346A0JB03	2	15	99	396	1473	*

Number of Measurements at this Survey Location: 3

80	16	A	0346A0LB03	2	15	118	472	1756	*
81	17	A	0346A0LB03	2	15	104	416	1548	*

Number of Measurements at this Survey Location: 2

63	61	A	0346A0MB03	2	15	110	440	1637	*
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COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/16/95 Survey Start Time: 11:08  
Date/Time Report Printed: 8/16/95 17:35:40

Station: 1  
File: 488  
Page: 6

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
64	62	A	0346A0MB03	2	15	94	376	1399	*
65	63	A	0346A0MB03	2	15	105	420	1563	*
66	64	A	0346A0MB03	2	15	111	444	1652	*
67	65	A	0346A0MB03	2	15	111	444	1652	*
68	66	A	0346A0MB03	2	15	102	408	1518	*
69	67	A	0346A0MB03	2	15	118	472	1756	*
70	68	A	0346A0MB03	2	15	115	460	1712	*
71	69	A	0346A0MB03	2	15	149	596	2218	*
72	70	A	0346A0MB03	2	15	103	412	1533	*

Number of Measurements at this Survey Location: 10

48	83	A	0346A0TB03	2	15	205	820	3051	*
49	84	A	0346A0TB03	2	15	197	788	2932	*
50	85	A	0346A0TB03	2	15	198	792	2947	*
51	86	A	0346A0TB03	2	15	233	932	3468	*
52	87	A	0346A0TB03	2	15	197	788	2932	*
53	88	A	0346A0TB03	2	15	224	896	3334	*
54	89	A	0346A0TB03	2	15	202	808	3007	*
55	90	A	0346A0TB03	2	15	211	844	3140	*
56	91	A	0346A0TB03	2	15	212	848	3155	*
57	92	A	0346A0TB03	2	15	200	800	2977	*
58	93	A	0346A0TB03	2	15	228	912	3393	*
59	94	A	0346A0TB03	2	15	201	804	2992	*
60	95	A	0346A0TB03	2	15	192	768	2858	*
61	96	A	0346A0TB03	2	15	210	840	3126	*
62	97	A	0346A0TB03	2	15	192	768	2858	*

Number of Measurements at this Survey Location: 15

Total Number of Measurements on this Report: 143

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY



ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/16/95

Download Station #: 1 Download File #: 487 Time: 15:30

Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger Worick Signature: [Signature] Date: 8-16-95

Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 9865

Survey Location description: Unaffected Area, Carpet over concrete floor, Hdq 1001, Part #30  
(Example: Rt Bldg. Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>95528</u>	<u>43-68B</u>	<u>.205</u>	<u>125</u>	<u>487</u>	<u>487</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements  
0346ASLAB MEAN BKG CPM

<u>135</u>	<u>149</u>	<u>177</u>	<u>138</u>	<u>150</u>	<u>138</u>	<u>136</u>	<u>156</u>	<u>135</u>	<u>141</u>	<u>158</u>	<u>178</u>	<u>597</u>
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COMMENTS: Unaffected Area, Apply "0" for Bkgd  
Backgrounds : 0346ASLAB 153, 197, 189, 162, 153, 154, 173, 152, 136, 177, 160, 168 658

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 487, Visitors Center, Carpet Over Concrete Floor, Equipment Storage Building 1001,  
 Point #30

Reason: Initial Survey User: RCW1152/98635  
 M2350 S/N: 98635 Det. SN: PR095528 Detector Model: 43-68  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .21

Survey Performed By: [Signature] Date: 8-25-95  
 Survey Reviewed By: [Signature] Date: 9-5-95

Station: 1		Comments							
Survey Date: 8/16/95	Survey Start Time: 07:36	File: 487							
Date/Time Report Printed: 8/25/95 09:32:35		Page: 1							
Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup> i	H
1	A		SC1TC882	0	60	1556	1556	6072	*
56	A		SC1TC882	0	60	1623	1623	6334	*
73	A		SC1TC882	0	60	1644	1644	6416	*
Number of Measurements at this Survey Location:						3			
2	A		SC2TC882	0	60	1596	1596	6228	*
57	A		SC2TC882	0	60	1573	1573	6139	*
74	A		SC2TC882	0	60	1683	1683	6568	*
Number of Measurements at this Survey Location:						3			
3	A		SC3TC882	0	60	1578	1578	6158	*
58	A		SC3TC882	0	60	1628	1628	6353	*
75	A		SC3TC882	0	60	1608	1608	6275	*
Number of Measurements at this Survey Location:						3			
55	A		SCBKGPST	0	60	512	512	1998	*
72	A		SCBKGPST	0	60	614	614	2396	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY**

Survey Date: 8/16/95 Survey Start Time: 15:04  
 Date/Time Report Printed: 8/25/95 09:32:35

Station: 1  
 File: 487  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 2

0	A		SCBKQPRE	0	600	4740	474	1850	*
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Number of Measurements at this Survey Location: 1

4	A		0346A0CLAB	1	15	135	540	2107	*
5	A		0346A0CLAB	1	15	149	596	2326	*
6	A		0346A0CLAB	1	15	177	708	2763	*
7	A		0346A0CLAB	1	15	138	552	2154	*
8	A		0346A0CLAB	1	15	150	600	2341	*
9	A		0346A0CLAB	1	15	138	552	2154	*
10	A		0346A0CLAB	1	15	136	544	2123	*
11	A		0346A0CLAB	1	15	156	624	2435	*
12	A		0346A0CLAB	1	15	135	540	2107	*
13	A		0346A0CLAB	1	15	141	564	2201	*
14	A		0346A0CLAB	1	15	158	632	2466	*
15	A		0346A0CLAB	1	15	178	712	2779	*

Number of Measurements at this Survey Location: 12

59	A		0346A0JLAB	1	15	153	612	2388	*
60	A		0346A0JLAB	1	15	197	788	3075	*
61	A		0346A0JLAB	1	15	189	756	2950	*
62	A		0346A0JLAB	1	15	162	648	2529	*
63	A		0346A0JLAB	1	15	153	612	2388	*
64	A		0346A0JLAB	1	15	154	616	2404	*
65	A		0346A0JLAB	1	15	173	692	2700	*
66	A		0346A0JLAB	1	15	152	608	2373	*
67	A		0346A0JLAB	1	15	136	544	2123	*
68	A		0346A0JLAB	1	15	177	708	2763	*
69	A		0346A0JLAB	1	15	160	640	2498	*
70	A		0346A0JLAB	1	15	168	672	2622	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/16/95 Survey Start Time: 14:51  
 Date/Time Report Printed: 8/25/95 09:32:35

Station: 1  
 File: 487  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	M
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Number of Measurements at this Survey Location: 12

1	16	A	0346A0CB03	2	15	142	568	2217	*
2	17	A	0346A0CB03	2	15	161	644	2513	*
3	18	A	0346A0CB03	2	15	186	744	2903	*
4	19	A	0346A0CB03	2	15	162	648	2529	*
5	20	A	0346A0CB03	2	15	173	692	2700	*
6	21	A	0346A0CB03	2	15	161	644	2513	*
7	22	A	0346A0CB03	2	15	169	676	2638	*
8	23	A	0346A0CB03	2	15	164	656	2560	*
9	24	A	0346A0CB03	2	15	159	636	2482	*
10	25	A	0346A0CB03	2	15	156	624	2435	*
11	26	A	0346A0CB03	2	15	182	728	2841	*
12	27	A	0346A0CB03	2	15	168	672	2622	*
13	28	A	0346A0CB03	2	15	151	604	2357	*
14	29	A	0346A0CB03	2	15	177	708	2763	*
15	30	A	0346A0CB03	2	15	168	672	2622	*
16	31	A	0346A0CB03	2	15	198	792	3091	*
17	32	A	0346A0CB03	2	15	185	740	2888	*
18	33	A	0346A0CB03	2	15	154	616	2404	*
19	34	A	0346A0CB03	2	15	182	728	2841	*
20	35	A	0346A0CB03	2	15	182	728	2841	*
21	36	A	0346A0CB03	2	15	154	616	2404	*
22	37	A	0346A0CB03	2	15	190	760	2966	*
23	38	A	0346A0CB03	2	15	204	816	3184	*
24	39	A	0346A0CB03	2	15	174	696	2716	*
25	40	A	0346A0CB03	2	15	168	672	2622	*
26	41	A	0346A0CB03	2	15	224	896	3497	*
27	42	A	0346A0CB03	2	15	169	676	2638	*
28	43	A	0346A0CB03	2	15	197	788	3075	*
29	44	A	0346A0CB03	2	15	163	652	2544	*
30	45	A	0346A0CB03	2	15	195	780	3044	*
82	46	A	0346A0CB03	2	15	376	1504	5869	*
83	47	A	0346A0CB03	2	15	279	1116	4355	*
84	48	A	0346A0CB03	2	15	358	1432	5588	*
85	49	A	0346A0CB03	2	15	362	1448	5651	*
86	50	A	0346A0CB03	2	15	236	944	3684	*
87	51	A	0346A0CB03	2	15	273	1092	4261	*
88	52	A	0346A0CB03	2	15	450	1800	7024	*
89	53	A	0346A0CB03	2	15	233	932	3637	*
90	54	A	0346A0CB03	2	15	313	1252	4886	*

COPY

Additional Points found during  
 SCAN around Point 26  
 KWW

Additional Points found during  
 SCAN around point 28  
 KWW

Survey Date: 8/16/95 Survey Start Time: 10:47  
Date/Time Report Printed: 8/25/95 09:32:35

Station: 1  
File: 487  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 39

30	71	A	0346A0JB02	2	15	173	692	2700	*
----	----	---	------------	---	----	-----	-----	------	---

Number of Measurements at this Survey Location: 1

Total Number of Measurements on this Report: 76

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

*This is the tenth survey location  
which is missing in file # 480  
rew 8-30-95*

**COPY**



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
487	8/25/95 0915	Sample Points 46-54 = 82-90	RW	JW Egert	<sup>FUE 8/25/95</sup> Changed Added Loc. Num. 82-90 for samples 46-54.	JW Egert	8/25/95 09:30

Attach this sheet to the front of the Survey Download Report requiring changes.

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 487, Visitors Center, Carpet Over Concrete Floor, Equipment Storage Building 1001,  
 Point #30

Reason: Initial Survey User: RCW1152/98635  
 M2350 S/N: 98635 Det. SN: PR095526 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .205

Survey Performed By: Rgn CW David

Date: 8-17-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 487  
 Page: 1  
 Survey Date: 8/16/95 Survey Start Time: 07:36  
 Date/Time Report Printed: 8/16/95 17:07:35

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i	
-----										
1	A		SC1TC882	0	60	1556	1556	6072	*	
56	A		SC1TC882	0	60	1623	1623	6334	*	
73	A		SC1TC882	0	60	1644	1644	6416	*	
-----										
Number of Measurements at this Survey Location:						3				
-----										
2	A		SC2TC882	0	60	1596	1596	6228	*	
57	A		SC2TC882	0	60	1573	1573	6139	*	
74	A		SC2TC882	0	60	1683	1683	6568	*	
-----										
Number of Measurements at this Survey Location:						3				
-----										
3	A		SC3TC882	0	60	1578	1578	6158	*	
58	A		SC3TC882	0	60	1628	1628	6353	*	
75	A		SC3TC882	0	60	1608	1608	6275	*	
-----										
Number of Measurements at this Survey Location:						3				
-----										
55	A		SCBKGPST	0	60	512	512	1998	*	
72	A		SCBKGPST	0	60	614	614	2396	*	

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/16/95 Survey Start Time: 15:04  
 Date/Time Report Printed: 8/16/95 17:07:35

Station: 1  
 File: 487  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 2

0	A		SCBKGP	0	600	4740	474	1850	*
---	---	--	--------	---	-----	------	-----	------	---

Number of Measurements at this Survey Location: 1

4	A		0346A0CLAB	1	15	135	540	2107	*
5	A		0346A0CLAB	1	15	149	596	2326	*
6	A		0346A0CLAB	1	15	177	708	2763	*
7	A		0346A0CLAB	1	15	138	552	2154	*
8	A		0346A0CLAB	1	15	150	600	2341	*
9	A		0346A0CLAB	1	15	138	552	2154	*
10	A		0346A0CLAB	1	15	136	544	2123	*
11	A		0346A0CLAB	1	15	156	624	2435	*
12	A		0346A0CLAB	1	15	135	540	2107	*
13	A		0346A0CLAB	1	15	141	564	2201	*
14	A		0346A0CLAB	1	15	158	632	2466	*
15	A		0346A0CLAB	1	15	178	712	2779	*

Number of Measurements at this Survey Location: 12

59	A		0346A0JLAB	1	15	153	612	2388	*
60	A		0346A0JLAB	1	15	197	788	3075	*
61	A		0346A0JLAB	1	15	189	756	2950	*
62	A		0346A0JLAB	1	15	162	648	2529	*
63	A		0346A0JLAB	1	15	153	612	2388	*
64	A		0346A0JLAB	1	15	154	616	2404	*
65	A		0346A0JLAB	1	15	173	692	2700	*
66	A		0346A0JLAB	1	15	152	608	2373	*
67	A		0346A0JLAB	1	15	136	544	2123	*
68	A		0346A0JLAB	1	15	177	708	2763	*
69	A		0346A0JLAB	1	15	160	640	2498	*
70	A		0346A0JLAB	1	15	168	672	2622	*

**COPY  
 SUPERSEDED**

Survey Date: 8/16/95 Survey Start Time: 14:51  
 Date/Time Report Printed: 8/16/95 17:07:35

Station: 1  
 File: 487  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 12

1	16	A	0346A0CB03	2	15	142	568	2217	*
2	17	A	0346A0CB03	2	15	161	644	2513	*
3	18	A	0346A0CB03	2	15	186	744	2903	*
4	19	A	0346A0CB03	2	15	162	648	2529	*
5	20	A	0346A0CB03	2	15	173	692	2700	*
6	21	A	0346A0CB03	2	15	161	644	2513	*
7	22	A	0346A0CB03	2	15	169	676	2638	*
8	23	A	0346A0CB03	2	15	164	656	2560	*
9	24	A	0346A0CB03	2	15	159	636	2482	*
10	25	A	0346A0CB03	2	15	156	624	2435	*
11	26	A	0346A0CB03	2	15	182	728	2841	*
12	27	A	0346A0CB03	2	15	168	672	2622	*
13	28	A	0346A0CB03	2	15	151	604	2357	*
14	29	A	0346A0CB03	2	15	177	708	2763	*
15	30	A	0346A0CB03	2	15	168	672	2622	*
16	31	A	0346A0CB03	2	15	198	792	3091	*
17	32	A	0346A0CB03	2	15	185	740	2888	*
18	33	A	0346A0CB03	2	15	154	616	2404	*
19	34	A	0346A0CB03	2	15	182	728	2841	*
20	35	A	0346A0CB03	2	15	182	728	2841	*
21	36	A	0346A0CB03	2	15	154	616	2404	*
22	37	A	0346A0CB03	3	15	190	760	2966	*
23	38	A	0346A0CB03	2	15	204	816	3184	*
24	39	A	0346A0CB03	2	15	174	696	2716	*
25	40	A	0346A0CB03	2	15	168	672	2622	*
26	41	A	0346A0CB03	2	15	224	896	3497	*
27	42	A	0346A0CB03	2	15	169	676	2638	*
28	43	A	0346A0CB03	2	15	197	788	3075	*
29	44	A	0346A0CB03	2	15	163	652	2544	*
30	45	A	0346A0CB03	2	15	195	780	3044	*
46	A		0346A0CB03	2	15	376	1504	5869	*
47	A		0346A0CB03	2	15	279	1116	4355	*
48	A		0346A0CB03	2	15	358	1432	5588	*
49	A		0346A0CB03	2	15	362	1448	5651	*
50	A		0346A0CB03	2	15	236	944	3684	*
51	A		0346A0CB03	2	15	273	1092	4261	*
52	A		0346A0CB03	2	15	450	1800	7024	*
53	A		0346A0CB03	3	15	233	932	3637	*
54	A		0346A0CB03	2	15	313	1252	4886	*

**COPY**

Taken near Survey Point 26

Taken near Survey Point 28  
 run 8/17/95

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 8/16/95 Survey Start Time: 10:47  
Date/Time Report Printed: 8/16/95 17:07:35

Station: 1  
File: 487  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
--------	--------	-------------	-----------------	--------	------------	--------------	-----------------------	--------------------------	---

Number of Measurements at this Survey Location: 39

30	71	A	0346A0JB02	2	15	173	692	2700	*
----	----	---	------------	---	----	-----	-----	------	---

Number of Measurements at this Survey Location: 1

Total Number of Measurements on this Report: 76

End of Report

01559:C:\PDOX35\M2350\TLOGREUV:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

**COPY**  
**SUPERSEDED**



ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/16/95  
 Download Station #: 1 Download File #: 483 Time: 09:05  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: DECLAN DETRICK Signature: [Signature] Date: 8-16-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95340

Survey Location description: Visitor Center Bldg # 107 Walls and Floors  
 (Example: Rx Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	<u>PR 091053</u>	44-2	<u>1.077722 E+10</u>	<u>N/A</u>	<u>483</u>	<u>483</u>

Local Area Background Measurements

										MEAN BKG CPM
<u>N/A</u>										<u>N/A</u>

COMMENTS: No Background Value Applied Unaffected Area

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 483, Visitors Center, Building 107  
 Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. S/N: PR091053 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 Background: 0.0 uR/hr Gamma Calibration Constant: 10777220000

Survey Performed By: Debra J. Stark Date: 8-25-95  
 Survey Reviewed By: M. Smith Date: 9-5-95

Survey Date: 8/16/95 Survey Start Time: 07:34 Station: 1  
 Date/Time Report Printed: 8/25/95 9:41 am File: 483  
 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	1	A	RC1CS857	6	60	782762	4357.87	*
	40	A	RC1CS857	6	60	788019	4387.14	*

-----  
 Maximum  
 Average uR/hr: 4372.50 4387.14

Number of Measurements at this Survey Location: 2  
 -----

	2	A	RC2CS857	6	60	23093	128.57	*
	41	A	RC2CS857	6	60	22597	125.80	*

-----  
 Maximum  
 Average uR/hr: 127.18 128.57

Number of Measurements at this Survey Location: 2  
 -----

	3	A	RC3CS857	6	60	6482	36.09	*
	42	A	RC3CS857	6	60	6729	37.46	*

-----  
 Maximum  
 Average uR/hr: 36.77 37.46

Number of Measurements at this Survey Location: 2  
 -----

COPY

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/16/95 Survey Start Time: 07:47  
Date/Time Report Printed: 8/25/95 9:41 am

Station: 1  
File: 483  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Count Gross Counts	Micro R/hr	H i
	4	A	RC4CS857	6	60	4348	24.21	*
	43	A	RC4CS857	6	60	4274	23.79	*

-----  
Maximum  
Average uR/hr: 24.00 24.21

Number of Measurements at this Survey Location: 2  
-----

	39	A	RCBKGPOST	6	60	3515	19.57	*
--	----	---	-----------	---	----	------	-------	---

-----  
Maximum  
Average uR/hr: 19.57 19.57

Number of Measurements at this Survey Location: 1  
-----

	0	A	RCBKGPRE	6	300	16732	18.63	*
--	---	---	----------	---	-----	-------	-------	---

-----  
Maximum  
Average uR/hr: 18.63 18.63

Number of Measurements at this Survey Location: 1  
-----

	73	30	A	0346A0BB03	8	15	969	21.58	*
	74	31	A	0346A0BB03	8	15	987	21.98	*
	75	32	A	0346A0BB03	8	15	975	21.71	*
	76	33	A	0346A0BB03	8	15	946	21.07	*

-----  
Maximum  
Average uR/hr: 21.58 21.98

Number of Measurements at this Survey Location: 4  
-----

	77	34	A	0346A0JB03	8	15	978	21.78	*
	78	35	A	0346A0JB03	8	15	906	20.18	*
	79	36	A	0346A0JB03	8	15	952	21.20	*

COPY

Survey Date: 8/16/95 Survey Start Time: 08:25  
Date/Time Report Printed: 8/25/95 9:41 am

Station: 1  
File: 483  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
Average uR/hr: 21.05      Maximum 21.78

Number of Measurements at this Survey Location: 3

80	37	A	0346A0LB03	8	15	741	16.50	*
81	38	A	0346A0LB03	8	15	859	19.13	*

-----  
Average uR/hr: 17.82      Maximum 19.13

Number of Measurements at this Survey Location: 2

63	20	A	0346A0MB03	8	15	1070	23.83	*
64	21	A	0346A0MB03	8	15	952	21.20	*
65	22	A	0346A0MB03	8	15	977	21.76	*
66	23	A	0346A0MB03	8	15	983	21.89	*
67	24	A	0346A0MB03	8	15	1055	23.49	*
68	25	A	0346A0MB03	8	15	1030	22.94	*
69	26	A	0346A0MB03	8	15	1045	23.27	*
70	27	A	0346A0MB03	8	15	1074	23.92	*
71	28	A	0346A0MB03	8	15	900	20.04	*
72	29	A	0346A0MB03	8	15	957	21.31	*

-----  
Average uR/hr: 22.36      Maximum 23.92

Number of Measurements at this Survey Location: 10

48	5	A	0346A0TB03	8	15	1198	26.68	*
49	6	A	0346A0TB03	8	15	1187	26.43	*
50	7	A	0346A0TB03	8	15	1144	25.48	*
51	8	A	0346A0TB03	8	15	1350	30.06	*
52	9	A	0346A0TB03	8	15	1060	23.61	*
53	10	A	0346A0TB03	8	15	1238	27.57	*
54	11	A	0346A0TB03	8	15	1145	25.50	*
55	12	A	0346A0TB03	8	15	1145	25.50	*
56	13	A	0346A0TB03	8	15	1315	29.28	*
57	14	A	0346A0TB03	8	15	1277	28.44	*
58	15	A	0346A0TB03	8	15	1242	27.66	*
59	16	A	0346A0TB03	8	15	1208	26.90	*
60	17	A	0346A0TB03	8	15	1293	28.79	*

\* Hi flag set at 5 micro-R/hr above background.

COPY

Survey Date: 8/16/95 Survey Start Time: 08:06  
Date/Time Report Printed: 8/25/95 9:41 am

Station: 1  
File: 483  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Count		H i
						Gross Counts	Micro R/hr	
61	18	A	0346A0TB03	8	15	1274	28.37	*
62	19	A	0346A0TB03	8	15	1257	27.99	*

-----  
Average uR/hr: 27.22      Maximum 30.06

Number of Measurements at this Survey Location: 15  
-----

-----  
Total Number of Measurements on this Report: 44

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

8-08-95 GWR

\* Hi flag set at 5 micro-R/hr above background.

**COPY**



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
483	8/25/95 09:40	Add background value of 0 to Survfiles.	<i>JW Egert</i>	<i>JW Egert</i>	Added 0 background.	<i>JW Egert</i>	8/25/95 09:40

Attach this sheet to the front of the Survey Download Report requiring changes.

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 483, Visitors Center, Building 107  
 Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. S/N: PR091053 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 Background: uR/hr Gamma Calibration Constant: 10777220000

Survey Performed By: Debra Dittik Date: 8-17-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 8/16/95 Survey Start Time: 07:34 Station: 1  
 Date/Time Report Printed: 8/16/95 3:20 pm File: 483  
 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
1	A	RC1CS857	RC1CS857	6	60	782762		
40	A	RC1CS857	RC1CS857	6	60	788019		

----- Maximum  
 Average uR/hr: -5E+85 -5E+85

Number of Measurements at this Survey Location: 2

2	A	RC2CS857	RC2CS857	6	60	23093		
41	A	RC2CS857	RC2CS857	6	60	22597		

----- Maximum  
 Average uR/hr: .00 .00

Number of Measurements at this Survey Location: 2

3	A	RC3CS857	RC3CS857	6	60	6482		
42	A	RC3CS857	RC3CS857	6	60	6729		

----- Maximum  
 Average uR/hr: .00 .00

Number of Measurements at this Survey Location: 2

\* Hi flag set at 5 micro-R/hr above background.

**COPY  
 SUPERSEDED**

Survey Date: 8/16/95 Survey Start Time: 07:47  
Date/Time Report Printed: 8/16/95 3:20 pm

Station: 1  
File: 483  
Page: 2

Comments

Loc No	Smpl No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	4	A	RC4CB857	6	60	4348		
	43	A	RC4CB857	6	60	4274		

-----  
Maximum  
Average uR/hr: -5E+85 -5E+85

Number of Measurements at this Survey Location: 2  
-----

19	A		RCBKGPOST	6	60	3515		
----	---	--	-----------	---	----	------	--	--

-----  
Maximum  
Average uR/hr: .00 .00

Number of Measurements at this Survey Location: 1  
-----

0	A		RCBKGPRE	6	300	16732		
---	---	--	----------	---	-----	-------	--	--

-----  
Maximum  
Average uR/hr: .00 .00

Number of Measurements at this Survey Location: 1  
-----

73	30	A	0346A0BB03	8	15	969		
74	31	A	0346A0BB03	8	15	987		
75	32	A	0346A0BB03	8	15	975		
76	33	A	0346A0BB03	8	15	946		

-----  
Maximum  
Average uR/hr: .00 .00

Number of Measurements at this Survey Location: 4  
-----

77	34	A	0346A0JB03	8	15	978		
78	35	A	0346A0JB03	8	15	906		
79	36	A	0346A0JB03	8	15	952		

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\* Hi flag set at 5 micro-R/hr above background.



Survey Date: 8/16/95 Survey Start Time: 08:06  
Date/Time Report Printed: 8/16/95 1:20 pm

Station: 1  
File: 483  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
61	18	A	0346A0TB03	8	15	1274		
62	19	A	0346A0TB03	8	15	1257		

----- Maximum  
Average uR/hr: -5E+85 -5E+85

Number of Measurements at this Survey Location: 15  
-----

-----  
Total Number of Measurements on this Report: 44

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

8-08-95 GWE

\* Hi flag set at 5 micro-R/hr above background.

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**ATTACHMENT 6.2**  
**CORRECTIONS REQUIRED COVER SHEET**

COPY

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
483	8-16-95 0930	Sample # 5-13 change to detector # 8 from detector # 6	D. DETRICK	JW Egert	Changed det. setup # from 6 to 8 on samples 5-13.	JW Egert	8/16/95 15:20

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 483, Visitors Center, Building 107  
 Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. S/N: PR091053 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 Background: uR/hr Gamma Calibration Constant: 10777220000

Survey Performed By: D. D. D. D. Date: 8-16-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 File: 483  
 Page: 1  
 Survey Date: 8/16/95 Survey Start Time: 08:00  
 Date/Time Report Printed: 8/16/95 9:25 am

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Micro R/hr	H i
48	5	A	0346A0TB03	6	15	1198		
49	6	A	0346A0TB03	6	15	1187		
50	7	A	0346A0TB03	6	15	1144		
51	8	A	0346A0TB03	6	15	1350		
52	9	A	0346A0TB03	6	15	1060		
53	10	A	0346A0TB03	6	15	1238		
54	11	A	0346A0TB03	6	15	1145		
55	12	A	0346A0TB03	6	15	1145		
56	13	A	0346A0TB03	6	15	1315		

D.D. 8-16-95

-----  
 Maximum  
 Average uR/hr: -5E+85 -5E+85

Number of Measurements at this Survey Location: 9

1	A	RC1CS857	6	60	782762
40	A	RC1CS857	6	60	788019

-----  
 Maximum  
 Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 2

2	A	RC2CS857	6	60	23093
41	A	RC2CS857	6	60	22597

\* Hi flag set at 5 micro-R/hr above background.

**COPY  
 SUPERSEDED**

Survey Date: 8/16/95 Survey Start Time: 08:41  
Date/Time Report Printed: 8/16/95 9:25 am

Station: 1  
File: 483  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

----- Maximum  
Average uR/hr: -5E+85 -5E+85

Number of Measurements at this Survey Location: 2  
-----

3	A		RC3CS857	6	60	6482		
42	A		RC3CS857	6	60	6729		

----- Maximum  
Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 2  
-----

4	A		RC4CS857	6	60	4348		
43	A		RC4CS857	6	60	4274		

----- Maximum  
Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 2  
-----

39	A		RCBKGPOST	6	60	3515		
----	---	--	-----------	---	----	------	--	--

----- Maximum  
Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 1  
-----

0	A		RCBKGPRE	6	300	16732		
---	---	--	----------	---	-----	-------	--	--

----- Maximum  
Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 1  
-----

73	30	A	0346A0BB03	8	15	969		
74	31	A	0346A0BB03	8	15	987		
75	32	A	0346A0BB03	8	15	975		
76	33	A	0346A0BB03	0	15	946		

\* Hi flag set at 5 micro-R/hr above background.

COPY  
SUPERSEDED

Survey Date: 8/16/95 Survey Start Time: 08:20  
Date/Time Report Printed: 8/16/95 9:25 am

Station: 1  
File: 483  
Page: 3

Comments

-----  
Loc Smp NG Survey Det Time Gross Micro H  
No No Loc Code Loc Code No (sec) Counts R/hr i  
-----

----- Maximum  
Average uR/hr: -5E+85 -5E+85

Number of Measurements at this Survey Location: 4  
-----

77 34 A 0346A0JB03 8 15 978  
78 35 A 0346A0JB03 8 15 906  
79 36 A 0346A0JB03 8 15 952

----- Maximum  
Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 3  
-----

80 37 A 0346A0LB03 8 15 741  
81 38 A 0346A0LB03 8 15 859

----- Maximum  
Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 2  
-----

63 20 A 0346A0MB03 8 15 1070  
64 21 A 0346A0MB03 8 15 952  
65 22 A 0346A0MB03 8 15 977  
66 23 A 0346A0MB03 8 15 983  
67 24 A 0346A0MB03 8 15 1055  
68 25 A 0346A0MB03 8 15 1030  
69 26 A 0346A0MB03 8 15 1045  
70 27 A 0346A0MB03 8 15 1074  
71 28 A 0346A0MB03 8 15 900  
72 29 A 0346A0MB03 8 15 957

----- Maximum  
Average uR/hr: -5E+267 -5E+267

Number of Measurements at this Survey Location: 10  
-----

57 14 A 0346A0TB03 8 15 1277  
58 15 A 0346A0TB03 8 15 1242  
59 16 A 0346A0TB03 8 15 1208

\* Hi flag set at 5 micro-R/hr above background.

**COPY**  
**SUPERSEDED**

Station: 1

Comments

Survey Date: 8/16/95 Survey Start Time: 08:06

File: 483

Date/Time Report Printed: 8/16/95 9:25 am

Page: 4

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Count	
							Micro R/hr	H i
60	17	A	0346A0TB03	8	15	1293		
61	18	A	0346A0TB03	8	15	1274		
62	19	A	0346A0TB03	8	15	1257		

----- Maximum  
Average uR/hr: -5E+05 -5E+05

Number of Measurements at this Survey Location: 6  
-----

-----  
Total Number of Measurements on this Report: 44

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

8-08-95 GWE

\* Hi flag set at 5 micro-R/hr above background.

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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: Glenn Egert Date: 8/15/95  
 Download Station #: 1 Download File #: 481 Time: 16:20  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

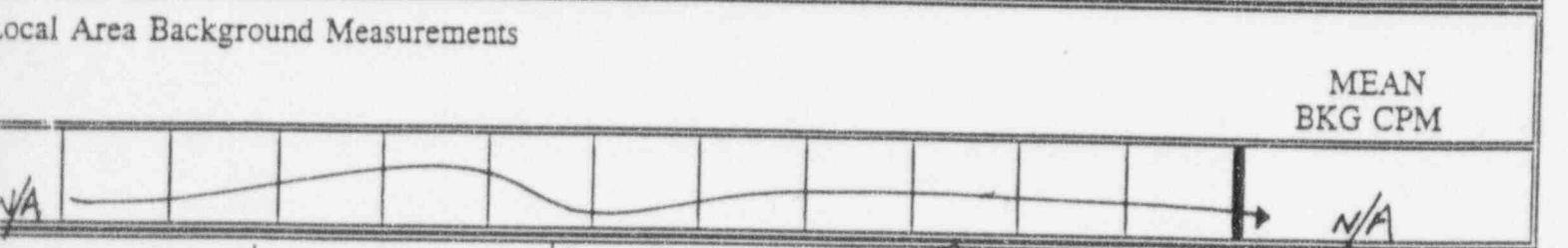
Surveyor(s): Print Name: DECLAN DETRICK Signature: Declan Detrick Date: 8-15-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95356

Survey Location description: Decommissioning Project Offices, Bldg #1019, 110, 1001, 1002, Visitor Center  
(Example: R1 Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$	<del>PRO 92500</del>	43-68B	<del>1.066118E+10</del>	<del>N/A</del>		
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	PRO 92506	44-2	1.066118E+10	N/A	481	481



COMMENTS: No Background Value Applied, Unaffected Area.

**6011**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 481, Decommissioning Project Offices Building 1019, Garden Equipment Storage  
 Building 110, Equipment Storage Buildings 1001 and 1002, Visitors Center  
 Reason: Initial Survey User: BTD9816/95356  
 M2350 S/N: 95356 Det. S/N: PR092506 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 Background: 0.0 uR/hr Gamma Calibration Constant: 10661180000

Survey Performed By: *D. D. [Signature]* Date: 8-17-95  
 Survey Reviewed By: *M. Emils* Date: 9-5-95

Station: 1  
 File: 481  
 Page: 1  
 Survey Date: 8/15/95 Survey Start Time: 12:22  
 Date/Time Report Printed: 8/16/95 3:09 pm

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	1	A	RC1CS857	6	60	781463	4397.99	*
	167	A	RC1CS857	6	60	782658	4404.72	*

----- Maximum  
 Average uR/hr: 4401.36 4404.72

Number of Measurements at this Survey Location: 2

	2	A	RC2CS857	6	60	22532	126.81	*
	168	A	RC2CS857	6	60	22388	126.00	*

----- Maximum  
 Average uR/hr: 126.40 126.81

Number of Measurements at this Survey Location: 2

	3	A	RC3CS857	6	60	6359	35.79	*
	169	A	RC3CS857	6	60	6194	34.86	*

----- Maximum  
 Average uR/hr: 35.32 35.79

Number of Measurements at this Survey Location: 2

**COPY**

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/15/95 Survey Start Time: 12:30  
 Date/Time Report Printed: 8/16/95 3:09 pm

Station: 1  
 File: 481  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Micro R/hr	H i
	4	A	RC4CS857	6	60	4006	22.55	*
	170	A	RC4CS857	6	60	4035	22.71	*

-----  
 Maximum  
 Average uR/hr: 22.63 22.71

Number of Measurements at this Survey Location: 2

166	A		RCBKGPOST	6	300	15571	17.53	*
-----	---	--	-----------	---	-----	-------	-------	---

-----  
 Maximum  
 Average uR/hr: 17.53 17.53

Number of Measurements at this Survey Location: 1

0	A		RCBKGPRE	6	300	15532	17.48	*
---	---	--	----------	---	-----	-------	-------	---

-----  
 Maximum  
 Average uR/hr: 17.48 17.48

Number of Measurements at this Survey Location: 1

1	73	A	0346A0AB02	8	15	916	20.62	*
2	74	A	0346A0AB02	8	15	888	19.99	*
3	75	A	0346A0AB02	8	15	950	21.39	*
4	76	A	0346A0AB02	8	15	849	19.11	*
5	77	A	0346A0AB02	8	15	785	17.67	*
6	78	A	0346A0AB02	8	15	974	21.93	*
7	79	A	0346A0AB02	8	15	794	17.87	*
8	80	A	0346A0AB02	8	15	883	19.88	*
9	81	A	0346A0AB02	8	15	955	21.50	*
10	82	A	0346A0AB02	8	15	905	20.37	*

-----  
 Maximum  
 Average uR/hr: 20.03 21.93

Number of Measurements at this Survey Location: 10

31	149	A	0346A0AB03	8	15	988	22.24	*
32	150	A	0346A0AB03	8	15	655	14.75	*
33	151	A	0346A0AB03	8	15	852	19.18	*

\* Hi flag set at 5 micro-R/hr above background.

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Survey Date: 8/15/95 Survey Start Time: 15:18  
 Date/Time Report Printed: 8/16/95 3:09 pm

Station: 1  
 File: 481  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Count		Gross Counts	Micro R/hr	H i
				Net No	Time (sec)			
34	152	A	0346A0AB03	8	15	724	16.30	*
35	153	A	0346A0AB03	8	15	755	17.00	*
36	154	A	0346A0AB03	8	15	867	19.52	*

-----  
 Average uR/hr: 18.16      Maximum 22.24

Number of Measurements at this Survey Location: 6

1	5	A	0346A0CB01	8	15	709	15.96	*
2	6	A	0346A0CB01	8	15	614	13.82	*
3	7	A	0346A0CB01	8	15	632	14.23	*
4	8	A	0346A0CB01	8	15	613	13.80	*
5	9	A	0346A0CB01	8	15	647	14.56	*
6	10	A	0346A0CB01	8	15	660	14.86	*
7	11	A	0346A0CB01	8	15	623	14.02	*
8	12	A	0346A0CB01	8	15	619	13.93	*
9	13	A	0346A0CB01	8	15	656	14.77	*
10	14	A	0346A0CB01	8	15	821	18.48	*
11	15	A	0346A0CB01	8	15	700	15.76	*
12	16	A	0346A0CB01	8	15	739	16.64	*
13	17	A	0346A0CB01	8	15	789	17.76	*
14	18	A	0346A0CB01	8	15	730	16.43	*
15	19	A	0346A0CB01	8	15	695	15.65	*
16	20	A	0346A0CB01	8	15	643	14.47	*
17	21	A	0346A0CB01	8	15	702	15.80	*
18	22	A	0346A0CB01	8	15	634	14.27	*
19	23	A	0346A0CB01	8	15	639	14.38	*
20	24	A	0346A0CB01	8	15	630	14.18	*
21	25	A	0346A0CB01	8	15	595	13.39	*
22	26	A	0346A0CB01	8	15	703	15.83	*
23	27	A	0346A0CB01	8	15	681	15.33	*
24	28	A	0346A0CB01	8	15	650	14.63	*
25	29	A	0346A0CB01	8	15	599	13.48	*
26	30	A	0346A0CB01	8	15	497	11.19	*
27	31	A	0346A0CB01	8	15	621	13.98	*
28	32	A	0346A0CB01	8	15	663	14.93	*
29	33	A	0346A0CB01	8	15	597	13.44	*
30	34	A	0346A0CB01	8	15	671	15.11	*

\* Hi flag set at 5 micro-R/hr above background.

COPY

Survey Date: 8/15/95 Survey Start Time: 13:00  
 Date/Time Report Printed: 8/16/95 3:09 pm

Station: 1  
 File: 481  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
 Average uR/hr: 14.84      Maximum 18.48

Number of Measurements at this Survey Location: 30

1	119	A	0346A0CB03	8	15	1054	23.73	*
2	120	A	0346A0CB03	8	15	1064	23.95	*
3	121	A	0346A0CB03	8	15	1153	25.96	*
4	122	A	0346A0CB03	8	15	1117	25.15	*
5	123	A	0346A0CB03	8	15	1096	24.67	*
6	124	A	0346A0CB03	8	15	1126	25.35	*
7	125	A	0346A0CB03	8	15	1085	24.43	*
8	126	A	0346A0CB03	8	15	1202	27.06	*
9	127	A	0346A0CB03	8	15	1046	23.55	*
10	128	A	0346A0CB03	8	15	1079	24.29	*
11	129	A	0346A0CB03	8	15	1317	29.65	*
12	130	A	0346A0CB03	8	15	1412	31.79	*
13	131	A	0346A0CB03	8	15	1215	27.35	*
14	132	A	0346A0CB03	8	15	1139	25.64	*
15	133	A	0346A0CB03	8	15	1125	25.33	*
16	134	A	0346A0CB03	8	15	1212	27.28	*
17	135	A	0346A0CB03	8	15	1264	28.45	*
18	136	A	0346A0CB03	8	15	1070	24.09	*
19	137	A	0346A0CB03	8	15	1068	24.04	*
20	138	A	0346A0CB03	8	15	1115	25.10	*
21	139	A	0346A0CB03	8	15	1119	25.19	*
22	140	A	0346A0CB03	8	15	1281	28.84	*
23	141	A	0346A0CB03	8	15	1204	27.10	*
24	142	A	0346A0CB03	8	15	1370	30.84	*
25	143	A	0346A0CB03	8	15	1117	25.15	*
26	144	A	0346A0CB03	8	15	1203	27.08	*
27	145	A	0346A0CB03	8	15	1123	25.28	*
28	146	A	0346A0CB03	8	15	1170	26.34	*
29	147	A	0346A0CB03	8	15	1238	27.87	*
30	148	A	0346A0CB03	8	15	1299	29.24	*

-----  
 Average uR/hr: 26.33      Maximum 31.79

Number of Measurements at this Survey Location: 30

31	35	A	0346A0DB01	8	15	675	15.20	*
32	36	A	0346A0DB01	8	15	719	16.19	*

\* Hi flag set at 5 micro-R/hr above background.

COPY



Survey Date: 8/15/95 Survey Start Time: 13:04  
 Date/Time Report Printed: 8/16/95 3:09 pm

Station: 1  
 File: 481  
 Page: 5

Comments

Loc No	Snp No	NG Loc Code	Survey Loc Code	Det No	Count		Micro R/hr	H i
					Time (sec)	Gross Counts		
33	37	A	0346A0DB01	8	15	638	14.36	*
34	38	A	0346A0DB01	8	15	598	13.46	*
35	39	A	0346A0DB01	8	15	682	15.35	*
36	40	A	0346A0DB01	8	15	589	13.26	*
37	41	A	0346A0DB01	8	15	617	13.89	*
38	42	A	0346A0DB01	8	15	649	14.61	*
39	43	A	0346A0DB01	8	15	634	14.27	*
40	44	A	0346A0DB01	8	15	742	16.70	*
41	45	A	0346A0DB01	8	15	667	15.02	*
42	46	A	0346A0DB01	8	15	669	15.06	*
43	47	A	0346A0DB01	8	15	662	14.90	*
44	48	A	0346A0DB01	8	15	642	14.45	*
45	49	A	0346A0DB01	8	15	668	15.04	*
46	50	A	0346A0DB01	8	15	700	15.76	*
47	51	A	0346A0DB01	8	15	568	12.79	*
48	52	A	0346A0DB01	8	15	549	12.36	*
49	53	A	0346A0DB01	8	15	614	13.82	*
50	54	A	0346A0DB01	8	15	595	13.39	*
51	55	A	0346A0DB01	8	15	601	13.53	*
52	56	A	0346A0DB01	8	15	584	13.15	*
53	57	A	0346A0DB01	8	15	622	14.00	*
54	58	A	0346A0DB01	8	15	549	12.36	*
55	59	A	0346A0DB01	8	15	538	12.11	*
56	60	A	0346A0DB01	8	15	623	14.02	*
57	61	A	0346A0DB01	8	15	575	12.94	*
58	62	A	0346A0DB01	8	15	647	14.56	*
59	63	A	0346A0DB01	8	15	610	13.73	*
60	64	A	0346A0DB01	8	15	694	15.62	*
61	65	A	0346A0DB01	8	15	643	14.47	*
62	66	A	0346A0DB01	8	15	600	13.51	*
63	67	A	0346A0DB01	8	15	592	13.33	*
64	68	A	0346A0DB01	8	15	561	12.63	*
65	69	A	0346A0DB01	8	15	548	12.34	*
66	70	A	0346A0DB01	8	15	588	13.24	*
67	71	A	0346A0DB01	8	15	667	15.02	*
68	72	A	0346A0DB01	8	15	626	14.09	*

----- Maximum  
 Average uR/hr: 14.07 16.70

Number of Measurements at this Survey Location: 38

31	103	A	0346A0DB02	8	15	676	15.22	*
32	104	A	0346A0DB02	8	15	727	16.37	*
33	105	A	0346A0DB02	8	15	682	15.35	*

\* Hi flag set at 5 micro-R/hr above background.

COPY

Survey Date: 8/15/95 Survey Start Time: 14:42  
 Date/Time Report Printed: 8/16/95 3:09 pm

Station: 1  
 File: 481  
 Page: 6

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
								i
34	106	A	0346A0DB02	8	15	743	16.73	*
35	107	A	0346A0DB02	8	15	758	17.06	*
36	108	A	0346A0DB02	8	15	697	15.69	*

-----  
 Average uR/hr: 16.07      Maximum 17.06

Number of Measurements at this Survey Location: 6

37	155	A	0346A0DB03	8	15	1044	23.50	*
38	156	A	0346A0DB03	8	15	1001	22.53	*
39	157	A	0346A0DB03	8	15	1067	24.02	*
40	158	A	0346A0DB03	8	15	1207	27.17	*
41	159	A	0346A0DB03	8	15	1014	22.83	*
42	160	A	0346A0DB03	8	15	967	21.77	*
43	161	A	0346A0DB03	8	15	1068	24.04	*
44	162	A	0346A0DB03	8	15	1097	24.70	*
45	163	A	0346A0DB03	8	15	1117	25.15	*
46	164	A	0346A0DB03	8	15	1072	24.13	*
47	165	A	0346A0DB03	8	15	1034	23.28	*

-----  
 Average uR/hr: 23.92      Maximum 27.17

Number of Measurements at this Survey Location: 11

21	93	A	0346A0JB02	8	15	882	19.86	*
22	94	A	0346A0JB02	8	15	850	19.13	*
23	95	A	0346A0JB02	8	15	797	17.94	*
24	96	A	0346A0JB02	8	15	830	18.68	*
25	97	A	0346A0JB02	8	15	937	21.09	*
26	98	A	0346A0JB02	8	15	811	18.26	*
27	99	A	0346A0JB02	8	15	906	20.40	*
28	100	A	0346A0JB02	8	15	883	19.88	*
29	101	A	0346A0JB02	8	15	849	19.11	*
30	102	A	0346A0JB02	8	15	848	19.09	*

-----  
 Average uR/hr: 19.34      Maximum 21.09

Number of Measurements at this Survey Location: 10

11	83	A	0346A0LB02	8	15	795	17.90	*
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COPY

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/15/95 Survey Start Time: 13:46  
 Date/Time Report Printed: 8/16/95 3:09 pm

Station: 1  
 File: 481  
 Page: 7

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	Count
								H i
12	84	A	0346A0LB02	8	15	780	17.56	*
13	85	A	0346A0LB02	8	15	806	18.14	*
14	86	A	0346A0LB02	8	15	864	19.45	*
15	87	A	0346A0LB02	8	15	880	19.81	*
16	88	A	0346A0LB02	8	15	850	19.13	*
17	89	A	0346A0LB02	8	15	768	17.29	*
18	90	A	0346A0LB02	8	15	792	17.83	*
19	91	A	0346A0LB02	8	15	738	16.61	*
20	92	A	0346A0LB02	8	15	796	17.92	*

----- Maximum  
 Average uR/hr: 18.16 19.81

Number of Measurements at this Survey Location: 10

37	109	A	0346A0MB02	8	15	757	17.04	*
38	110	A	0346A0MB02	8	15	742	16.70	*
39	111	A	0346A0MB02	8	15	705	15.87	*
40	112	A	0346A0MB02	8	15	759	17.09	*
41	113	A	0346A0MB02	8	15	781	17.58	*
42	114	A	0346A0MB02	8	15	680	15.31	*
43	115	A	0346A0MB02	8	15	776	17.47	*
44	116	A	0346A0MB02	8	15	717	16.14	*
45	117	A	0346A0MB02	8	15	739	16.64	*
46	118	A	0346A0MB02	8	15	725	16.32	*

----- Maximum  
 Average uR/hr: 16.62 17.58

Number of Measurements at this Survey Location: 10

-----  
 Total Number of Measurements on this Report: 171

End of Report

C:\PDOX35\M2150\TLOGREVU.R6 7-25-95 MRM  
 8-08-95 GWE

\* Hi flag set at 5 micro-R/hr above background.

**COPY**

**ATTACHMENT 6.2**  
**CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
481	8-16-95 0630	Change location codes for sample points 109 thru 118 to 0346A0MB02	D. DETRICK	<i>gws</i>	Changed Loc. Codes of samples 109-118 to 0346A0MB02.	<i>gws</i>	8/16/95 <del>16:10</del> 15:10 <sup>0630</sup> 8/16/95

Attach this sheet to the front of the Survey Download Report requiring changes.

COPY

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 481, Decommissioning Project Offices Building 1019, Garden Equipment Storage  
 Building 110, Equipment Storage Buildings 1001 and 1002, Visitors Center  
 Reason: Initial Survey User: BTD9816/95356  
 M2350 S/N: 95356 Det. S/N: PR092506 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 Background: 0.0 uR/hr Gamma Calibration Constant: 10661180000

Survey Performed By: Dolan Ditch

Date: 8-16-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 481  
 Page: 1  
 Survey Date: 8/15/95 Survey Start Time: 12:22  
 Date/Time Report Printed: 8/15/95 5:27 pm

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
1	A	RC1CS857	RC1CS857	6	60	781463	4397.99	*
167	A	RC1CS857	RC1CS857	6	60	782658	4404.72	*

----- Maximum  
 Average uR/hr: 4401.36 4404.72

Number of Measurements at this Survey Location: 2

2	A	RC2CS857	RC2CS857	6	60	22532	126.81	*
168	A	RC2CS857	RC2CS857	6	60	22388	126.00	*

----- Maximum  
 Average uR/hr: 126.40 126.81

Number of Measurements at this Survey Location: 2

3	A	RC3CS857	RC3CS857	6	60	6359	35.79	*
169	A	RC3CS857	RC3CS857	6	60	6194	34.86	*

----- Maximum  
 Average uR/hr: 35.32 35.79

Number of Measurements at this Survey Location: 2

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\* Hi flag set at 5 micro-R/hr above background.



Survey Date: 8/15/95 Survey Start Time: 12:30  
 Date/Time Report Printed: 8/15/95 5:27 pm

Station: 1  
 File: 481  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	M i
	4	A	RC4CS957	6	60	4006	22.55	*
	170	A	RC4CS957	6	60	4035	22.71	*

-----  
 Maximum  
 Average uR/hr: 22.63 22.71

Number of Measurements at this Survey Location: 2  
 -----

	166	A	RCBKGPOST	6	300	15571	17.53	*
--	-----	---	-----------	---	-----	-------	-------	---

-----  
 Maximum  
 Average uR/hr: 17.53 17.53

Number of Measurements at this Survey Location: 1  
 -----

	0	A	RCBKGPRE	6	300	15532	17.48	*
--	---	---	----------	---	-----	-------	-------	---

-----  
 Maximum  
 Average uR/hr: 17.48 17.48

Number of Measurements at this Survey Location: 1  
 -----

1	73	A	0346A0AB02	8	15	916	20.62	*
2	74	A	0346A0AB02	8	15	888	19.99	*
3	75	A	0346A0AB02	8	15	950	21.39	*
4	76	A	0346A0AB02	8	15	849	19.11	*
5	77	A	0346A0AB02	8	15	785	17.67	*
6	78	A	0346A0AB02	8	15	974	21.93	*
7	79	A	0346A0AB02	8	15	794	17.87	*
8	80	A	0346A0AB02	8	15	883	19.88	*
9	81	A	0346A0AB02	8	15	955	21.50	*
10	82	A	0346A0AB02	8	15	905	20.37	*

-----  
 Maximum  
 Average uR/hr: 20.03 21.93

Number of Measurements at this Survey Location: 10  
 -----

31	149	A	0346A0AB03	8	15	988	22.24	*
32	150	A	0346A0AB03	8	15	655	14.75	*
33	151	A	0346A0AB03	8	15	852	19.18	*

\* Hi flag set at 5 micro-R/hr above background.

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Survey Date: 8/15/95 Survey Start Time: 15:18  
 Date/Time Report Printed: 8/15/95 5:27 pm

Station: 1  
 File: 481  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Count		H i
						Gross Counts	Micro R/hr	
34	152	A	0346A0AB03	8	15	724	16.30	*
35	153	A	0346A0AB03	8	15	755	17.00	*
36	154	A	0346A0AB03	8	15	867	19.52	*

----- Maximum  
 Average uR/hr: 18.16 22.24

Number of Measurements at this Survey Location: 6

1	5	A	0346A0CB01	8	15	709	15.96	*
2	6	A	0346A0CB01	8	15	614	13.82	*
3	7	A	0346A0CB01	8	15	632	14.23	*
4	8	A	0346A0CB01	8	15	613	13.80	*
5	9	A	0346A0CB01	8	15	647	14.56	*
6	10	A	0346A0CB01	8	15	660	14.86	*
7	11	A	0346A0CB01	8	15	623	14.02	*
8	12	A	0346A0CB01	8	15	619	13.93	*
9	13	A	0346A0CB01	8	15	656	14.77	*
10	14	A	0346A0CB01	8	15	821	18.48	*
11	15	A	0346A0CB01	8	15	700	15.76	*
12	16	A	0346A0CB01	8	15	739	16.64	*
13	17	A	0346A0CB01	8	15	789	17.76	*
14	18	A	0346A0CB01	8	15	730	16.43	*
15	19	A	0346A0CB01	8	15	695	15.65	*
16	20	A	0346A0CB01	8	15	643	14.47	*
17	21	A	0346A0CB01	8	15	702	15.80	*
18	22	A	0346A0CB01	8	15	634	14.27	*
19	23	A	0346A0CB01	8	15	639	14.38	*
20	24	A	0346A0CB01	8	15	630	14.18	*
21	25	A	0346A0CB01	8	15	595	13.39	*
22	26	A	0346A0CB01	8	15	703	15.83	*
23	27	A	0346A0CB01	8	15	681	15.33	*
24	28	A	0346A0CB01	8	15	650	14.63	*
25	29	A	0346A0CB01	8	15	599	13.48	*
26	30	A	0346A0CB01	8	15	497	11.19	*
27	31	A	0346A0CB01	8	15	621	13.98	*
28	32	A	0346A0CB01	8	15	663	14.93	*
29	33	A	0346A0CB01	8	15	597	13.44	*
30	34	A	0346A0CB01	8	15	671	15.11	*

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\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/15/95 Survey Start Time: 13:00  
 Date/Time Report Printed: 8/15/95 5:27 pm

Station: 1  
 File: 481  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
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-----  
 Average uR/hr: 14.84      Maximum 18.48

Number of Measurements at this Survey Location: 30

1	119	A	0346A0CB03	8	15	1054	23.73	*
	120	A	0346A0CB03	8	15	1064	23.95	*
	121	A	0346A0CB03	8	15	1153	25.96	*
4	122	A	0346A0CB03	8	15	1117	25.15	*
5	123	A	0346A0CB03	8	15	1096	24.67	*
6	124	A	0346A0CB03	8	15	1126	25.35	*
7	125	A	0346A0CB03	8	15	1085	24.43	*
8	126	A	0346A0CB03	8	15	1202	27.06	*
9	127	A	0346A0CB03	8	15	1046	23.55	*
10	128	A	0346A0CB03	8	15	1079	24.29	*
11	129	A	0346A0CB03	8	15	1317	29.65	*
12	130	A	0346A0CB03	8	15	1412	31.79	*
13	131	A	0346A0CB03	8	15	1215	27.35	*
14	132	A	0346A0CB03	8	15	1139	25.64	*
15	133	A	0346A0CB03	8	15	1125	25.33	*
16	134	A	0346A0CB03	8	15	1212	27.28	*
17	135	A	0346A0CB03	8	15	1264	28.45	*
18	136	A	0346A0CB03	8	15	1070	24.09	*
19	137	A	0346A0CB03	8	15	1068	24.04	*
20	138	A	0346A0CB03	8	15	1115	25.10	*
21	139	A	0346A0CB03	8	15	1119	25.19	*
22	140	A	0346A0CB03	8	15	1281	28.84	*
23	141	A	0346A0CB03	8	15	1204	27.10	*
24	142	A	0346A0CB03	8	15	1370	30.84	*
25	143	A	0346A0CB03	8	15	1117	25.15	*
26	144	A	0346A0CB03	8	15	1203	27.08	*
27	145	A	0346A0CB03	8	15	1123	25.28	*
28	146	A	0346A0CB03	8	15	1170	26.34	*
29	147	A	0346A0CB03	8	15	1238	27.87	*
30	148	A	0346A0CB03	8	15	1299	29.24	*

-----  
 Average uR/hr: 26.33      Maximum 31.79

Number of Measurements at this Survey Location: 30

31	35	A	0346A0DB01	8	15	675	15.20	*
32	36	A	0346A0DB01	8	15	719	16.19	*

\* Mi flag set at 5 micro-R/hr above background.

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Survey Date: 8/15/95 Survey Start Time: 13:04  
 Date/Time Report Printed: 8/15/95 5:27 pm

Station: 1  
 File: 481  
 Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count	Gross Counts	Micro R/hr	H i
					Time (sec)			
33	37	A	0346A0DB01	8	15	638	14.36	*
34	38	A	0346A0DB01	8	15	598	13.46	*
35	39	A	0346A0DB01	8	15	682	15.35	*
36	40	A	0346A0DB01	8	15	589	13.26	*
37	41	A	0346A0DB01	8	15	617	13.89	*
38	42	A	0346A0DB01	8	15	649	14.61	*
39	43	A	0346A0DB01	8	15	634	14.27	*
40	44	A	0346A0DB01	8	15	742	16.70	*
41	45	A	0346A0DB01	8	15	667	15.02	*
42	46	A	0346A0DB01	8	15	669	15.06	*
43	47	A	0346A0DB01	8	15	662	14.90	*
44	48	A	0346A0DB01	8	15	642	14.45	*
45	49	A	0346A0DB01	8	15	668	15.04	*
46	50	A	0346A0DB01	8	15	700	15.76	*
47	51	A	0346A0DB01	8	15	568	12.79	*
48	52	A	0346A0DB01	8	15	549	12.36	*
49	53	A	0346A0DB01	8	15	614	13.82	*
50	54	A	0346A0DB01	8	15	595	13.39	*
51	55	A	0346A0DB01	8	15	601	13.53	*
52	56	A	0346A0DB01	8	15	584	13.15	*
53	57	A	0346A0DB01	8	15	622	14.00	*
54	58	A	0346A0DB01	8	15	549	12.36	*
55	59	A	0346A0DB01	8	15	538	12.11	*
56	60	A	0346A0DB01	8	15	623	14.02	*
57	61	A	0346A0DB01	8	15	575	12.94	*
58	62	A	0346A0DB01	8	15	647	14.56	*
59	63	A	0346A0DB01	8	15	610	13.73	*
60	64	A	0346A0DB01	8	15	694	15.62	*
61	65	A	0346A0DB01	8	15	643	14.47	*
62	66	A	0346A0DB01	8	15	600	13.51	*
63	67	A	0346A0DB01	8	15	592	13.33	*
64	68	A	0346A0DB01	8	15	561	12.63	*
65	69	A	0346A0DB01	8	15	548	12.34	*
66	70	A	0346A0DB01	8	15	588	13.24	*
67	71	A	0346A0DB01	8	15	667	15.02	*
68	72	A	0346A0DB01	8	15	626	14.09	*

-----  
 Average uR/hr: 14.07      Maximum 16.70

Number of Measurements at this Survey Location: 38

33	103	A	0346A0DB02	8	15	676	15.22	*
32	104	A	0346A0DB02	8	15	727	16.37	*
33	105	A	0346A0DB02	8	15	682	15.35	*

\* Hi flag set at 5 micro-R/hr above background.

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Survey Date: 8/15/95 Survey Start Time: 14:42  
 Date/Time Report Printed: 8/15/95 5:27 pm

Station: 1  
 File: 481  
 Page: 6

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count	Gross Counts	Micro R/hr	H i
					Time (sec)			
34	106	A	0346A0DB02	8	15	743	16.73	*
35	107	A	0346A0DB02	8	15	758	17.06	*
36	108	A	0346A0DB02	8	15	697	15.69	*
37	109	A	<del>0346A0DB02</del>	8	15	757	17.04	*
38	110	A	<del>0346A0DB02</del>	8	15	742	16.70	*

8-16-95

-----  
 Average uR/hr: 16.27      Maximum 17.06

Number of Measurements at this Survey Location: 8

37	155	A	0346A0DB03	8	15	1044	23.50	*
38	156	A	0346A0DB03	8	15	1001	22.53	*
39	157	A	0346A0DB03	8	15	1067	24.02	*
40	158	A	0346A0DB03	8	15	1207	27.17	*
41	159	A	0346A0DB03	8	15	1014	22.83	*
42	160	A	0346A0DB03	8	15	967	21.77	*
43	161	A	0346A0DB03	8	15	1068	24.04	*
44	162	A	0346A0DB03	8	15	1097	24.70	*
45	163	A	0346A0DB03	8	15	1117	25.15	*
46	164	A	0346A0DB03	8	15	1072	24.13	*
47	165	A	0346A0DB03	8	15	1034	23.28	*

-----  
 Average uR/hr: 23.92      Maximum 27.17

Number of Measurements at this Survey Location: 11

21	93	A	0346A0JB02	8	15	882	19.86	*
22	94	A	0346A0JB02	8	15	850	19.13	*
23	95	A	0346A0JB02	8	15	797	17.94	*
24	96	A	0346A0JB02	8	15	830	18.68	*
25	97	A	0346A0JB02	8	15	937	21.09	*
26	98	A	0346A0JB02	8	15	811	18.26	*
27	99	A	0346A0JB02	8	15	906	20.40	*
28	100	A	0346A0JB02	8	15	883	19.88	*
29	101	A	0346A0JB02	8	15	849	19.11	*
30	102	A	0346A0JB02	8	15	848	19.09	*

\* Hi flag set at 5 micro-R/hr above background.

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Survey Date: 8/15/95 Survey Start Time: 14:37  
Date/Time Report Printed: 8/15/95 5:27 pm

Station: 1  
File: 481  
Page: 7

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
Average uR/hr: 19.34      Maximum 21.09

Number of Measurements at this Survey Location: 10

11	83	A	0346A0LB02	8	15	795	17.90	*
12	84	A	0346A0LB02	8	15	780	17.56	*
13	85	A	0346A0LB02	8	15	806	18.14	*
14	86	A	0346A0LB02	8	15	864	19.45	*
15	87	A	0346A0LB02	8	15	880	19.81	*
16	88	A	0346A0LB02	8	15	850	19.13	*
17	89	A	0346A0LB02	8	15	768	17.29	*
18	90	A	0346A0LB02	8	15	792	17.83	*
19	91	A	0346A0LB02	8	15	738	16.61	*
20	92	A	0346A0LB02	8	15	796	17.92	*

-----  
Average uR/hr: 18.16      Maximum 19.81

Number of Measurements at this Survey Location: 10

CD 8-16-95

39	111	A	0346A0MB03	8	15	705	15.87	*
40	112	A	0346A0MB03	8	15	759	17.09	*
41	113	A	0346A0MB03	8	15	781	17.58	*
42	114	A	0346A0MB03	8	15	680	15.31	*
43	115	A	0346A0MB03	8	15	776	17.47	*
44	116	A	0346A0MB03	8	15	717	16.14	*
45	117	A	0346A0MB03	8	15	739	16.64	*
46	118	A	0346A0MB03	8	15	725	16.32	*

-----  
Average uR/hr: 16.55      Maximum 17.58

Number of Measurements at this Survey Location: 8

Total Number of Measurements on this Report: 171

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM  
8-08-95 GWE

\* Hi flag set at 5 micro-R/hr above background.

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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/15/95  
 Download Station #: 1 Download File #: 480 Time: 16:00  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger C. Wessell Signature: [Signature] Date: 8-15-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 98635  
 Survey Location description: Guarding Equipment Storage Bldg 112, Equipment Storage Bldg 160, 14-2  
 (Example: Rm Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	95528	43-68B	.223	125	480	480
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input type="checkbox"/> Gamma $\gamma$		44-2				

Local Area Background Measurements

0346A0DLAB											MEAN BKG CPM	
177	173	169	140	166	158	150	169	154	160	154	160	6A3

COMMENTS: Updated files, apply "d" for background  
Det. S/N 95532 incorrectly entered into M2350. Should be Det. S/N 95528. Changes made to Logddata and entered as 95528 on Surv files.  
 Backgrounds: 0346A0DLAB 144, 139, 132, 173, 143, 151, 138, 141, 149, 143, 124, 159 565  
0346A0DLAB 97, 120, 94, 101, 112, 105, 110, 107, 172, 163, 171, 184 512 700 DD 8-31-95  
0346A0LLAB 91, 102, 97, 92, 102, 110, 129, 101, 104, 113, 114, 112 427  
0346A0MLAB 79, 83, 97, 100, 106, 89, 83, 102, 90, 63, 84, 89 344

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 480, Gardening Equipment Storage Building 110, Equipment Storage Buildings 1001 and 1002, All Survey Locations

Reason: Initial Survey User: RCW1152/98635  
 M2150 S/N: 98635 Det. SN: PR095528 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .223

Survey Performed By: *J. White*

Date: 8-17-95

Survey Reviewed By: *M. Suter*

Date: 9-5-95

Station: 1  
 File: 480  
 Page: 1  
 Survey Date: 8/15/95 Survey Start Time: 09:57  
 Date/Time Report Printed: 8/16/95 16:40:03

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	M
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1	A		SC1TC882	0	60	1552	1552	5568	*
110	A		SC1TC882	0	60	1665	1665	5973	*

Number of Measurements at this Survey Location: 2

2	A		SC2TC882	0	60	1609	1609	5772	*
111	A		SC2TC882	0	60	1665	1665	5973	*

Number of Measurements at this Survey Location: 2

3	A		SC3TC882	0	60	1518	1518	5446	*
112	A		SC3TC882	0	60	1740	1740	6242	*

Number of Measurements at this Survey Location: 2

109	A		SCBKGPOST	0	60	569	569	2041	*
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Number of Measurements at this Survey Location: 1

0	A		SCBKGPRE	0	600	4668	467	1675	*
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**COPY**

Survey Date: 8/15/95 Survey Start Time: 09:45  
Date/Time Report Printed: 8/16/95 16:40:03

Station: 1  
File: 480  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPN per DetArea	Net beta DPM per 100 cm2	H
--------	--------	-------------	-----------------	--------	------------------	--------------	-----------------------	--------------------------	---

Number of Measurements at this Survey Location: 1

4	A		0346A0ALAB	1	15	144	576	2066	*
5	A		0346A0ALAB	1	15	139	556	1995	*
6	A		0346A0ALAB	1	15	132	528	1894	*
7	A		0346A0ALAB	1	15	133	532	1909	*
8	A		0346A0ALAB	1	15	143	572	2052	*
9	A		0346A0ALAB	1	15	151	604	2167	*
10	A		0346A0ALAB	1	15	138	552	1980	*
11	A		0346A0ALAB	1	15	141	564	2023	*
12	A		0346A0ALAB	1	15	149	596	2138	*
13	A		0346A0ALAB	1	15	143	572	2052	*
14	A		0346A0ALAB	1	15	124	496	1779	*
15	A		0346A0ALAB	1	15	159	636	2282	*

Number of Measurements at this Survey Location: 12

69	A		0346A0DLAB	1	15	177	708	2540	*
70	A		0346A0DLAB	1	15	173	692	2483	*
71	A		0346A0DLAB	1	15	169	676	2425	*
72	A		0346A0DLAB	1	15	140	560	2009	*
73	A		0346A0DLAB	1	15	166	664	2382	*
74	A		0346A0DLAB	1	15	158	632	2267	*
75	A		0346A0DLAB	1	15	150	600	2152	*
76	A		0346A0DLAB	1	15	169	676	2425	*
77	A		0346A0DLAB	1	15	154	616	2210	*
78	A		0346A0DLAB	1	15	160	640	2296	*
79	A		0346A0DLAB	1	15	154	616	2210	*
80	A		0346A0DLAB	1	15	160	640	2296	*

Number of Measurements at this Survey Location: 12

48	A		0346A0JLAB	1	15	97	388	1392	*
49	A		0346A0JLAB	1	15	120	480	1722	*
50	A		0346A0JLAB	1	15	94	376	1349	*
51	A		0346A0JLAB	1	15	101	404	1449	*
52	A		0346A0JLAB	1	15	112	448	1607	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/15/95 Survey Start Time: 13:08  
Date/Time Report Printed: 8/16/95 16:40:03

Station: 1  
File: 480  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
	53	A	0346A0JLAB	1	15	105	420	1507	*
	54	A	0346A0JLAB	1	15	110	440	1578	*
	55	A	0346A0JLAB	1	15	107	428	1535	*
	65	A	0346A0JLAB	1	15	172	688	2468	*
	66	A	0346A0JLAB	1	15	163	652	2339	*
	67	A	0346A0JLAB	1	15	171	684	2454	*
	68	A	0346A0JLAB	1	15	184	736	2640	*

Number of Measurements at this Survey Location: 12

	26	A	0346A0LLAB	1	15	91	364	1306	*
	27	A	0346A0LLAB	1	15	102	408	1464	*
	28	A	0346A0LLAB	1	15	97	388	1392	*
	29	A	0346A0LLAB	1	15	92	368	1320	*
	30	A	0346A0LLAB	1	15	102	408	1464	*
	32	A	0346A0LLAB	1	15	110	440	1578	*
	38	A	0346A0LLAB	1	15	129	516	1851	*
	39	A	0346A0LLAB	1	15	101	404	1449	*
	40	A	0346A0LLAB	1	15	104	416	1492	*
	41	A	0346A0LLAB	1	15	113	452	1622	*
	42	A	0346A0LLAB	1	15	114	456	1636	*
	43	A	0346A0LLAB	1	15	112	448	1607	*

Number of Measurements at this Survey Location: 12

	87	A	0346A0MLAB	1	15	79	316	1134	
	88	A	0346A0MLAB	1	15	83	332	1191	
	89	A	0346A0MLAB	1	15	97	388	1392	*
	90	A	0346A0MLAB	1	15	66	264	947	
	91	A	0346A0MLAB	1	15	106	424	1521	*
	92	A	0346A0MLAB	1	15	89	356	1277	*
	93	A	0346A0MLAB	1	15	83	332	1191	
	94	A	0346A0MLAB	1	15	102	408	1464	*
	95	A	0346A0MLAB	1	15	90	360	1291	*
	96	A	0346A0MLAB	1	15	63	252	904	
	97	A	0346A0MLAB	1	15	84	336	1205	
	98	A	0346A0MLAB	1	15	89	356	1277	*

Number of Measurements at this Survey Location: 12

COPY



Survey Date: 8/15/95 Survey Start Time: 14:40  
 Date/Time Report Printed: 8/16/95 16:40:03

Station: 1  
 File: 480  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
1	16	A	0346A0AB02	2	15	211	844	3028	*
2	17	A	0346A0AB02	2	15	214	856	3071	*
3	18	A	0346A0AB02	2	15	196	784	2813	*
4	19	A	0346A0AB02	2	15	205	820	2942	*
5	20	A	0346A0AB02	2	15	207	828	2970	*
6	21	A	0346A0AB02	2	15	220	880	3157	*
7	22	A	0346A0AB02	2	15	222	888	3186	*
8	23	A	0346A0AB02	2	15	199	796	2856	*
9	24	A	0346A0AB02	2	15	196	784	2813	*
10	25	A	0346A0AB02	2	15	208	832	2985	*

Number of Measurements at this Survey Location: 10

31	81	A	0346A0DB02	2	15	119	476	1708	*
32	82	A	0346A0DB02	2	15	140	560	2009	*
33	83	A	0346A0DB02	2	15	152	608	2181	*
34	84	A	0346A0DB02	2	15	131	524	1880	*
35	85	A	0346A0DB02	2	15	132	528	1894	*
36	86	A	0346A0DB02	2	15	131	524	1880	*

Number of Measurements at this Survey Location: 6

21	56	A	0346A0JB02	2	15	134	536	1923	*
22	57	A	0346A0JB02	2	15	112	448	1607	*
23	58	A	0346A0JB02	2	15	128	512	1837	*
24	59	A	0346A0JB02	2	15	95	380	1363	*
25	60	A	0346A0JB02	2	15	137	548	1966	*
26	61	A	0346A0JB02	2	15	150	600	2152	*
27	62	A	0346A0JB02	2	15	176	704	2526	*
28	63	A	0346A0JB02	2	15	209	836	2999	*
29	64	A	0346A0JB02	2	15	187	748	2683	*

Number of Measurements at this Survey Location: 9

11	31	A	0346A0LB02	2	15	103	412	1478	*
12	33	A	0346A0LB02	2	15	108	432	1550	*
13	34	A	0346A0LB02	2	15	107	428	1535	*
14	35	A	0346A0LB02	2	15	124	496	1779	*

The tenth survey location for this location code is found in file #487 which was performed on 8/16/95. Revs 8-30-95

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/15/95 Survey Start Time: 13:36  
Date/Time Report Printed: 8/16/95 16:40:03

Station: 1  
File: 480  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
15	36	A	0346A0LB02	2	15	101	404	1449	*
16	37	A	0346A0LB02	2	15	110	440	1578	*
17	44	A	0346A0LB02	2	15	130	520	1865	*
18	45	A	0346A0LB02	2	15	133	532	1909	*
19	46	A	0346A0LB02	2	15	96	384	1378	*
20	47	A	0346A0LB02	2	15	112	448	1607	*

Number of Measurements at this Survey Location: 10

37	99	A	0346A0MB02	2	15	101	404	1449	*
38	100	A	0346A0MB02	2	15	76	304	1091	*
39	101	A	0346A0MB02	2	15	100	400	1435	*
40	102	A	0346A0MB02	2	15	109	436	1564	*
41	103	A	0346A0MB02	2	15	85	340	1220	*
42	104	A	0346A0MB02	2	15	91	364	1306	*
43	105	A	0346A0MB02	2	15	109	436	1564	*
44	106	A	0346A0MB02	2	15	95	380	1363	*
45	107	A	0346A0MB02	2	15	105	420	1507	*
46	108	A	0346A0MB02	2	15	95	380	1363	*

Number of Measurements at this Survey Location: 10

Total Number of Measurements on this Report: 113

End of Report

01559:C:\PDOX35\M2356\TLOGREVU.R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
480	8/15/95 16:15	Change location code to 0346AOLLAB for Sample Points 26-30	Rew	JW Egert	Changed Loc. Code to 0346AOLLAB for samples 26-30.	JW Egert	8/16/95 16:00
480	8/15/95	Change location code to 0346AOLLAB for Sample Points 38-43.	Rew	JW Egert	Changed Loc. Code to 0346AOLLAB for samples 38-43.	JW Egert	8/16/95 16:00
480	8/14/95	Change location code to <del>0346A07</del> 0346AOLB02 for sample points 33-37	Rew	JW Egert	Changed Loc. Code to 0346AOLB02 for samples 33-37.	JW Egert	8/16/95 16:00

**Attach this sheet to the front of the Survey Download Report requiring changes.**

8/16/95	69-80	TO 0346A0DLAB	Rew	JW Egert	Changed Loc. Code to 0346A0DLAB for samples 69-80.	JW Egert	8/16/95 16:05
8/16/95	61-65	TO Detector 2	Rew	JW Egert	Changed Detector Setup # from 1 to 2 for samples 61-63.	JW Egert	8/16/95 16:05

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 480, Gardening Equipment Storage Building 110, Equipment Storage  
 Buildings 1001 and 1002, All Survey Locations

Reason: Initial Survey User: RCW1152/98635  
 M2350 S/N: 98635 Det. SN: PR095528 Detector Model: 43-68B  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm2 Background: 0 cpm Efficiency: .223

Survey Performed By: *J. A. Paul*

Date: 8/16/95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 480  
 Page: 1  
 Survey Date: 8/15/95 Survey Start Time: 09:57  
 Date/Time Report Printed: 8/15/95 16:11:20

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H 1
Number of Measurements at this Survey Location: 2									
1			SC1TC882	0	60	1552	1552	5568	*
110			SC1TC882	0	60	1665	1665	5973	*
Number of Measurements at this Survey Location: 2									
2			SC2TC882	0	60	1609	1609	5772	*
111			SC2TC882	0	60	1665	1665	5973	*
Number of Measurements at this Survey Location: 2									
3			SC3TC882	0	60	1518	1518	5446	*
112			SC3TC882	0	60	1740	1740	6242	*
Number of Measurements at this Survey Location: 2									
109			SCBKGPST	0	60	569	569	2041	*
Number of Measurements at this Survey Location: 1									
0			SCBKGPBE	0	600	4668	467	1675	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
 SUPERSEDED**

Survey Date: 8/15/95 Survey Start Time: 09:45  
Date/Time Report Printed: 8/15/95 16:11:20

Station: 1  
File: 480  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

38			0346A07802 LAB	1	15	129	516	1851	*
39			0346A07802	1	15	101	404	1449	*
40			0346A07802	1	15	104	416	1492	*
41			0346A07802	1	15	113	452	1622	*
42			0346A07802	1	15	114	456	1636	*
43			0346A07802	1	15	112	448	1607	*

*Run 8/15/95*

Number of Measurements at this Survey Location: 6

4			0346A0ALAB	1	15	144	576	2066	*
5			0346A0ALAB	1	15	139	556	1995	*
6			0346A0ALAB	1	15	132	528	1894	*
7			0346A0ALAB	1	15	133	532	1909	*
8			0346A0ALAB	1	15	143	572	2052	*
9			0346A0ALAB	1	15	151	604	2167	*
10			0346A0ALAB	1	15	138	552	1980	*
11			0346A0ALAB	1	15	141	564	2023	*
12			0346A0ALAB	1	15	149	596	2138	*
13			0346A0ALAB	1	15	143	572	2052	*
14			0346A0ALAB	1	15	124	496	1779	*
15			0346A0ALAB	1	15	159	636	2282	*

Number of Measurements at this Survey Location: 12

69			0346A0DB02 LAB	1	15	177	708	2540	*
70			0346A0DB02	1	15	173	692	2483	*
71			0346A0DB02	1	15	169	676	2425	*
72			0346A0DB02	1	15	140	560	2009	*
73			0346A0DB02	1	15	166	664	2382	*
74			0346A0DB02	1	15	158	632	2267	*
75			0346A0DB02	1	15	150	600	2152	*
76			0346A0DB02	1	15	169	676	2425	*
77			0346A0DB02	1	15	154	616	2210	*
78			0346A0DB02	1	15	160	640	2296	*
79			0346A0DB02	1	15	154	616	2210	*

*Run 8/15/95*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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SUPERSEDED



Survey Date: 8/15/95 Survey Start Time: 14:03  
 Date/Time Report Printed: 8/15/95 16:11:20

Station: 1  
 File: 480  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	80		0346A0DB02	4781	15	160	640	2296	*

*Rev 8/16/95*

Number of Measurements at this Survey Location: 12

61			0346A0JB02	X2	15	150	600	2152	*
62			0346A0JB02	X2	15	176	704	2526	*
63			0346A0JB02	X2	15	209	836	2999	*

Number of Measurements at this Survey Location: 3

48			0346A0JLAB	1	15	97	388	1392	*
49			0346A0JLAB	1	15	120	480	1722	*
50			0346A0JLAB	1	15	94	376	1349	*
51			0346A0JLAB	1	15	101	404	1449	*
52			0346A0JLAB	1	15	112	448	1607	*
53			0346A0JLAB	1	15	105	420	1507	*
54			0346A0JLAB	1	15	110	440	1578	*
55			0346A0JLAB	1	15	107	428	1535	*
65			0346A0JLAB	1	15	172	688	2468	*
66			0346A0JLAB	1	15	163	652	2339	*
67			0346A0JLAB	1	15	171	684	2454	*
68			0346A0JLAB	1	15	184	736	2640	*

Number of Measurements at this Survey Location: 12

26			0346A0LB02	LAB 1	15	91	364	1306	*
27			0346A0LB02	↓	1	15	102	408	*
28			0346A0LB02	↓	1	15	97	388	*
29			0346A0LB02	↓	1	15	92	368	*
30			0346A0LB02	↓	1	15	102	408	*

*Rev 8-15-95*

Number of Measurements at this Survey Location: 5

32			0346A0LLAB	1	15	110	440	1578	*
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**COPY**

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/15/95 Survey Start Time: 13:17  
 Date/Time Report Printed: 8/15/95 16:11:20

Station: 1  
 File: 480  
 Page: 4

Comments

Loc No	Sep No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

87			0346A0MLAB	1	15	79	316	1134	
88			0346A0MLAB	1	15	83	332	1191	
89			0346A0MLAB	1	15	97	388	1392	*
90			0346A0MLAB	1	15	66	264	947	
91			0346A0MLAB	1	15	106	424	1521	*
92			0346A0MLAB	1	15	89	356	1277	*
93			0346A0MLAB	1	15	83	332	1191	
94			0346A0MLAB	1	15	102	408	1464	*
95			0346A0MLAB	1	15	90	360	1291	*
96			0346A0MLAB	1	15	63	252	904	
97			0346A0MLAB	1	15	84	336	1205	
98			0346A0MLAB	1	15	89	356	1277	*

Number of Measurements at this Survey Location: 12

35			0346A0B02	2	15	124	496	1779	*
36			0346A0B02	2	15	101	404	1449	*
37			0346A0B02	2	15	110	440	1578	*

*RCW 8/16/95*

Number of Measurements at this Survey Location: 3

16			0346A0AB02	2	15	211	844	3028	*
17			0346A0AB02	2	15	214	856	3071	*
18			0346A0AB02	2	15	196	784	2813	*
19			0346A0AB02	2	15	205	820	2942	*
20			0346A0AB02	2	15	207	828	2970	*
21			0346A0AB02	2	15	220	880	3157	*
22			0346A0AB02	2	15	222	888	3186	*
23			0346A0AB02	2	15	199	796	2856	*
24			0346A0AB02	2	15	196	784	2813	*
25			0346A0AB02	2	15	208	832	2985	*

**COPY**  
**SUPERSEDED**

Station: 1  
 File: 480  
 Page: 5

Survey Date: 8/15/95 Survey Start Time: 11:57  
 Date/Time Report Printed: 8/15/95 16:11:20

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 10

81			0346A0DB02	2	15	119	476	1708	*
82			0346A0DB02	2	15	140	560	2009	*
83			0346A0DB02	2	15	152	608	2181	*
84			0346A0DB02	2	15	131	524	1880	*
85			0346A0DB02	2	15	132	528	1894	*
86			0346A0DB02	2	15	131	524	1880	*

Number of Measurements at this Survey Location: 6

56			0346A0JB02	2	15	134	536	1923	*
57			0346A0JB02	2	15	112	448	1607	*
58			0346A0JB02	2	15	128	512	1837	*
59			0346A0JB02	2	15	95	380	1363	*
60			0346A0JB02	2	15	137	548	1966	*
64			0346A0JB02	2	15	187	748	2683	*

Number of Measurements at this Survey Location: 6

31			0346A0LB02	2	15	103	412	1478	*
44			0346A0LB02	2	15	130	520	1865	*
45			0346A0LB02	2	15	133	532	1909	*
46			0346A0LB02	2	15	96	384	1378	*
47			0346A0LB02	2	15	112	448	1607	*

Number of Measurements at this Survey Location: 5

33			0346A0LMB02	2	15	108	432	1550	*
34			0346A0LMB02	2	15	107	428	1535	*

*Rev 8/16/95*

Number of Measurements at this Survey Location: 2

99			0346A0MB02	2	15	101	404	1449	*
100			0346A0MB02	2	15	76	304	1091	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
SUPERSEDED**

Survey Date: 8/15/95 Survey Start Time: 15:00  
Date/Time Report Printed: 8/15/95 16:11:20

Station: 1  
File: 480  
Page: 6

Comments

Loc No	Sup No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	Flag
			0346A0MB02	2	15	100	400	1435	*
			0346A0MB02	2	15	109	436	1564	*
			0346A0MB02	2	15	85	340	1220	
			0346A0MB02	2	15	91	364	1306	*
			0346A0MB02	2	15	109	436	1564	*
			0346A0MB02	2	15	95	380	1363	*
			0346A0MB02	2	15	105	420	1507	*
			0346A0MB02	2	15	95	380	1363	*

Number of Measurements at this Survey Location: 10

Total Number of Measurements on this Report: 113

End of Report

01559:C:\PDOX35\M21350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY  
SUPERSEDED**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: Glenn Egert Date: 8/15/95  
 Download Station #: 1 Download File #: 479 Time: 11:00  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: DECLAN DETRICK Signature: Declan Detrick Date: 8-15-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 953A0

Survey Location description: Decommissioning Project Offices, Bldg #1019 Carpeted Floors over wood  
 (Example: Rm Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only

Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>PR 091050</u>	<u>43-68B</u>	<u>.210</u>	<u>125 cm<sup>2</sup></u>	<u>479</u>	<u>479</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

												MEAN BKG CPM
<u>27</u>	<u>135</u>	<u>122</u>	<u>112</u>	<u>105</u>	<u>131</u>	<u>129</u>	<u>111</u>	<u>113</u>	<u>13A</u>	<u>113</u>	<u>125</u>	<u>486</u>

COMMENTS: No background value Applied  
Data points #16 to 45 are equal to location 1 to 30.

**COPY**



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 479, Decommissioning Project Offices, Building 1019, Carpeted Floors Over Wood  
 Reason: Initial Survey User: DAD1275/95340  
 Instrument Model: 2350 S/N: 95340 Detector Model: 43-68B Detector S/N: PR091050  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .210

Survey Performed By: DECLAN DETRICK / *Declan Detrick* Date: 9-18-95  
 Print Name Signature  
 Survey Reviewed By: Darrel L. Blain / *Darrel L. Blain* Date: 9-18-95  
 Print Name Signature

Survey Date: 8/15/95 Survey Start Time: 07:22 Station: 1  
 Date/Time Report Printed: 9/15/95 15:15:56 File: 479 Page: 1 Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
---Detector Setup # 0						
---Location Code: SC1TC883						
NG Location Code: A						
	1	60	1551	1551	5909	*
	47	60	1441	1441	5490	*
Number of Measurements: 2			Average: 5699 dpm per 100 cm2			
			Average: 1496 cpm per det. area			

---Location Code: SC2TC883						
NG Location Code: A						
	2	60	1426	1426	5432	*
	48	60	1669	1669	6358	*
Number of Measurements: 2			Average: 5895 dpm per 100 cm2			
			Average: 1548 cpm per det. area			

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**COPY**

Station: 1  
 Survey Date: 8/15/95 Survey Start Time: 07:26 File: 479  
 Date/Time Report Printed: 9/15/95 15:15:56 Page: 2

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
-----------------	---------------	------------------	--------------	------------------------	--------------------------	---

--Detector Setup # 0

----Location Code: SC3TC883  
 NG Location Code: A

	3	60	1526	1526	5813	*
	49	60	1522	1522	5798	*

Number of Measurements: 2 Average: 5806 dpm per 100 cm2  
 Average: 1524 cpm per det. area

----Location Code: SCBKGPOST  
 NG Location Code: A

	46	600	4893	489	1864	*
--	----	-----	------	-----	------	---

Number of Measurements: 1 Average: 1864 dpm per 100 cm2  
 Average: 489 cpm per det. area

----Location Code: SCBKGPPE  
 NG Location Code: A

	0	600	4806	481	1831	*
--	---	-----	------	-----	------	---

Number of Measurements: 1 Average: 1831 dpm per 100 cm2  
 Average: 481 cpm per det. area

--Detector Setup # 1

----Location Code: 0346A0CLAB  
 NG Location Code: A

	4	15	127	508	1935	*
	5	15	135	540	2057	*
	6	15	122	488	1859	*
	7	15	112	448	1707	*
	8	15	105	420	1600	*
	9	15	131	524	1996	*
	10	15	129	516	1966	*
	11	15	111	444	1691	*
	12	15	113	452	1722	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/15/95 Survey Start Time: 07:58  
Date/Time Report Printed: 9/15/95 15:15:56

Station: 1  
File: 479  
Page: 3

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	N
-----						
--Detector Setup # 1 -----						
----Location Code: 0346A0CLAB						
NG Location Code: A						
	13	15	134	536	2042	*
	14	15	113	452	1722	*
	15	15	125	500	1905	*

Number of Measurements: 12      Average: 1850 dpm per 100 cm2  
Average: 486 cpm per det. area

-----						
--Detector Setup # 2 -----						
----Location Code: 0346A0CB01						
NG Location Code: A						
1	16	15	128	512	1950	*
2	17	15	131	524	1996	*
3	18	15	134	536	2042	*
4	19	15	149	596	2270	*
5	20	15	248	992	3779	*
6	21	15	125	500	1905	*
7	22	15	204	816	3109	*
8	27	15	116	464	1768	*
9	24	15	168	672	2560	*
10	25	15	131	524	1996	*
11	26	15	126	504	1920	*
12	27	15	122	488	1859	*
13	28	15	157	628	2392	*
14	29	15	149	596	2270	*
15	30	15	135	540	2057	*
16	31	15	125	500	1905	*
17	32	15	133	532	2027	*
18	33	15	118	472	1798	*
19	34	15	169	676	2575	*
20	35	15	152	608	2316	*
21	36	15	162	648	2469	*
22	37	15	146	584	2225	*
23	38	15	145	580	2210	*
24	39	15	131	524	1996	*
25	40	15	161	644	2453	*
26	41	15	125	500	1905	*
27	42	15	141	564	2149	*
28	43	15	129	516	1966	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/15/95 Survey Start Time: 08:45  
Date/Time Report Printed: 9/15/95 15:15:56

Station: 1  
File: 479  
Page: 4

Comments

Location	Sample	Count	Gross	Gross	Net beta	
Number	Number	Time (sec)	Counts	CPM per Det Area	DPM per 100 cm2	H

--Detector Setup # 2

----Location Code: 0346A0CB01

NG Location Code: A

29	44	15	144	576	2194	*
30	45	15	170	680	2590	*

Number of Measurements: 30      Average: 2222 dpm per 100 cm2  
Average: 583 cpm per det. area

-----  
Total Number of Measurements on this Report: 50

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA 9/12/95 GWE  
7-25-95 MRM

**COPY**

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

**COPY**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
471	9-15-95 1226	Sample #'s 0, 1, 2, 3, 202, 203, 204, 205. Change location code from RC to SC	D.DETRICK	gW Egert	Changed Loc. Codes from RC... to SC... on samples 0-3 and 202-205.	gW Egert	9/15/95 14:15
460	9-15-95 1228	Sample #'s 0, 1, 2, 3, 17, 18, 19, 20. Change location code from RC to SC	D.DETRICK	gW Egert	Changed Loc. Codes from RC... to SC... on samples 0-3 and 17-20.	gW Egert	9/15/95 14:30
479	9-15-95 1230	Sample #'s 0, 1, 2, 3, 46, 47, 48, 49. Change location code from RC to SC	D.DETRICK	gW Egert	Changed Loc. Codes from RC... to SC... on samples 0-3 and 46-49.	gW Egert	9/15/95 14:40

Attach this sheet to the front of the Survey Download Report requiring changes.



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 479, Decommissioning Project Offices, Building 1019, Carpeted  
 Floors Over Wood

Reason: Initial Survey User: DAD1275/95340  
 M2350 S/N: 95340 Det. SN: PR091050 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .210

Survey Performed By: Daden D. Strick

Date: 8-15-95

Survey Reviewed By: M. Smith

Date: 9-5-95

Survey Date: 8/15/95 Survey Start Time: 07:22 Station: 1  
 Date/Time Report Printed: 8/15/95 11:20:25 File: 479  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
Number of Measurements at this Survey Location: 2									
1	A		RC1TC883	0	60	1551	1551	5909	*
47	A		RC1TC883	0	60	1441	1441	5490	*
Number of Measurements at this Survey Location: 2									
2	A		RC2TC883	0	60	1426	1426	5432	*
48	A		RC2TC883	0	60	1569	1569	6358	*
Number of Measurements at this Survey Location: 2									
3	A		RC3TC883	0	60	1526	1526	5813	*
49	A		RC3TC883	0	60	1522	1522	5798	*
Number of Measurements at this Survey Location: 2									
46	A		RCBKGPOST	0	600	4893	489	1864	*
Number of Measurements at this Survey Location: 1									
0	A		RCBKGPRE	0	600	4806	481	1831	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/15/95 Survey Start Time: 07:14  
Date/Time Report Printed: 8/15/95 11:20:25

Station: 1  
File: 479  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
--------	--------	-------------	-----------------	--------	------------------	--------------	-----------------------	--------------------------	-----

Number of Measurements at this Survey Location: 1

4	A		0346A0CLAB	1	15	127	508	1935	*
5	A		0346A0CLAB	1	15	135	540	2057	*
6	A		0346A0CLAB	1	15	122	488	1859	*
7	A		0346A0CLAB	1	15	112	448	1707	*
8	A		0346A0CLAB	1	15	105	420	1600	*
9	A		0346A0CLAB	1	15	131	524	1996	*
10	A		0346A0CLAB	1	15	129	516	1966	*
11	A		0346A0CLAB	1	15	111	444	1691	*
12	A		0346A0CLAB	1	15	113	452	1722	*
13	A		0346A0CLAB	1	15	134	536	2042	*
14	A		0346A0CLAB	1	15	113	452	1722	*
15	A		0346A0CLAB	1	15	125	500	1905	*

Number of Measurements at this Survey Location: 12

1	16	A	0346A0CB01	2	15	128	512	1950	*
2	17	A	0346A0CB01	2	15	131	524	1996	*
3	18	A	0346A0CB01	2	15	134	536	2042	*
4	19	A	0346A0CB01	2	15	149	596	2270	*
5	20	A	0346A0CB01	2	15	248	992	3779	*
6	21	A	0346A0CB01	2	15	125	500	1905	*
7	22	A	0346A0CB01	2	15	204	816	3109	*
8	23	A	0346A0CB01	2	15	116	464	1768	*
9	24	A	0346A0CB01	2	15	168	672	2560	*
10	25	A	0346A0CB01	2	15	131	524	1996	*
11	26	A	0346A0CB01	2	15	126	504	1920	*
12	27	A	0346A0CB01	2	15	122	488	1859	*
13	28	A	0346A0CB01	2	15	157	628	2392	*
14	29	A	0346A0CB01	2	15	149	596	2270	*
15	30	A	0346A0CB01	2	15	135	540	2057	*
16	31	A	0346A0CB01	2	15	125	500	1905	*
17	32	A	0346A0CB01	2	15	133	532	2027	*
18	33	A	0346A0CB01	2	15	118	472	1798	*
19	34	A	0346A0CB01	2	15	169	676	2575	*
20	35	A	0346A0CB01	2	15	152	608	2316	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/15/95 Survey Start Time: 08:29  
Date/Time Report Printed: 8/15/95 11:20:25

Station: 1  
File: 479  
Page: 3

Comments

Loc No	Sup No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
21	36	A	0346A0CB01	2	15	162	648	2469 *	
22	37	A	0346A0CB01	2	15	146	584	2225 *	
23	38	A	0346A0CB01	2	15	145	580	2210 *	
24	39	A	0346A0CB01	2	15	131	524	1996 *	
25	40	A	0346A0CB01	2	15	161	644	2453 *	
26	41	A	0346A0CB01	2	15	125	500	1905 *	
27	42	A	0346A0CB01	2	15	141	564	2149 *	
28	43	A	0346A0CB01	2	15	129	516	1966 *	
29	44	A	0346A0CB01	2	15	144	576	2194 *	
30	45	A	0346A0CB01	2	15	170	680	2590 *	

Number of Measurements at this Survey Location: 30

Total Number of Measurements on this Report: 50

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egeert Signature: [Signature] Date: 8/15/95  
 Download Station #: 1 Download File #: 478 Time: 10:35  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: BRENT T. DANIEL Signature: [Signature] Date: 8/15/95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95356

Survey Location description: DECOMMISSIONING PROJECT OFFICES #1019 VINYL FLOORS/WALLS OVER WOOD  
 (Example: Rt Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>PR092511</u>	<u>43-68B</u>	<u>.220</u>	<u>125 cm<sup>2</sup></u>	<u>478</u>	<u>478</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

											MEAN BKG CPM	
<u>92</u>	<u>70</u>	<u>85</u>	<u>88</u>	<u>76</u>	<u>92</u>	<u>69</u>	<u>98</u>	<u>75</u>	<u>85</u>	<u>85</u>	<u>67</u>	<u>*327</u>

COMMENTS: \* NO BKG VALUE APPLIED UNAFFECTED AREA  
m2350 #16-53 = SAMPLE POINT #31-68

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 478, Decommissioning Project Offices, Building 1019, Vinyl  
 Floors/Walls Over Wood

Reason: Initial Survey User: BTD9816/95356  
 M2150 S/N: 95356 Det. SN: PR091511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .220

Survey Performed By: BTDaniel

Date: 8/15/95

Survey Reviewed By: mem lu

Date: 9-5-95

Station: 1  
 File: 478  
 Page: 1  
 Survey Date: 8/15/95 Survey Start Time: 07:22  
 Date/Time Report Printed: 8/15/95 10:54:07

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	A		SC1TC878	0	60	1595	1595	5800	*
55	A		SC1TC878	0	60	1593	1593	5793	*
Number of Measurements at this Survey Location: 2									
2	A		SC2TC878	0	60	1486	1486	5404	*
56	A		SC2TC878	0	60	1638	1638	5956	*
Number of Measurements at this Survey Location: 2									
3	A		SC3TC878	0	60	1581	1581	5749	*
57	A		SC3TC878	0	60	1603	1603	5829	*
Number of Measurements at this Survey Location: 2									
54	A		SCBKGPST	0	60	492	492	1789	*
Number of Measurements at this Survey Location: 1									
0	A		SCBKGPPE	0	600	4867	487	1770	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY



Survey Date: 8/15/95 Survey Start Time: 07:17  
Date/Time Report Printed: 8/15/95 10:54:07

Station: 1  
File: 478  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
--------	--------	-------------	-----------------	--------	------------------	--------------	-----------------------	--------------------------	-----

Number of Measurements at this Survey Location: 1

4	A		0346A0DLAB	1	15	92	368	1338 *	
5	A		0346A0DLAB	1	15	70	280	1018	
6	A		0346A0DLAB	1	15	85	340	1236	
7	A		0346A0DLAB	1	15	88	352	1280 *	
8	A		0346A0DLAB	1	15	76	304	1105	
9	A		0346A0DLAB	1	15	92	368	1338 *	
10	A		0346A0DLAB	1	15	69	276	1004	
11	A		0346A0DLAB	1	15	98	392	1425 *	
12	A		0346A0DLAB	1	15	75	300	1091	
13	A		0346A0DLAB	1	15	85	340	1236	
14	A		0346A0DLAB	1	15	85	340	1236	
15	A		0346A0DLAB	1	15	67	268	975	

Number of Measurements at this Survey Location: 12

31	16	A	0346A0DB01	2	15	86	344	1251 *	
32	17	A	0346A0DB01	2	15	78	312	1135	
33	18	A	0346A0DB01	2	15	80	320	1164	
34	19	A	0346A0DB01	2	15	75	300	1091	
35	20	A	0346A0DB01	2	15	89	356	1295 *	
36	21	A	0346A0DB01	2	15	94	376	1367 *	
37	22	A	0346A0DB01	2	15	84	336	1222	
38	23	A	0346A0DB01	2	15	60	240	873	
39	24	A	0346A0DB01	2	15	80	320	1164	
40	25	A	0346A0DB01	2	15	87	348	1265 *	
41	26	A	0346A0DB01	2	15	102	408	1484 *	
42	27	A	0346A0DB01	2	15	66	264	960	
43	28	A	0346A0DB01	2	15	108	432	1571 *	
44	29	A	0346A0DB01	2	15	97	388	1411 *	
45	30	A	0346A0DB01	2	15	94	376	1367 *	
46	31	A	0346A0DB01	2	15	85	340	1236	
47	32	A	0346A0DB01	2	15	76	304	1105	
48	33	A	0346A0DB01	2	15	116	464	1687 *	
49	34	A	0346A0DB01	2	15	125	500	1818 *	
50	35	A	0346A0DB01	2	15	76	304	1105	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 8/15/95 Survey Start Time: 08:34  
Date/Time Report Printed: 8/15/95 10:54:07

Station: 1  
File: 478  
Page: 3

Comments

Loc No	Smp No	NS Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
51	36	A	0346A0DB01	2	15	91	364	1324	*
52	37	A	0346A0DB01	2	15	85	340	1236	
53	38	A	0346A0DB01	2	15	74	296	1076	
54	39	A	0346A0DB01	2	15	91	364	1324	*
55	40	A	0346A0DB01	2	15	79	316	1149	
56	41	A	0346A0DB01	2	15	76	304	1105	
57	42	A	0346A0DB01	2	15	80	320	1164	
58	43	A	0346A0DB01	2	15	86	344	1251	*
59	44	A	0346A0DB01	2	15	78	312	1135	
60	45	A	0346A0DB01	2	15	83	332	1207	
61	46	A	0346A0DB01	2	15	75	300	1091	
62	47	A	0346A0DB01	2	15	89	356	1295	*
63	48	A	0346A0DB01	2	15	79	316	1149	
64	49	A	0346A0DB01	2	15	119	476	1731	*
65	50	A	0346A0DB01	2	15	81	324	1178	
66	51	A	0346A0DB01	2	15	79	316	1149	
67	52	A	0346A0DB01	2	15	80	320	1164	
68	53	A	0346A0DB01	2	15	83	332	1207	

Number of Measurements at this Survey Location: 38

Total Number of Measurements on this Report: 58

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

\*\*\*\*\*  
\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

Report Generated On 8-22-95 8:11:49

Detector DET4  
Sample I.D. CARPET  
Spectrum Number  
Sample Description 20000 SEC. CARPET COUNT  
Sample Type FILTER  
Sample Geometry 5

Peak Locate Threshold 3.50  
Peak Locate Range (in channels) 100 - 4096  
Peak Area Range (in channels) 100 - 4096  
Identification Energy Tolerance 1.00 keV

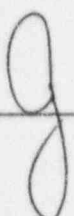
Sample Size 1.000E+00 EA  
Sample Collection Date 8-16-95 16:00:00  
Spectrum Collection Date 8-18-95 14:09:31  
Decay Corrected To 8-16-95 16:00:00  
Collected By MADISON

Live Time 20000.0 seconds  
Real Time 20007.2 seconds  
% Dead Time 0.04 %  
Background Type STEP

Energy Calibration Performed On 8-18-95  
Efficiency Calibration Performed On 9-30-94  
Calibration Geometry Used 5

95-0412  
carpet.

Reviewed By

  
\_\_\_\_\_

Date

8/22/95

COPY

\*\*\*\*\*  
 \*\*\*\*\* P E A K L O C A T E R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET  
 Spectrum Number  
 Sample Description 20000 SEC. CARPET COUNT  
 Sample Type FILTER

Peak Locate Performed on 8-22-95 8:11:25  
 Peak Locate From Channel 100  
 Peak Locate To Channel 4096  
 Peak Search Sensitivity 3.50  
 MDA Confidence 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance	FWHM (keV)
1	126.84	0.2434	63.18	14.25	0.8464
2	146.00	0.4933	72.88	4.11	0.9109
3	149.96	0.2176	74.76	20.28	0.9151
4	154.58	0.1619	77.06	21.97	0.9198
5	159.00	0.4491	79.28	4.96	0.9244
6	162.44	0.3886	80.99	3.73	0.9278
7	168.24	0.2839	83.87	9.48	0.9335
8	174.82	0.2539	87.23	10.33	0.9400
9	180.35	0.3266	89.85	6.14	0.9452
10	185.60	0.1832	92.60	17.76	0.9502
11	288.42	0.3104	144.01	6.04	1.0898
12	327.16	0.4221	163.39	4.71	0.8262
13	372.48	0.1518	186.06	22.46	1.1038
14	410.83	0.3898	205.24	4.56	1.2362
15	472.43	0.3194	236.06	5.57	1.2606
16	484.48	0.1487	242.09	23.60	1.1896
17	518.47	0.3763	259.09	3.67	0.3441
18	539.15	0.3284	269.44	6.69	0.9516
19	543.22	0.4602	271.23	3.66	0.9538
20	590.78	0.1128	295.26	43.25	1.2014
21	648.47	0.3880	324.12	3.52	0.9775
22	704.18	0.0918	351.99	59.96	1.2522
23	1021.62	0.3026	510.78	4.77	0.8738
24	1218.81	0.0956	609.41	49.31	1.4462
25	1323.26	0.3467	661.58	4.46	1.3695
26	1330.96	0.2805	665.56	5.84	1.3722
27	1536.85	0.1874	768.49	12.40	1.5234
28	1571.80	0.2880	785.97	4.63	1.5383
29	1612.08	0.3070	806.11	4.82	1.2730
30	1678.41	0.3165	839.29	4.15	1.6081
31	1867.98	0.2137	934.10	9.44	1.6336
32	1938.15	0.3496	969.19	3.51	1.7825
33	2002.13	0.2605	1001.19	6.07	1.6396
34	2240.49	0.1310	1120.37	20.17	1.7366
35	2310.54	0.2663	1155.40	4.98	1.8499
36	2346.46	0.2599	1173.36	5.09	2.2031
37	2476.21	0.1729	1238.23	11.28	2.0021
38	2562.27	0.2576	1281.26	4.42	2.2781

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39	2664.86	0.2960	1332.54	3.80	1.8737
40	2755.25	0.1882	1377.74	9.14	1.8784
41	2770.36	0.2941	1385.41	4.28	1.8820

**COPY**



Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance	FWHM (keV)
42	2802.75	0.2913	1401.48	4.42	1.6033
43	2816.23	0.2229	1408.18	7.14	1.6065
44	2921.48	0.1433	1460.82	15.33	2.0061
45	3018.08	0.2493	1509.10	5.04	1.8404
46	3167.04	0.3432	1583.55	3.80	1.6378
47	3322.50	0.2717	1661.24	4.29	2.1699
48	3459.27	0.1965	1729.58	7.62	2.0757
49	3529.28	0.1309	1764.56	17.34	2.1283
50	3695.37	0.2130	1847.53	6.06	2.2924

Errors quoted at 1.96 sigma

COPY

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 \*\*\*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET  
 Spectrum Number  
 Sample Description 20000 SEC. CARPET COUNT

Peak Analysis Performed on 8-22-95 8:11:35  
 Peak Analysis From Channel 100  
 Peak Analysis To Channel 4096

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	1	123-	129	126.84	63.18	1.44E+03	144.75	2.14E+03
M	2	143-	188	146.23	72.88	2.56E+02	134.99	2.33E+03
m	3	143-	188	149.99	74.76	2.58E+03	255.09	2.66E+03
m	4	143-	188	154.58	77.06	4.02E+03	329.10	2.34E+03
m	5	143-	188	159.03	79.28	2.51E+02	131.36	2.68E+03
m	6	143-	188	162.45	80.99	2.61E+02	131.59	2.35E+03
m	7	143-	188	168.19	83.87	7.98E+02	160.16	2.69E+03
m	8	143-	188	174.92	87.23	1.32E+03	187.19	2.70E+03
m	9	143-	188	180.16	89.85	4.33E+02	143.66	2.70E+03
m	10	143-	188	185.65	92.60	2.89E+03	272.45	2.37E+03
	11	284-	292	288.42	144.01	4.17E+02	137.68	2.11E+03
	12	322-	330	327.16	163.39	1.90E+02	131.33	2.01E+03
	13	367-	377	372.48	186.06	4.04E+03	189.67	2.24E+03
	14	407-	414	410.83	205.24	7.95E+01	108.20	1.47E+03
	15	467-	475	472.43	236.06	9.87E+01	115.32	1.56E+03
	16	480-	488	484.48	242.09	2.57E+03	147.46	1.45E+03
	17	512-	521	518.47	259.09	3.57E+02	108.77	1.20E+03
M	18	533-	546	539.16	269.44	2.45E+02	102.92	8.88E+02
m	19	533-	546	542.73	271.23	1.23E+02	61.70	1.07E+03
	20	584-	596	590.78	295.26	6.20E+03	196.52	1.47E+03
	21	642-	652	648.47	324.12	1.15E+02	98.09	1.00E+03
	22	698-	709	704.18	351.99	1.08E+04	228.31	1.10E+03
	23	1013-	1041	1021.62	510.78	6.01E+02	161.72	1.34E+03
	24	1211-	1225	1218.81	609.41	7.33E+03	186.83	6.10E+02
M	25	1316-	1336	1323.10	661.58	9.17E+01	44.30	3.42E+02
m	26	1316-	1336	1331.06	665.56	1.92E+02	74.56	3.40E+02
	27	1529-	1541	1536.85	768.49	6.33E+02	81.63	4.20E+02
	28	1564-	1578	1571.80	785.97	2.08E+02	70.36	3.75E+02
	29	1605-	1619	1612.08	806.11	1.23E+02	72.37	4.24E+02
	30	1673-	1684	1678.41	839.29	5.77E+01	60.11	3.51E+02
	31	1861-	1875	1867.98	934.10	3.25E+02	72.97	3.69E+02
	32	1934-	1942	1938.15	969.19	3.28E+01	42.05	2.00E+02
	33	1996-	2009	2002.13	1001.19	1.38E+02	61.21	3.03E+02
	34	2232-	2247	2240.49	1120.37	1.47E+03	94.77	2.88E+02
	35	2302-	2315	2310.54	1155.40	1.38E+02	59.51	2.85E+02
	36	2341-	2351	2346.46	1173.36	9.73E+01	47.00	2.01E+02
	37	2469-	2481	2476.21	1238.23	5.49E+02	65.70	2.19E+02
	38	2555-	2567	2562.27	1281.26	1.41E+02	47.42	1.69E+02
	39	2656-	2671	2664.86	1332.54	1.08E+02	50.39	1.84E+02
M	40	2746-	2776	2755.26	1377.74	3.55E+02	86.43	2.02E+02

m 41	2746-	2776	2770.61	1385.41	5.23E+01	25.35	1.72E+02
M 42	2796-	2824	2802.76	1401.48	7.58E+01	34.56	1.66E+02

**COPY**

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
m	43	2796-	2824	2816.17	1408.18	1.41E+02	59.70	1.62E+02
	44	2914-	2930	2921.48	1460.82	1.03E+03	78.42	1.84E+02
	45	3009-	3024	3018.08	1509.10	1.41E+02	51.84	1.86E+02
	46	3158-	3173	3167.04	1583.55	3.70E+01	39.47	1.21E+02
	47	3315-	3328	3322.50	1661.24	6.93E+01	33.14	7.87E+01
	48	3452-	3468	3459.27	1729.58	3.00E+02	45.51	7.59E+01
	49	3520-	3536	3529.28	1764.56	1.24E+03	76.83	9.32E+01
	50	3686-	3702	3695.37	1847.53	1.98E+02	38.75	6.16E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.96 sigma

COPY

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 \*\*\*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Sample I.D. CARPET  
 Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/EA)	Activity Uncertainty
K-40	1.000	1460.81*	10.67	7.373E-04	7.371E-05
CO-60	0.998	1173.22*	100.00	6.053E-06	2.941E-06
		1332.49*	100.00	7.587E-06	3.563E-06
CS-137	0.999	661.65*	85.12	3.882E-06	1.892E-06
BI-214	0.999	609.31*	46.30	5.285E-04	3.725E-05
		768.36*	5.04	5.212E-04	7.409E-05
		806.17*	1.23	4.326E-04	2.565E-04
		934.06*	3.21	5.060E-04	1.164E-04
		1120.29*	15.10	5.805E-04	4.819E-05
		1238.11*	5.94	6.044E-04	8.024E-05
		1377.67*	4.11	6.246E-04	1.567E-04
		1385.31*	0.78	4.872E-04	2.379E-04
		1407.98*	2.48	4.199E-04	1.793E-04
		1509.19*	2.19	5.052E-04	1.884E-04
		1729.60*	3.05	8.682E-04	1.440E-04
		1764.49*	15.80	7.041E-04	6.657E-05
		PB-214	0.999	74.81*	6.33
77.11*	10.70			5.332E-04	1.136E-04
87.20*	3.70			4.433E-04	7.659E-05
241.98*	7.49			5.172E-04	4.611E-05
295.21*	19.20			5.702E-04	4.152E-05
351.92*	37.20			5.955E-04	3.812E-05
RN-219	0.422	271.23*	9.90	2.046E-05	1.036E-05
		401.78	6.60		
RA-226	0.996	186.21*	3.28	1.553E-03	1.249E-04
TH-231	0.984	84.21*	8.00	1.282E-04	3.013E-05
		89.95*	1.25	4.184E-04	1.436E-04
PA-234M	0.996	1001.03*	0.59	1.246E-03	5.572E-04
TH-234	0.996	63.29*	3.80	8.138E-04	4.317E-04
		92.38*	2.72	1.331E-03	1.628E-04
		92.38*	2.72	1.331E-03	1.628E-04
U-235	0.982	89.96*	1.50	3.486E-04	1.196E-04
		93.35*	2.50	1.366E-03	1.670E-04
		143.76*	10.50	4.458E-05	1.499E-05
		163.35*	4.70	4.774E-05	3.306E-05
		185.71*	54.00	9.436E-05	7.393E-06
		205.31*	4.70	2.271E-05	3.095E-05

\* = Energy line found in the spectrum.  
 @ = Energy line not used for Weighted Mean Activity  
 Energy tolerance used was 1.000  
 Nuclide confidence index threshold = 0.10  
 Errors quoted at 1.960 sigma

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\*\*\*\*\*  
 \*\*\* INTERFERENCE CORRECTED REPORT \*\*\*  
 \*\*\*\*\*

Sample I.D. CARPET  
 Spectrum Number

Report Reviewed By                     *Alu yarb*                     Date                     8/22/95                    

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/EA )	Wt mean Activity Uncertainty	Wt mean Activity % Uncertainty
K-40	1.000	7.37E-04	7.37E-05	10.0
CO-60	0.998	6.67E-06	2.27E-06	34.0
<del>X</del> CD-109	<del>0.903</del>			
CS-137	0.999	3.88E-06	1.89E-06	48.7
<del>X</del> EU-155	<del>0.294</del>			
BI-214	0.999	5.72E-04	2.25E-05	3.9
PB-214	0.999	5.55E-04	2.22E-05	4.0
RN-219	0.422	2.05E-05	1.04E-05	50.7
RA-226	0.996	8.31E-04	2.38E-04	28.6
TH-231	0.984	1.38E-04	2.95E-05	21.3
PA-234M	0.996	1.25E-03	5.57E-04	44.7
TH-234	0.996	1.23E-03	1.53E-04	12.4
U-235	0.982	4.39E-05	1.24E-05	28.3

? = nuclide is part of an undetermined solution  
 X = nuclide rejected by the interference analysis  
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.96 sigma

\*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M 2	72.88 <i>Pb 214</i>	1.2798E-02	52.74
m 5	79.28 <i>Ra 226</i>	1.2571E-02	52.24
m 6	80.99 <i>Ra 223</i>	1.3071E-02	50.34
15	236.06 <i>hi error</i>	4.9329E-03	116.89
17	259.09 <i>Pb 214</i>	1.7854E-02	30.46
M 18	269.44 <i>Ra 223</i>	1.2250E-02	42.01
21	324.12 <i>Pb 214</i>	5.7420E-03	85.42
23	510.78 <i>Ac 228</i>	3.0060E-02	26.90
m 26	665.56 <i>Bi 214</i>	9.6115E-03	38.78
28	785.97 <i>Bi 214</i>	1.0391E-02	33.86
30	839.29 <i>hi error</i>	2.8867E-03	104.11
32	969.19 <i>hi error</i>	1.6380E-03	128.37
35	1155.40 <i>Bi 214</i>	6.9064E-03	43.09
38	1281.26 <i>Bi 214</i>	7.0706E-03	33.53
M 42	1401.48 <i>Bi 214</i>	3.7882E-03	45.61
46	1583.55 <i>high error</i>	1.8486E-03	106.76
47	1661.24 <i>Bi 214</i>	3.4626E-03	47.85

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50 1847.53<sup>61214</sup> 9.9218E-03 19.53

M = First peak in a multiplet region  
m = Other peak in a multiplet region  
F = Fitted singlet

Errors quoted at 1.96 sigma

**COPY**

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\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

Report Generated On 8-23-95 12:37:32

Detector DET4  
Sample I.D. CARPET 95-0415  
Spectrum Number GP02560  
Sample Description CARPET 95-0415 VISITORS CENTER  
Sample Type CARPET  
Sample Geometry 5

Peak Locate Threshold 3.50  
Peak Locate Range (in channels) 100 - 4096  
Peak Area Range (in channels) 100 - 4096  
Identification Energy Tolerance 1.00 keV

Sample Size 1.000E+00 EA  
Sample Collection Date 8-16-95 15:20:00  
Spectrum Collection Date 8-23-95 7:01:58  
Decay Corrected To 8-16-95 15:20:00  
Collected By ALLEN YATES

Live Time 20000.0 seconds  
Real Time 20004.2 seconds  
% Dead Time 0.02 %  
Background Type STEP

Energy Calibration Performed On 8-23-95  
Efficiency Calibration Performed On 9-30-94  
Calibration Geometry Used 5

*Copy  
for  
J. Road*

Reviewed By \_\_\_\_\_

*J*

Date

*8/23/95*

**COPY**

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 \*\*\*\*\* P E A K L O C A T E R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET 95-0415  
 Spectrum Number GP02560  
 Sample Description CARPET 95-0415 VISITORS CENTER  
 Sample Type CARPET

Peak Locate Performed on 8-23-95 12:37:16  
 Peak Locate From Channel 100  
 Peak Locate To Channel 4096  
 Peak Search Sensitivity 3.50  
 MDA Confidence 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance	FWHM (keV)
1	127.00	0.3415	63.25	8.58	0.8038
2	150.16	0.2893	74.83	10.07	0.8729
3	154.54	0.2438	77.04	9.13	0.8774
4	180.00	0.5257	89.75	3.62	0.0000
5	185.62	0.2615	92.56	9.03	1.4029
6	372.44	0.2242	185.97	11.24	1.0911
7	477.54	0.3798	238.52	3.74	1.0161
8	484.51	0.2291	242.03	9.69	1.0202
9	591.10	0.1709	295.30	18.37	1.2136
10	704.37	0.1429	351.95	24.94	1.2484
11	1021.72	0.2835	510.64	3.96	1.9107
12	1219.01	0.1414	609.30	22.55	1.5042
13	1323.97	0.3299	661.78	4.03	1.8175
14	1537.15	0.3050	768.39	4.96	1.1832
15	1869.07	0.3479	934.35	3.81	1.8657
16	2002.16	0.3471	1000.90	3.83	1.7072
17	2240.72	0.2045	1120.16	8.56	1.7199
18	2476.57	0.2708	1238.06	4.47	1.8734
19	2755.96	0.2920	1377.70	3.93	1.6672
20	2922.40	0.1474	1460.88	14.61	2.0368
21	3460.27	0.2583	1729.59	5.39	1.9775
22	3530.20	0.1843	1764.52	9.24	2.1448

Errors quoted at 1.96 sigma

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\*\*\*\*\*  
 \*\*\*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET 95-0415  
 Spectrum Number GP02560  
 Sample Description CARPET 95-0415 VISITORS CENTER

Peak Analysis Performed on 8-23-95 12:37:21  
 Peak Analysis From Channel 100  
 Peak Analysis To Channel 4096

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	1	124-	130	127.00	63.25	4.01E+02	89.30	8.81E+02
M	2	147-	157	150.15	74.83	6.77E+02	77.54	1.12E+03
m	3	147-	157	154.58	77.04	8.64E+02	92.73	1.04E+03
	5	178-	189	185.62	92.56	3.83E+02	149.98	2.14E+03
	6	367-	376	372.44	185.97	9.21E+02	113.35	1.08E+03
M	7	474-	489	477.54	238.52	1.04E+02	42.19	7.28E+02
m	8	474-	489	484.56	242.03	5.46E+02	120.00	7.59E+02
	9	585-	595	591.10	295.30	1.37E+03	105.60	6.46E+02
	10	699-	709	704.37	351.95	2.18E+03	116.51	5.72E+02
	11	1011-	1039	1021.72	510.64	4.87E+02	136.26	9.37E+02
	12	1212-	1226	1219.01	609.30	1.43E+03	101.07	4.27E+02
	13	1319-	1327	1323.97	661.78	2.70E+01	44.66	2.29E+02
	14	1530-	1541	1537.15	768.39	1.24E+02	51.66	2.28E+02
	15	1862-	1873	1869.07	934.35	1.92E+01	44.46	1.98E+02
	16	1998-	2006	2002.16	1000.90	3.75E+01	33.62	1.19E+02
	17	2234-	2247	2240.72	1120.16	3.53E+02	55.53	1.63E+02
	18	2468-	2481	2476.57	1238.06	1.42E+02	44.06	1.32E+02
	19	2746-	2763	2755.96	1377.70	1.04E+02	40.12	9.65E+01
	20	2913-	2929	2922.40	1460.88	8.41E+02	68.06	1.15E+02
	21	3454-	3466	3460.27	1729.59	5.83E+01	25.25	4.07E+01
	22	3521-	3539	3530.20	1764.52	3.22E+02	44.02	5.39E+01

One or more peaks were dropped due to multiplet de-convolution.

M = First peak in a multiplet region  
 m = Other peak in a multiplet region  
 F = Fitted singlet

Errors quoted at 1.96 sigma

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\*\*\*\*\*  
 \*\*\*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Sample I.D. CARPET 95-0415  
 Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

..... IDENTIFIED NUCLIDES .....					
Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/EA)	Activity Uncertainty
K-40	0.999	1460.81*	10.67	6.011E-04	6.237E-05
CS-137	0.997	661.65*	85.12	1.145E-06	1.893E-06
PB-212	0.760	74.81*	9.60	1.043E-04	2.686E-05
		77.11*	17.50	7.006E-05	1.571E-05
		87.20	6.30		
		89.80	1.75		
		115.19	0.60		
		238.63*	44.60	3.466E-06	1.432E-06
		300.09	3.41		
BI-214	0.914	609.31*	46.30	1.031E-04	9.950E-06
		768.36*	5.04	1.019E-04	4.294E-05
		806.17	1.23		
		934.06*	3.21	2.991E-05	6.920E-05
		1120.29*	15.10	1.390E-04	2.305E-05
		1238.11*	5.94	1.562E-04	4.932E-05
		1377.67*	4.11	1.836E-04	7.143E-05
		1385.31	0.78		
		1407.98	2.48		
		1509.19	2.19		
PB-214	0.917	1729.60*	3.05	1.687E-04	7.396E-05
		1764.49*	15.80	1.829E-04	2.820E-05
		74.81*	6.33	1.582E-04	4.073E-05
		77.11*	10.70	1.146E-04	2.569E-05
		87.20	3.70		
		241.98*	7.49	1.100E-04	2.532E-05
		295.21*	19.20	1.258E-04	1.274E-05
351.92*	37.20	1.196E-04	9.660E-06		
RA-226	0.991	186.21*	3.28	3.545E-04	4.936E-05
PA-234M	0.997	1001.03*	0.59	3.390E-04	3.045E-04
TH-234	0.997	63.29*	3.80	2.590E-04	1.461E-04
		92.38*	2.72	2.023E-04	8.080E-05

\* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy tolerance used was 1.000

Nuclide confidence index threshold = 0.10

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
 \*\*\* INTERFERENCE CORRECTED REPORT \*\*\*  
 \*\*\*\*\*

Sample I.D. CARPET 95-0415  
 Spectrum Number GP02560

Report Reviewed By                     *Lee Yab*                     Date 8/23/95

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/EA )	Wt mean Activity Uncertainty	Wt mean Activity % Uncertainty
K-40	0.999	6.01E-04	6.24E-05	10.4
<del>CS-137</del>	<del>0.997</del>	<del>1.15E-06</del>	<del>1.89E-06</del>	<del>165.2</del> <i>Bad peak high error</i>
PB-212	0.760	3.47E-06	1.42E-06	41.1
BI-214	0.914	1.17E-04	8.22E-06	7.0
PB-214	0.917	1.21E-04	6.98E-06	5.8
RA-226	0.991	3.55E-04	4.94E-05	13.9
PA-234M	0.997	3.39E-04	3.05E-04	89.8
TH-234	0.997	2.16E-04	7.07E-05	32.8
<del>X U-235</del>	<del>0.540</del>			

? = nuclide is part of an undetermined solution  
 X = nuclide rejected by the interference analysis  
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.96 sigma

\*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
11	510.64 <i>ANN RND</i>	2.4340E-02	27.99

M = First peak in a multiplet region  
 m = Other peak in a multiplet region  
 F = Fitted singlet

Errors quoted at 1.96 sigma

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 8/18/95      Report Date: 8/23/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: <sup>DB 8-25-95</sup> 0346A0A303      <sup>0346A0A303</sup>      Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02901	31	9.5	25.2	-2.5	
26.02902	32	9.5	25.2	-4.9	
26.02903	33	9.5	25.2	-7.2	
26.02904	34	9.5	25.2	-4.9	
26.02905	35	9.5	25.2	4.4	
26.02906	36	9.5	25.2	-2	

Location Code: 0346A0DB03      Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02907	37	9.5	25.2	-4.9	
26.02908	38	9.5	25.2	-4.9	
26.02909	39	9.5	25.2	-2.5	
26.02910	40	9.5	25.2	-2	
26.02911	41	9.5	25.2	-2	
26.02912	42	9.5	25.2	-4.9	
26.02913	43	9.5	25.2	2.1	
26.02914	44	9.5	25.2	-2	
26.02915	45	9.5	25.2	-4.9	
26.02916	46	9.5	25.2	-7.2	
26.02917	47	9.5	25.2	4.4	

Flag Values:      1. Unaffected      Individual > 500 dpm/100cm2  
                          2. Non-suspect Affected      Individual > 562 dpm/100cm2  
                          3. Suspected Affected      Individual > 750 dpm/100cm2

Radiochemistry Review: MG  
 Final Survey Technician Review: MS  
 Field Operation Coordinator Review: MG

Date: 8/24/95  
 Date: 9-5-95  
 Date: 9-5-95

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 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 8/18/95      Report Date: 8/23/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: 0346A0TB03

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02918	48	9.5	25.2	-2.5	
26.02919	49	9.5	25.2	-2	
26.02920	50	9.5	25.2	-2	
26.02921	51	9.5	25.2	-2.5	
26.02922	52	9.5	25.2	-2.5	
26.02923	53	9.5	25.2	-7.2	
26.02924	54	9.5	25.2	-2	
26.02925	55	9.5	25.2	-2.5	
26.02926	56	9.5	25.2	-7.2	
26.02927	57	9.5	25.2	-4.9	
26.02928	58	9.5	25.2	2.1	
26.02929	59	9.5	25.2	-2.5	
26.02930	60	9.5	25.2	-4.9	
26.02931	61	9.5	25.2	-7.2	
26.02932	62	9.5	25.2	-4.9	

Flag Values: 1. Unaffected 2. Non-suspect Affected 3. Suspected Affected	Individual > 500 dpm/100cm2 Individual > 562 dpm/100cm2 Individual > 750 dpm/100cm2
---	---

Radiochemistry Review: *[Signature]*

Date: 8/24/95

Final Survey Technician Review: *[Signature]*

Date: 9-5-95

Field Operation Coordinator Review: *[Signature]*

Date: 9-5-95

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
**Radiochemistry Laboratory Analysis Results**

Analysis Date : 8/18/95      Report Date: 8/23/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: 0346A0BB03

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02943	73	5.9	18.1	-5	
26.02944	74	5.9	18.1	1.9	
26.02945	75	5.9	18.1	-2.8	
26.02946	76	5.9	18.1	-5	

Location Code: 0346A0MB03

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02933	63	9.5	25.2	-2	
26.02934	64	9.5	25.2	-2.5	
26.02935	65	9.5	25.2	-7.2	
26.02936	66	9.5	25.2	-2.5	
26.02937	67	9.5	25.2	-7.2	
26.02938	68	9.5	25.2	-2.5	
26.02939	69	9.5	25.2	-4.9	
26.02940	70	9.5	25.2	-7.2	
26.02941	71	9.5	25.2	-2.5	
26.02942	72	9.5	25.2	-2.5	

Flag Values:      1. Unaffected      Individual > 500 dpm/100cm2  
                          2. Non-suspect Affected      Individual > 562 dpm/100cm2  
                          3. Suspected Affected      Individual > 750 dpm/100cm2

Radiochemistry Review: MG

Date: 8/24/95

Final Survey Technician Review: AS

Date: 9-5-95

Field Operation Coordinator Review: MSM

Date: 9-5-95

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 8/18/95      Report Date: 8/23/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: 0346A0JB03

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02947	77	5.9	18.1	-.5	
26.02948	78	5.9	18.1	6.5	
26.02949	79	5.9	18.1	-.5	

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm <sup>2</sup>
	2. Non-suspect Affected	Individual > 562 dpm/100cm <sup>2</sup>
	3. Suspected Affected	Individual > 750 dpm/100cm <sup>2</sup>

Radiochemistry Review: *MS*

Date: 8/24/95

Final Survey Technician Review: *AS*

Date: 9-5-95

Field Operation Coordinator Review: *MSM*

Date: 9-5-95

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :8/18/95      Report Date: 8/23/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0346A0LB03

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02950	80	9.5	25.2	2.1	
26.02951	81	9.5	25.2	-4.9	

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *MG*

Final Survey Technician Review: *AS*

Field Operation Coordinator Review: *MG*

Date: 8/24/95

Date: 9-5-95

Date: 9-5-95

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**SPECIAL OR NON-ROUTINE LABORATORY ANALYSIS**

RP Log Number 95-0412

Laboratory ID Number \_\_\_\_\_

1. **URGENT**  Results required by Date: 8/16 Time: ASAP Dose Rate 800cpm <sup>w/2m.14</sup> None Detectable   
Removable Contamination \_\_\_\_\_ dpm

Sample description: Carpet Sample  
 Sample Location: Visitor Center Requested by: D. Blaine (x166-1)  
 Sampled by: R. Worrick Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 RWP Number: N/A System Number: N/A Air Sample Number: N/A  
 PCR Number: N/A Survey Cross Reference Number: N/A

2. Analyses requested: (please check)

Gross Beta     Gross Alpha     Sr-90     H-3     Gamma-Quantitative     Gamma - Qualitative  
 Other (indicate) \_\_\_\_\_

Is this intended for unconditional release?  Yes     No    If Yes: Is sample representative of entire contents?  Yes     No  
 Are required MDAs standard?  Yes     No

3.

ANALYSIS / NUCLIDE	RESULTS	+ or -	UNITS	COUNTING MDA, if required	COMMENTS
<u>GAMMA</u>	<u>NSA*</u>				
* NO SIGNIFICANT ACTIVITY (NSA) INDICATES THAT NO ACTIVITY (EXCLUDING NATURALLY OCCURRING NUCLIDES) WAS DETECTED ABOVE CRITICAL LEVEL AT A 95% CONFIDENCE LEVEL					

4. Analyzed in accordance with established procedures?  Yes     No    If no, explain below.

5. Comments: \_\_\_\_\_

RC Lab Review: Sheri Chamber

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**SPECIAL OR NON-ROUTINE LABORATORY ANALYSIS**

RP Log Number 95-0415

Laboratory ID Number N/A

1. URGENT

Results required by Date: \_\_\_\_\_ Time: \_\_\_\_\_ Dose Rate 2.0E-17  None Detectable   
Removable Contamination \_\_\_\_\_ dpm

Sample description: CARPAT  
Sample Location: Visiting Center Requested by: D. P. Hume  
Sampled by: C. W. Smith Date: 8-16-45 Time: 1550  
RWP Number: N/A System Number: N/A Air Sample Number: N/A  
PCR Number: N/A Survey Cross Reference Number: N/A

2. Analyses requested: (please check)

- Gross Beta      Gross Alpha      Sr-90      H-3      Gamma-Quantitative      Gamma - Qualitative  
 Other (indicate) \_\_\_\_\_

Is this intended for unconditional release?  Yes  No If Yes: Is sample representative of entire contents?  Yes  No  
Are required MDAs standard?  Yes  No

3.

ANALYSIS / NUCLIDE	RESULTS	+ or -	UNITS	COUNTING MDA, if required	COMMENTS
<u>NSA *</u>					

4. Analyzed in accordance with established procedures?  Yes  No If no, explain below.

5. Comments: \_\_\_\_\_

RC Lab Review: [Signature]

\* Only natural activity detected

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :8/18/95      Report Date: 8/23/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0346A0CB03

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02871	1	9.5	25.2	-4.9	
26.02872	2	9.5	25.2	2.1	
26.02873	3	9.5	25.2	-4.9	
26.02874	4	9.5	25.2	-2.5	
26.02875	5	9.5	25.2	9.0	
26.02876	6	9.5	25.2	-4.9	
26.02877	7	9.5	25.2	-4.9	
26.02878	8	9.5	25.2	-2.5	
26.02879	9	9.5	25.2	-2.5	
26.02880	10	9.5	25.2	-.2	
26.02881	11	9.5	25.2	-2.5	
26.02882	12	9.5	25.2	2.1	
26.02883	13	9.5	25.2	-2.5	
26.02884	14	9.5	25.2	4.4	
26.02885	15	9.5	25.2	-.2	
26.02886	16	9.5	25.2	4.4	
26.02887	17	9.5	25.2	2.1	
26.02888	18	9.5	25.2	-7.2	
26.02889	19	9.5	25.2	-2.5	
26.02890	20	9.5	25.2	2.1	
26.02891	21	9.5	25.2	-2.5	
26.02892	22	9.5	25.2	-2.5	
26.02893	23	9.5	25.2	-.2	
26.02894	24	9.5	25.2	-.2	
26.02895	25	9.5	25.2	2.1	
26.02896	26	9.5	25.2	-.2	
26.02897	27	9.5	25.2	-4.9	
26.02898	28	9.5	25.2	-2.5	
26.02899	29	9.5	25.2	6.7	
26.02900	30	9.5	25.2	-.2	

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Analysis Date :8/18/95

Report Date: 8/23/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *mg*

Date: 8/24/95

Final Survey Technician Review: *AS*

Date: 9-5-95

Field Operation Coordinator Review: *mm*

Date: 9-5-95

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 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :8/21/95      Report Date: 8/24/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0346A0AB02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02952	1	7.4	21.1	-2.1	
26.02953	2	7.4	21.1	.2	
26.02954	3	7.4	21.1	-2.1	
26.02955	4	7.4	21.1	4.9	
26.02956	5	7.4	21.1	2.5	
26.02957	6	7.4	21.1	-4.4	
26.02958	7	7.4	21.1	2.5	
26.02959	8	7.4	21.1	-2.1	
26.02960	9	7.4	21.1	-4.4	
26.02961	10	7.4	21.1	.2	

Location Code: 0346A0DB02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02982	31	7.4	21.1	-2.1	
26.02983	32	7.4	21.1	2.5	
26.02984	33	7.4	21.1	-2.1	
26.02985	34	7.4	21.1	.2	
26.02986	35	7.4	21.1	.2	
26.02987	36	7.4	21.1	.2	

Location Code: 0346A0JB02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02972	21	7.4	21.1	.2	
26.02973	22	7.4	21.1	-4.4	
26.02974	23	7.4	21.1	.2	
26.02975	24	7.4	21.1	.2	
26.02976	25	7.4	21.1	.2	
26.02977	26	7.4	21.1	2.5	
26.02978	27	7.4	21.1	.2	
26.02979	28	7.4	21.1	9.5	
26.02980	29	7.4	21.1	.2	
26.02981	30	7.4	21.1	2.5	

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Analysis Date :8/21/95

Report Date: 8/24/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0346A0LB02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02962	11	7.4	21.1	-4.4	
26.02963	12	7.4	21.1	-2.1	
26.02964	13	7.4	21.1	-2.1	
26.02965	14	7.4	21.1	.2	
26.02966	15	7.4	21.1	-2.1	
26.02967	16	7.4	21.1	.2	
26.02968	17	7.4	21.1	2.5	
26.02969	18	7.4	21.1	.2	
26.02970	19	7.4	21.1	-2.1	
26.02971	20	7.4	21.1	.2	

Location Code: 0346A0MB02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02988	37	7.4	21.1	-2.1	
26.02989	38	7.4	21.1	-4.4	
26.02990	39	7.4	21.1	.2	
26.02991	40	7.4	21.1	.2	
26.02992	41	7.4	21.1	4.9	
26.02993	42	7.4	21.1	-4.4	
26.02994	43	7.4	21.1	-2.1	
26.02995	44	7.4	21.1	-2.1	
26.02996	45	7.4	21.1	.2	
26.02997	46	7.4	21.1	-4.4	

Flag Values:

1. Unaffected

2. Non-suspect Affected

3. Suspected Affected

Individual > 500 dpm/100cm2

Individual > 562 dpm/100cm2

Individual > 750 dpm/100cm2

Radiochemistry Review:

*mg*

Date: 8/24/95

Final Survey Technician Review:

*JIS*

Date: 9/5/95

Field Operation Coordinator Review:

*MSM*

Date: 9-5-95

COPY

**Scientific Ecology Group, Inc - SEG**  
Radiological Engineering & Decommissioning  
Fort St. Vrain - Decommissioning Survey Report  
Radiochemistry Laboratory Analysis Results

Analysis Date :8/18/95      Report Date: 8/23/95      SCN :236.00      Activity (dpm) :      2.41e+4  
Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0346A0CB01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02841	1	9.5	25.2	-2.5	
26.02842	2	9.5	25.2	-2	
26.02843	3	9.5	25.2	2.1	
26.02844	4	9.5	25.2	-2	
26.02845	5	9.5	25.2	-7.2	
26.02846	6	9.5	25.2	-2	
26.02847	7	9.5	25.2	-4.9	
26.02848	8	9.5	25.2	-4.9	
26.02849	9	9.5	25.2	-2	
26.02850	10	9.5	25.2	-4.9	
26.02851	11	9.5	25.2	-2	
26.02852	12	9.5	25.2	-2	
26.02853	13	9.5	25.2	-2	
26.02854	14	9.5	25.2	-7.2	
26.02855	15	9.5	25.2	-4.9	
26.02856	16	9.5	25.2	4.4	
26.02857	17	9.5	25.2	-2	
26.02858	18	9.5	25.2	-2.5	
26.02859	19	9.5	25.2	2.1	
26.02860	20	9.5	25.2	-2.5	
26.02861	21	9.5	25.2	-2	
26.02862	22	9.5	25.2	6.7	
26.02863	23	9.5	25.2	2.1	
26.02864	24	9.5	25.2	4.4	
26.02865	25	9.5	25.2	2.1	
26.02866	26	9.5	25.2	-2.5	
26.02867	27	9.5	25.2	-2.5	
26.02868	28	9.5	25.2	-4.9	
26.02869	29	9.5	25.2	-2	
26.02870	30	9.5	25.2	-4.9	

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Analysis Date :8/18/95

Report Date: 8/23/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0346A0DB01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02803	31	9.5	25.2	-4.9	
26.02804	32	9.5	25.2	-.2	
26.02805	33	9.5	25.2	-4.9	
26.02806	34	9.5	25.2	-7.2	
26.02807	35	9.5	25.2	-4.9	
26.02808	36	9.5	25.2	-.2	
26.02809	37	9.5	25.2	-2.5	
26.02810	38	9.5	25.2	2.1	
26.02811	39	9.5	25.2	-4.9	
26.02812	40	9.5	25.2	2.1	
26.02813	41	9.5	25.2	-2.5	
26.02814	42	9.5	25.2	-4.9	
26.02815	43	9.5	25.2	4.4	
26.02816	44	9.5	25.2	6.7	
26.02817	45	9.5	25.2	-4.9	
26.02818	46	9.5	25.2	-4.9	
26.02819	47	9.5	25.2	6.7	
26.02820	48	9.5	25.2	-4.9	
26.02821	49	9.5	25.2	-2.5	
26.02822	50	9.5	25.2	4.4	
26.02823	51	9.5	25.2	-.2	
26.02824	52	9.5	25.2	-.2	
26.02825	53	9.5	25.2	-2.5	
26.02826	54	9.5	25.2	2.1	
26.02827	55	9.5	25.2	-4.9	
26.02828	56	9.5	25.2	-.2	
26.02829	57	9.5	25.2	-4.9	
26.02830	58	9.5	25.2	-2.5	
26.02831	59	9.5	25.2	-2.5	
26.02832	60	9.5	25.2	-4.9	
26.02833	61	9.5	25.2	-4.9	
26.02834	62	9.5	25.2	-.2	
26.02835	63	9.5	25.2	-.2	

COPY



Analysis Date :8/18/95

Report Date: 8/23/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0346A0DB01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.02836	64	9.5	25.2	-4.9	
26.02837	65	9.5	25.2	-4.9	
26.02838	66	9.5	25.2	-2.5	
26.02839	67	9.5	25.2	11.3	
26.02840	68	9.5	25.2	-2	

Flag Values:

1. Unaffected
2. Non-suspect Affected
3. Suspected Affected

Individual > 500 dpm/100cm2

Individual > 562 dpm/100cm2

Individual > 750 dpm/100cm2

Radiochemistry Review:

*MG*

Date: 8/24/95

Final Survey Technician Review:

*AS*

Date: 9/5/95

Field Operation Coordinator Review:

*ME*

Date: 7-5-95

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**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

Package #: 0350	Building: Visitor Center	Elevation: 4791	Drawing #: PPI-A	Survey Unit: A011
Survey Unit Description <sup>1</sup> : Visitor Center - Building #107 - Center Meeting Room - Suspect Affected Areas				
History of Area(s) <sup>2</sup> :				
<p>While surveying the Center Meeting Room in the Visitor Center as an unaffected survey unit, (see survey package 0346), several areas of elevated activity were identified on the floor and brick walls. As a portion of the investigation, the floor and lower walls were scanned over 100% of accessible surface, and elevated areas were marked for further investigation. Approximately 13 square meters of the carpeted floor, one small area (6 square inches) on the wooden stage, and one small area (6 square inches) on a brick wall, indicated elevated activity. The elevated areas on the carpet and the wooden stage were remediated. The elevated activity measurements on the walls are believed to be due to the material of construction, and should be well below the action levels for an unaffected survey unit once a background subtract value is applied for brick materials. Based on preliminary calculations, once corrected with a brick background subtract value, the highest net activity reading found on the brick walls should be approximately 300 dpm/100cm<sup>2</sup>. Currently no remediation is planned for the brick walls. Further analysis of the brick wall data in survey package 0346 will be performed after the background subtract value is approved for use.</p> <p>The Meeting Room lower walls and floor were reclassified as a suspect affected survey unit and gridded in 1 x 1 meter grids. Since gamma spectroscopy results of carpet samples showed that the majority of activity was attributed to natural uranium, the release criteria for an unaffected survey unit will be used when interpreting survey results. This survey package requires scan surveys of remediated areas and total surface activity, exposure rate, and smear measurements at all grid intersections, and additional measurements in the remediated areas in the event that elevated activity is identified during the scan survey. Additionally, smear samples collected from the remediated area will be analyzed for alpha activity.</p> <p>The Visitor Center has a history of containing radioactive material in display cases, used for demonstration purposes. Display cases, which contained materials such as: Yellow cake (U<sub>3</sub>O<sub>8</sub>), Thorium Oxide (ThO), Brown Oxide (UO<sub>2</sub>), Thorium Dioxide (ThO<sub>2</sub>), Uranium Oxide, and Thorium Ore, were stored in the south hallway of the Visitor Center. The south hallway was also surveyed as a suspect affected area (see survey packages 0340 and 0343). No detectable contamination was found on any external surfaces of the case or floor surfaces.</p>				
Special Support Requirements <sup>3</sup> : None				
Specific Safety Precautions <sup>4</sup> : None				
Field Operations Coordinator: <i>Memiles / Daniel L. B...</i>			Date: <i>8/30/95</i>	

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Isolation Controls <sup>3</sup> : Level 1  Level 2  Level 3

No use, storage or movement of radioactive material is permitted in Group A buildings. All radioactive storage areas outside the Reactor Bldg are controlled by the Radwaste Supervisor. The Radwaste Supervisor has been notified that final surveys of Group A building are to begin and that no radioactive material shall be authorized in these areas.

Prior to the final survey of Group A buildings, training sessions will be held with site personnel regarding final survey isolation controls.

Final configuration of this area is to be maintained. Authorization must be obtained prior to the painting of surfaces, structural renovation and/or removal of components from this area.


Surface Grid Requirements:

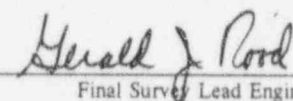
Suspect affected survey units in the Visitor Center will be gridded using 1 x 1 meter grids. Grid intersections will be labeled on the floor and lower wall surfaces. Measurement locations will be labeled on all surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.

- <sup>1</sup> The general area addressed by the survey package. (e.g. machine shop, hot service facility, helium storage system, PCRV, etc.).
- <sup>2</sup> Describe functional use and any known abnormal operating conditions which may have impacted the radiological conditions, especially potentials for past contamination.
- <sup>3</sup> Scaffolding, ladders, temp lighting, the installation of a power supply, etc.
- <sup>4</sup> Confined space entry permits, etc. Interface with MK safety as necessary.
- <sup>5</sup> Isolation requirements in accordance with procedure FSV-SC-FRS-I-108, "Final Survey Isolation and Control Measures."

**SURVEY PACKAGE IMPLEMENTATION**

Survey package ready for implementation.

Signed:  Date: 8/30/95  
Technical Projects Supervisor

Signed:  Date: 8/30/95  
Final Survey Lead Engineer

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**SURVEY PACKAGE CLOSURE**

Final Survey Package is authorized for closure. All required reviews are completed and data analysis results meet acceptance criteria.

Final Survey Lead Engineer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Technical Projects Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Radiation Protection Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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**ATTACHMENT 6.4  
SURVEY UNIT WORK SHEET**

Package #: 0350

Page 1 of 1

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
Visitor Center, Bldg 107 Center Meeting Room Carpeted Floors over concrete	Surface and Structure	Suspect Affected	83	88 (52 exp. rate)		
Visitor Center, Bldg 107 Center Meeting Room Rubber Covered Concrete Floor	Surface and Structure	Suspect Affected	13	12 (6 exp. rate)		
Visitor Center, Bldg 107 Center Meeting Room Painted Wood Floors	Surface and Structure	Suspect-Affected	8	29 (7 exp. rate)		
Visitor Center, Bldg 107 Center Meeting Room Brick Walls up to 2 meters	Surface and Structure	Suspect-Affected	164	124 (68 exp. rate)		

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)

<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas

<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date: *D. A. [Signature]* / 8-30-95  
Radiological Engineer

Revision 1 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

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## ATTACHMENT 6.8 SURVEY PACKAGE VALIDATION CHECKLIST

Survey Package # 0350

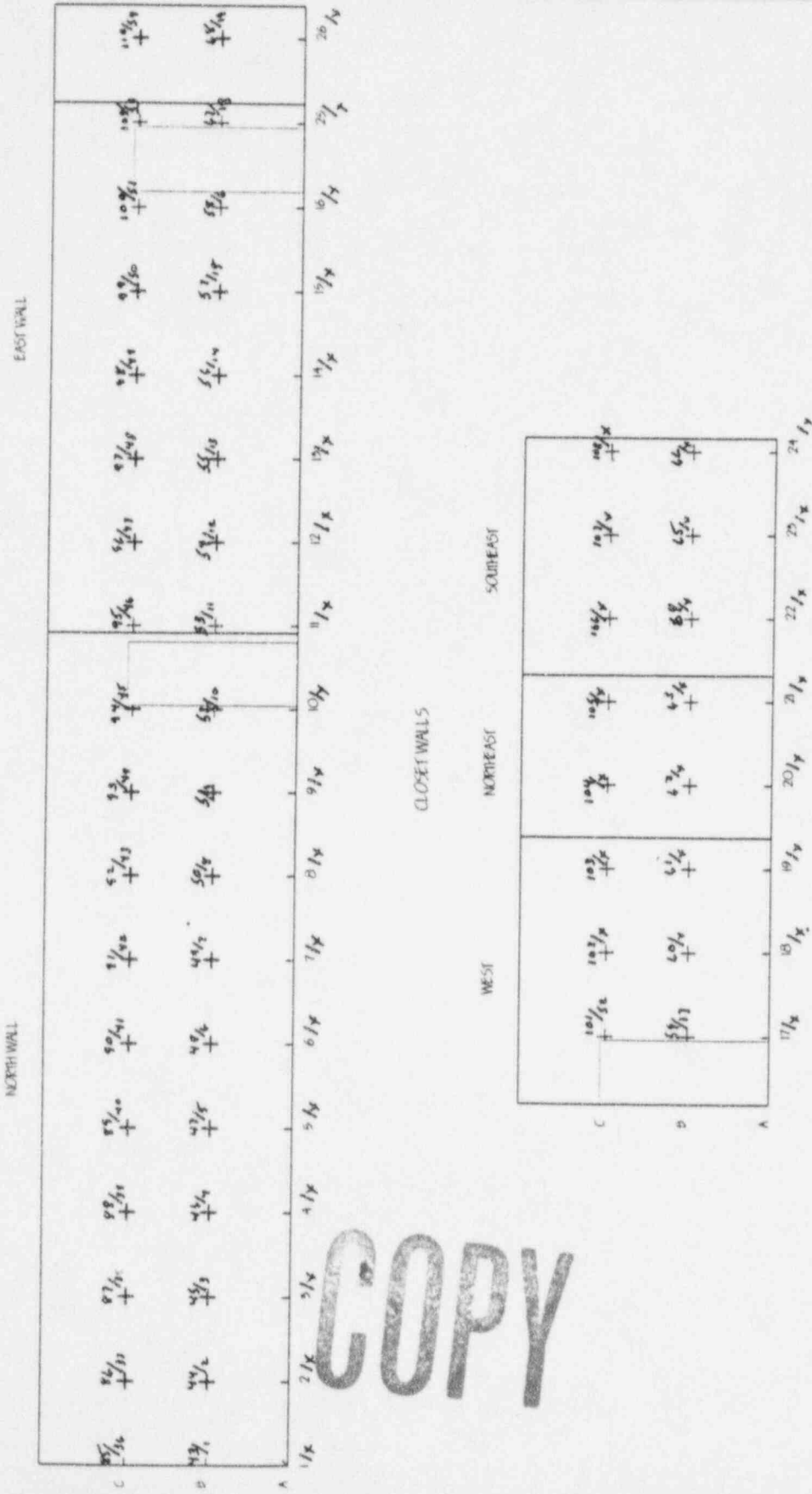
Page 1 of 1

**DATA REVIEWS**

SURVEY DOCUMENTATION REVIEWED FOR COMPLETION:	Remarks
Gamma & Beta Scan Surveys	NAB 9-8-95
Total (Beta) Activity Surveys	NAB 9-8-95
Gamma Exposure Rate Surveys	NAB 9-8-95
Smear Samples	NAB 9-8-95
Soil Samples	NA
Water Samples	NA
<b>ALL REQ'D MEASUREMENTS &amp; SAMPLES ACCOUNTED:</b>	
Gamma & Beta Scan Surveys	NAB 9-8-95
Total (Beta) Activity Surveys	NAB 9-8-95
Gamma Exposure Rate Surveys	NAB 9-8-95
Smear Samples	NAB 9-8-95
Soil Samples	NA
Water Samples	NA
<b>COMMENTS:</b> _____	
SURVEYS ARE COMPLETED & VALIDATED: <u><i>Amel L. D.</i></u> DATE: <u>9-8-95</u> Field Operations Coordinator	
Surveys are completed and the Survey Package review has been completed.	
Final Survey Operations Supervisor:	Date:
Survey package meets acceptance criteria and all required elements of the survey package have been completed.	
Radiological Engineer Signature:	Date:
Survey results & supporting documentation have been reviewed & found to be satisfactory. All data satisfies final survey acceptance criteria per procedure FSV-SC-FRS-I-110, "Final Survey Data Analysis".	
Data Evaluation Engineer Signature:	Date:
Final survey package is complete and ready for closure.	
Final Survey Lead Engineer Signaiure:	Date:

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VISITOR CENTER - #107  
CENTER MEETING ROOM



Survey/Package #: 0750  
 Location Code: 0550BITW01  
 Description: BRICK WALLS UP TO 2 METERS  
 Survey Date/Time: 9-14-95 / 1400 RP Tech Initials: Rcw/Rn

Master Drawing #: PPI-A  
 Bidq: VISITOR CENTER - #107  
 Elev: 4791'

Approx. M<sup>2</sup>: 108  
 Grid Size: 1 X 1

Approx. M<sup>2</sup>:  
 Grid Size:

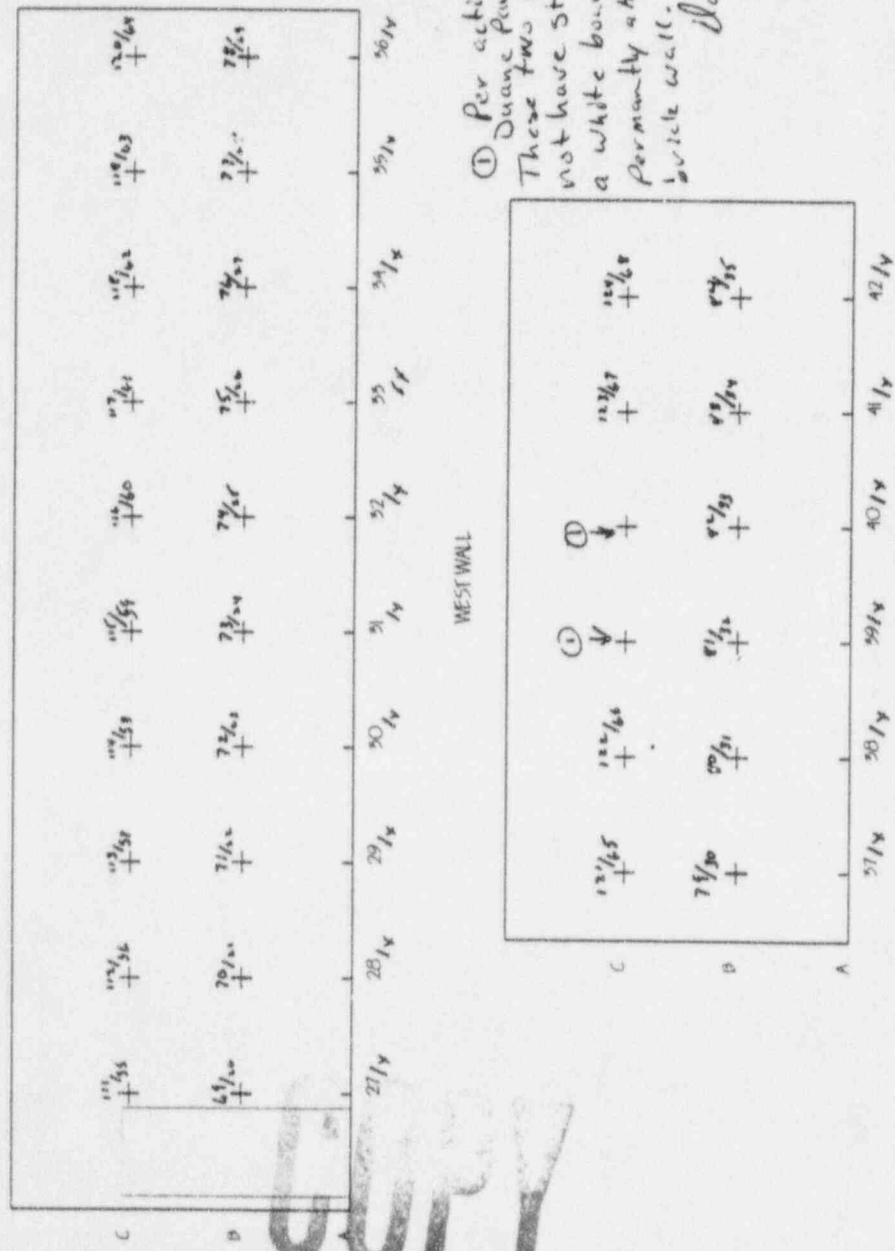
Location Code:  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp Rate  Beta/Gamma Seams  H-3 Seams  Liquid Sample  Solid Sample  Surface Sed  Subsurface Sed  Other

Survey Date/Time: 9-14-95 / 1400 RP Tech Initials: Rcw/Rn

WALL MEASUREMENT LOCATION:  FLOOR SCAN LOCATION:  WALL SCAN LOCATION:  **Beta/Gamma X-Ray**

FILE: GP\_A\PACKAGE\0550\CHD

VISITOR CENTER - #107  
 CENTER MEETING ROOM  
 SOUTH WALL



① Per acting F-SLE.  
 Duane Parsons do  
 These two points do  
 not have stickers due to  
 a white board that is  
 permanently attached to the  
 brick wall.  
 Daniel B. 9-8-95

Survey/Package #: 0550 Master Drawing #: PPI-A Elevation: 4791'

Location Code: 0550B11W01 Description: BRICK WALLS UP TO 2 METERS

Approx. M<sup>2</sup>: 56 Grid Size: 1 X 1

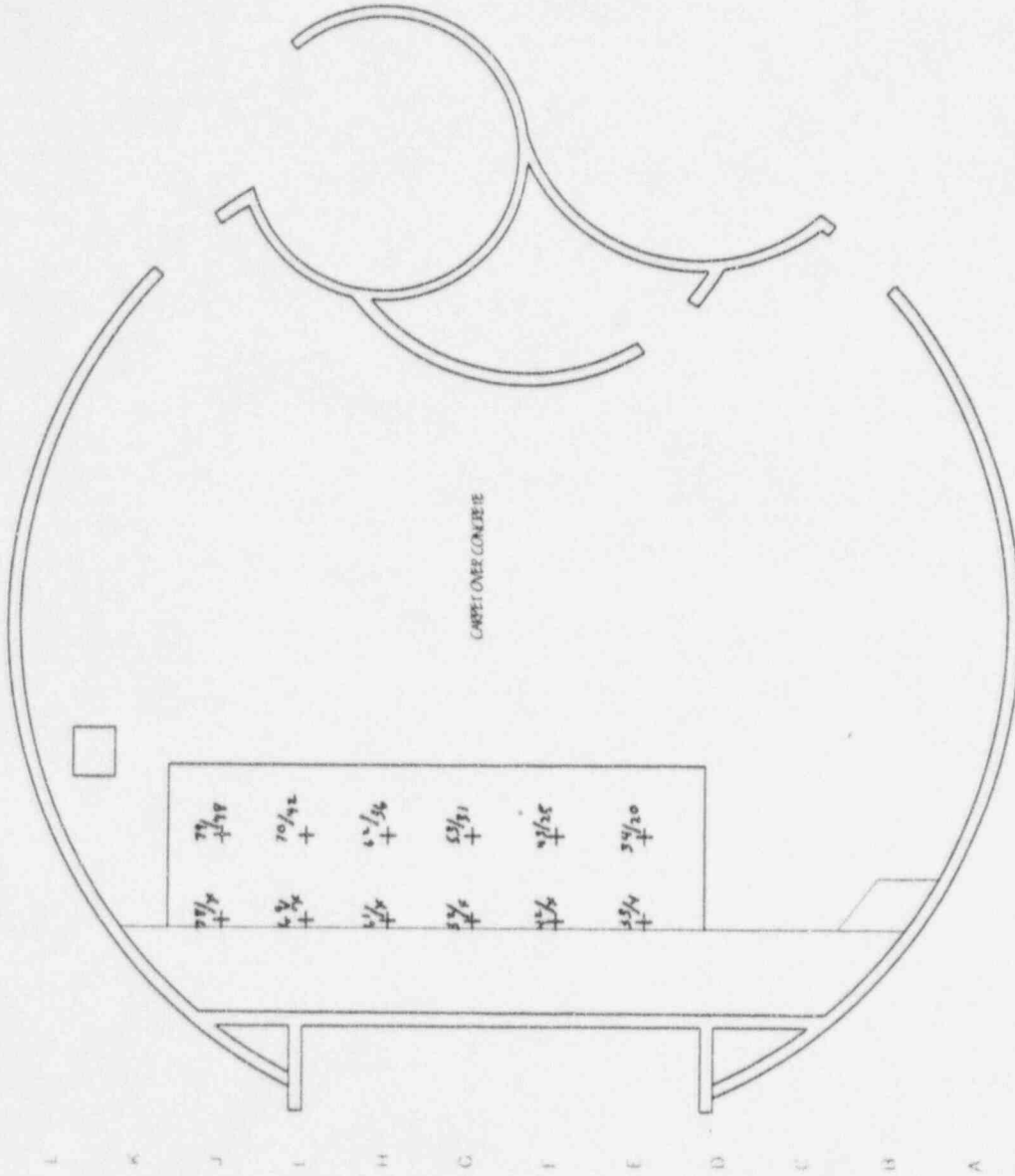
Approx. M<sup>2</sup>: Grid Size

Legend:  
 Bore Sun  Gamma Sun  Total Activity  Gamma Ep Rate  Beta/Gamma Surs  H-3 Surs  Liquid Sample  Surface Sd  Subsurface Sd  Other  
 Bore Sun  Gamma Sun  H-3 Surs  Liquid Sample  Surface Sd  Subsurface Sd  Other

RP Tech Initials: RUC/RN

FILE: BR-A\DATA\0550101

VISITOR CENTER - #107  
FLOOR - CENTER MEETING AREA



**COPY**

Survey/Package #: 0350 Master Drawing #: PPI-A Bid: VISITOR CENTER - #107 Elev: 4791'

Location Code: 0350BIF01 Description: RUBBER COVERED CONCRETE FLOOR Approx. M<sup>2</sup> 15 Grid Size 1 X 1

Gamma Scan  Total Activity  Beta/Gamma Scans  Liquid Sample  Surface Sed  Sub-surface Sed  Other  
 Beta Scan  Total Activity  Beta/Gamma Scans  Liquid Sample  Surface Sed  Sub-surface Sed  Other

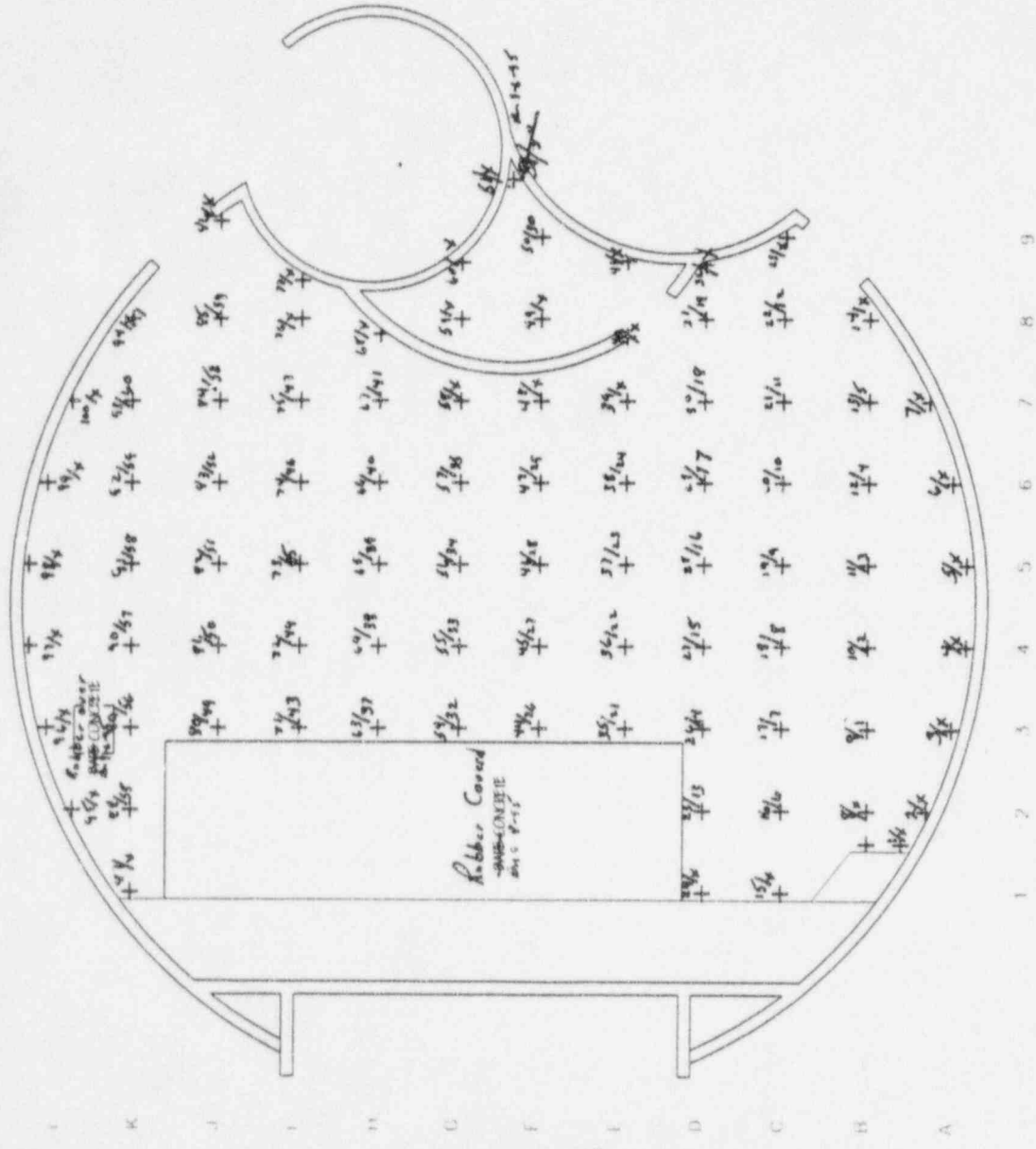
Location Code: RP Tech Initials: R-20/AN

Survey Date/Time: 9-6-95

FLOOR MEASUREMENT LOCATION  FLOOR SCORING LOCATION  WALL SCORING LOCATION  WALL SCORING LOCATION  WALL SCORING LOCATION  WALL SCORING LOCATION

FILE: RP\_A\PROJECT\0350\03

VISITOR CENTER - #107  
 FLOOR - CENTER MEETING AREA



**COPY**

Survey/Package #: 0550      Master Drawing #: PPI-A      Bidder: VISITOR CENTER - #107      Elev: 4791'

Location Code: 0550BICFOI      Description: CARPETED FLOORS OVER CONCRETE      Approx. M<sup>2</sup>: B3      Grid Size: 1 X 1

Legend:  
 Beta Scan     Gamma Scan     Total Activity     Gamma Exp. Rate     Beta/Gamma Smears     Liquid Sample     Subst. Sample     Other  
 Beta Scan     Gamma Scan     Total Activity     Gamma Exp. Rate     Beta/Gamma Smears     Liquid Sample     Subst. Sample     Other

Survey Date/Time: 9-6-95 / 1400      RP Tech Initials: RWR/ER

Location Code:  Beta Scan     Gamma Scan     Total Activity     Gamma Exp. Rate     Beta/Gamma Smears     Liquid Sample     Subst. Sample     Other

Legend:  
 (•) WELL MEASUREMENT LOCATION      (○) FLOOR SURVEILOR      (□) WELL SURVEILOR      (□) Other

Scale: 1" = 10'      X-NO. 8      B3/V7

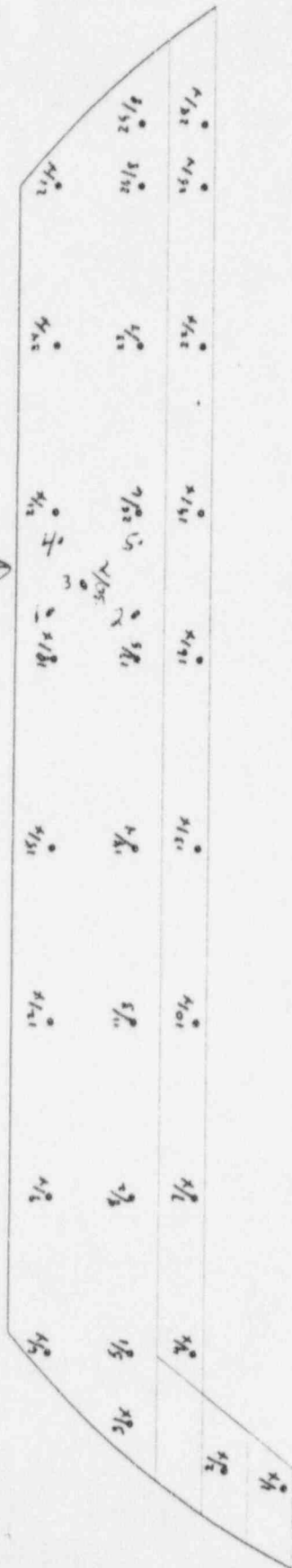
FILE: RP\_APP\DATA\0550.CAD



VISITOR CENTER - #107  
FLOOR - STAGE IN CENTER MEETING AREA

COPY

These 5 sample beatings  
are for 0350B2KFOI  
run 4/7/95



Survey/Package #: 0350  
 Location Code: 0350B2KFOI  
 Description: PAINTED WOOD FLOOR  
 Master Drawing #: PPI-A  
 Visitor Center - #107  
 Elev.: 4791'

Location Code: 0350B2KFOI  
 Description: Painted Wood Floor  
 Master Drawing #: PPI-A  
 Visitor Center - #107  
 Elev.: 4791'

Survey Date/Time: 9-7-95 1:40  
 RP Tech Initials: R-2/10

Approx. M<sup>2</sup> B Grid Size N/A  
 Approx. M<sup>2</sup> B Grid Size 1 X 1 m<sup>2</sup>

WALL MEASUREMENT LOCATION  
 FLOOR MEASUREMENT LOCATION  
 WALL SCAN LOCATION  
 FLOOR SCAN LOCATION

FILE: GP\_A\PC\GNE\0350.CAD

ATTACHMENT 6.1  
FINAL SURVEY DATA INVESTIGATION FORM

<b>Survey Package #:</b> 0350	<b>Location Code(s):</b> 0350B1KF01
<b>Description of Problem:</b>  Visitor Center - Auditorium Stage floor, affected. Elevated count rates were identified during the scan survey portion of the final survey. Note: this area was found to be contaminated during the initial final survey, see survey results in package 0346. The area was decontaminated prior to performing the survey using location code 0350B1KF01.	
<b>Follow-up Actions:</b>  The area was further decontaminated and the RP Technician covering the decon verified that the area contained no further activity by performing a job coverage survey after remediation. The remediated area will be resurveyed using location code 0350B2KF01.	
<b>Disposition:</b>  Further data analysis of these location code results will be performed upon completion of the survey.	
<b>Investigation Performed By:</b> <u><i>[Signature]</i></u>	<b>Date:</b> 9-7-95
<b>Reviewed By:</b> <u><i>Chuck Buntell</i></u> (Data Evaluation Engineer)	<b>Date:</b> 9-7-95

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0350

6 6  
Page 7 of 7  
DB 8-8-95 DB 8-8-95  
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	
Classification Code: B Resurvey #: 2	Grid size:  N/A	Beta Scan	*	* Scan 100% of the floor surfaces which were remediated and a 1 meter perimeter around each remediated area.	<i>RW 9-7-95</i>
		Gamma Scan	N/A		
Material Code: K Surface Code: F01		Total Surface Activity	5	At marked areas on the floor surfaces.	<i>RW 9-7-95</i>
		Exposure Rate	N/A		
Location Code : 0350B2KF01	Area (m <sup>2</sup> )  8	$\beta\gamma$ Smears	5	At same measurement locations as total surface activity measurements. Analyze all smears for alpha activity.	<i>RW 9-7-95</i>
		H-3/Fe-55 Smears	N/A		
Survey Unit Name and Description:  Visitor Center, # 107 Center Meeting Room Painted Wood Floor  Take the measurements on and around the remediated areas.		Type of material/soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC    Investigation    Resurvey   Approval:

*Chuck Bertoff*      19-7-95  
Radiological Engineer      Date

*Dina Pan*      19-7-95  
Final Survey Lead Engineer      Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM**

Package # 0350	Building Visitor	Elevation 4791'	Drawing # PPI-A	Survey Unit A011	Page <u>1</u> of <u>76</u> <u>8098-95</u>
General Description of Survey Unit: Visitor Center - Building #107 - Center Meeting Room - Suspect Affected Areas					

**FIELD INSTRUMENTATION/INSTRUCTIONS**

Instrument & Detector	Measurement Type	Count Time	Location Code	Remarks/Survey Instruction
2350/44-2	Gamma, Fixed Point	15 sec.	All	No alarm set point is required.
2350/43-68	Beta, Fixed Point	15 sec.	All	Collect a minimum of 12 shielded local area background counts for each surface identified by a location code, using a 15 second count time.  The scaler alarm for fixed point measurements may be set using the following equation: $(1250 \text{ dpm}/100\text{cm}^2 * 1.25 * \text{detector efficiency} * \text{count time (min.)}) + (\text{Bkgd counts (cpm}/125\text{cm}^2) * \text{sample count time (min.)}) = \text{alarm set point (counts}/125\text{cm}^2)$ Note: Bkgd counts is the average shielded local area background counts.
2350/44-2	Gamma	N/A	All	Enter a zero background subtract when downloading survey data.
2350/43-68	Beta	N/A	All	Enter a zero background subtract when downloading survey data.
N/A	N/A	N/A	0350B1/F01 R	Analyze smears for alpha activity.
N/A	N/A	N/A	All	If any questions arise during the final survey, contact the survey package engineer, the FOC or FSLE.

Prepared By/Date: D. [Signature] / 8-29-95  
Radiological Engineer / Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0350

Page 2 of 7<sup>6</sup>~~10~~898-95

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: B	Resurvey #: 1	Grid size: 1 x 1 m	Beta Scan	*	* Scan a 1 meter perimeter around each remediated area. All other carpeted floor surfaces were scanned during an investigation survey (see survey package 0346).	Rcw 9-6-95
			Gamma Scan	N/A		
Material Code: C	Surface Code: F01		Total Surface Activity	88	At marked areas on the floor surfaces.	Rcw 9-6-95
			Exposure Rate	52	At 1 meter from marked areas on the floor surfaces.	Rcw 9-6-95
Location Code: 0350B1CF01		Area (m <sup>2</sup> ): 83	$\beta\gamma$ Smears	88	At same measurement locations as total surface activity measurements.	Rcw 9-6-95
			H-3/Fe-55 Smears	N/A		
Survey Unit Name and Description: Visitor Center, # 107 Center Meeting Room Carpeted Floors over concrete Area has been marked with pre-determined measurement locations.		Type of material/soil sample	N/A		Type of analyses <input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			
			N/A			

QC    Investigation    Resurvey   Approval:

*D. ...*   1 8-24-95  
Radiological Engineer   Date

  /    
Final Survey Lead Engineer   Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package # 0350

Page 3 of 709845<sup>6</sup>

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: B	Resurvey #: 1	Grid size: 1 x 1 m	Beta Scan	*	* Scan 100% of the remediated floor surfaces.	RW 9-6-95
			Gamma Scan	N/A		
Material Code: R	Surface Code: F01		Total Surface Activity	12	At marked areas on the floor surfaces.	RW 9-6-95
			Exposure Rate	6	At 1 meter from marked areas on the floor surfaces.	RW 9-6-95
Location Code: 0350B1RF01		Area (m <sup>2</sup> ): 13	$\beta\gamma$ Smears	12	At same measurement locations as total surface activity measurements. Analyze all smears for alpha activity.	RW 9-6-95
			H-3/Fe-55 Smears	N/A		
Survey Unit Name and Description:  Visitor Center, # 107 Center Meeting Room Rubber Covered Concrete Floor Area has been marked with pre-determined measurement locations.		Type of material/soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cs-137 <input type="checkbox"/> Other:	
			N/A			
			N/A			

QC    Investigation    Resurvey   Approval:

*Smater*      18/30/95  
Radiological Engineer      Date

\_\_\_\_\_  
Final Survey Lead Engineer      Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0350

Page 4 of 7 <sup>6</sup>  
~~7~~ AB4-855

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: B	Resurvey #: 1	Grid size: N/A	Beta Scan	*	* Scan 100% of the floor surfaces which were remediated and a 1 meter perimeter around each remediated area. All other floor surfaces were scanned during an investigation survey (see survey package 0346).	RW 9-6-95
			Gamma Scan	N/A		
Material Code: K	Surface Code: F01		Total Surface Activity	29	At marked areas on the floor surfaces.	RW 9-6-95
			Exposure Rate	7	At 1 meter from marked areas on the wall surfaces.	lu 9-6-95
Location Code: 0350B1KF01		Area (m <sup>2</sup> ): 8	$\beta\gamma$ Smears	29	At same measurement locations as total surface activity measurements.	lu 9-6-95
			H-3/Fe-55 Smears	N/A		
Survey Unit Name and Description:  Visitor Center, # 107 Center Meeting Room Painted Wood Floor Area has been marked with pre-determined measurement locations.		Type of material/soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55	
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	

QC    Investigation    Resurvey   Approval:

*[Signature]* / 8-24-95  
Radiological Engineer                      Date

\_\_\_\_\_/\_\_\_\_\_  
Final Survey Lead Engineer              Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package # 0350

Page 5 of 6

(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: B	Resurvey #: 1	Grid size: 1 x 1 m	Beta Scan	*	* A 100% scan survey of the wall surfaces was performed during an investigation survey (see survey package 0346), therefore no scanning is required.	R/A
			Gamma Scan	N/A		
Material Code: T	Surface Code: W01		Total Surface Activity	124	At marked areas on the wall surfaces.	RW 9-6-95
			Exposure Rate	68	At 1 meter from marked areas on the wall surfaces.	dn 9-6-95
Location Code: 0350B1TW01		Area (m <sup>2</sup> ): 164	βγ Smears	124	At same measurement locations as total surface activity measurements.	dn 9-6-95
			H-3/Fe-55 Smears	N/A		
Survey Unit Name and Description:  Visitor Center, # 107 Center Meeting Room Brick Walls up to 2 meters Area has been marked with pre-determined measurement locations.		Type of material/soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> γ Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55	
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	

QC    Investigation    Resurvey   Approval:

*D. A. [Signature]*   18-24-95  
Radiological Engineer   Date

\_\_\_\_\_  
Final Survey Lead Engineer   Date

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**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

Package #: 0350	Bldg. Name: Visitor Center #107	Elevation: 4791	Survey Unit: A011
-----------------	---------------------------------	-----------------	-------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N) <sup>1</sup>
531	0350B1CF01	Rate	95356/PRO9254	R. Worrick 9-6-95	Y
↓	0350B1KF01	↓	↓	↓	Y
↓	0350B1RF01	↓	↓	↓	Y
535	0350BITW01	Rate	↓	↓	Y
528	0350B1CF01	Gamma	98635/PRO95312	Neely	Y
528	0350B1KF01	Gamma	98635/PRO95312	Neely	Y
528	0350B1RF01	Gamma	98635/PRO95312	Neely	Y
538	0350B2KF01	Rate	95356/9511	R. Worrick 9-7-95	Y

**IF** the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), **THEN** indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date:  Daniel L. Baker   1-9-8-95   
 Field Operations Coordinator Date

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ATTACHMENT 6.1  
FINAL SURVEY DATA INVESTIGATION FORM

Survey Package #: 0346	Location Code(s): 0346AGCB03
<b>Description of Problem:</b> Visitor Center - Auditorium carpeted floor, unaffected. Elevated count rates were identified during the scan survey portion of the final survey.	
<b>Follow-up Actions:</b> Two carpet samples were removed for qualitative analysis by gamma spectroscopy and indicated that the elevated activity was due primarily to uranium (U-238). A trace amount of cobalt-60 was also detected at a level which would not have been detected by the initial field measurements. (less than 1% of the observed count rate) A scan survey over 100% of the floor and lower wall surfaces was performed. Fixed point measurements were collected at areas of elevated count rate found during the scan survey. Refer to the attached survey results and survey map for additional detail. Only the local area background (shielded count) will be used for background correction of the total surface activity measurements. The material background component will be assigned a value of zero (0). The carpeted floor surface and lower walls were reclassified as suspect affected and will be resurveyed in accordance with the instruction in Survey Package# 0350.	
<b>Disposition:</b> Portions of the carpet indicating elevated count rate will be removed.	
Investigation Performed By: <i>R. C. Wood</i>	Date: 8-23-95
Reviewed By: <i>D. A. [Signature]</i> (Data Evaluation Engineer)	Date: 8-23-95

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ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)

Survey Package #: 0346

Page 17 of     

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey #: G	Grid size: N/A	Beta Scan	*	* Scan 100% of accessible floor surfaces.
Material Code: C	Surface Code: B03		Gamma Scan	N/A	
Location Code: 0346AGCB03			Total Surface Activity	*	* Collect total activity (fixed) measurements at area(s) of elevated activity identified during the scan.
			Exposure Rate	N/A	
Area (m <sup>2</sup> ): 96		$\beta\gamma$ Smears	N/A		
		Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Center Meeting Room Carpeted Floors over concrete		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:

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QC    Investigation    Resurvey

Approval:

D. A. P. / 8-23-95  
Radiological Engineer                      Date

Gerald J. Reed / 8/23/95  
Final Survey Lead Engineer              Date

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**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0346

Page 19 of     

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey #: G	Beta Scan	*	* Scan 100% of accessible wall (below 2 m) surfaces.	RCW 8-23-95
		Gamma Scan	N/A		
Material Code: Q	Surface Code: B03	Total Surface Activity	*	* Collect total activity (fixed) measurements at area(s) of elevated activity identified during the scan.	RCW 8-23-95
		Exposure Rate	N/A		
Location Code: 0346AGQB03		Area (m <sup>2</sup> )			
		164			
Survey Unit Breakdown and Description: Visitor Center, Bldg. #107 Center Meeting Room Brick walls up to 2 meters		Type of material /soil sample	N/A		Type of analyses <input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A		
			N/A		
			N/A		

QC     Investigation     Resurvey

Approval:

*D. A. ...* / 8-23-95  
Radiological Engineer                      Date

*Michael J. Reed* / 8/23/95  
Final Survey Lead Engineer              Date

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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/21/95  
 Download Station #: 1 Download File #: 500 Time: 16:50  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: R. Warrick Signature: [Signature] Date: 8-21-95  
 Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Instrument Serial #(s): Model 2350: 95359

Survey Location description: Visitor Center, Carpeted Floor and Concrete, wood stage, brick wall seen  
 (Example: Rr Bldg. Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): Investigation

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>92525</u>	<u>43-68B</u>	<u>.199</u>	<u>125</u>		
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>442</u>				

Local Area Background Measurements

											MEAN BKG CPM	
<u>147</u>	<u>147</u>	<u>136</u>	<u>159</u>	<u>159</u>	<u>154</u>	<u>140</u>	<u>158</u>	<u>146</u>	<u>159</u>	<u>155</u>	<u>145</u>	<u>600</u> <u>150</u> <u>8/21/95</u>

COMMENTS: This survey file covers seen and data points performed on 8/18/95 and 8/21/95. There are two sets of source checks.

**COPY COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 500, Visitors Center, Carpeted Floor Over Concrete, Wood Stage, Brick Wall Scan  
 Reason: Investigation User: RCW1152/95359  
 M2150 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .199

Survey Performed By: *gll*

Date: 8-23-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Survey Date: 8/18/95 Survey Start Time: 06:26 Station: 1  
 Date/Time Report Printed: 8/23/95 10:47:01 File: 500  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	M
1	A		SC1TC886	0	60	1366	1366	5491	*
18	A		SC1TC886	0	60	1368	1368	5499	*
22	A		SC1TC886	0	60	1373	1373	5520	*
63	A		SC1TC886	0	60	1375	1375	5528	*

Number of Measurements at this Survey Location: 4

2	A		SC2TC886	0	60	1489	1489	5986	*
19	A		SC2TC886	0	60	1474	1474	5926	*
23	A		SC2TC886	0	60	1517	1517	6098	*
64	A		SC2TC886	0	60	1524	1524	6127	*

Number of Measurements at this Survey Location: 4

3	A		SC1TC886	0	60	1415	1415	5688	*
20	A		SC1TC886	0	60	1404	1404	5644	*
24	A		SC1TC886	0	60	1445	1445	5809	*
65	A		SC1TC886	0	60	1465	1465	5889	*

Number of Measurements at this Survey Location: 4

17	A		SCBKGPOST	0	60	402	402	1616	*
62	A		SCBKGPOST	0	60	444	444	1785	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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Survey Date: 8/21/95 Survey Start Time: 15:50  
 Date/Time Report Printed: 8/21/95 10:47:01

Station: 1  
 File: 500  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey/ Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
--------	--------	-------------	------------------	--------	------------------	--------------	-----------------------	--------------------------	-----

Number of Measurements at this Survey Location: 2

0	A		SCBKGPPE	0	600	4056	406	1631 *	
21	A		SCBKGPPE	0	600	3707	371	1490 *	

Number of Measurements at this Survey Location: 2

4	A		0346AGCLAB	1	15	159	636	2557 *	
5	A		0346AGCLAB	1	15	162	648	2605 *	
6	A		0346AGCLAB	1	15	149	596	2396 *	
7	A		0346AGCLAB	1	15	145	580	2332 *	
8	A		0346AGCLAB	1	15	139	556	2235 *	
9	A		0346AGCLAB	1	15	142	568	2283 *	
10	A		0346AGCLAB	1	15	157	628	2525 *	
11	A		0346AGCLAB	1	15	153	612	2460 *	
13	A		0346AGCLAB	1	15	168	672	2702 *	
14	A		0346AGCLAB	1	15	164	656	2637 *	
15	A		0346AGCLAB	1	15	167	668	2685 *	
16	A		0346AGCLAB	1	15	124	496	1994 *	
25	A		0346AGCLAB	1	15	147	588	2364 *	
26	A		0346AGCLAB	1	15	147	588	2364 *	
27	A		0346AGCLAB	1	15	136	544	2187 *	
28	A		0346AGCLAB	1	15	159	636	2557 *	
29	A		0346AGCLAB	1	15	159	636	2557 *	
30	A		0346AGCLAB	1	15	154	616	2476 *	
31	A		0346AGCLAB	1	15	140	560	2251 *	
32	A		0346AGCLAB	1	15	158	632	2541 *	
33	A		0346AGCLAB	1	15	146	584	2348 *	
34	A		0346AGCLAB	1	15	159	636	2557 *	
35	A		0346AGCLAB	1	15	155	620	2492 *	
36	A		0346AGCLAB	1	15	145	580	2332 *	

Number of Measurements at this Survey Location: 24

50	A		0346AGQLAB	1	15	135	540	2171 *	
51	A		0346AGQLAB	1	15	143	572	2299 *	
52	A		0346AGQLAB	1	15	152	608	2444 *	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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Survey Date: 8/21/95 Survey Start Time: 13:10  
Date/Time Report Printed: 8/23/95 10:47:01

Station: 1  
File: 500  
Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
53	A		0346AGQLAB	1	15	122	488	1962	*
54	A		0346AGQLAB	1	15	114	456	1833	*
55	A		0346AGQLAB	1	15	115	460	1849	*
56	A		0346AGQLAB	1	15	134	536	2155	*
57	A		0346AGQLAB	1	15	140	560	2251	*
58	A		0346AGQLAB	1	15	142	568	2283	*
59	A		0346AGQLAB	1	15	121	484	1946	*
60	A		0346AGQLAB	1	15	128	512	2058	*
61	A		0346AGQLAB	1	15	123	492	1978	*

Number of Measurements at this Survey Location: 12

37	A		0346AGCB03	2	15	304	1216	4888	*
38	A		0346AGCB03	2	15	278	1112	4470	*
39	A		0346AGCB03	2	15	260	1040	4181	*
40	A		0346AGCB03	2	15	345	1380	5548	*
41	A		0346AGCB03	2	15	372	1488	5982	*
42	A		0346AGCB03	2	15	394	1576	6336	*
43	A		0346AGCB03	2	15	559	2236	8989	*
44	A		0346AGCB03	2	15	311	1244	5001	*
45	A		0346AGCB03	2	15	445	1780	7156	*
46	A		0346AGCB03	2	15	350	1400	5628	*
47	A		0346AGCB03	2	15	540	2160	8683	*
48	A		0346AGCB03	2	15	267	1068	4293	*
49	A		0346AGCB03	2	15	260	1040	4181	*

Number of Measurements at this Survey Location: 13

Total Number of Measurements on this Report: 65

End of Report

01559:C:\PDOXJ5\M2350\TLCGRVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWS

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\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
500	8/23/95 10:30	Sample Points 50-61 Change Location code to 0346AGQLAB	RCW	JW Egert	Changed Loc. Code on samp. 50-61 to 0346AGQLAB	JW Egert	8/23/95 10:45
503	8/23/95 10:30	Sample Points 70-81 Change Location code to 0346AGQLAB Sample Points 82-83 Change Location code to 0346AGQB03	RCW	JW Egert	Changed Loc. Code on samp. 70-81 to 0346AGQLAB and on samp. 82-83 to 0346AGQB03	JW Egert	8/23/95 10:55

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Attach this sheet to the front of the Survey Download Report requiring changes.

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Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 500, Visitors Center, Carpeted Floor Over Concrete, Wood Stage, Brick Wall Scar.  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .199

Survey Performed By: Jeff W. Smith

Date: 8/22/95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 500  
 Page: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26  
 Date/Time Report Printed: 8/22/95 10:23:38

Comments

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	A		SC1TC886	0	60	1366	1366	5491	*
18	A		SC1TC886	0	60	1368	1368	5499	*
22	A		SC1TC886	0	60	1373	1373	5520	*
63	A		SC1TC886	0	60	1375	1375	5528	*

Number of Measurements at this Survey Location: 4

2	A		SC2TC886	0	60	1489	1489	5986	*
19	A		SC2TC886	0	60	1474	1474	5926	*
23	A		SC2TC886	0	60	1517	1517	6098	*
64	A		SC2TC886	0	60	1524	1524	6127	*

Number of Measurements at this Survey Location: 4

3	A		SC3TC886	0	60	1415	1415	5688	*
20	A		SC3TC886	0	60	1404	1404	5644	*
24	A		SC3TC886	0	60	1445	1445	5809	*
65	A		SC3TC886	0	60	1465	1465	5889	*

Number of Measurements at this Survey Location: 4

17	A		SCBKGPOST	0	60	402	402	1616	*
62	A		SCBKGPOST	0	60	444	444	1785	*

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\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/21/95 Survey Start Time: 15:50  
 Date/Time Report Printed: 8/22/95 10:23:36

Station: 1  
 File: 500  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
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Number of Measurements at this Survey Location: 2

0	A		SCBKGPPE	0	600	4056	406	1631 *	
21	A		SCBKGPPE	0	600	3707	371	1490 *	

Number of Measurements at this Survey Location: 2

4	A		0346AGCLAB	1	15	159	636	2557 *	
5	A		0346AGCLAB	1	15	162	648	2605 *	
6	A		0346AGCLAB	1	15	149	596	2396 *	
7	A		0346AGCLAB	1	15	145	580	2332 *	
8	A		0346AGCLAB	1	15	139	556	2235 *	
9	A		0346AGCLAB	1	15	142	568	2283 *	
10	A		0346AGCLAB	1	15	157	628	2525 *	
11	A		0346AGCLAB	1	15	153	612	2460 *	
13	A		0346AGCLAB	1	15	168	672	2702 *	
14	A		0346AGCLAB	1	15	164	656	2637 *	
15	A		0346AGCLAB	1	15	167	668	2685 *	
16	A		0346AGCLAB	1	15	124	496	1994 *	
25	A		0346AGCLAB	1	15	147	588	2364 *	
26	A		0346AGCLAB	1	15	147	588	2364 *	
27	A		0346AGCLAB	1	15	136	544	2187 *	
28	A		0346AGCLAB	1	15	159	636	2557 *	
29	A		0346AGCLAB	1	15	159	636	2557 *	
30	A		0346AGCLAB	1	15	154	616	2476 *	
31	A		0346AGCLAB	1	15	140	560	2251 *	
32	A		0346AGCLAB	1	15	158	632	2541 *	
33	A		0346AGCLAB	1	15	146	584	2346 *	
34	A		0346AGCLAB	1	15	159	636	2557 *	
35	A		0346AGCLAB	1	15	155	620	2492 *	
36	A		0346AGCLAB	1	15	145	580	2332 *	

*Avg Bkgd Act. (local area shielded)  
 2418.8 dpm/100cm<sup>2</sup>*

**COPY**

Number of Measurements at this Survey Location: 24

50	A		0346AGTLAB	1	15	135	540	2171 *	
51	A		0346AGTLAB	1	15	143	572	2299 *	
52	A		0346AGTLAB	1	15	152	608	2444 *	

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
53	A		0346AGTLAB	1	15	122	488	1962	*
54	A		0346AGTLAB	1	15	114	456	1833	*
55	A		0346AGTLAB	1	15	115	460	1849	*
56	A		0346AGTLAB	1	15	114	536	2155	*
57	A		0346AGTLAB	1	15	140	560	2251	*
58	A		0346AGTLAB	1	15	142	568	2283	*
59	A		0346AGTLAB	1	15	121	484	1946	*
60	A		0346AGTLAB	1	15	128	512	2058	*
61	A		0346AGTLAB	1	15	123	492	1978	*

Number of Measurements at this Survey Location: 12

37	A		0346AGCB03	2	15	304	1216	4888	*
38	A		0346AGCB03	2	15	278	1112	4470	*
39	A		0346AGCB03	2	15	260	1040	4181	*
40	A		0346AGCB03	2	15	345	1380	5548	*
41	A		0346AGCB03	2	15	372	1488	5982	*
42	A		0346AGCB03	2	15	394	1576	6336	*
43	A		0346AGCB03	2	15	559	2236	8989	*
44	A		0346AGCB03	2	15	311	1244	5001	*
45	A		0346AGCB03	2	15	445	1780	7156	*
46	A		0346AGCB03	2	15	350	1400	5628	*
47	A		0346AGCB03	2	15	540	2160	8683	*
48	A		0346AGCB03	2	15	267	1068	4293	*
49	A		0346AGCB03	2	15	260	1040	4181	*

Net Activity = local area bkgrd - gross act.

2469.2  
 2051.2  
 1762.2  
 3129.2  
 3563.2  
 3917.2  
 6570.2  
 2582.2  
 4737.2  
 3209.2  
 6264.2  
 1874.2  
 1762.2

Number of Measurements at this Survey Location: 13

Total Number of Measurements on this Report: 65

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

**COPY**

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
500	8/21/95 1630	Delete Sample Point # 12 Meter glitch	RCW	gW Egert	Deleted sample # 12.	gW Egert	8/22/95 10:20
500	8/21/95 1630	Samples 25-36: Change location code to 0346AGCLAB	RCW	gW Egert	Changed Loc. Code on samples 25-36 to 0346AGCLAB.	gW Egert	8/22/95 10:20

**COPY**

**COPY**

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 500, Visitors Center, Carpeted Floor Over Concrete, Wood Stage, Brick Wall Scan  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .199

Survey Performed By: Roger C. Wank  
 Survey Reviewed By: \_\_\_\_\_

Date: 8-22-95  
 Date: \_\_\_\_\_

Station: 1  
 File: 500  
 Page: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26  
 Date/Time Report Printed: 8/21/95 17:01:38

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
Number of Measurements at this Survey Location: 4									
1	A		SC1TC886	0	60	1366	1366	5491	*
18	A		SC1TC886	0	60	1368	1368	5499	*
22	A		SC1TC886	0	60	1373	1373	5520	*
63	A		SC1TC886	0	60	1375	1375	5528	*
Number of Measurements at this Survey Location: 4									
2	A		SC2TC886	0	60	1489	1489	5986	*
19	A		SC2TC886	0	60	1474	1474	5926	*
23	A		SC2TC886	0	60	1517	1517	6098	*
64	A		SC2TC886	0	60	1524	1524	6127	*
Number of Measurements at this Survey Location: 4									
3	A		SC3TC886	0	60	1415	1415	5688	*
20	A		SC3TC886	0	60	1404	1404	5644	*
24	A		SC3TC886	0	60	1445	1445	5809	*
65	A		SC3TC886	0	60	1465	1465	5889	*
Number of Measurements at this Survey Location: 4									
17	A		SCBKGPOST	0	60	402	402	1616	*
62	A		SCBKGPOST	0	60	444	444	1785	*

**COPY**

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/21/95 Survey Start Time: 15:50  
 Date/Time Report Printed: 8/21/95 17:01:38

Station: 1  
 File: 500  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 2

0	A		SCBKGP	0	600	4056	406	1631	*
21	A		SCBKGP	0	600	1707	371	1490	*

Number of Measurements at this Survey Location: 2

25	A		0346AGCB03	LAB 1	15	147	588	2364	*
26	A		0346AGCB03	1	15	147	588	2364	*
27	A		0346AGCB03	1	15	136	544	2187	*
28	A		0346AGCB03	1	15	159	636	2557	*
29	A		0346AGCB03	1	15	159	636	2557	*
30	A		0346AGCB03	1	15	154	616	2476	*
31	A		0346AGCB03	1	15	140	560	2251	*
32	A		0346AGCB03	1	15	158	632	2541	*
33	A		0346AGCB03	1	15	146	584	2348	*
34	A		0346AGCB03	1	15	159	636	2557	*
35	A		0346AGCB03	1	15	155	620	2492	*
36	A		0346AGCB03	LAB 1	15	145	580	2332	*

RCW  
8-22-95

Number of Measurements at this Survey Location: 12

4	A		0346AGCLAB	1	15	159	636	2557	*
5	A		0346AGCLAB	1	15	162	648	2605	*
6	A		0346AGCLAB	1	15	149	596	2396	*
7	A		0346AGCLAB	1	15	145	580	2332	*
8	A		0346AGCLAB	1	15	139	556	2235	*
9	A		0346AGCLAB	1	15	142	568	2283	*
10	A		0346AGCLAB	1	15	157	628	2525	*
11	A		0346AGCLAB	1	15	153	612	2460	*
<del>12</del>	<del>A</del>		<del>0346AGCLAB</del>	<del>1</del>	<del>15</del>	<del>0486</del>	<del>33344</del>	<del>136458</del>	<del>*</del>
13	A		0346AGCLAB	1	15	168	672	2702	*
14	A		0346AGCLAB	1	15	164	656	2637	*
15	A		0346AGCLAB	1	15	167	668	2681	*
16	A		0346AGCLAB	1	15	124	496	1994	*

**COPY**

Delete - Meter Glitch RCW 8-22-95

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/18/95 Survey Start Time: 07:13  
 Date/Time Report Printed: 8/21/95 17:01:38

Station: 1  
 File: 500  
 Page: 3

Comments

Loc No	Sep No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 13

50	A		0346AGTLAB	1	15	135	540	2171	*
51	A		0346AGTLAB	1	15	143	572	2299	*
52	A		0346AGTLAB	1	15	152	608	2444	*
53	A		0346AGTLAB	1	15	122	488	1962	*
54	A		0346AGTLAB	1	15	114	456	1833	*
55	A		0346AGTLAB	1	15	115	460	1849	*
56	A		0346AGTLAB	1	15	134	536	2155	*
57	A		0346AGTLAB	1	15	140	560	2251	*
58	A		0346AGTLAB	1	15	142	568	2283	*
59	A		0346AGTLAB	1	15	121	484	1946	*
60	A		0346AGTLAB	1	15	128	512	2058	*
61	A		0346AGTLAB	1	15	123	492	1978	*

Number of Measurements at this Survey Location: 12

37	A		0346AGCB03	2	15	304	1216	4888	*
38	A		0346AGCB03	2	15	278	1112	4470	*
39	A		0346AGCB03	2	15	260	1040	4181	*
40	A		0346AGCB03	2	15	345	1380	5548	*
41	A		0346AGCB03	2	15	372	1488	5982	*
42	A		0346AGCB03	2	15	394	1576	6336	*
43	A		0346AGCB03	2	15	559	2236	8989	*
44	A		0346AGCB03	2	15	311	1244	5001	*
45	A		0346AGCB03	2	15	445	1780	7156	*
46	A		0346AGCB03	2	15	350	1400	5628	*
47	A		0346AGCB03	2	15	540	2160	8683	*
48	A		0346AGCB03	2	15	267	1068	4293	*
49	A		0346AGCB03	2	15	260	1040	4181	*

Number of Measurements at this Survey Location: 13

**COPY**

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Survey Date: 8/21/95 Survey Start Time: 10:48  
Date/Time Report Printed: 8/21/95 17:01:38

Station: 1  
File: 500  
Page: 4

Comments

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Total Number of Measurements on this Report: 66

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

**COPY**

**COPY**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: GU Egert Date: 8/22/95  
 Download Station #: 1 Download File #: 503 Time: 13:15  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger C. Worrick Signature: R C Worrick Date: 8-22-95  
 Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Instrument Serial #(s): Model 2350: 95359

Survey Location description: Visitors Center, Brick walls in Presentation Room, Beta Scan  
 (Example: Rt Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): INVESTIGATION

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>92525</u>	<u>43-68B</u>	<u>.198</u>	<u>125</u>		
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>442</u>				

Local Area Background Measurements

MEAN  
BKG CPM

<u>143</u>	<u>130</u>	<u>144</u>	<u>117</u>	<u>128</u>	<u>136</u>	<u>136</u>	<u>118</u>	<u>108</u>	<u>132</u>	<u>138</u>	<u>102</u>	<u>521</u>
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COMMENTS: Performed 100%  $\beta$  Scan of Brick walls up to 2m in the Presentation Room and Projector Room of the Visitors Center. Row

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 503, Visitors Center, Presentation Room, Brick Walls  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .198

Survey Performed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 File: 503  
 Page: 1  
 Survey Date: 8/22/95 Survey Start Time: 06:09  
 Date/Time Report Printed: 8/23/95 11:04:05

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
67	A		SC1TC886	0	60	1344	1344	5430	*
85	A		SC1TC886	0	60	1403	1403	5669	*
Number of Measurements at this Survey Location: 2									
68	A		SC2TC886	0	60	1448	1448	5851	*
86	A		SC2TC886	0	60	1482	1482	5988	*
Number of Measurements at this Survey Location: 2									
69	A		SC3TC886	0	60	1440	1440	5818	*
87	A		SC3TC886	0	60	1432	1432	5786	*
Number of Measurements at this Survey Location: 2									
84	A		SCBKGPST	0	60	433	433	1749	*
Number of Measurements at this Survey Location: 1									
36	A		SCBKGPPE	0	600	3976	398	1606	*

**COPY**  
**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

70	A		0346AGQLAB	1	15	130	520	2101	*
71	A		0346AGQLAB	1	15	144	576	2327	*
72	A		0346AGQLAB	1	15	117	468	1891	*
73	A		0346AGQLAB	1	15	128	512	2069	*
74	A		0346AGQLAB	1	15	136	544	2198	*
75	A		0346AGQLAB	1	15	136	544	2198	*
76	A		0346AGQLAB	1	15	118	472	1907	*
77	A		0346AGQLAB	1	15	108	432	1745	*
78	A		0346AGQLAB	1	15	132	528	2133	*
79	A		0346AGQLAB	1	15	138	552	2230	*
80	A		0346AGQLAB	1	15	102	408	1648	*
81	A		0346AGQLAB	1	15	143	572	2311	*

Number of Measurements at this Survey Location: 12

82	A		0346AGQB03	2	15	211	844	3410	*
83	A		0346AGQB03	2	15	191	764	3087	*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 22

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

**COPY**

<sup>8/23/95</sup>  
 These two points ~~was~~ were taken on the North wall where an audible increase in the count rate was detected. RLV 8-23-95

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 503, Visitors Center, Presentation Room, Brick Walls  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .198

Survey Performed By: *[Signature]*

Date: 8/22/95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 503  
 Page: 1  
 Survey Date: 8/22/95 Survey Start Time: 06:09  
 Date/Time Report Printed: 8/22/95 13:38:06

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
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67			SC1TC886	0	60	1344	1344	5430 *	
85			SC1TC886	0	60	1403	1403	5669 *	

Number of Measurements at this Survey Location: 2

68			SC2TC886	0	60	1448	1448	5851 *	
86			SC2TC886	0	60	1482	1482	5988 *	

Number of Measurements at this Survey Location: 2

69			SC3TC886	0	60	1440	1440	5818 *	
87			SC3TC886	0	60	1432	1432	5786 *	

Number of Measurements at this Survey Location: 2

84			SCBKGPST	0	60	433	433	1749 *	
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Number of Measurements at this Survey Location: 1

66			SCBKGPBE	0	600	3976	398	1606 *	
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**COPY**

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Survey Date: 8/22/95 Survey Start Time: 06:07  
Date/Time Report Printed: 8/22/95 13:38:06

Station: 1  
File: 503  
Page: 2

Comments

Loc No	Gap No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

70			0346AGTLAB	1	15	130	520	2101	*
71			0346AGTLAB	1	15	144	576	2327	*
72			0346AGTLAB	1	15	117	468	1891	*
73			0346AGTLAB	1	15	128	512	2069	*
74			0346AGTLAB	1	15	136	544	2198	*
75			0346AGTLAB	1	15	136	544	2198	*
76			0346AGTLAB	1	15	118	472	1907	*
77			0346AGTLAB	1	15	108	432	1745	*
78			0346AGTLAB	1	15	132	528	2133	*
79			0346AGTLAB	1	15	138	552	2230	*
80			0346AGTLAB	1	15	102	408	1648	*
81			0346AGTLAB	1	15	143	572	2311	*

Number of Measurements at this Survey Location: 12

82			0346AGTB03	2	15	211	844	3410	*
83			0346AGTB03	2	15	191	764	3087	*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 22

End of Report

01559:C:\PDOX35\M2350\TLOGREVVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

**COPY**

*These two points taken at the same point on the north wall where an audible increase in count rate was detected. RW 8/23/95*

**COPY**

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
SD3	8/24/95 1330	Delete Sample Points 0-65, they are in file #500 Sample Point 68 to <del>034</del> SC2TC886 " " 69 TO SC3 TC886	RCW	<i>[Signature]</i>	Deleted samples 0-65. Changed Loc. Code on samp. 68 to SC2TC886 and on samp. 69 to SC3TC886.	<i>[Signature]</i>	8/22/95 13:40

Attach this sheet to the front of the Survey Download Report requiring changes.

**DUPY**

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 503, Visitors Center, Presentation Room, Brick Walls  
 Reason: Investigation User: RCW1152/95359  
 M2350 S/N: 95359 Det. SN: PR092525 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .198

Survey Performed By: *R. J. W. Smith* Date: 8/22/95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 File: 503  
 Page: 1  
 Survey Date: 8/18/95 Survey Start Time: 06:26  
 Date/Time Report Printed: 8/22/95 13:28:06

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
	1		SC1TC886	0	60	1366	1366	5519	*
	18		SC1TC886	0	60	1368	1368	5527	*
	22		SC1TC886	0	60	1373	1373	5547	*
	63		SC1TC886	0	60	1375	1375	5556	*
	67		SC1TC886	0	60	1344	1344	5430	*
	68		SC1TC886 <i>low</i>	0	60	1448	1448	5851	*
	69		SC1TC886 <i>8/18/95</i>	0	60	1440	1440	5818	*
	85		SC1TC886	0	60	1403	1403	5669	*

**COPY**

Number of Measurements at this Survey Location: 8

	2		SC2TC886	0	60	1489	1489	6016	*
	19		SC2TC886	0	60	1474	1474	5956	*
	23		SC2TC886	0	60	1517	1517	6129	*
	64		SC2TC886	0	60	1524	1524	6158	*
	86		SC2TC886	0	60	1482	1482	5988	*

Number of Measurements at this Survey Location: 5

	3		SC3TC886	0	60	1415	1415	5717	*
	20		SC3TC886	0	60	1404	1404	5673	*
	24		SC3TC886	0	60	1445	1445	5838	*
	65		SC3TC886	0	60	1465	1465	5919	*
	87		SC3TC886	0	60	1432	1432	5786	*

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/22/95 Survey Start Time: 12:54  
Date/Time Report Printed: 8/22/95 13:28:06

Station: 1  
File: 503  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
--------	--------	-------------	-----------------	--------	------------------	--------------	-----------------------	--------------------------	-----

Number of Measurements at this Survey Location: 5

17			SCBKGPST	0	60	402	402	1624 *	
62			SCBKGPST	0	60	444	444	1794 *	
84			SCBKGPST	0	60	433	433	1749 *	

Number of Measurements at this Survey Location: 3

0			SCBKGPST	0	600	4056	406	1639 *	
21			SCBKGPST	0	600	3707	371	1498 *	
66			SCBKGPST	0	600	1976	398	1606 *	

Number of Measurements at this Survey Location: 3

25			0346AGCB03	1	15	147	588	2376 *	
26			0346AGCB03	1	15	147	588	2376 *	
27			0346AGCB03	1	15	136	544	2198 *	
28			0346AGCB03	1	15	159	636	2570 *	
29			0346AGCB03	1	15	159	636	2570 *	
30			0346AGCB03	1	15	154	616	2489 *	
31			0346AGCB03	1	15	140	560	2263 *	
32			0346AGCB03	1	15	158	632	2554 *	
33			0346AGCB03	1	15	146	584	2360 *	
34			0346AGCB03	1	15	159	636	2570 *	
35			0346AGCB03	1	15	155	620	2505 *	
36			0346AGCB03	1	15	145	580	2343 *	

Number of Measurements at this Survey Location: 12

4			0346AGCLAB	1	15	159	636	2570 *	
5			0346AGCLAB	1	15	162	648	2618 *	
6			0346AGCLAB	1	15	149	596	2408 *	
7			0346AGCLAB	1	15	145	580	2343 *	
8			0346AGCLAB	1	15	139	556	2246 *	
9			0346AGCLAB	1	15	142	568	2295 *	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

COPY

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Survey Date: 8/18/95 Survey Start Time: 07:23  
Date/Time Report Printed: 8/22/95 13:28:06

Station: 1  
File: 503  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
	10		0346AGCLAB	1	15	157	628	2537	*
	11		0346AGCLAB	1	15	153	612	2473	*
	12		0346AGCLAB	1	15	8486	33944	137147	*
	13		0346AGCLAB	1	15	168	672	2715	*
	14		0346AGCLAB	1	15	164	656	2651	*
	15		0346AGCLAB	1	15	167	668	2699	*
	16		0346AGCLAB	1	15	124	496	2004	*

Number of Measurements at this Survey Location: 13

	50		0346AGTLAB	1	15	135	540	2182	*
	51		0346AGTLAB	1	15	143	572	2311	*
	52		0346AGTLAB	1	15	152	608	2457	*
	53		0346AGTLAB	1	15	122	488	1972	*
	54		0346AGTLAB	1	15	114	456	1842	*
	55		0346AGTLAB	1	15	115	460	1859	*
	56		0346AGTLAB	1	15	134	536	2166	*
	57		0346AGTLAB	1	15	140	560	2263	*
	58		0346AGTLAB	1	15	142	568	2295	*
	59		0346AGTLAB	1	15	121	484	1956	*
	60		0346AGTLAB	1	15	128	512	2069	*
	61		0346AGTLAB	1	15	123	492	1988	*
	70		0346AGTLAB	1	15	130	520	2101	*
	71		0346AGTLAB	1	15	144	576	2327	*
	72		0346AGTLAB	1	15	117	468	1891	*
	73		0346AGTLAB	1	15	128	512	2069	*
	74		0346AGTLAB	1	15	136	544	2198	*
	75		0346AGTLAB	1	15	136	544	2198	*
	76		0346AGTLAB	1	15	118	472	1907	*
	77		0346AGTLAB	1	15	108	432	1745	*
	78		0346AGTLAB	1	15	132	528	2133	*
	79		0346AGTLAB	1	15	138	552	2230	*
	80		0346AGTLAB	1	15	102	408	1648	*
	31		0346AGTLAB	1	15	143	572	2311	*

Number of Measurements at this Survey Location: 24

	37		0346AGCB03	2	15	304	1216	4913	*
	38		0346AGCB03	2	15	278	1112	4493	*
	39		0346AGCB03	2	15	260	1040	4202	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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Survey Date: 8/21/95 Survey Start Time: 09:45  
Date/Time Report Printed: 8/22/95 13:28:06

Station: 1  
File: 503  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	40		0346AGCB03	2	15	345	1380	5576 *	
	41		0346AGCB03	2	15	372	1488	6012 *	
	42		0346AGCB03	2	15	394	1576	6368 *	
	43		0346AGCB03	2	15	559	2236	9034 *	
	44		0346AGCB03	2	15	311	1244	5026 *	
	45		0346AGCB03	2	15	445	1780	7192 *	
	46		0346AGCB03	2	15	350	1400	5657 *	
	47		0346AGCB03	2	15	540	2160	8727 *	
	48		0346AGCB03	2	15	267	1068	4315 *	
	49		0346AGCB03	2	15	260	1040	4202 *	

Number of Measurements at this Survey Location: 13

	82		0346AGTB03	2	15	211	844	3410 *	
	83		0346AGTB03	2	15	191	764	3087 *	

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 88

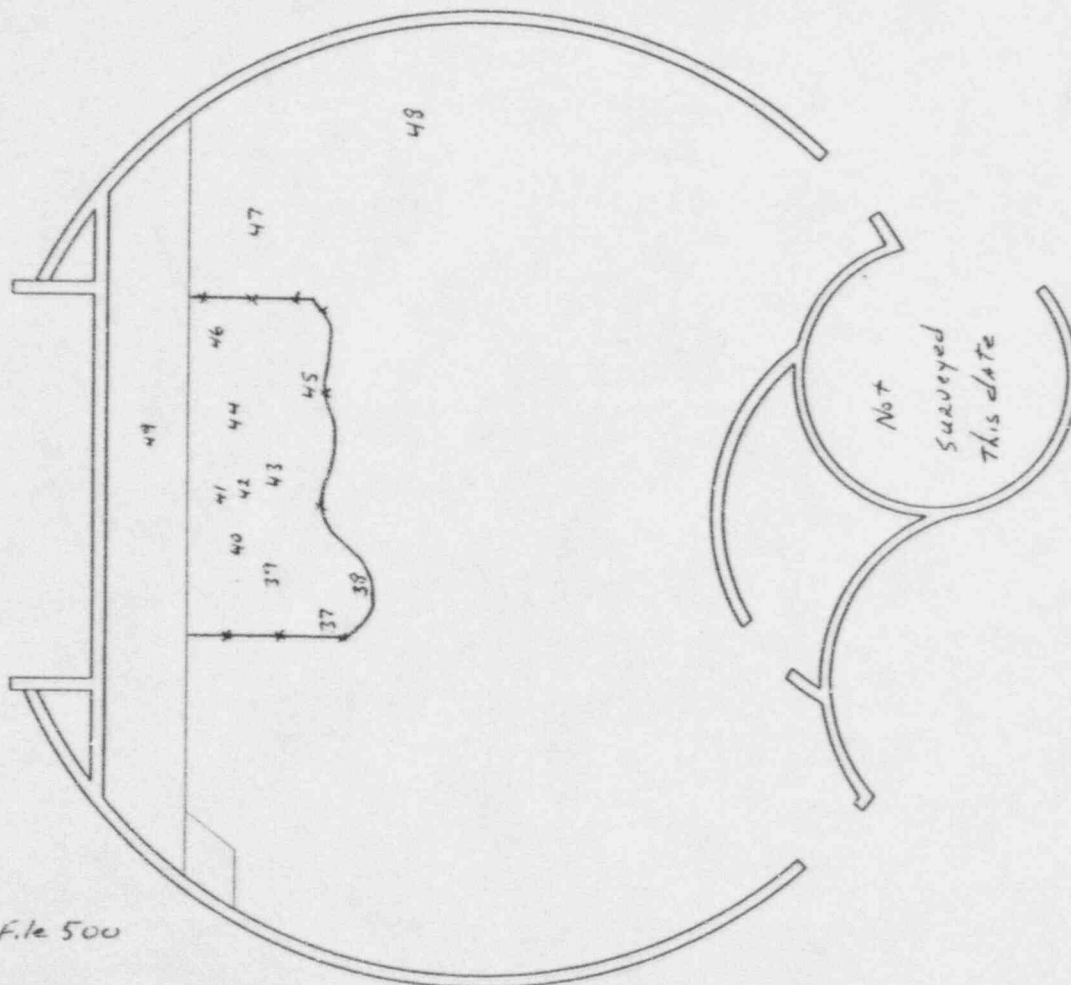
End of Report

01559:C:\PDOX35\M2350\TLOGREVU.R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

**COPY**

**COPY**

VISITOR CENTER - #107  
FLOOR - CENTER MEETING AREA



**COPY**  
**COPY**

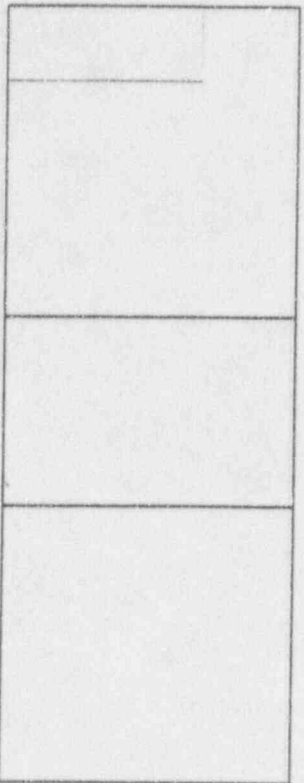
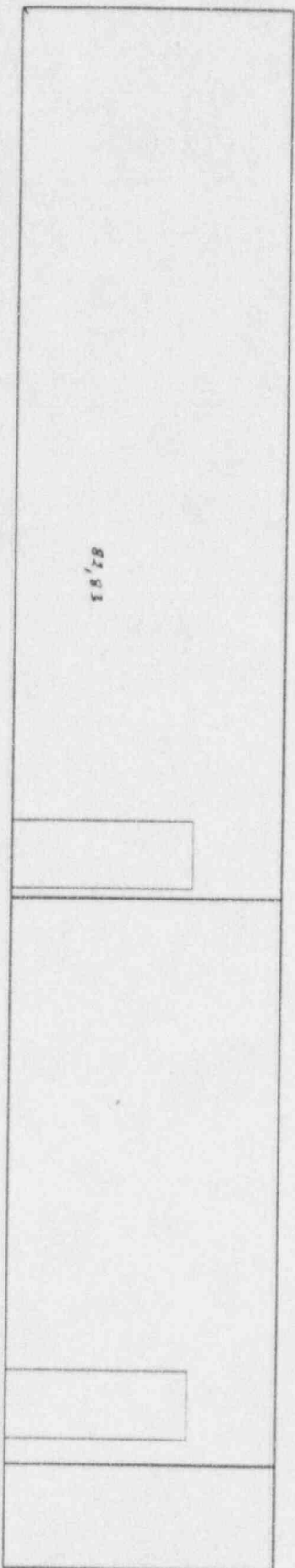
## = Sample Point, File 500

--- = Area of elevated readings > 1250 dpm/100 cm<sup>2</sup>



Survey/Package #: 0546	Master Drawing #: PPI-A	Bldg: VISITOR CENTER - #107	Elev: 4791'
Location Code: 0546AGCBOS	Description: CARPETED FLOORS OVER CONCRETE	Approx. M <sup>2</sup> : 96	Grid Size: N/A
<input checked="" type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input checked="" type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Swears <input type="checkbox"/> H-3 Swears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sed <input type="checkbox"/> Subsurface Sed <input type="checkbox"/> Other			
Location Code: 0546AGCBOS	Description: PAINTED WOOD FLOOR	Approx. M <sup>2</sup> : 8	Grid Size: N/A
<input checked="" type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input checked="" type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Swears <input type="checkbox"/> H-3 Swears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sed <input type="checkbox"/> Subsurface Sed <input type="checkbox"/> Other			
Survey Date/Time: 8-21-95 / 1530 RP Tech Initials: RCW			

VISITOR CENTER - #107  
CENTER MEETING ROOM



82 - Single Bay, 8'14" 5'03"

**COPY**

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Survey/Package #: 0546 Master Drawing #: PP1-A Bid: VISITOR CENTER - #107 Elev: 4791'

Location Code: 0546AG0B05 Description: BRICK WALLS UP TO 2 METERS Approx. M<sup>2</sup>: 108 Grid Size: N/A

Location Code: \_\_\_\_\_ Description: \_\_\_\_\_ Approx. M<sup>2</sup>: \_\_\_\_\_ Grid Size: \_\_\_\_\_

Survey Date/Time: 8-22-95 / 1200 RP Tech initials: RCW

New Scan  Old Active  Cleaned For Reuse  New/Gamma Scans  H-9 Scans  H-9 Single  Subbed Single  Surface Sd  Shallow Sd  Other  
 Pass Scan  Add Active  Gamma Exp Rate  Beta/Gamma Scans  H-9 Scans  Liquid Sample  Subbed Sample  Surface Sd  Shallow Sd  Other

WALL WEATHERED LOCATION  NOT A MEMBER LOCATION  MADE SKULLCORN  WALL SKULLCORN

FILE: GP\_AVRANDE\_V0546\_010

VISITOR CENTER - #107

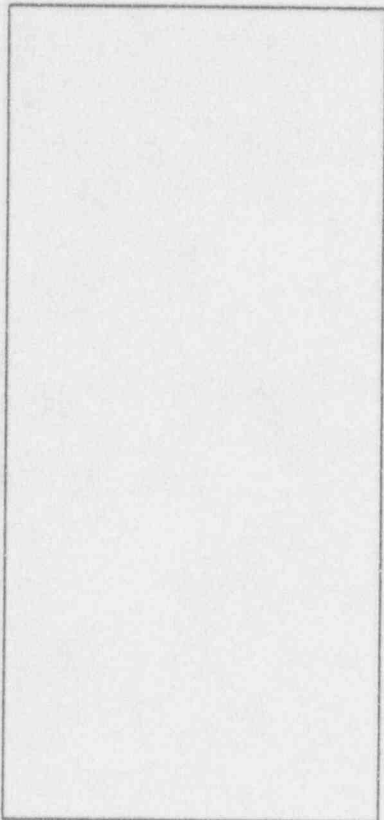
CENTER MEETING ROOM

SOUTH WALL

WEST WALL

**COPY**

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Survey/Package #: 0546

Location Code: 0546/K0305

Survey:  General  Remediation  Gamma For Data  Beta/Gamma Swabs *Rev 8/2/95*

Location Code:

Survey Date/Time: 8-22-95 / 1200 RP Tech initials: *Rev*

Master Drawing #: PP1-A

Description: BRICK WALLS UP TO 2 METERS

Depth:  0-5 Swabs  0-1 yard Sample  Subsoil Sample  Surface Sd  Subsurface Sd  Other

Description:

Depth:  0-5 Swabs  0-1 yard Sample  Subsoil Sample  Surface Sd  Subsurface Sd  Other

Bldg: VISITOR CENTER - #107

Approx. M<sup>2</sup>: 56

Grid Size: N/A

Approx. M<sup>2</sup>:

Grid Size: Grid Size

Elev: 479'

Grid Size: N/A

Grid Size:

\*\*\*\*\*  
\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

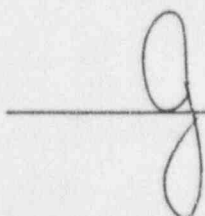
Report Generated On 8-22-95 8:11:49  
Detector DET4  
Sample I.D. CARPET  
Spectrum Number  
Sample Description 20000 SEC. CARPET COUNT  
Sample Type FILTER  
Sample Geometry 5  
  
Peak Locate Threshold 3.50  
Peak Locate Range (in channels) 100 - 4096  
Peak Area Range (in channels) 100 - 4096  
Identification Energy Tolerance 1.00 keV  
  
Sample Size 1.000E+00 EA  
Sample Collection Date 8-16-95 16:00:00  
Spectrum Collection Date 8-18-95 14:09:31  
Decay Corrected To 8-16-95 16:00:00  
Collected By MADISON  
  
Live Time 20000.0 seconds  
Real Time 20007.2 seconds  
% Dead Time 0.04 %  
Background Type STEP

95-0412  
carpet.

Energy Calibration Performed On 8-18-95  
Efficiency Calibration Performed On 9-30-94  
Calibration Geometry Used 5

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Reviewed By



Date

8/22/95

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\*\*\*\*\*  
 \*\*\*\*\* P E A K L O C A T E R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET  
 Spectrum Number  
 Sample Description 20000 SEC. CARPET COUNT  
 Sample Type FILTER

Peak Locate Performed on 8-22-95 8:11:25  
 Peak Locate From Channel 100  
 Peak Locate To Channel 4096  
 Peak Search Sensitivity 3.50  
 MDA Confidence 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance	FWHM (keV)
1	126.84	0.2434	63.18	14.25	0.8464
2	146.00	0.4933	72.88	4.11	0.9109
3	149.96	0.2176	74.76	20.28	0.9151
4	154.58	0.1619	77.06	21.97	0.9198
5	159.00	0.4491	79.28	4.96	0.9244
6	162.44	0.3886	80.99	3.73	0.9278
7	168.24	0.2839	83.87	9.48	0.9335
8	174.82	0.2539	87.23	10.33	0.9400
9	180.35	0.3266	89.85	6.14	0.9452
10	185.60	0.1832	92.60	17.76	0.9502
11	288.42	0.3104	144.01	6.04	1.0898
12	327.16	0.4221	163.39	4.71	0.8262
13	372.48	0.1518	186.06	22.46	1.1038
14	410.83	0.3898	205.24	4.56	1.2362
15	472.43	0.3194	236.06	5.57	1.2606
16	484.48	0.1487	242.09	23.60	1.1896
17	518.47	0.3763	259.09	3.67	0.3441
18	539.15	0.3284	269.44	6.69	0.9516
19	543.22	0.4602	271.23	3.66	0.9538
20	590.78	0.1128	295.26	43.25	1.2014
21	648.47	0.3880	324.12	3.52	0.9775
22	704.18	0.0918	351.99	59.96	1.2522
23	1021.62	0.3026	510.78	4.77	0.8738
24	1218.81	0.0956	609.41	49.31	1.4462
25	1323.26	0.3467	661.58	4.46	1.3695
26	1330.96	0.2805	665.56	5.84	1.3722
27	1536.85	0.1874	768.49	12.40	1.5234
28	1571.80	0.2880	785.97	4.63	1.5383
29	1612.08	0.3070	806.11	4.82	1.2730
30	1678.41	0.3165	839.29	4.15	1.6081
31	1867.98	0.2137	934.10	9.44	1.6336
32	1938.15	0.3496	969.19	3.51	1.7825
33	2002.13	0.2605	1001.19	6.07	1.6396
34	2240.49	0.1310	1120.37	20.17	1.7366
35	2310.54	0.2663	1155.40	4.98	1.8499
36	2346.46	0.2599	1173.36	5.09	2.2031
37	2476.21	0.1729	1238.23	11.28	2.0021
38	2562.27	0.2576	1281.26	4.42	2.2781

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39	2664.86	0.2960	1332.54	5.80	1.8737
40	2755.25	0.1882	1377.74	9.14	1.8784
41	2770.36	0.2941	1385.41	4.28	1.8820

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Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance	FWHM (keV)
42	2802.75	0.2913	1401.48	4.42	1.6033
43	2816.23	0.2229	1408.18	7.14	1.6065
44	2921.48	0.1433	1460.82	15.33	2.0061
45	3018.08	0.2493	1509.10	5.04	1.8404
46	3167.04	0.3432	1583.55	3.80	1.6378
47	3322.50	0.2717	1661.24	4.29	2.1699
48	3459.27	0.1965	1729.58	7.62	2.0757
49	3529.28	0.1309	1764.56	17.34	2.1283
50	3695.37	0.2130	1847.53	6.06	2.2924

Errors quoted at 1.96 sigma

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 \*\*\*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET  
 Spectrum Number  
 Sample Description 20000 SEC. CARPET COUNT

Peak Analysis Performed on 8-22-95 8:11:35  
 Peak Analysis From Channel 100  
 Peak Analysis To Channel 4096

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	1	123-	129	126.84	63.18	1.44E+03	144.75	2.14E+03
M	2	143-	188	146.23	72.88	2.56E+02	134.99	2.33E+03
m	3	143-	188	149.99	74.76	2.58E+03	255.09	2.66E+03
m	4	143-	188	154.58	77.06	4.02E+03	329.10	2.34E+03
m	5	143-	188	159.03	79.28	2.51E+02	131.36	2.68E+03
m	6	143-	188	162.45	80.99	2.61E+02	131.59	2.35E+03
m	7	143-	188	168.19	83.87	7.98E+02	160.16	2.69E+03
m	8	143-	188	174.92	87.23	1.32E+03	187.19	2.70E+03
m	9	143-	188	180.16	89.85	4.33E+02	143.66	2.70E+03
m	10	143-	188	185.65	92.60	2.89E+03	272.45	2.37E+03
	11	284-	292	288.42	144.01	4.17E+02	137.68	2.11E+03
	12	322-	330	327.16	163.39	1.90E+02	131.33	2.01E+03
	13	367-	377	372.48	186.06	4.04E+03	189.67	2.24E+03
	14	407-	414	410.83	205.24	7.95E+01	108.20	1.47E+03
	15	467-	475	472.43	236.06	9.87E+01	115.32	1.56E+03
	16	480-	488	484.48	242.09	2.57E+03	147.46	1.45E+03
	17	512-	521	518.47	259.09	3.57E+02	108.77	1.20E+03
M	18	533-	546	539.16	269.44	2.45E+02	102.92	8.88E+02
m	19	533-	546	542.73	271.23	1.23E+02	61.70	1.07E+03
	20	584-	596	590.78	295.26	6.20E+03	196.52	1.47E+03
	21	642-	652	648.47	324.12	1.15E+02	98.09	1.00E+03
	22	698-	709	704.18	351.99	1.08E+04	228.31	1.10E+03
	23	1013-	1041	1021.62	510.78	6.01E+02	161.72	1.34E+03
	24	1211-	1225	1218.81	609.41	7.33E+03	186.83	6.10E+02
M	25	1316-	1336	1323.10	661.58	9.17E+01	44.30	3.42E+02
m	26	1316-	1336	1331.06	665.56	1.92E+02	74.56	3.40E+02
	27	1529-	1541	1536.85	768.49	6.33E+02	81.63	4.20E+02
	28	1564-	1578	1571.80	785.97	2.08E+02	70.36	3.75E+02
	29	1605-	1619	1612.08	806.11	1.23E+02	72.37	4.24E+02
	30	1673-	1684	1678.41	839.29	5.77E+01	60.11	3.51E+02
	31	1861-	1875	1867.98	934.10	3.25E+02	72.97	3.69E+02
	32	1934-	1942	1938.15	969.19	3.28E+01	42.05	2.00E+02
	33	1996-	2009	2002.13	1001.19	1.38E+02	61.21	3.03E+02
	34	2232-	2247	2240.49	1120.37	1.47E+03	94.77	2.88E+02
	35	2302-	2315	2310.54	1155.40	1.38E+02	59.51	2.85E+02
	36	2341-	2351	2346.46	1173.36	9.73E+01	47.00	2.01E+02
	37	2469-	2481	2476.21	1238.23	5.49E+02	65.70	2.19E+02
	38	2555-	2567	2562.27	1281.26	1.41E+02	47.42	1.69E+02
	39	2656-	2671	2664.86	1332.54	1.08E+02	50.39	1.84E+02
M	40	2746-	2776	2755.26	1377.74	3.55E+02	86.43	2.02E+02

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m 41	2746- 2776	2770.61	1385.41	5.23E+01	25.35	1.72E+02
M 42	2796- 2824	2802.76	1401.48	7.58E+01	34.56	1.66E+02

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	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
m	43	2796-	2824	2816.17	1408.18	1.41E+02	59.70	1.62E+02
	44	2914-	2930	2921.48	1460.82	1.03E+03	78.42	1.84E+02
	45	3009-	3024	3018.08	1509.10	1.41E+02	51.84	1.86E+02
	46	3158-	3173	3167.04	1583.55	3.70E+01	39.47	1.21E+02
	47	3315-	3328	3322.50	1661.24	6.93E+01	33.14	7.87E+01
	48	3452-	3468	3459.27	1729.58	3.00E+02	45.51	7.59E+01
	49	3520-	3536	3529.28	1764.56	1.24E+03	76.83	9.32E+01
	50	3686-	3702	3695.37	1847.53	1.98E+02	38.75	6.16E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.96 sigma

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 \*\*\*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Sample I.D. CARPET  
 Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

IDENTIFIED NUCLIDES					
Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/EA)	Activity Uncertainty
K-40	1.000	1460.81*	10.67	7.373E-04	7.371E-05
CO-60	0.998	1173.22*	100.00	6.053E-06	2.941E-06
		1332.49*	100.00	7.587E-06	3.563E-06
CS-137	0.999	661.65*	85.12	3.882E-06	1.892E-06
BI-214	0.999	609.31*	46.30	5.285E-04	3.725E-05
		768.36*	5.04	5.212E-04	7.409E-05
		806.17*	1.23	4.326E-04	2.565E-04
		934.06*	3.21	5.060E-04	1.164E-04
		1120.29*	15.10	5.805E-04	4.819E-05
		1238.11*	5.94	6.044E-04	8.024E-05
		1377.67*	4.11	6.246E-04	1.567E-04
		1385.31*	0.78	4.872E-04	2.379E-04
		1407.98*	2.48	4.199E-04	1.793E-04
		1509.19*	2.19	5.052E-04	1.884E-04
		1729.60*	3.05	8.682E-04	1.440E-04
		1764.49*	15.80	7.041E-04	6.657E-05
PB-214	0.999	74.81*	6.33	6.039E-04	1.522E-04
		77.11*	10.70	5.332E-04	1.136E-04
		87.20*	3.70	4.433E-04	7.659E-05
		241.98*	7.49	5.172E-04	4.611E-05
		295.21*	19.20	5.702E-04	4.152E-05
		351.92*	37.20	5.955E-04	3.812E-05
RN-219	0.422	271.23*	9.90	2.046E-05	1.036E-05
		401.78	6.60		
RA-226	0.996	186.21*	3.28	1.553E-03	1.249E-04
TH-231	0.984	84.21*	8.00	1.282E-04	3.013E-05
		89.95*	1.25	4.184E-04	1.436E-04
PA-234M	0.996	1001.03*	0.59	1.246E-03	5.572E-04
TH-234	0.996	63.29*	3.80	8.138E-04	4.317E-04
		92.38*	2.72	1.331E-03	1.628E-04
U-235	0.982	89.96*	1.50	3.486E-04	1.196E-04
		93.35*	2.50	1.366E-03	1.670E-04
		143.76*	10.50	4.458E-05	1.499E-05
		163.35*	4.70	4.774E-05	3.306E-05
		185.71*	54.00	9.436E-05	7.393E-06
		205.31*	4.70	2.271E-05	3.095E-05

\* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy tolerance used was 1.000

Nuclide confidence index threshold = 0.10

Errors quoted at 1.960 sigma

COPY

\*\*\*\*\*  
 \*\*\* INTERFERENCE CORRECTED REPORT \*\*\*  
 \*\*\*\*\*

Sample I.D.  
 Spectrum Number

CARPET

CO

Report Reviewed By

*Ali Jab*

Date

8/22/95

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/EA )	Wt mean Activity Uncertainty	Wt mean Activity % Uncertainty
K-40	1.000	7.37E-04	7.37E-05	10.0
CO-60	0.998	6.67E-06	2.27E-06	34.0
<del>X CD-109</del>	<del>0.903</del>			
CS-137	0.999	3.88E-06	1.89E-06	48.7
<del>X EU-155</del>	<del>0.294</del>			
BI-214	0.999	5.72E-04	2.25E-05	3.9
PB-214	0.999	5.55E-04	2.22E-05	4.0
RN-219	0.422	2.05E-05	1.04E-05	50.7
RA-226	0.996	8.31E-04	2.38E-04	28.6
TH-231	0.984	1.38E-04	2.95E-05	21.3
PA-234M	0.996	1.25E-03	5.57E-04	44.7
TH-234	0.996	1.23E-03	1.53E-04	12.4
U-235	0.982	4.39E-05	1.24E-05	28.3

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.96 sigma

\*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
M 2	72.88 <i>Pb214</i>	1.2798E-02	52.74
m 5	79.28 <i>Rn219</i>	1.2571E-02	52.24
m 6	80.99 <i>Ra223</i>	1.3071E-02	50.34
15	236.06 <i>hi error</i>	4.9329E-03	116.89
17	259.09 <i>Pb214</i>	1.7854E-02	30.46
M 18	269.44 <i>Ra223</i>	1.2250E-02	42.01
21	324.12 <i>Pb214</i>	5.7420E-03	85.42
23	510.78 <i>Adv. Rn.</i>	3.0060E-02	26.90
m 26	665.56 <i>Bi214</i>	9.6115E-03	38.78
28	785.97 <i>Bi214</i>	1.0391E-02	33.86
30	839.29 <i>hi error</i>	2.8867E-03	104.11
32	969.19 <i>hi error</i>	1.6380E-03	128.37
35	1155.40 <i>Bi214</i>	6.9064E-03	43.09
38	1281.26 <i>Bi214</i>	7.0706E-03	33.53
M 42	1401.48 <i>Bi214</i>	3.7882E-03	45.61
46	1583.55 <i>high error</i>	1.8486E-03	106.76
47	1661.24 <i>Bi214</i>	3.4626E-03	47.85

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50 1847.53 <sup>6124</sup>

9.9218E-03

19.53

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.96 sigma

**COPY**

**COPY**

\*\*\*\*\*  
\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

Report Generated On 8-23-95 12:37:32

Detector DET4  
Sample I.D. CARPET 95-0415  
Spectrum Number GP02560  
Sample Description CARPET 95-0415 VISITORS CENTER  
Sample Type CARPET  
Sample Geometry 5

Peak Locate Threshold 3.50  
Peak Locate Range (in channels) 100 - 4096  
Peak Area Range (in channels) 100 - 4096  
Identification Energy Tolerance 1.00 keV

Sample Size 1.000E+00 EA  
Sample Collection Date 8-16-95 15:20:00  
Spectrum Collection Date 8-23-95 7:01:58  
Decay Corrected To 8-16-95 15:20:00  
Collected By ALLEN YATES

Live Time 20000.0 seconds  
Real Time 20004.2 seconds  
% Dead Time 0.02 %  
Background Type STEP

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Energy Calibration Performed On 8-23-95  
Efficiency Calibration Performed On 9-30-94  
Calibration Geometry Used 5

**COPY**

*Copy for J. Road*

Reviewed By \_\_\_\_\_

*J*

Date

8,23,95



\*\*\*\*\*  
 \*\*\*\*\* P E A K L O C A T E R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET 95-0415  
 Spectrum Number GP02560  
 Sample Description CARPET 95-0415 VISITORS CENTER  
 Sample Type CARPET

Peak Locate Performed on 8-23-95 12:37:16  
 Peak Locate From Channel 100  
 Peak Locate To Channel 4096  
 Peak Search Sensitivity 3.50  
 MDA Confidence 5.00

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Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance	FWHM (keV)
1	127.00	0.3415	63.25	8.58	0.8038
2	150.16	0.2893	74.83	10.07	0.8729
3	154.54	0.2438	77.04	9.13	0.8774
4	180.00	0.5257	89.75	3.62	0.0000
5	185.62	0.2615	92.56	9.03	1.4029
6	372.44	0.2242	185.97	11.24	1.0911
7	477.54	0.3798	238.52	3.74	1.0161
8	484.51	0.2291	242.03	9.69	1.0202
9	591.10	0.1709	295.30	18.37	1.2136
10	704.37	0.1429	351.95	24.94	1.2484
11	1021.72	0.2835	510.64	3.96	1.9107
12	1219.01	0.1414	609.30	22.55	1.5042
13	1323.97	0.3299	661.78	4.03	1.8175
14	1537.15	0.3050	768.39	4.96	1.1832
15	1869.07	0.3479	934.35	3.81	1.8657
16	2002.16	0.3471	1000.90	3.83	1.7072
17	2240.72	0.2045	1120.16	8.56	1.7199
18	2476.57	0.2708	1238.06	4.47	1.8734
19	2755.96	0.2920	1377.70	3.93	1.6672
20	2922.40	0.1474	1460.88	14.61	2.0368
21	3460.27	0.2583	1729.59	5.39	1.9775
22	3530.20	0.1843	1764.52	9.24	2.1448

Errors quoted at 1.96 sigma

**COPY**

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 \*\*\*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. CARPET 95-0415  
 Spectrum Number GP02560  
 Sample Description CARPET 95-0415 VISITORS CENTER

Peak Analysis Performed on 8-23-95 12:37:21  
 Peak Analysis From Channel 100  
 Peak Analysis To Channel 4096

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	1	124-	130	127.00	63.25	4.01E+02	89.30	8.81E+02
M	2	147-	157	150.15	74.83	6.77E+02	77.54	1.12E+03
m	3	147-	157	154.58	77.04	8.64E+02	92.73	1.04E+03
	5	178-	189	185.62	92.56	3.83E+02	149.98	2.14E+03
	6	367-	376	372.44	185.97	9.21E+02	113.35	1.08E+03
M	7	474-	489	477.54	238.52	1.04E+02	42.19	7.28E+02
m	8	474-	489	484.56	242.03	5.46E+02	120.00	7.59E+02
	9	585-	595	591.10	295.30	1.37E+03	105.60	6.46E+02
	10	699-	709	704.37	351.95	2.18E+03	116.51	5.72E+02
	11	1011-	1039	1021.72	510.64	4.87E+02	136.26	9.37E+02
	12	1212-	1226	1219.01	609.30	1.43E+03	101.07	4.27E+02
	13	1319-	1327	1323.97	661.78	2.70E+01	44.66	2.29E+02
	14	1530-	1541	1537.15	768.39	1.24E+02	51.66	2.28E+02
	15	1862-	1873	1869.07	934.35	1.92E+01	44.46	1.98E+02
	16	1998-	2006	2002.16	1000.90	3.75E+01	33.62	1.19E+02
	17	2234-	2247	2240.72	1120.16	3.53E+02	55.53	1.63E+02
	18	2468-	2481	2476.57	1238.06	1.42E+02	44.06	1.32E+02
	19	2746-	2763	2755.96	1377.70	1.04E+02	40.12	9.65E+01
	20	2913-	2929	2922.40	1460.88	8.41E+02	68.06	1.15E+02
	21	3454-	3466	3460.27	1729.59	5.83E+01	25.25	4.07E+01
	22	3521-	3539	3530.20	1764.52	3.22E+02	44.02	5.39E+01

One or more peaks were dropped due to multiplet de-convolution.

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.96 sigma

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\*\*\*\*\*  
 \*\*\*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Sample I.D. CARPET 95-0415  
 Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

..... IDENTIFIED NUCLIDES .....					
Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/EA )	Activity Uncertainty
K-40	0.999	1460.81*	10.67	6.011E-04	6.237E-05
CS-137	0.997	661.65*	85.12	1.145E-06	1.893E-06
PB-212	0.760	74.81*	9.60	1.043E-04	2.686E-05
		77.11*	17.50	7.006E-05	1.571E-05
		87.20	6.30		
		89.80	1.75		
		115.19	0.60		
		238.63*	44.60	3.466E-06	1.432E-06
BI-214	0.914	300.09	3.41		
		609.31*	46.30	1.031E-04	9.950E-06
		768.36*	5.04	1.019E-04	4.294E-05
		806.17	1.23		
		934.06*	3.21	2.991E-05	6.920E-05
		1120.29*	15.10	1.390E-04	2.305E-05
		1238.11*	5.94	1.562E-04	4.932E-05
		1377.67*	4.11	1.836E-04	7.143E-05
		1385.31	0.78		
		1407.98	2.48		
		1509.19	2.19		
		1729.60*	3.05	1.687E-04	7.396E-05
		1764.49*	15.80	1.829E-04	2.820E-05
PB-214	0.917	74.81*	6.33	1.582E-04	4.073E-05
		77.11*	10.70	1.146E-04	2.569E-05
		87.20	3.70		
		241.98*	7.49	1.100E-04	2.532E-05
		295.21*	19.20	1.258E-04	1.274E-05
		351.92*	37.20	1.196E-04	9.660E-06
RA-226	0.991	186.21*	3.28	3.545E-04	4.936E-05
PA-234M	0.997	1001.03*	0.59	3.390E-04	3.045E-04
TH-234	0.997	63.29*	3.80	2.590E-04	1.461E-04
		92.38*	2.72	2.023E-04	8.080E-05

\* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy tolerance used was 1.000

Nuclide confidence index threshold = 0.10

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
 \*\*\* INTERFERENCE CORRECTED REPORT \*\*\*  
 \*\*\*\*\*

Sample I.D. CARPET 95-0415  
 Spectrum Number GP02560

Report Reviewed By           *Lee* *Yab*           Date 8/23/95

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/EA)	Wt mean Activity Uncertainty	Wt mean Activity % Uncertainty
K-40	0.999	6.01E-04	6.24E-05	10.4
<del>CS-137</del>	<del>0.997</del>	<del>1.15E-06</del>	<del>1.89E-06</del>	<del>165.2</del> <i>Bad peak high error</i>
PB-212	0.760	3.47E-06	1.42E-06	41.1
BI-214	0.914	1.17E-04	8.22E-06	7.0
PB-214	0.917	1.21E-04	6.98E-06	5.8
RA-226	0.991	3.55E-04	4.94E-05	13.9
PA-234M	0.997	3.39E-04	3.05E-04	89.8
TH-234	0.997	2.16E-04	7.07E-05	32.8
<del>X U-235</del>	<del>0.540</del>			

? = nuclide is part of an undetermined solution  
 X = nuclide rejected by the interference analysis  
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.96 sigma

\*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
11	510.64 <i>AH RA</i>	2.4340E-02	27.99

M = First peak in a multiplet region  
 m = Other peak in a multiplet region  
 F = Fitted singlet

Errors quoted at 1.96 sigma

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ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 9/6/95

Download Station #: 1 Download File #: 535 Time: 13:55

Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger Warrick Signature: [Signature] Date: 9-6-95

Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: Bldg 107 - Visitors Center, Center Meeting Room, Brick walls

Survey Location description: 95356  
(Example: Rr Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only

Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>92692511</u>	<u>43-68B</u>	<u>.204</u>	<u>125</u>	<u>531</u>	<u>535</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

											MEAN BKG CPM	
<u>141</u>	<u>133</u>	<u>116</u>	<u>130</u>	<u>123</u>	<u>114</u>	<u>162</u>	<u>137</u>	<u>138</u>	<u>125</u>	<u>121</u>	<u>132</u>	<u>524</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**COPY**



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 535, Visitors Center #107, Center Meeting Room - Brick Walls  
 Reason: Re-Survey User: RLN4080/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm2 Background: 0 cpm Efficiency: .204

Survey Performed By: [Signature] Date: 9-7-95  
 Survey Reviewed By: [Signature] Date: 9-8-95

Station: 1  
 Survey Date: 9/06/95 Survey Start Time: 13:36 File: 535 Comments  
 Date/Time Report Printed: 9/06/95 14:33:04 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
--------	--------	-------------	-----------------	--------	------------------	--------------	-----------------------	--------------------------	-----

137	A	SC1TC878		0	60	1537	1537	6027	*
-----	---	----------	--	---	----	------	------	------	---

Number of Measurements at this Survey Location: 1

138	A	SC2TC878		0	60	1574	1574	6173	*
-----	---	----------	--	---	----	------	------	------	---

Number of Measurements at this Survey Location: 1

139	A	SC3TC878		0	60	1639	1639	6427	*
-----	---	----------	--	---	----	------	------	------	---

Number of Measurements at this Survey Location: 1

136	A	SCBKGPOST		0	60	545	545	2137	*
-----	---	-----------	--	---	----	-----	-----	------	---

Number of Measurements at this Survey Location: 1

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1	0	A	0350B1TLAB	1	15	141	564	2212	*
2	1	A	0350B1TLAB	1	15	133	532	2086	*
3	2	A	0350B1TLAB	1	15	116	464	1820	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/06/95 Survey Start Time: 12:34  
 Date/Time Report Printed: 9/06/95 14:33:04

Station: 1  
 File: 535  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
4	3	A	0350B1TLAB	1	15	130	520	2039	*
5	4	A	0350B1TLAB	1	15	123	492	1929	*
6	5	A	0350B1TLAB	1	15	114	456	1788	*
7	6	A	0350B1TLAB	1	15	162	648	2541	*
8	7	A	0350B1TLAB	1	15	137	548	2149	*
9	8	A	0350B1TLAB	1	15	138	552	2165	*
10	9	A	0350B1TLAB	1	15	125	500	1961	*
11	10	A	0350B1TLAB	1	15	121	484	1898	*
12	11	A	0350B1TLAB	1	15	132	528	2071	*

Number of Measurements at this Survey Location: 12

1	12	A	0350B1TW01	2	15	184	736	2886	*
2	13	A	0350B1TW01	2	15	167	668	2620	*
3	14	A	0350B1TW01	2	15	180	720	2824	*
4	15	A	0350B1TW01	2	15	190	760	2980	*
5	16	A	0350B1TW01	2	15	186	744	2918	*
6	17	A	0350B1TW01	2	15	163	652	2557	*
7	18	A	0350B1TW01	2	15	196	784	3075	*
8	19	A	0350B1TW01	2	15	229	916	3592	*
9	20	A	0350B1TW01	2	15	198	792	3106	*
10	21	A	0350B1TW01	2	15	170	680	2667	*
11	22	A	0350B1TW01	2	15	180	720	2824	*
12	23	A	0350B1TW01	2	15	165	660	2588	*
13	24	A	0350B1TW01	2	15	172	688	2698	*
14	25	A	0350B1TW01	2	15	185	740	2902	*
15	26	A	0350B1TW01	2	15	183	732	2871	*
16	27	A	0350B1TW01	2	15	185	740	2902	*
17	28	A	0350B1TW01	2	15	189	756	2965	*
18	29	A	0350B1TW01	2	15	169	676	2651	*
19	30	A	0350B1TW01	2	15	203	812	3184	*
20	31	A	0350B1TWG1	2	15	173	692	2714	*
21	32	A	0350B1TW01	2	15	191	764	2996	*
22	33	A	0350B1TW01	2	15	176	704	2761	*
23	34	A	0350B1TW01	2	15	169	676	2651	*
24	35	A	0350B1TW01	2	15	180	720	2824	*
25	36	A	0350B1TW01	2	15	175	700	2745	*
26	37	A	0350B1TW01	2	15	162	648	2541	*
27	38	A	0350B1TW01	2	15	185	740	2902	*
28	39	A	0350B1TW01	2	15	184	736	2886	*
29	40	A	0350B1TW01	2	15	185	740	2902	*
30	41	A	0350B1TW01	2	15	209	836	3278	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

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Survey Date: 9/06/95 Survey Start Time: 13:01  
 Date/Time Report Printed: 9/06/95 14:33:04

Station: 1  
 File: 535  
 Page: 3

Comments

Loc No	Spmp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
31	42	A	0350B1TW01	2	15	167	668	2620	*
32	43	A	0350B1TW01	2	15	178	712	2792	*
33	44	A	0350B1TW01	2	15	179	716	2808	*
34	45	A	0350B1TW01	2	15	178	712	2792	*
35	46	A	0350B1TW01	2	15	153	612	2400	*
36	47	A	0350B1TW01	2	15	163	652	2557	*
37	48	A	0350B1TW01	2	15	179	716	2808	*
38	49	A	0350B1TW01	2	15	183	732	2871	*
39	50	A	0350B1TW01	2	15	190	760	2980	*
40	51	A	0350B1TW01	2	15	201	804	3153	*
41	52	A	0350B1TW01	2	15	199	796	3122	*
42	53	A	0350B1TW01	2	15	172	688	2698	*
43	54	A	0350B1TW01	2	15	188	752	2949	*
44	55	A	0350B1TW01	2	15	173	692	2714	*
45	56	A	0350B1TW01	2	15	192	768	3012	*
46	57	A	0350B1TW01	2	15	193	772	3027	*
47	58	A	0350B1TW01	2	15	192	768	3012	*
48	59	A	0350B1TW01	2	15	161	644	2525	*
49	60	A	0350B1TW01	2	15	201	804	3153	*
50	61	A	0350B1TW01	2	15	180	720	2824	*
51	62	A	0350B1TW01	2	15	152	608	2384	*
52	63	A	0350B1TW01	2	15	168	672	2635	*
53	64	A	0350B1TW01	2	15	165	660	2588	*
54	65	A	0350B1TW01	2	15	192	768	3012	*
55	66	A	0350B1TW01	2	15	169	676	2651	*
56	67	A	0350B1TW01	2	15	184	736	2886	*
57	68	A	0350B1TW01	2	15	169	676	2651	*
58	69	A	0350B1TW01	2	15	169	676	2651	*
59	70	A	0350B1TW01	2	15	167	668	2620	*
60	71	A	0350B1TW01	2	15	162	648	2541	*
61	72	A	0350B1TW01	2	15	203	812	3184	*
62	73	A	0350B1TW01	2	15	188	752	2949	*
63	74	A	0350B1TW01	2	15	197	788	3090	*
64	75	A	0350B1TW01	2	15	174	696	2729	*
65	76	A	0350B1TW01	2	15	182	728	2855	*
66	77	A	0350B1TW01	2	15	177	708	2776	*
67	78	A	0350B1TW01	2	15	159	636	2494	*
68	79	A	0350B1TW01	2	15	185	740	2902	*
69	80	A	0350B1TW01	2	15	178	712	2792	*
70	81	A	0350B1TW01	2	15	165	660	2588	*
71	82	A	0350B1TW01	2	15	196	784	3075	*
72	83	A	0350B1TW01	2	15	187	748	2933	*
73	84	A	0350B1TWC1	2	15	202	808	3169	*
74	85	A	0350B1TW01	2	15	166	664	2604	*
75	86	A	0350B1TW01	2	15	195	780	3059	*
76	87	A	0350B1TW01	2	15	191	764	2996	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/06/95 Survey Start Time: 13:17  
Date/Time Report Printed: 9/06/95 14:33:04

Station: 1  
File: 535  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
77	88	A	0350B1TW01	2	15	193	772	3027	*
78	89	A	0350B1TW01	2	15	192	768	3012	*
79	90	A	0350B1TW01	2	15	179	716	2808	*
80	91	A	0350B1TW01	2	15	184	736	2886	*
81	92	A	0350B1TW01	2	15	163	652	2557	*
82	93	A	0350B1TW01	2	15	163	652	2557	*
83	94	A	0350B1TW01	2	15	162	648	2541	*
84	95	A	0350B1TW01	2	15	167	668	2620	*
85	96	A	0350B1TW01	2	15	181	724	2839	*
86	97	A	0350B1TW01	2	15	201	804	3153	*
87	98	A	0350B1TW01	2	15	164	656	2573	*
88	99	A	0350B1TW01	2	15	182	728	2855	*
89	100	A	0350B1TW01	2	15	169	676	2651	*
90	101	A	0350B1TW01	2	15	202	808	3169	*
91	102	A	0350B1TW01	2	15	159	636	2494	*
92	103	A	0350B1TW01	2	15	176	704	2761	*
93	104	A	0350B1TW01	2	15	169	676	2651	*
94	105	A	0350B1TW01	2	15	176	704	2761	*
95	106	A	0350B1TW01	2	15	178	712	2792	*
96	107	A	0350B1TW01	2	15	191	764	2996	*
97	108	A	0350B1TW01	2	15	169	676	2651	*
98	109	A	0350B1TW01	2	15	170	680	2667	*
99	110	A	0350B1TW01	2	15	194	776	3043	*
100	111	A	0350B1TW01	2	15	183	732	2871	*
101	112	A	0350B1TW01	2	15	188	752	2949	*
102	113	A	0350B1TW01	2	15	161	644	2525	*
103	114	A	0350B1TW01	2	15	214	856	3357	*
104	115	A	0350B1TW01	2	15	181	724	2839	*
105	116	A	0350B1TW01	2	15	185	740	2902	*
106	117	A	0350B1TW01	2	15	183	732	2871	*
107	118	A	0350B1TW01	2	15	207	828	3247	*
108	119	A	0350B1TW01	2	15	191	764	2996	*
109	120	A	0350B1TW01	2	15	173	692	2714	*
110	121	A	0350B1TW01	2	15	167	660	2620	*
111	122	A	0350B1TW01	2	15	186	744	2918	*
112	123	A	0350B1TW01	2	15	158	632	2478	*
113	124	A	0350B1TW01	2	15	170	680	2667	*
114	125	A	0350B1TW01	2	15	186	744	2918	*
115	126	A	0350B1TW01	2	15	182	728	2855	*
116	127	A	0350B1TW01	2	15	202	808	3169	*
117	128	A	0350B1TW01	2	15	164	656	2573	*
118	129	A	0350B1TW01	2	15	186	744	2918	*
119	130	A	0350B1TW01	2	15	187	748	2933	*
120	131	A	0350B1TW01	2	15	188	752	2949	*
121	132	A	0350B1TW01	2	15	185	740	2902	*
122	133	A	0350B1TW01	2	15	181	724	2839	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/06/95 Survey Start Time: 13:32  
Date/Time Report Printed: 9/06/95 14:33:04

Station: 1  
File: 535  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
123	134	A	0350B1TW01	2	15	169	676	2651	*
124	135	A	0350B1TW01	2	15	197	788	3090	*

Number of Measurements at this Survey Location: 124

Total Number of Measurements on this Report: 140

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 9/7/95

Download Station #: 1 Download File #: 538 Time: 14:40

Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger Worrick Signature: [Signature] Date: 9-7-95

Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95356

Survey Location description: Bldg 107 - Visitors Center, Center Meeting Room, Painted Wood Floor  
(Example: Rt Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only

Other (explain): Resurvey

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>PR092511</u>	<u>43-68B</u>	<u>.202</u>	<u>125</u>	<u>538</u>	<u>538</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

MEAN  
BKG CPM

111 117 123 134 127 123 111 129 138 153 141 128 512

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 538, Visitors Center #107, Center Meeting Room - Painted Wood Floor  
 Reason: Re-Survey User: RCW1152/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .202

Survey Performed By: [Signature]

Date: 9-7-95

Survey Reviewed By: [Signature]

Date: 9-8-95

Station: 1  
 Survey Date: 9/07/95 Survey Start Time: 12:08 File: 538  
 Date/Time Report Printed: 9/07/95 15:21:19 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	A	SC1TC878		0	60	1569	1569	6214	*
22	A	SC1TC878		0	60	1599	1599	6333	*
Number of Measurements at this Survey Location: 2									
2	A	SC2TC878		0	60	1615	1615	6396	*
23	A	SC2TC878		0	60	1600	1600	6337	*
Number of Measurements at this Survey Location: 2									
3	A	SC3TC878		0	60	1572	1572	6226	*
24	A	SC3TC878		0	60	1492	1492	.09	*
Number of Measurements at this Survey Location: 2									
21	A	SCBKGPRT		0	60	536	536	12	*
Number of Measurements at this Survey Location: 1									
0	A	SCBKGPRE		0	600	5273	527	2088	*

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/07/95 Survey Start Time: 12:05  
Date/Time Report Printed: 9/07/95 15:21:19

Station: 1  
File: 538  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 1

1	4	A	0350B2KLAB	1	15	111	444	1758	*
2	5	A	0350B2KLAB	1	15	117	468	1853	*
3	6	A	0350B2KLAB	1	15	123	482	1949	*
4	7	A	0350B2KLAB	1	15	134	536	2123	*
5	8	A	0350B2KLAB	1	15	127	508	2012	*
6	9	A	0350B2KLAB	1	15	123	492	1949	*
7	10	A	0350B2KLAB	1	15	111	444	1758	*
8	11	A	0350B2KLAB	1	15	129	516	2044	*
9	12	A	0350B2KLAB	1	15	138	552	2186	*
10	13	A	0350B2KLAB	1	15	153	612	2424	*
11	14	A	0350B2KLAB	1	15	141	564	2234	*
12	15	A	0350B2KLAB	1	15	128	512	2028	*

Number of Measurements at this Survey Location: 12

1	16	A	0350B2KPF01	2	15	142	568	2250	*
2	17	A	0350B2KPF01	2	15	129	516	2044	*
3	18	A	0350B2KPF01	2	15	144	576	2281	*
4	19	A	0350B2KPF01	2	15	142	568	2250	*
5	20	A	0350B2KPF01	2	15	152	608	2408	*

Number of Measurements at this Survey Location: 5

Total Number of Measurements on this Report: 25

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWS

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
538	9-7-95	Samples 0-3: change detector setup to "d".	rcw	gwsent	changed det. setup # from 1 to 0 on samp. 0-3.	gwsent	9/7/95 15:20

Attach this sheet to the front of the Survey Download Report requiring changes.

**COPY**

Radiological Engineering & Decommissioning Services  
 Port St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 538, Visitors Center #107, Center Meeting Room - Painted Wood Floor  
 Reason: Re-Survey User: RCW1152/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm2 Background: 0 cpm Efficiency: .202

Survey Performed By: J. P. [Signature] Date: 9-7-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 9/07/95 Survey Start Time: 13:55 Station: 1  
 Date/Time Report Printed: 9/07/95 15:12:49 File: 538  
 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
22	A	SC1TC878		0	60	1599	1599	6333	*
Number of Measurements at this Survey Location: 1									
23	A	SC2TC878		0	60	1600	1600	6337	*
Number of Measurements at this Survey Location: 1									
24	A	SC3TC878		0	60	1492	1492	5909	*
Number of Measurements at this Survey Location: 1									
21	A	SCBKGPOST		0	60	536	536	2123	*
Number of Measurements at this Survey Location: 1									
1	4	A	0350B2KLAB	1	15	111	444	1758	*
2	5	A	0350B2KLAB	1	15	117	468	1853	*
3	6	A	0350B2KLAB	1	15	123	492	1949	*

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**



Survey Date: 9/07/95 Survey Start Time: 12:52  
 Date/Time Report Printed: 9/07/95 15:12:49

Station: 1  
 File: 538  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H 1
4	7	A	0350B2KLAB	1	15	134	536	2123	*
5	8	A	0350B2KLAB	1	15	127	508	2012	*
6	9	A	0350B2KLAB	1	15	123	492	1949	*
7	10	A	0350B2KLAB	1	15	111	444	1758	*
8	11	A	0350B2KLAB	1	15	129	516	2044	*
9	12	A	0350B2KLAB	1	15	138	552	2186	*
10	13	A	0350B2KLAB	1	15	153	612	2424	*
11	14	A	0350B2KLAB	1	15	141	564	2234	*
12	15	A	0350B2KLAB	1	15	128	512	2028	*

Number of Measurements at this Survey Location: 12

1 A SC1TC878 20 60 1569 1569 6214 \*  
*kw 9-7-95*

Number of Measurements at this Survey Location: 1

2 A SC2TC878 20 60 1615 1615 6396 \*  
*kw 9-7-95*

Number of Measurements at this Survey Location: 1

3 A SC3TC878 20 60 1572 1572 6226 \*  
*kw 9/7/95*

Number of Measurements at this Survey Location: 1

0 A SCBKGP8 20 600 5273 527 2088 \*  
*kw 9-7-95*

Number of Measurements at this Survey Location: 1

1	16	A	0350B2KFP01	2	15	142	568	2250	*
2	17	A	0350B2KFP01	2	15	129	516	2044	*
3	18	A	0350B2KFP01	2	15	144	576	2281	*
4	19	A	0350B2KFP01	2	15	142	568	2250	*
5	20	A	0350B2KFP01	2	15	152	608	2408	*

**COPY**

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/07/95 Survey Start Time: 13:49  
Date/Time Report Printed: 9/07/95 15:12:49

Station: 1  
File: 538  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 5

Total Number of Measurements on this Report: 25

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWB

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: GE Date: 9/6/95  
 Download Station #: 1 Download File #: 531 Time: 11:15  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger Warrick Signature: RW Date: 9-6-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 95356

Survey Location description: Bldg 107 - Visitors Center, Center Meeting Room, Carpeted Floor over concrete  
 (Example: Rr Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7) Rebbon pad was used  
Reprinted wood floor

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>PRO92511</u>	<u>43-68B</u>	<u>.206</u>	<u>125</u>	<u>531</u>	<u>531</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

												MEAN BKG CPM	
<u>168</u>	<u>127</u>	<u>146</u>	<u>136</u>	<u>138</u>	<u>130</u>	<u>149</u>	<u>143</u>	<u>144</u>	<u>134</u>	<u>142</u>	<u>160</u>	<u>572</u>	<u>035031CL43</u>
<u>129</u>	<u>136</u>	<u>149</u>	<u>127</u>	<u>110</u>	<u>109</u>	<u>128</u>	<u>129</u>	<u>109</u>	<u>148</u>	<u>130</u>	<u>145</u>	<u>516</u>	<u>035031KLAB</u>
<u>138</u>	<u>132</u>	<u>153</u>	<u>140</u>	<u>165</u>	<u>142</u>	<u>143</u>	<u>143</u>	<u>145</u>	<u>138</u>	<u>164</u>	<u>144</u>	<u>582</u>	<u>035031RL43</u>

COMMENTS: Use "B" for background

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 531, Visitors Center #107, Center Meeting Room - Carpeted Floor Over Concrete,  
 Rubber Pad Over Concrete, Painted Wood Floor

Reason: Re-Survey User: RLN4080/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .206

Survey Performed By: *Rafael W. Smith*  
 Survey Reviewed By: *Donald L. Baker*

Date: 9-6-95  
 Date: 9-8-95

Station: 1  
 Survey Date: 9/06/95 Survey Start Time: 07:41 File: 531  
 Date/Time Report Printed: 9/06/95 14:35:12 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
	1	A	SC1TC878	0	60	1492	1492	5794	*
	171	A	SC1TC878	0	60	1606	1606	6237	*
Number of Measurements at this Survey Location: 2									
	2	A	SC2TC878	0	60	1581	1581	6140	*
	172	A	SC2TC878	0	60	1717	1717	6668	*
Number of Measurements at this Survey Location: 2									
	3	A	SC3TC878	0	60	1560	1560	6058	*
	173	A	SC3TC878	0	60	1545	1545	6000	*
Number of Measurements at this Survey Location: 2									
	170	A	SCBKGPOST	0	60	576	576	2237	*
Number of Measurements at this Survey Location: 1									
	0	A	SCBKGPRR	0	600	5208	521	2023	*

**COPY**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/06/95 Survey Start Time: 07:36  
 Date/Time Report Printed: 9/06/95 14:35:12

Station: 1  
 File: 531  
 Page: 2

Comments

Loc No	Sep No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	*
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Number of Measurements at this Survey Location: 1

1	4	A	0350B1CLAB	1	15	168	672	2610	*
2	5	A	0350B1CLAB	1	15	127	508	1973	*
3	6	A	0350B1CLAB	1	15	146	584	2268	*
4	7	A	0350B1CLAB	1	15	136	544	2113	*
5	8	A	0350B1CLAB	1	15	138	552	2144	*
6	9	A	0350B1CLAB	1	15	130	520	2019	*
7	10	A	0350B1CLAB	1	15	149	596	2315	*
8	11	A	0350B1CLAB	1	15	143	572	2221	*
9	12	A	0350B1CLAB	1	15	144	576	2237	*
10	13	A	0350B1CLAB	1	15	134	536	2082	*
11	14	A	0350B1CLAB	1	15	142	568	2206	*
12	15	A	0350B1CLAB	1	15	160	640	2485	*

Number of Measurements at this Survey Location: 12

1	128	A	0350B1KLAB	1	15	129	516	2004	*
2	129	A	0350B1KLAB	1	15	136	544	2113	*
3	130	A	0350B1KLAB	1	15	149	596	2315	*
4	131	A	0350B1KLAB	1	15	127	508	1973	*
5	132	A	0350B1KLAB	1	15	110	440	1709	*
6	133	A	0350B1KLAB	1	15	109	436	1693	*
7	134	A	0350B1KLAB	1	15	128	512	1988	*
8	135	A	0350B1KLAB	1	15	129	516	2004	*
9	136	A	0350B1KLAB	1	15	109	436	1693	*
10	137	A	0350B1KLAB	1	15	148	592	2299	*
11	138	A	0350B1KLAB	1	15	130	520	2019	*
12	139	A	0350B1KLAB	1	15	145	580	2252	*

Number of Measurements at this Survey Location: 12

1	104	A	0350B1RLAB	1	15	138	552	2144	*
2	105	A	0350B1RLAB	1	15	132	528	2050	*
3	106	A	0350B1RLAB	1	15	153	612	2377	*
4	107	A	0350B1RLAB	1	15	140	560	2175	*
5	108	A	0350B1RLAB	1	15	165	660	2563	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Station: 1

Survey Date: 9/06/95 Survey Start Time: 10:11

File: 531

Comments

Date/Time Report Printed: 9/06/95 14:35:12

Page: 3

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
6	109	A	0350B1RLAB	1	15	142	568	2206	*
7	110	A	0350B1RLAB	1	15	143	572	2221	*
8	111	A	0350B1RLAB	1	15	143	572	2221	*
9	112	A	0350B1RLAB	1	15	145	580	2252	*
10	113	A	0350B1RLAB	1	15	138	552	2144	*
11	114	A	0350B1RLAB	1	15	164	656	2548	*
12	115	A	0350B1RLAB	1	15	144	576	2237	*

Number of Measurements at this Survey Location: 12

1	16	A	0350B1CF01	2	15	163	652	2532	*
2	17	A	0350B1CF01	2	15	147	588	2283	*
3	18	A	0350B1CF01	2	15	166	664	2579	*
4	19	A	0350B1CF01	2	15	146	584	2268	*
5	20	A	0350B1CF01	2	15	155	620	2408	*
6	21	A	0350B1CF01	2	15	134	536	2082	*
7	22	A	0350B1CF01	2	15	163	652	2532	*
8	23	A	0350B1CF01	2	15	141	564	2190	*
9	24	A	0350B1CF01	2	15	178	712	2765	*
10	25	A	J350B1CF01	2	15	176	704	2734	*
11	26	A	0350B1CF01	2	15	167	668	2594	*
12	27	A	0350B1CF01	2	15	157	628	2439	*
13	28	A	0350B1CF01	2	15	147	588	2283	*
14	29	A	0350B1CF01	2	15	152	608	2361	*
15	30	A	0350B1CF01	2	15	170	680	2641	*
16	31	A	0350B1CF01	2	15	166	664	2579	*
17	32	A	0350B1CF01	2	15	171	684	2656	*
18	33	A	0350B1CF01	2	15	148	592	2299	*
19	34	A	0350B1CF01	2	15	148	592	2299	*
20	35	A	0350B1CF01	2	15	140	560	2175	*
21	36	A	0350B1CF01	2	15	171	684	2656	*
22	37	A	0350B1CF01	2	15	143	572	2221	*
23	38	A	0350B1CF01	2	15	144	576	2237	*
24	39	A	0350B1CF01	2	15	165	660	2563	*
25	40	A	0350B1CF01	2	15	148	592	2299	*
26	41	A	0350B1CF01	2	15	156	624	2423	*
27	42	A	0350B1CF01	2	15	155	620	2408	*
28	43	A	0350B1CF01	2	15	141	564	2190	*
29	44	A	0350B1CF01	2	15	149	596	2315	*
30	45	A	0350B1CF01	2	15	179	716	2781	*
31	46	A	0350B1CF01	2	15	152	608	2361	*
32	47	A	0350B1CF01	2	15	137	548	2128	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/06/95 Survey Start Time: 09:27  
 Date/Time Report Printed: 9/06/95 14:35:12

Station: 1  
 File: 511  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
35	48	A	0350B1CF01	2	15	145	580	2252	*
36	49	A	0350B1CF01	2	15	124	496	1926	*
37	50	A	0350B1CF01	2	15	138	552	2144	*
38	51	A	0350B1CF01	2	15	166	664	2579	*
39	52	A	0350B1CF01	2	15	115	460	1786	*
40	53	A	0350B1CF01	2	15	167	668	2594	*
41	54	A	0350B1CF01	2	15	131	524	2035	*
44	55	A	0350B1CF01	2	15	152	608	2361	*
45	56	A	0350B1CF01	2	15	153	612	2377	*
46	57	A	0350B1CF01	2	15	138	552	2144	*
47	58	A	0350B1CF01	2	15	151	604	2346	*
48	59	A	0350B1CF01	2	15	163	652	2532	*
49	60	A	0350B1CF01	2	15	170	680	2641	*
50	61	A	0350B1CF01	2	15	156	624	2423	*
51	62	A	0350B1CF01	2	15	158	632	2454	*
54	63	A	0350B1CF01	2	15	170	680	2641	*
55	64	A	0350B1CF01	2	15	132	528	2050	*
56	65	A	0350B1CF01	2	15	167	668	2594	*
57	66	A	0350B1CF01	2	15	137	548	2128	*
58	67	A	0350B1CF01	2	15	152	608	2361	*
59	68	A	0350B1CF01	2	15	140	560	2175	*
60	69	A	0350B1CF01	2	15	170	680	2641	*
63	70	A	0350B1CF01	2	15	174	696	2703	*
64	71	A	0350B1CF01	2	15	127	508	1973	*
65	72	A	0350B1CF01	2	15	158	632	2454	*
66	73	A	0350B1CF01	2	15	156	624	2423	*
67	74	A	0350B1CF01	2	15	165	660	2563	*
68	75	A	0350B1CF01	2	15	158	632	2454	*
71	76	A	0350B1CF01	2	15	172	688	2672	*
72	77	A	0350B1CF01	2	15	138	552	2144	*
73	78	A	0350B1CF01	2	15	162	648	2517	*
74	79	A	0350B1CF01	2	15	156	624	2423	*
75	80	A	0350B1CF01	2	15	156	624	2423	*
76	81	A	0350B1CF01	2	15	152	608	2361	*
77	82	A	0350B1CF01	2	15	147	588	2283	*
80	83	A	0350B1CF01	2	15	170	680	2641	*
81	84	A	0350B1CF01	2	15	166	664	2579	*
82	85	A	0350B1CF01	2	15	133	532	2066	*
83	86	A	0350B1CF01	2	15	163	652	2532	*
84	87	A	0350B1CF01	2	15	157	628	2439	*
85	88	A	0350B1CF01	2	15	159	636	2470	*
86	89	A	0350B1CF01	2	15	157	628	2439	*
87	90	A	0350B1CF01	2	15	178	712	2765	*
88	91	A	0350B1CF01	2	15	154	616	2392	*
89	92	A	0350B1CF01	2	15	168	672	2610	*
90	93	A	0350B1CF01	2	15	156	624	2423	*

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/06/95 Survey Start Time: 09:50  
 Date/Time Report Printed: 9/06/95 14:35:12

Station: 1  
 File: 531  
 Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
					Time (sec)				
91	94	A	0350B1CF01	2	15	141	564	2190	*
92	95	A	0350B1CF01	2	15	152	608	2361	*
93	96	A	0350B1CF01	2	15	170	680	2641	*
94	97	A	0350B1CF01	2	15	153	612	2377	*
95	98	A	0350B1CF01	2	15	174	696	2703	*
96	99	A	0350B1CF01	2	15	153	612	2377	*
97	100	A	0350B1CF01	2	15	131	524	2035	*
98	101	A	0350B1CF01	2	15	176	704	2734	*
99	102	A	0350B1CF01	2	15	159	636	2470	*
100	103	A	0350B1CF01	2	15	154	616	2392	*

Number of Measurements at this Survey Location: 88

1	140	A	0350B1KFP01	2	15	109	436	1693	*
2	141	A	0350B1KFP01	2	15	151	604	2346	*
3	142	A	0350B1KFP01	2	15	142	568	2206	*
4	143	A	0350B1KFP01	2	15	108	432	1678	*
5	144	A	0350B1KFP01	2	15	133	532	2066	*
6	145	A	0350B1KFP01	2	15	152	608	2361	*
7	146	A	0350B1KFP01	2	15	145	580	2252	*
8	147	A	0350B1KFP01	2	15	126	504	1957	*
9	148	A	0350B1KFP01	2	15	144	576	2237	*
10	149	A	0350B1KFP01	2	15	106	424	1647	*
11	150	A	0350B1KFP01	2	15	127	508	1973	*
12	151	A	0350B1KFP01	2	15	134	536	2082	*
13	152	A	0350B1KFP01	2	15	122	488	1895	*
14	153	A	0350B1KFP01	2	15	139	556	2159	*
15	154	A	0350B1KFP01	2	15	178	712	2765	*
16	155	A	0350B1KFP01	2	15	107	428	1662	*
17	156	A	0350B1KFP01	2	15	150	600	2330	*
18	157	A	0350B1KFP01	2	15	148	592	2299	*
19	158	A	0350B1KFP01	2	15	113	452	1755	*
20	159	A	0350B1KFP01	2	15	150	600	2330	*
21	160	A	0350B1KFP01	2	15	133	532	2066	*
22	161	A	0350B1KFP01	2	15	120	480	1864	*
23	162	A	0350B1KFP01	2	15	139	556	2159	*
24	163	A	0350B1KFP01	2	15	142	568	2206	*
25	164	A	0350B1KFP01	2	15	124	496	1926	*
26	165	A	0350B1KFP01	2	15	132	528	2050	*
27	166	A	0350B1KFP01	2	15	160	640	2485	*
28	167	A	0350B1KFP01	2	15	148	592	2299	*
29	168	A	0350B1KFP01	2	15	150	600	2330	*
30	169	A	0350B1KFP01	2	15	1048	4192	16280	*

**COPY**

*This point taken at previously remediated location. See map. Rev 9/7/95  
 FOC/FS22/PSLC NOTIFIED*

Survey Date: 9/06/95 Survey Start Time: 10:52  
Date/Time Report Printed: 9/06/95 14:35:12

Station: 1  
File: 531  
Page: 6

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 30

33	116	A	0350B1RF01	2	15	158	632	2454	*
34	117	A	0350B1RF01	2	15	196	784	3045	*
42	118	A	0350B1RF01	2	15	179	716	2781	*
43	119	A	0350B1RF01	2	15	181	724	2812	*
52	120	A	0350B1RF01	2	15	142	568	2206	*
53	121	A	0350B1RF01	2	15	168	672	2610	*
61	122	A	0350B1RF01	2	15	189	756	2936	*
62	123	A	0350B1RF01	2	15	191	764	2967	*
69	124	A	0350B1RF01	2	15	142	568	2206	*
70	125	A	0350B1RF01	2	15	176	704	2734	*
78	126	A	0350B1RF01	2	15	156	624	2423	*
79	127	A	0350B1RF01	2	15	157	628	2439	*

Number of Measurements at this Survey Location: 12

Total Number of Measurements on this Report: 174

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

COPY

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Eger Signature: GU Eger Date: 9/5/95  
 Download Station #: 1 Download File #: 528 Time: 16:30  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Rick Neely Signature: Rick Neely Date: 09-05-95  
 Print Name: NA Signature: NA Date: NA

Instrument Serial #(s): Model 2350: 986.35

Survey Location description: Group A Package 350 walls, floor, stage  
(Example: Rx Bldg. Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B	<u>N/A</u>		528	528
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input type="checkbox"/> Gamma $\gamma$	PRO95312	442	1.073478 <sup>E10</sup>			
			<u>N/A</u>			

Local Area Background Measurements

										MEAN BKG CPM

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**COPY**



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 528, Group A, Package 350 - Walls, Floor, Stage  
 Reason: Initial Survey User: RLN4080/98635  
 M2350 S/N: 98635 Det. S/N: PR095312 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 Background: 0.0 uR/hr Gamma Calibration Constant: 10734780000

Survey Performed By: Lick Nuly Date: 09-06-95  
 Survey Reviewed By: Daniel A. Blum Date: 9-8-95

Survey Date: 9/05/95 Survey Start Time: 13:26 Station: 1  
 Date/Time Report Printed: 9/06/95 9:15 am File: 528 Comments  
 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Count		H
						Gross Counts	Micro R/hr	
1	A	RC1CS857	6	60	854671	4777.02	*	
146	A	RC1CS857	6	60	884013	4941.02	*	
						-----	Maximum	
Average uR/hr:						4859.02	4941.02	

Number of Measurements at this Survey Location: 2  
 -----

2	A	RC2CS857	6	60	24153	135.00	*	
147	A	RC2CS857	6	60	23819	133.08	*	
						-----	Maximum	
Average uR/hr:						134.04	135.00	

Number of Measurements at this Survey Location: 2  
 -----

3	A	RC3CS857	6	60	6143	34.34	*	
148	A	RC3CS857	6	60	6219	35.32	*	
						-----	Maximum	
Average uR/hr:						34.87	35.32	

Number of Measurements at this Survey Location: 2  
 -----

**COPY**

\* Hi flag set at 30 micro-R/hr.

Survey Date: 9/06/95 Survey Start Time: 13:34  
 Date/Time Report Printed: 9/06/95 9:15 am

Station: 1  
 File: 528  
 Page: 2

Comments

Loc No	Step No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
	4	A	RC4CS857	6	60	394	22.08	
*	149	A	RC4CS857	6	60	3901	21.80	
	150	A	RC4CS857	6	60	4002	22.37	

\* Failed 1st Post 5/c at position #4, Retried and Passed.  
 Ln 9-6-95

-----  
 Maximum  
 Average uR/hr: 22.08 22.37

Number of Measurements at this Survey Location: 3

145	A	RCBKGPST	6	300	16272	18.19	
-----	---	----------	---	-----	-------	-------	--

-----  
 Maximum  
 Average uR/hr: 18.19 18.19

Number of Measurements at this Survey Location: 1

0	A	RCBKGPST	6	300	15196	16.99	
---	---	----------	---	-----	-------	-------	--

-----  
 Maximum  
 Average uR/hr: 16.99 16.99

Number of Measurements at this Survey Location: 1

1	92	A	0350B1CF01	8	15	1430	31.97	*
2	93	A	0350B1CF01	8	15	1419	31.72	*
3	94	A	0350B1CF01	8	15	1409	31.50	*
4	95	A	0350B1CF01	8	15	1436	32.10	*
5	96	A	0350B1CF01	8	15	1371	30.65	*
6	97	A	0350B1CF01	8	15	1361	30.43	*
7	98	A	0350B1CF01	8	15	1642	36.71	*
8	99	A	0350B1CF01	8	15	1446	32.33	*
9	100	A	0350B1CF01	8	15	1517	33.92	*
10	101	A	0350B1CF01	8	15	1628	36.40	*
11	102	A	0350B1CF01	8	15	1788	39.97	*
12	103	A	0350B1CF01	8	15	1427	31.90	*
13	104	A	0350B1CF01	8	15	1612	36.04	*
14	105	A	0350B1CF01	8	15	1550	34.65	*
15	106	A	0350B1CF01	8	15	1635	36.55	*
16	107	A	0350B1CF01	8	15	1568	35.06	*
17	108	A	0350B1CF01	8	15	1567	35.03	*
18	109	A	0350B1CF01	8	15	1679	37.54	*
20	111	A	0350B1CF01	8	15	1308	29.34	

COPY

\* Hi flag set at 30 micro-R/hr.

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Count		H
						Gross Counts	Micro R/hr	
21	112	A	0350B1CF01	8	15	1411	31.55	*
22	113	A	0350B1CF01	8	15	1429	29.71	
23	114	A	0350B1CF01	8	15	1474	30.72	*
24	115	A	0350B1CF01	8	15	1452	30.25	*
26	116	A	0350B1CF01	8	15	1404	31.19	*
27	117	A	0350B1CF01	8	15	1475	32.04	*
28	118	A	0350B1CF01	8	15	1421	29.62	
29	119	A	0350B1CF01	8	15	1411	31.55	*
32	120	A	0350B1CF01	8	15	1100	29.06	
33	121	A	0350B1CF01	8	15	1284	28.71	
34	122	A	0350B1CF01	8	15	1479	30.83	*
35	123	A	0350B1CF01	8	15	1341	29.98	
37	124	A	0350B1CF01	8	15	1255	28.06	
38	125	A	0350B1CF01	8	15	1306	29.65	
39	126	A	0350B1CF01	8	15	1389	31.05	*
40	127	A	0350B1CF01	8	15	1448	32.37	*
41	128	A	0350B1CF01	8	15	1370	30.63	*
43	129	A	0350B1CF01	8	15	1402	31.34	*
44	130	A	0350B1CF01	8	15	1320	29.56	
45	131	A	0350B1CF01	8	15	1353	30.25	*
46	132	A	0350B1CF01	8	15	1392	31.12	*
47	133	A	0350B1CF01	8	15	1588	35.50	*
49	134	A	0350B1CF01	8	15	1377	30.79	*
50	135	A	0350B1CF01	8	15	1579	35.30	*
51	136	A	0350B1CF01	8	15	1354	30.27	*
52	137	A	0350B1CF01	8	15	1479	33.07	*
53	138	A	0350B1CF01	8	15	1542	34.50	*
54	139	A	0350B1CF01	8	15	1564	34.97	*
55	140	A	0350B1CF01	8	15	1568	35.06	*
56	141	A	0350B1CF01	8	15	1491	33.33	*
57	142	A	0350B1CF01	8	15	1465	32.75	*
58	143	A	0350B1CF01	8	15	1493	33.38	*
30	144	A	0350B1CF01	8	15	1825	40.80	*

----- Maximum  
 Average uR/hr: 32.56 40.80

Number of Measurements at this Survey Location: 52

1	79	A	0350B1KF01	8	15	1391	31.10	*
2	80	A	0350B1KF01	8	15	1283	28.68	
3	81	A	0350B1KF01	8	15	1308	29.37	
4	82	A	0350B1KF01	8	15	1296	28.97	
5	83	A	0350B1KF01	8	15	1287	28.77	
6	84	A	0350B1KF01	8	15	1401	29.13	

\* Hi flag set at 30 micro-R/hr.

**COPY**

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
7	85	A	0350B1KF01	8	15	1409	31.50	*
							Maximum	
Average uR/hr:						29.63	31.50	

Number of Measurements at this Survey Location: 7

19	86	A	0350B1RF01	8	15	1319	29.49	
25	87	A	0350B1RF01	8	15	1316	29.74	
31	88	A	0350B1RF01	8	15	1340	29.96	
36	89	A	0350B1RF01	8	15	1363	30.47	*
42	90	A	0350B1RF01	8	15	1420	31.86	*
48	91	A	0350B1RF01	8	15	1512	33.80	*
							Maximum	
Average uR/hr:						30.89	33.80	

Number of Measurements at this Survey Location: 6

1	10	A	0350B1TW01	8	15	1476	33.00	*
2	11	A	0350B1TW01	8	15	1483	33.16	*
3	12	A	0350B1TW01	8	15	1408	31.48	*
4	13	A	0350B1TW01	8	15	1403	31.37	*
5	14	A	0350B1TW01	8	15	1409	32.84	*
6	15	A	0350B1TW01	8	15	1517	33.92	*
7	16	A	0350B1TW01	8	15	1527	34.14	*
8	17	A	0350B1TW01	8	15	1431	31.99	*
9	18	A	0350B1TW01	8	15	1432	32.02	*
10	19	A	0350B1TW01	8	15	1459	32.84	*
11	20	A	0350B1TW01	8	15	1454	32.61	*
12	21	A	0350B1TW01	8	15	1440	32.19	*
13	22	A	0350B1TW01	8	15	1375	30.74	*
14	23	A	0350B1TW01	8	15	1401	31.32	*
15	24	A	0350B1TW01	8	15	1471	32.89	*
16	25	A	0350B1TW01	8	15	1388	31.03	*
17	26	A	0350B1TW01	8	15	1640	36.67	*
18	27	A	0350B1TW01	8	15	1340	29.96	
19	28	A	0350B1TW01	8	15	1400	31.10	*
20	29	A	0350B1TW01	8	15	1322	29.56	
21	30	A	0350B1TW01	8	15	1414	31.70	*
22	31	A	0350B1TW01	8	15	1427	31.90	*
23	32	A	0350B1TW01	8	15	1412	31.74	*
24	33	A	0350B1TW01	8	15	1433	31.75	*
25	34	A	0350B1TW01	8	15	1319	29.94	

**COPY**

\* Hi flag set at 30 micro-R/hr.

Survey Date: 9/05/95 Survey Start Time: 14:12  
 Date/Time Report Printed: 9/06/95 9:15 am

Station: 1  
 File: 528  
 Page: 5

Comments

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Count		H
					Time (sec)	Gross Counts	
26	35	A	0350B1TW01	8	15	1413	32.15 *
27	37	A	0350B1TW01	8	15	1414	31.98 *
28	38	A	0350B1TW01	8	15	1419	31.20 *
29	39	A	0350B1TW01	8	15	1455	32.53 *
30	40	A	0350B1TW01	8	15	1387	31.01 *
31	41	A	0350B1TW01	8	15	1339	29.94
32	42	A	0350B1TW01	8	15	1472	31.57 *
33	43	A	0350B1TW01	8	15	1360	30.41 *
34	44	A	0350B1TW01	8	15	1270	28.19
35	45	A	0350B1TW01	8	15	1419	31.72 *
36	46	A	0350B1TW01	8	15	1207	26.99
37	47	A	0350B1TW01	8	15	1236	27.63
38	48	A	0350B1TW01	8	15	1282	28.66
39	49	A	0350B1TW01	8	15	1220	27.28
40	50	A	0350B1TW01	8	15	1261	28.19
41	51	A	0350B1TW01	8	15	1216	27.19
42	52	A	0350B1TW01	8	15	1275	28.51
43	53	A	0350B1TW01	8	15	1306	29.20
44	54	A	0350B1TW01	8	15	1233	27.57
45	55	A	0350B1TW01	8	15	1388	30.81 *
46	56	A	0350B1TW01	8	15	1318	29.42
47	57	A	0350B1TW01	8	15	1261	27.97
48	58	A	0350B1TW01	8	15	1274	28.48
49	59	A	0350B1TW01	8	15	1262	28.21
50	60	A	0350B1TW01	8	15	1171	26.18
51	61	A	0350B1TW01	8	15	1160	25.93
52	62	A	0350B1TW01	8	15	1414	31.61 *
53	63	A	0350B1TW01	8	15	1260	28.17
54	64	A	0350B1TW01	8	15	1188	26.56
55	65	A	0350B1TW01	8	15	1207	26.99
56	66	A	0350B1TW01	8	15	1265	28.28
57	67	A	0350B1TW01	8	15	1284	28.71
58	68	A	0350B1TW01	8	15	1213	27.12
59	69	A	0350B1TW01	8	15	1282	28.66
60	70	A	0350B1TW01	8	15	1230	27.50
61	71	A	0350B1TW01	8	15	1302	28.87
62	72	A	0350B1TW01	8	15	1326	29.85
63	73	A	0350B1TW01	8	15	1247	27.88
64	74	A	0350B1TW01	8	15	1280	28.62
65	75	A	0350B1TW01	8	15	1249	27.92
66	76	A	0350B1TW01	8	15	1222	27.12
67	77	A	0350B1TW01	8	15	1223	27.14
68	78	A	0350B1TW01	8	15	1197	26.22

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\* Hi flag set at 30 micro-R/hr.



Survey Date: 9/05/95 Survey Start Time: 14:32  
Date/Time Report Printed: 9/06/95 9:15 am

Station: 1  
File: 528  
Page: 6

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
--------	--------	-------------	-----------------	--------	------------	--------------	------------	---

Count  
Average uR/hr: 10.67      Maximum 16.67

Number of Measurements at this Survey Location: 68

Total Number of Measurements on this Report: 144

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM  
8-08-95 GWS

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**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
528	9-6-95 0630	Add Loc #30 to Samp #144 Delete #'s 5-9, <sup>110</sup> 19, 36 BWE 9/6/95	Rur	gW Egert	Added Loc. # 30 to samp. #144. Deleted samp. 5-9, 36, 110.	gW Egert	9/6/95 09:15

COPY

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 528, Group A, Package 350 - Walls, Floor, Stage  
 Reason: Initial Survey User: RLN4080/98635  
 M2350 S/N: 98635 Det. S/N: PR095312 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 Background: 0.0 uR/hr Gamma Calibration Constant: 10734780000

Survey Performed By: *[Signature]*

Date: 7-6-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Survey Date: 9/05/95 Survey Start Time: 13:26 Station: 1  
 Date/Time Report Printed: 9/05/95 5:21 pm File: 528  
 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	1	A	RC1CS857	6	60	854671	4777.02	*
	146	A	RC1CS857	6	60	884013	4941.02	*

----- Maximum  
 Average uR/hr: 4859.02 4941.02

Number of Measurements at this Survey Location: 2

	2	A	RC2CS857	6	60	24153	135.00	*
	147	A	RC2CS857	6	60	23810	133.08	*

----- Maximum  
 Average uR/hr: 134.04 135.00

Number of Measurements at this Survey Location: 2

	3	A	RC3CS857	6	60	6143	34.34	*
	148	A	RC3CS857	6	60	6319	35.32	*

----- Maximum  
 Average uR/hr: 34.83 35.32

Number of Measurements at this Survey Location: 2

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**SUPERSEDED**

\* Hi flag set at 30 micro-R/hr.

Survey Date: 9/05/95 Survey Start Time: 14:37  
 Date/Time Report Printed: 9/05/95 5:21 pm

Station: 1  
 File: 528  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Micro R/hr	H i
6	84	A	0350B1KF01	8	15	1303	29.13	
7	85	A	0350B1KF01	8	15	1409	31.50 *	

----- Maximum  
 Average uR/hr: 29.63 31.50

Number of Measurements at this Survey Location: 7

19	86	A	0350B1RF01	8	15	1319	29.49	
25	87	A	0350B1RF01	8	15	1330	29.74	
31	88	A	0350B1RF01	8	15	1340	29.96	
36	89	A	0350B1RF01	8	15	1363	30.47 *	
42	90	A	0350B1RF01	8	15	1425	31.86 *	
48	91	A	0350B1RF01	8	15	1512	33.80 *	

----- Maximum  
 Average uR/hr: 30.89 33.80

Number of Measurements at this Survey Location: 6

5	A	0350B1TW01	8	12	1449	40.49 *	} A date
6	A	0350B1TW01	8	12	1199	33.51 *	
7	A	0350B1TW01	8	12	1160	32.42 *	
8	A	0350B1TW01	8	12	1063	29.71	
9	A	0350B1TW01	8	12	981	27.42	
1	10	A	0350B1TW01	8	15	1476	33.00 *
2	11	A	0350B1TW01	8	15	1483	33.16 *
3	12	A	0350B1TW01	8	15	1408	31.48 *
4	13	A	0350B1TW01	8	15	1403	31.37 *
5	14	A	0350B1TW01	8	15	1469	32.84 *
6	15	A	0350B1TW01	8	15	1517	33.92 *
7	16	A	0350B1TW01	8	15	1527	34.14 *
8	17	A	0350B1TW01	8	15	1431	31.99 *
9	18	A	0350B1TW01	8	15	1432	32.02 *
10	19	A	0350B1TW01	8	15	1469	32.84 *
11	20	A	0350B1TW01	8	15	1454	32.51 *
12	21	A	0350B1TW01	8	15	1440	32.19 *
13	22	A	0350B1TW01	8	15	1375	30.74 *
14	23	A	0350B1TW01	8	15	1401	31.32 *
15	24	A	0350B1TW01	8	15	1471	32.89 *
16	25	A	0350B1TW01	8	15	1388	31.03 *
17	26	A	0350B1TW01	8	15	1640	36.67 *
18	27	A	0350B1TW01	8	15	1340	29.96
19	28	A	0350B1TW01	8	15	1400	31.30 *

\* Hi flag set at 30 micro-R/hr.

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**SUPERSEDED**

Survey Date: 9/05/95 Survey Start Time: 14:10  
 Date/Time Report Printed: 9/05/95 5:21 pm

Station: 1  
 File: 528  
 Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count		Micro R/hr	H i
					Time (sec)	Gross Counts		
20	29	A	0350B1TW01	8	15	1322	29.56	
21	30	A	0350B1TW01	8	15	1418	31.70	*
22	31	A	0350B1TW01	8	15	1427	31.90	*
23	32	A	0350B1TW01	8	15	1402	31.34	*
24	33	A	0350B1TW01	8	15	1420	31.75	*
25	34	A	0350B1TW01	8	15	1339	29.94	
26	35	A	0350B1TW01	8	15	1438	32.15	*
<del>26</del>	<del>35</del>	<del>A</del>	<del>0350B1TW01</del>	<del>8</del>	<del>15</del>	<del>1438</del>	<del>32.15</del>	<del>*</del>
27	37	A	0350B1TW01	8	15	1475	32.98	*
28	38	A	0350B1TW01	8	15	1619	36.20	*
29	39	A	0350B1TW01	8	15	1455	32.53	*
30	40	A	0350B1TW01	8	15	1387	31.01	*
31	41	A	0350B1TW01	8	15	1339	29.94	
32	42	A	0350B1TW01	8	15	1412	31.57	*
33	43	A	0350B1TW01	8	15	1360	30.41	*
34	44	A	0350B1TW01	8	15	1270	28.39	
35	45	A	0350B1TW01	8	15	1419	31.72	*
36	46	A	0350B1TW01	8	15	1207	26.99	
37	47	A	0350B1TW01	8	15	1236	27.63	
38	48	A	0350B1TW01	8	15	1282	28.66	
39	49	A	0350B1TW01	8	15	1220	27.28	
40	50	A	0350B1TW01	8	15	1261	28.19	
41	51	A	0350B1TW01	8	15	1216	27.19	
42	52	A	0350B1TW01	8	15	1275	28.51	
43	53	A	0350B1TW01	8	15	1306	29.20	
44	54	A	0350B1TW01	8	15	1233	27.57	
45	55	A	0350B1TW01	8	15	1369	30.61	*
46	56	A	0350B1TW01	8	15	1316	29.42	
47	57	A	0350B1TW01	8	15	1251	27.97	
48	58	A	0350B1TW01	8	15	1274	28.48	
49	59	A	0350B1TW01	8	15	1262	28.21	
50	60	A	0350B1TW01	8	15	1171	26.18	
51	61	A	0350B1TW01	8	15	1160	25.93	
52	62	A	0350B1TW01	8	15	1414	31.61	*
53	63	A	0350B1TW01	8	15	1260	28.17	
54	64	A	0350B1TW01	8	15	1188	26.56	
55	65	A	0350B1TW01	8	15	1207	26.99	
56	66	A	0350B1TW01	8	15	1265	28.26	
57	67	A	0350B1TW01	8	15	1284	28.71	
58	68	A	0350B1TW01	8	15	1213	27.12	
59	69	A	0350B1TW01	8	15	1282	28.66	
60	70	A	0350B1TW01	8	15	1230	27.50	
61	71	A	0350B1TW01	8	15	1202	26.87	
62	72	A	0350B1TW01	8	15	1326	29.65	
63	73	A	0350B1TW01	8	15	1247	27.88	
64	74	A	0350B1TW01	8	15	1280	28.62	

*Delete*

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\* Hi flag set at 30 micro-R/hr.



Survey Date: 9/05/95 Survey Start Time: 14:30  
Date/Time Report Printed: 9/05/95 5:21 pm

Station: 1  
File: 528  
Page: 6

Comments

Loc No	Smp No	MG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
65	75	A	0350B1TW01	8	15	1249	27.92	
66	76	A	0350B1TW01	8	15	1222	27.32	
67	77	A	0350B1TW01	8	15	1223	27.34	
68	78	A	0350B1TW01	8	15	1307	29.23	

----- Maximum  
Average uR/hr: -5120.45 36.67

Number of Measurements at this Survey Location: 74  
-----

-----  
Total Number of Measurements on this Report: 151

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM  
8-08-95 GWE

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\* Hi flag set at 30 micro-R/hr.

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :9/25/95      Report Date: 9/25/95      SCN :233.00      Activity (dpm) : 2.27e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 28.4 %

Location Code: 0350BIRF01      Sampled By : NEELY      Analysis Type : Alpha

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03723	1	.8	2.6	.4	
26.03724	2	.8	2.6	0.0	
26.03725	3	.8	2.6	0.0	
26.03726	4	.8	2.6	0.0	
26.03727	5	.8	2.6	0.0	
26.03728	6	.8	2.6	0.0	
26.03729	7	.8	2.6	.7	
26.03730	8	.8	2.6	0.0	
26.03731	9	.8	2.6	0.0	
26.03732	10	.8	2.6	.4	
26.03733	11	.8	2.6	0.0	
26.03734	12	.8	2.6	-.4	

Flag Values: 1. Unaffected 2. Non-suspect Affected 3. Suspected Affected	Individual > 500 dpm/100cm2 Individual > 562 dpm/100cm2 Individual > 750 dpm/100cm2
---	---

Radiochemistry Review: *[Signature]*

Date: 9/25/95

Final Survey Technician Review: *[Signature]*

Date: 9/26/95

Field Operation Coordinator Review: *[Signature]*

Date: 9-26-95

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Scientific Ecology Group, Inc - SEG  
Radiological Engineering & Decommissioning  
Fort St. Vrain - Decommissioning Survey Report  
Radiochemistry Laboratory Analysis Results

Analysis Date : 9/25/95      Report Date: 9/25/95      SCN : 233.00      Activity (dpm) : 2.27e+4  
Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 28.4 %

Location Code: 0356B2KF01      Sampled By : WORRICK      Analysis Type : Alpha

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.04141	1	.8	2.6	.4	
26.04142	2	.8	2.6	-.4	
26.04143	3	.8	2.6	2.1	
26.04144	4	.8	2.6	-.4	
26.04145	5	.8	2.6	1.4	

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *MG*  
Final Survey Technician Review: *ZJP*  
Field Operation Coordinator Review: *McGee*

Date: 9/25/95  
Date: 9/26/95  
Date: 9-26-95

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :9/7/95      Report Date: 9/8/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0356B2KF01      Sampled By : WORRICK      Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.04141	1	7.4	21.1	-2.1	
26.04142	2	7.4	21.1	4.9	
26.04143	3	7.4	21.1	-2.1	
26.04144	4	7.4	21.1	4.9	
26.04145	5	7.4	21.1	21.1	

Flag Values: 1. Unaffected 2. Non-suspect Affected 3. Suspected Affected	Individual > 500 dpm/100cm2 Individual > 562 dpm/100cm2 Individual > 750 dpm/100cm2
---	---

Radiochemistry Review: *MG*

Date: 9/8/95

Final Survey Technician Review: *[Signature]*

Date: 9/8/95

Field Operation Coordinator Review: *[Signature]*

Date: 9-8-95

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 9/6/95      Report Date: 9/7/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: 0350BICF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03765	1	9.3	24.9	6.9	
26.03766	2	9.3	24.9	-4.6	
23.03767	3	9.3	24.9	4.6	
26.03768	4	9.3	24.9	6.9	
26.03769	5	9.3	24.9	2.3	
26.03770	6	9.3	24.9	0.0	
26.03771	7	9.3	24.9	-4.6	
26.03772	8	9.3	24.9	-6.9	
26.03773	9	9.3	24.9	-4.6	
26.03774	10	9.3	24.9	-4.6	
26.03775	11	9.3	24.9	6.9	
26.03776	12	9.3	24.9	-4.6	
26.03777	13	9.3	24.9	-4.6	
26.03778	14	9.3	24.9	2.3	
26.03779	15	9.3	24.9	0.0	
26.03780	16	9.3	24.9	-6.9	
26.03781	17	9.3	24.9	2.3	
25.03782	18	9.3	24.9	0.0	
26.03783	19	9.3	24.9	0.0	
26.03784	20	9.3	24.9	-2.3	
26.03785	21	9.3	24.9	-2.3	
26.03786	22	9.3	24.9	0.0	
26.03787	23	9.3	24.9	-6.9	
26.03788	24	9.3	24.9	-2.3	
26.03789	25	9.3	24.9	0.0	
26.03790	26	9.3	24.9	-4.6	
26.03791	27	9.3	24.9	-2.3	
26.03792	28	9.3	24.9	-2.3	
26.03793	29	9.3	24.9	2.3	
26.03794	30	9.3	24.9	-2.3	

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Analysis Date :9/6/95  
Instrument :LB-5100W

Report Date: 9/7/95  
Serial Number : SN5100W

SCN :236.00  
Cal Due Date :12/23/95

Activity (dpm) : 2.41e+4  
Efficiency : 43.2 %

Location Code: 0350BICF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03795	31	9.3	24.9	4.6	
26.03796	32	9.3	24.9	-4.6	
26.03797	33	9.3	24.9	0.0	
26.03798	34	9.3	24.9	0.0	
26.03799	35	9.3	24.9	-4.6	
26.03800	36	9.3	24.9	-2.3	
26.03801	37	9.3	24.9	-2.3	
26.03802	38	9.3	24.9	-4.6	
26.03803	39	9.3	24.9	0.0	
26.03804	40	9.3	24.9	4.6	
26.03805	41	9.3	24.9	0.0	
26.03806	42	9.3	24.9	0.0	
26.03807	43	9.3	24.9	-6.9	
26.03808	44	9.3	24.9	-6.9	
26.03809	45	9.3	24.9	-2.3	
26.03810	46	9.3	24.9	0.0	
26.03811	47	9.3	24.9	-4.6	
26.03812	48	9.3	24.9	-2.3	
26.03813	49	9.3	24.9	-6.9	
26.03814	50	9.3	24.9	-2.3	
26.03815	51	9.3	24.9	2.3	
26.03816	52	9.3	24.9	-4.6	
26.03817	53	9.3	24.9	2.3	
26.03818	54	9.3	24.9	0.0	
26.03819	55	9.3	24.9	-6.9	
26.03820	56	9.3	24.9	2.3	
26.03821	57	9.3	24.9	-4.6	
26.03822	58	9.3	24.9	-2.3	
26.03823	59	9.3	24.9	2.3	
26.03824	60	9.3	24.9	-2.3	
26.03825	61	9.3	24.9	6.9	
26.03826	62	9.3	24.9	6.9	
26.03827	63	9.3	24.9	0.0	

COPY

Analysis Date :9/6/95  
Instrument :LB-5100W

Report Date: 9/7/95  
Serial Number : SN5100W

SCN :236.00  
Cal Due Date :12/23/95

Activity (dpm) : 2.41e+4  
Efficiency : 43.2 %

Location Code: 0350BICF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03828	64	9.3	24.9	-2.3	
26.03829	65	9.3	24.9	0.0	
26.03830	66	9.3	24.9	-2.3	
26.03831	67	9.3	24.9	0.0	
26.03832	68	9.3	24.9	-6.9	
26.03833	69	9.3	24.9	-2.3	
26.03834	70	9.3	24.9	-4.6	
26.03835	71	9.3	24.9	0.0	
26.03836	72	9.3	24.9	-6.9	
26.03837	73	9.3	24.9	2.3	
26.03838	74	9.3	24.9	0.0	
26.03839	75	9.3	24.9	0.0	
26.03840	76	9.3	24.9	0.0	
26.03841	77	9.3	24.9	-4.6	
26.03842	78	9.3	24.9	-4.6	
26.03843	79	9.3	24.9	4.6	
26.03844	80	9.3	24.9	-2.3	
26.03845	81	9.3	24.9	-2.3	
26.03846	82	9.3	24.9	-6.9	
26.03847	83	9.3	24.9	-2.3	
26.03848	84	9.3	24.9	-2.3	
26.03849	85	9.3	24.9	-2.3	
26.03850	86	9.3	24.9	-6.9	
26.03851	87	9.3	24.9	-4.6	
26.03852	88	9.3	24.9	-4.6	

Location Code: 0350BIKF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03735	1	9.3	24.9	-4.6	
26.03736	2	9.3	24.9	-2.3	
26.03737	3	9.3	24.9	6.9	
26.03738	4	9.3	24.9	0.0	
26.03739	5	9.3	24.9	6.9	
26.03740	6	9.3	24.9	4.6	
26.03741	7	9.3	24.9	2.3	

COPY

Analysis Date :9/6/95

Report Date: 9/7/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0350BIKF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03742	8	9.3	24.9	0.0	
26.03743	9	9.3	24.9	0.0	
26.03744	10	9.3	24.9	-2.3	
26.03745	11	9.3	24.9	-2.3	
26.03746	12	9.3	24.9	2.3	
26.03747	13	9.3	24.9	0.0	
26.03748	14	9.3	24.9	0.0	
26.03749	15	9.3	24.9	9.3	
26.03750	16	9.3	24.9	6.9	
26.03751	17	9.3	24.9	2.3	
26.03752	18	9.3	24.9	9.3	
26.03753	19	9.3	24.9	-4.6	
26.03754	20	9.3	24.9	-2.3	
26.03755	21	9.3	24.9	9.3	
26.03756	22	9.3	24.9	-4.6	
26.03757	23	9.3	24.9	-4.6	
26.03758	24	9.3	24.9	4.6	
26.03759	25	9.3	24.9	0.0	
26.03760	26	9.3	24.9	-2.3	
26.03761	27	9.3	24.9	0.0	
26.03762	28	9.3	24.9	-4.6	
26.03763	29	9.3	24.9	-6.9	
* 26.03764	30	9.3	24.9	71.7	

Location Code: 0350BIRF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03723	1	9.3	24.9	0.0	
26.03724	2	9.3	24.9	-4.6	
26.03725	3	9.3	24.9	0.0	
26.03726	4	9.3	24.9	0.0	
26.03727	5	9.3	24.9	6.9	
26.03728	6	9.3	24.9	-4.6	
26.03729	7	9.3	24.9	-2.3	
26.03730	8	9.3	24.9	-2.3	
26.03731	9	9.3	24.9	6.9	

\* smear was taken at elevated reading.

Analysis Date :9/6/95  
Instrument :LB-5100W

Report Date: 9/7/95  
Serial Number : SN5100W

SCN :236.00  
Cal Due Date :12/23/95

Activity (dpm) : 2.41e+4  
Efficiency : 43.2 %

Location Code: 0350BIRF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03732	10	9.3	24.9	-4.6	
26.03733	11	9.3	24.9	-4.6	
26.03734	12	9.3	24.9	0.0	

Location Code: 0350BITW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03853	1	9.3	24.9	-2.3	
26.03854	2	9.3	24.9	0.0	
26.03855	3	9.3	24.9	-4.6	
26.03856	4	9.3	24.9	-2.3	
26.03857	5	9.3	24.9	6.9	
26.03858	6	9.3	24.9	2.3	
26.03859	7	9.3	24.9	2.3	
26.03860	8	9.3	24.9	0.0	
26.03861	9	9.3	24.9	0.0	
26.03862	10	9.3	24.9	4.6	
26.03863	11	9.3	24.9	0.0	
26.03864	12	9.3	24.9	-2.3	
26.03865	13	9.3	24.9	-4.6	
26.03866	14	9.3	24.9	11.6	
26.03867	15	9.3	24.9	-2.3	
26.03868	16	9.3	24.9	4.6	
26.03869	17	9.3	24.9	0.0	
26.03870	18	9.3	24.9	-4.6	
26.03871	19	9.3	24.9	0.0	
26.03872	20	9.3	24.9	-2.3	
26.03873	21	9.3	24.9	-2.3	
26.03874	22	9.3	24.9	-6.9	
26.03875	23	9.3	24.9	-6.9	
26.03876	24	9.3	24.9	-2.3	
26.03877	25	9.3	24.9	0.0	
26.03878	26	9.3	24.9	-4.6	
26.03879	27	9.3	24.9	2.3	
26.03880	28	9.3	24.9	4.6	
26.03881	29	9.3	24.9	-4.6	

COPY



Analysis Date :9/6/95  
Instrument :LB-5100W

Report Date: 9/7/95  
Serial Number : SN5100W

SCN :236.00  
Cal Due Date :12/23/95

Activity (dpm) : 2.41e+4  
Efficiency : 43.2 %

Location Code: 0350BITW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dprn)	High Flag
26.03882	30	9.3	24.9	0.0	
26.03883	31	9.3	24.9	4.6	
26.03884	32	9.3	24.9	2.3	
26.03885	33	9.3	24.9	-6.9	
26.03886	34	9.3	24.9	-2.3	
26.03887	35	9.3	24.9	-4.6	
26.03888	36	9.3	24.9	-4.6	
26.03889	37	9.3	24.9	-4.6	
26.03890	38	9.3	24.9	4.6	
26.03891	39	9.3	24.9	0.0	
26.03892	40	9.3	24.9	4.6	
26.03893	41	9.3	24.9	0.0	
26.03894	42	9.3	24.9	0.0	
26.03895	43	9.3	24.9	-4.6	
26.03896	44	9.3	24.9	-2.3	
26.03897	45	9.3	24.9	-6.9	
26.03898	46	9.3	24.9	2.3	
26.03899	47	9.3	24.9	-4.6	
26.03900	48	9.3	24.9	0.0	
26.03901	49	9.3	24.9	2.3	
26.03902	50	9.3	24.9	-4.6	
26.03903	51	9.3	24.9	-2.3	
26.03904	52	9.3	24.9	2.3	
26.03905	53	9.3	24.9	0.0	
26.03906	54	9.3	24.9	-4.6	
26.03907	55	9.3	24.9	-4.6	
26.03908	56	9.3	24.9	0.0	
26.03909	57	9.3	24.9	-2.3	
26.03910	58	9.3	24.9	2.3	
26.03911	59	9.3	24.9	0.0	
26.03912	60	9.3	24.9	2.3	
26.03913	61	9.3	24.9	2.3	
26.03914	62	9.3	24.9	-2.3	

COPY



Analysis Date :9/6/95

Report Date: 9/7/95

SCN :236 00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0350BITW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03915	63	9.3	24.9	-4.6	
26.03916	64	9.3	24.9	-4.6	
26.03917	65	9.3	24.9	2.3	
26.03918	66	9.3	24.9	0.0	
26.03919	67	9.3	24.9	-2.3	
26.03920	68	9.3	24.9	0.0	
26.03921	69	9.3	24.9	-4.6	
26.03922	70	9.3	24.9	2.3	
26.03923	71	9.3	24.9	-4.6	
26.03924	72	9.3	24.9	2.3	
26.03925	73	9.3	24.9	2.3	
26.03926	74	9.3	24.9	2.3	
26.03927	75	9.3	24.9	-2.3	
26.03928	76	9.3	24.9	0.0	
26.03929	77	9.3	24.9	-2.3	
26.03930	78	9.3	24.9	-2.3	
26.03931	79	9.3	24.9	-6.9	
26.03932	80	9.3	24.9	4.6	
26.03933	81	9.3	24.9	2.3	
26.03934	82	9.3	24.9	-6.9	
26.03935	83	9.3	24.9	-4.6	
26.03936	84	9.3	24.9	2.3	
26.03937	85	9.3	24.9	0.0	
26.03938	86	9.3	24.9	-4.6	
26.03939	87	9.3	24.9	-2.3	
26.03940	88	9.3	24.9	-2.3	
26.03941	89	9.3	24.9	0.0	
26.03942	90	9.3	24.9	-4.6	
26.03943	91	9.3	24.9	-6.9	
26.03944	92	9.3	24.9	0.0	
26.03945	93	9.3	24.9	-4.6	
26.03946	94	9.3	24.9	2.3	
26.03947	95	9.3	24.9	-2.3	

COPY

Analysis Date :9/6/95

Report Date: 9/7/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0350BITW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03948	96	9.3	24.9	0.0	
26.03949	97	9.3	24.9	2.3	
26.03950	98	9.3	24.9	-2.3	
26.03951	99	9.3	24.9	-2.3	
26.03952	100	9.3	24.9	-2.3	
26.03953	101	9.3	24.9	2.3	
26.03954	102	9.3	24.9	-2.3	
26.03955	103	9.3	24.9	-2.3	
26.03956	104	9.3	24.9	2.3	
26.03957	105	9.3	24.9	-2.3	
26.03958	106	9.3	24.9	-4.6	
26.03959	107	9.3	24.9	2.3	
26.03960	108	9.3	24.9	-2.3	
26.03961	109	9.3	24.9	-2.3	
26.03962	110	9.3	24.9	0.0	
26.03963	111	9.3	24.9	-6.9	
26.03964	112	9.3	24.9	-4.6	
26.03965	113	9.3	24.9	-2.3	
26.03966	114	9.3	24.9	-4.6	
26.03967	115	9.3	24.9	-2.3	
26.03968	116	9.3	24.9	0.0	
26.03969	117	9.3	24.9	-2.3	
26.03970	118	9.3	24.9	-4.6	
26.03971	119	9.3	24.9	-2.3	
26.03972	120	9.3	24.9	-2.3	
26.03973	121	9.3	24.9	0.0	
26.03974	122	9.3	24.9	-2.3	
26.03975	123	9.3	24.9	2.3	
26.03976	124	9.3	24.9	-2.3	

Flag Values:

1. Unaffected

2. Non-suspect Affected

3. Suspected Affected

Individual &gt; 500 dpm/100cm2

Individual &gt; 562 dpm/100cm2

Individual &gt; 750 dpm/100cm2

COPY

Analysis Date :9/6/95

Report Date: 9/7/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Radiochemistry Review:

*n. G*

Date: 9/7/95

Final Survey Technician Review:

*Rn*

Date: 9-7-95

Field Operation Coordinator Review:

*Hambloch*

Date: 9-8-95

**COPY**

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

Page   1   of   2  

Package #: B005	Building: Various - See below	Elevation: 4791	Drawing #: SITE_SUB	Survey Unit: B005
Survey Unit Description <sup>1</sup> : North Warehouse - Bldg. #13, Electrical Warehouse - Bldg. #14, Restroom and Shower Facility - Bldg. #1014.				
History of Area(s) <sup>2</sup> :				
<p>The North Warehouse and Restroom and Shower Facility have no history of containing radioactive material.</p> <p>In the late 1970's and early 1980's, radioactive material was stored in the northeast area of the Electrical Warehouse. Records indicate there have been no spills or occurrences in this area which could have resulted in contamination.</p> <p>The "Hot Soil Lab", located in the southwest corner of the Electrical Warehouse, is still being utilized and will be surveyed as part of package I010.</p> <p>The floors and lower walls of these buildings will be surveyed as an Unaffected survey unit.</p>				
Special Support Requirements <sup>3</sup> : None				
Specific Safety Precautions <sup>4</sup> : None				
Field Operations Coordinator: <i>MSB/Daniel H. [Signature]</i> Date: 8-29-95				
Isolation Controls <sup>5</sup> : Level 1 <input type="checkbox"/> Level 2 <input checked="" type="checkbox"/> Level 3 <input type="checkbox"/>				
<p>No use, storage or movement of radioactive material is permitted in Group B buildings. All radioactive storage areas outside the Reactor Bldg are controlled by the Radwaste Supervisor. The Radwaste Supervisor has been notified that final surveys of Group B buildings are to begin and that no radioactive material shall be authorized in these areas.</p> <p>All access points to these buildings shall be posted with a Level 2 Isolation Label.</p> <p>Final configuration of this area is to be maintained. Authorization must be obtained prior to the painting of surfaces, structural renovation and/or removal of components from this area.</p>				

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**


**Surface Grid Requirements:**

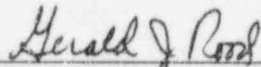
Unaffected survey units will not be gridded. Measurement locations will be labeled on the floor and lower wall surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.

- <sup>1</sup> The general area addressed by the survey package. (e.g. machine shop, hot service facility, helium storage system, PCR.V, etc.).
- <sup>2</sup> Describe functional use and any known abnormal operating conditions which may have impacted the radiological conditions, especially potentials for past contamination.
- <sup>3</sup> Scaffolding, ladders, temporary lighting, installation of a power supply, etc.
- <sup>4</sup> Confined space entry permits, etc. Interface with MK safety as necessary.
- <sup>5</sup> Isolation requirements in accordance with procedure FSV-SC-FRS-I-108, "Final Survey Isolation and Control Measures."

**SURVEY PACKAGE IMPLEMENTATION**

Survey package ready for implementation.

Signed:  Date: 8/24/95  
Technical Projects Supervisor

Signed:  Date: 8/29/95  
Final Survey Lead Engineer

**SURVEY PACKAGE CLOSURE**

Final Survey Package is authorized for closure. All required reviews are completed and data analysis results meet acceptance criteria.

Final Survey Lead Engineer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Technical Projects Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Radiation Protection Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_



**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

Page 1 of 2

Package #: B005	Building: Various - See below	Elevation: 4791	Drawing #: SITE_SUB	Survey Unit: B005
Survey Unit Description <sup>1</sup> : North Warehouse - Bldg. #13, Electrical Warehouse - Bldg. #14, Restroom and Shower Facility - Bldg. #1014.				
History of Area(s) <sup>2</sup> :				
<p>The North Warehouse and Restroom and Shower Facility have no history of containing radioactive material.</p> <p>In the late 1970's and early 1980's, radioactive material was stored in the northeast area of the Electrical Warehouse. Records indicate there have been no spills or occurrences in this area which could have resulted in contamination.</p> <p>The "Hot Soil Lab", located in the southwest corner of the Electrical Warehouse, is still being utilized and will be surveyed as part of package I010.</p> <p>The floors and lower walls of these buildings will be surveyed as an Unaffected survey unit.</p>				
Special Support Requirements <sup>3</sup> : None				
Specific Safety Precautions <sup>4</sup> : None				
Field Operations Coordinator: <i>W. Smith / D. Smith</i> Date: 8-28-95				
Isolation Controls <sup>5</sup> : Level 1 <input checked="" type="checkbox"/> <sup>th 8/28/95</sup> Level 2 <input checked="" type="checkbox"/> Level 3 <input type="checkbox"/>				
<p>No use, storage or movement of radioactive material is permitted in Group B buildings. All radioactive storage areas outside the Reactor Bldg are controlled by the Radwaste Supervisor. The Radwaste Supervisor has been notified that final surveys of Group B buildings are to begin and that no radioactive material shall be authorized in these areas.</p> <p>Final configuration of this area is to be maintained. Authorization must be obtained prior to the painting of surfaces, structural renovation and/or removal of components from this area.</p>				
Surface Grid Requirements:				
Unaffected survey units will not be gridded. Measurement locations will be labeled on the floor and lower wall surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.				

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

**Surface Grid Requirements:**

Unaffected survey units will not be gridded. Measurement locations will be labeled on the floor and lower wall surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.

- <sup>1</sup> The general area addressed by the survey package. (e.g. machine shop, hot service facility, helium storage system, PCR.V, etc.).
- <sup>2</sup> Describe functional use and any known abnormal operating conditions which may have impacted the radiological conditions, especially potentials for past contamination.
- <sup>3</sup> Scaffolding, ladders, temporary lighting, installation of a power supply, etc.
- <sup>4</sup> Confined space entry permits, etc. Interface with MK safety as necessary.
- <sup>5</sup> Isolation requirements in accordance with procedure FSV-SC-FRS-I-108, "Final Survey Isolation and Control Measures."

**SURVEY PACKAGE IMPLEMENTATION**

Survey package ready for implementation.

Signed:  Date: 8/22/95  
Technical Projects Supervisor

Signed:  Date: 8/25/95  
Final Survey Lead Engineer

**SURVEY PACKAGE CLOSURE**

Final Survey Package is authorized for closure. All required reviews are completed and data analysis results meet acceptance criteria.

Final Survey Lead Engineer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Technical Projects Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Radiation Protection Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**ATTACHMENT 6.4  
SURVEY UNIT WORK SHEET**

Package #: B005

Page  1  of  1

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
North Warehouse - Bldg. #13 Concrete Floors - painted	Surface and Structure	Unaffected	15	2		
North Warehouse - Bldg. #13 Electrical Warehouse - Bldg. #14 Concrete Floors - bare	Surface and Structure	Unaffected	779	41		
Electrical Warehouse - Bldg. #14 Restroom/Shower Facility - Bldg. #1014 North Warehouse - Bldg. #13 Floors / Walls - generic materials	Surface and Structure	Unaffected	557	58		

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)

<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas

<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date:  R. [Signature] / 8/18/95   
Radiological Engineer

Revision 1 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

**ATTACHMENT 6.8  
SURVEY PACKAGE VALIDATION CHECKLIST**

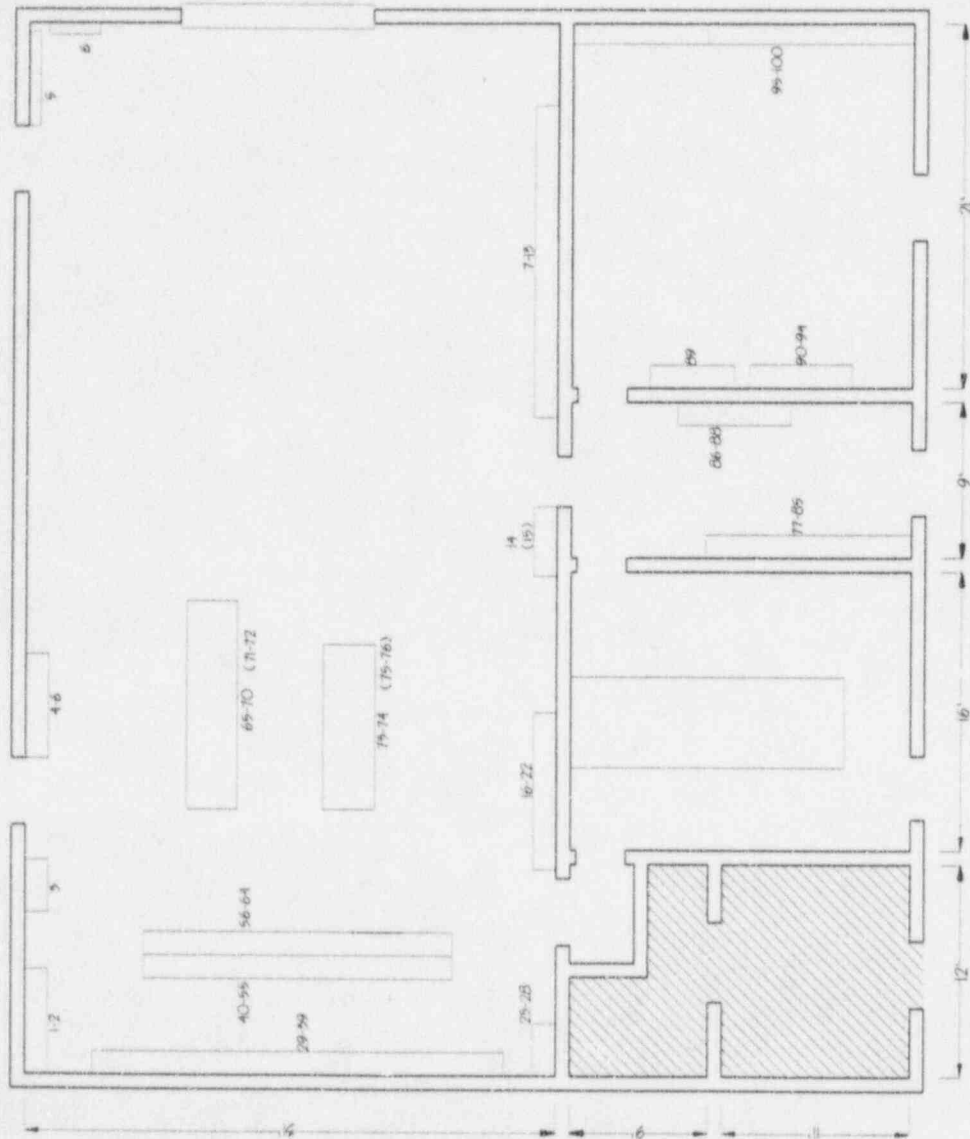
Survey Package # B005

Page 1 of 1

**DATA REVIEWS**

SURVEY DOCUMENTATION REVIEWED FOR COMPLETION:		Remarks
Gamma & Beta Scan Surveys		
Total (Beta) Activity Surveys		
Gamma Exposure Rate Surveys		
Smear Samples		
Soil Samples		
Water Samples		
ALL REQ'D MEASUREMENTS & SAMPLES ACCOUNTED:		
Gamma & Beta Scan Surveys		
Total (Beta) Activity Surveys		
Gamma Exposure Rate Surveys		
Smear Samples		
Soil Samples		
Water Samples		
COMMENTS: _____		
SURVEYS ARE COMPLETED & VALIDATED: _____		DATE: _____
Field Operations Coordinator		
Surveys are completed and the Survey Package review has been completed.		
Final Survey Operations Supervisor:		Date:
Survey package meets acceptance criteria and all required elements of the survey package have been completed.		
Radiological Engineer Signature:		Date:
Survey results & supporting documentation have been reviewed & found to be satisfactory. All data satisfies final survey acceptance criteria per procedure FSV-SC-FRS-I-110, "Final Survey Data Analysis".		
Data Evaluation Engineer Signature:		Date:
Final survey package is complete and ready for closure.		
Final Survey Lead Engineer Signature:		Date:

ELECTRICAL WAREHOUSE - #14  
COUNTERS AND CABINETS

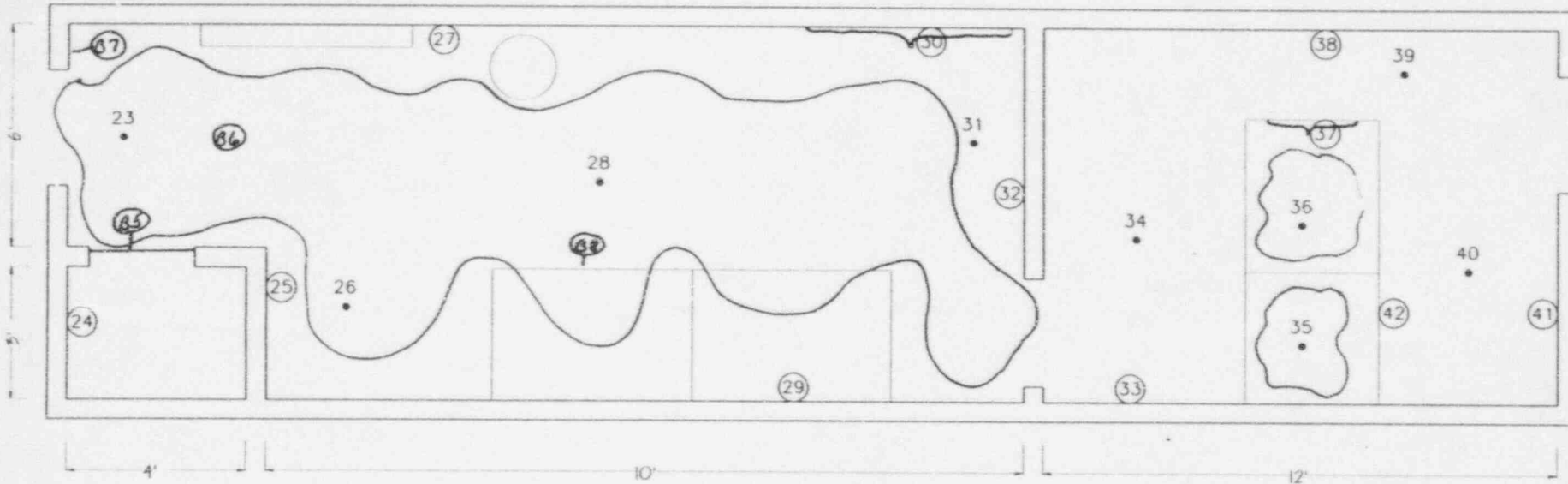


NOTES:  
SEE SURVEY IN: 1. ARE IN THE INTERIOR OF LOBBIES

Survey/Package #: BOOS	Master Drawing #: SITE - SLB	Bldg: ELECTRICAL #14	Elev: 479'
Location Code: BOOSA02501	Description: MACHINERY/ CABINETS SWL (1-100)	Approx. M <sup>2</sup> : 250	Grid Size: N/A
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Scans <input type="checkbox"/> H-3 Scans <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Substrate Sample <input type="checkbox"/> Surface Soil <input type="checkbox"/> Sub-surface Soil <input type="checkbox"/> Other		Approx. M <sup>2</sup> :	Grid Size:
Location Code:	Description:		
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Scans <input type="checkbox"/> H-3 Scans <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Substrate Sample <input type="checkbox"/> Surface Soil <input type="checkbox"/> Sub-surface Soil <input type="checkbox"/> Other			
Survey Date/Time:	RP Tech Initials:		



RESTROOM AND SHOWER FACILITY - #1014

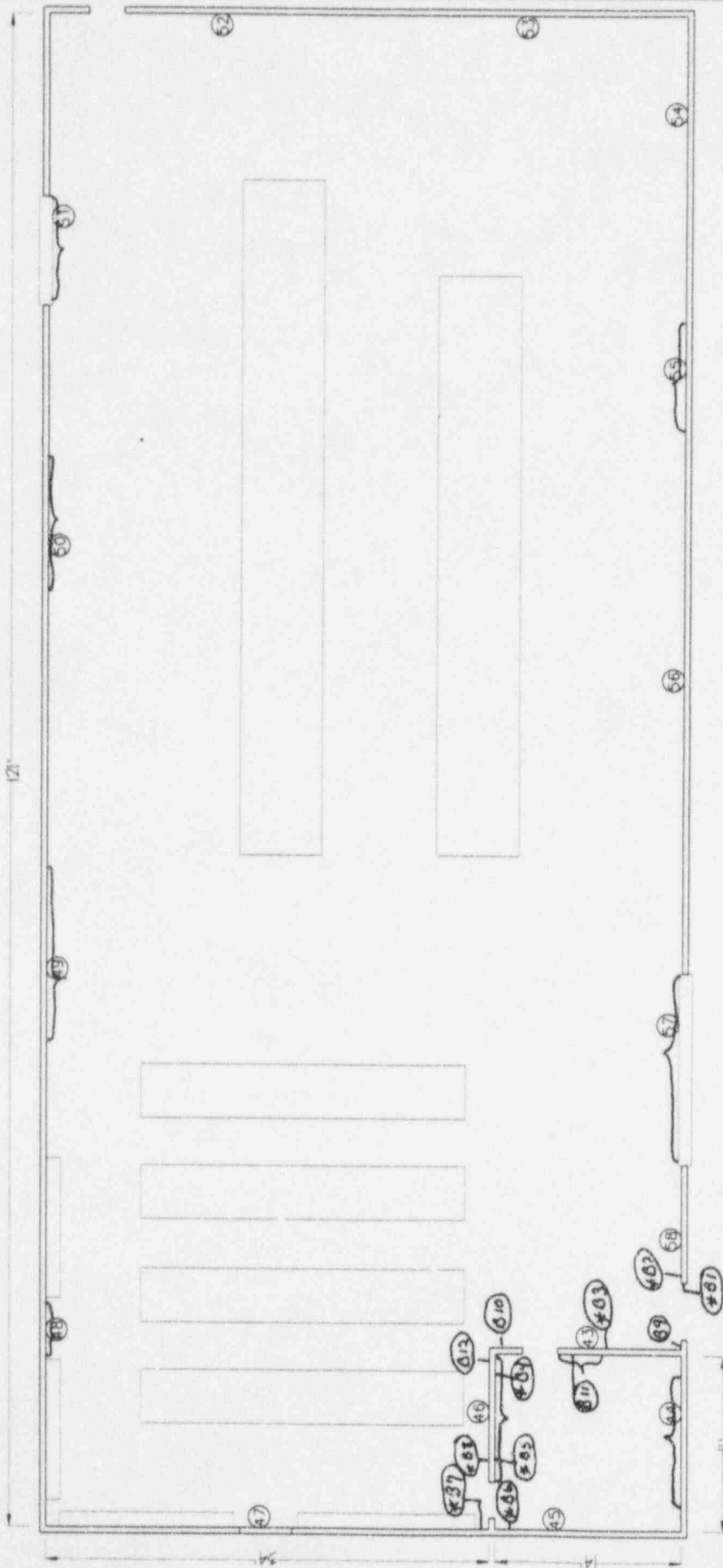


Survey/Package #: BO05 Master Drawing #: SITE SUB Bldg: RESTROOM AND SHOWER FACILITY - #1014 Elev: 4791'  
 Location Code: BO05A02B01 Description: FLOORS / WALLS - GENERIC MATERIAL (SML #23-42) Approx. M<sup>2</sup> 108 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other

Location Code: \_\_\_\_\_ Description: \_\_\_\_\_ Approx. M<sup>2</sup> \_\_\_\_\_ Grid Size \_\_\_\_\_  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other

Survey Date/Time: / RP Tech Initials: \_\_\_\_\_

NORTH WAREHOUSE - #15



89-812 were used for Background on 8-28-95 and 9-29-95

Survey/Package #: BOOS  
 Location Code: BOOSAOZBOI  
 Master Drawing #: SHE 51B  
 Bldg: NORTH WAREHOUSE - #15  
 Elev: 4791'

Description: FLOORS / WALLS - GENERIC MATERIAL (SML #45-58)  
 Approx. M<sup>2</sup>: 257  
 Grid Size: N/A

Location Code:  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Scans  H-3 Scans  Liquid Sample  Solid Sample  Surface Sed  Subsurface Sed  Other

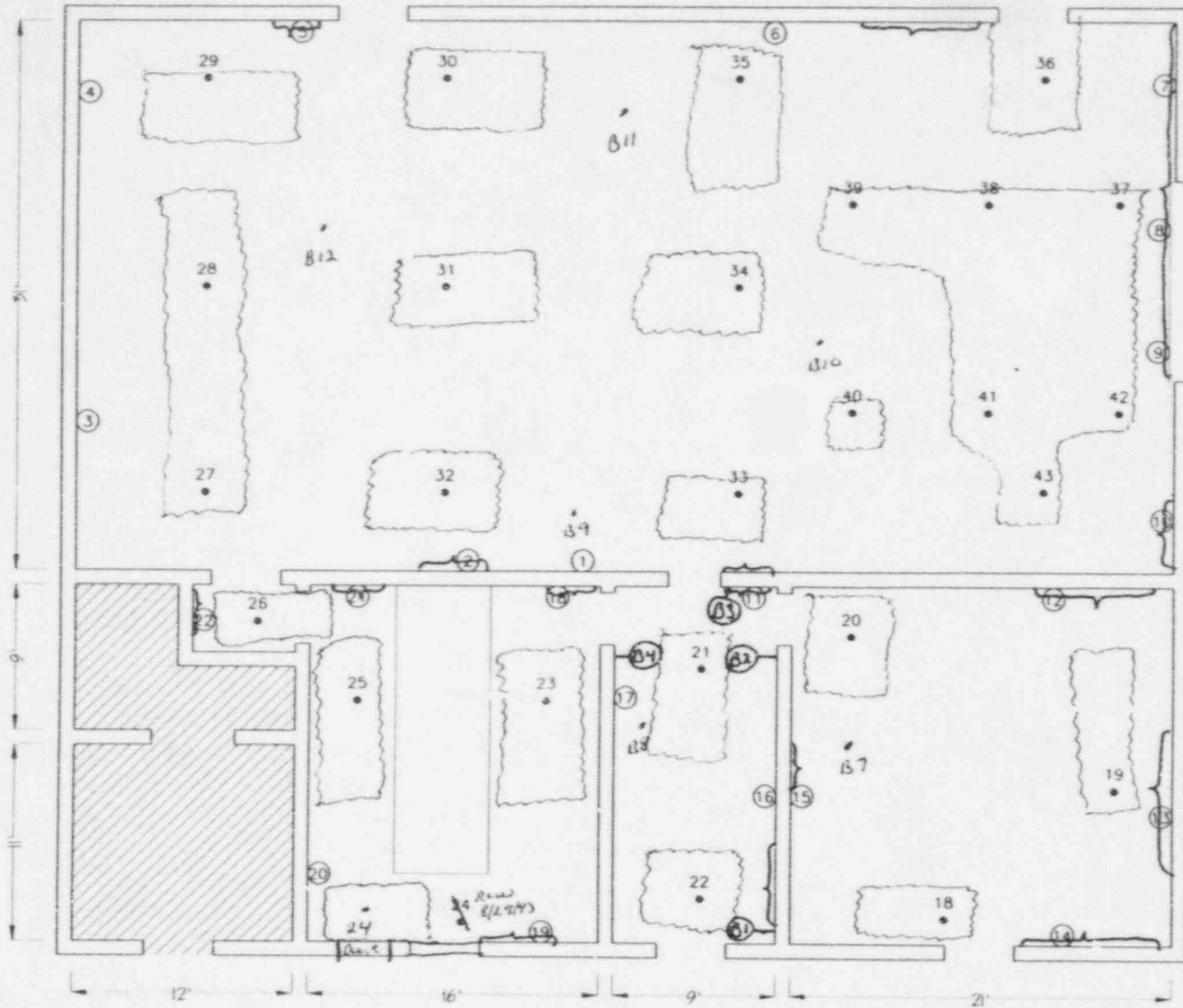
Survey Date/Time: /  
 RP Tech Initials:

Legend:  
 ● WALL MEASUREMENT LOCATION  
 ○ FLOOR MEASUREMENT LOCATION

Background on 8-28-95  
 Background

FILE: RP\_BY\_PACKAGE\BOOS (01)

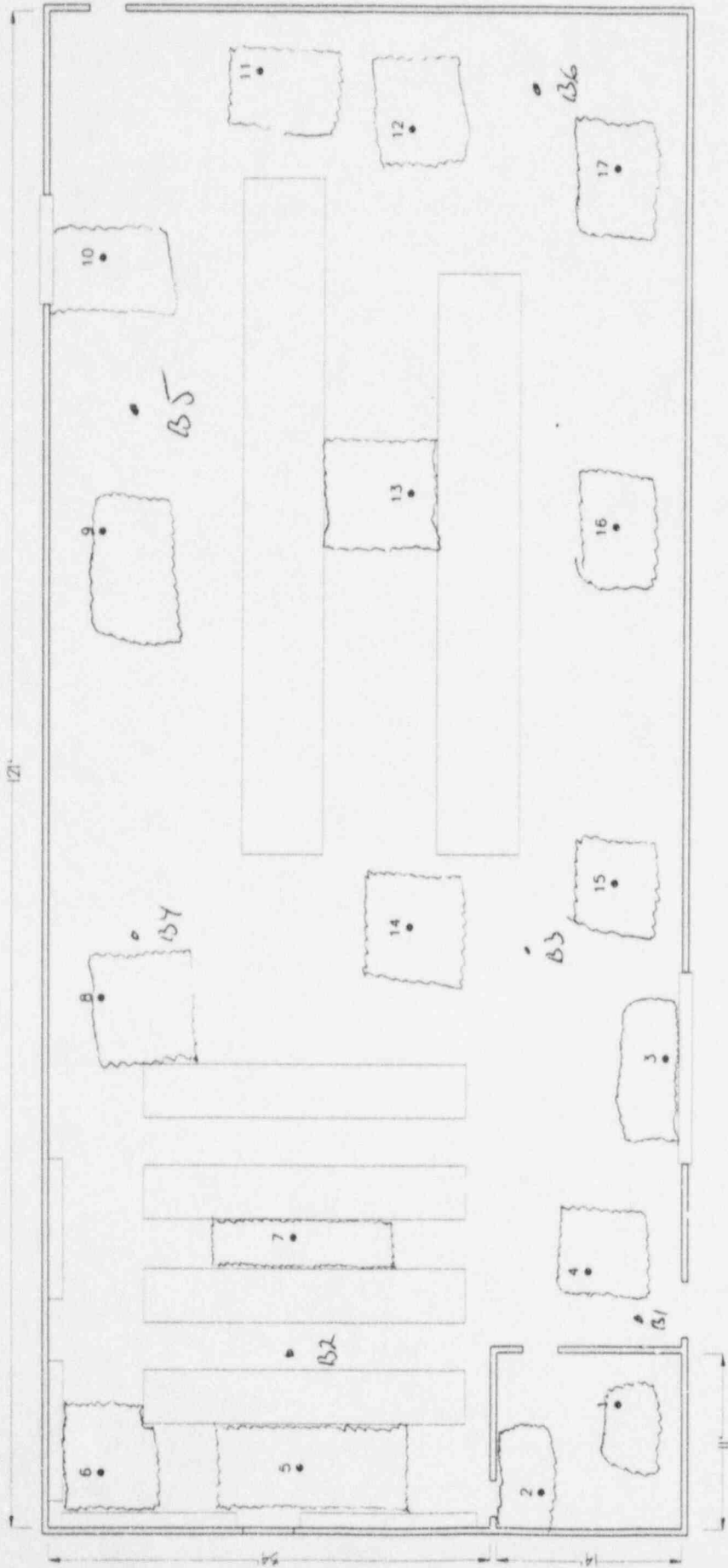
ELECTRICAL WAREHOUSE - #14



Survey/Package #: BO05 Master Drawing #: SITE SUB Bldg: ELECTRICAL WAREHOUSE - #14 Elev: 4791'  
 Location Code: BO05AOAFOI Description: CONCRETE FLOOR - BARE (SML #18-43) Approx. M<sup>2</sup> 257 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Location Code: BO05AO2BOI Description: FLOORS / WALLS - GENERIC MATERIAL (SML #1-22) Approx. M<sup>2</sup> 212 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Survey Date/Time: 8-28-95 / 1600 RP Tech Initials: rcw

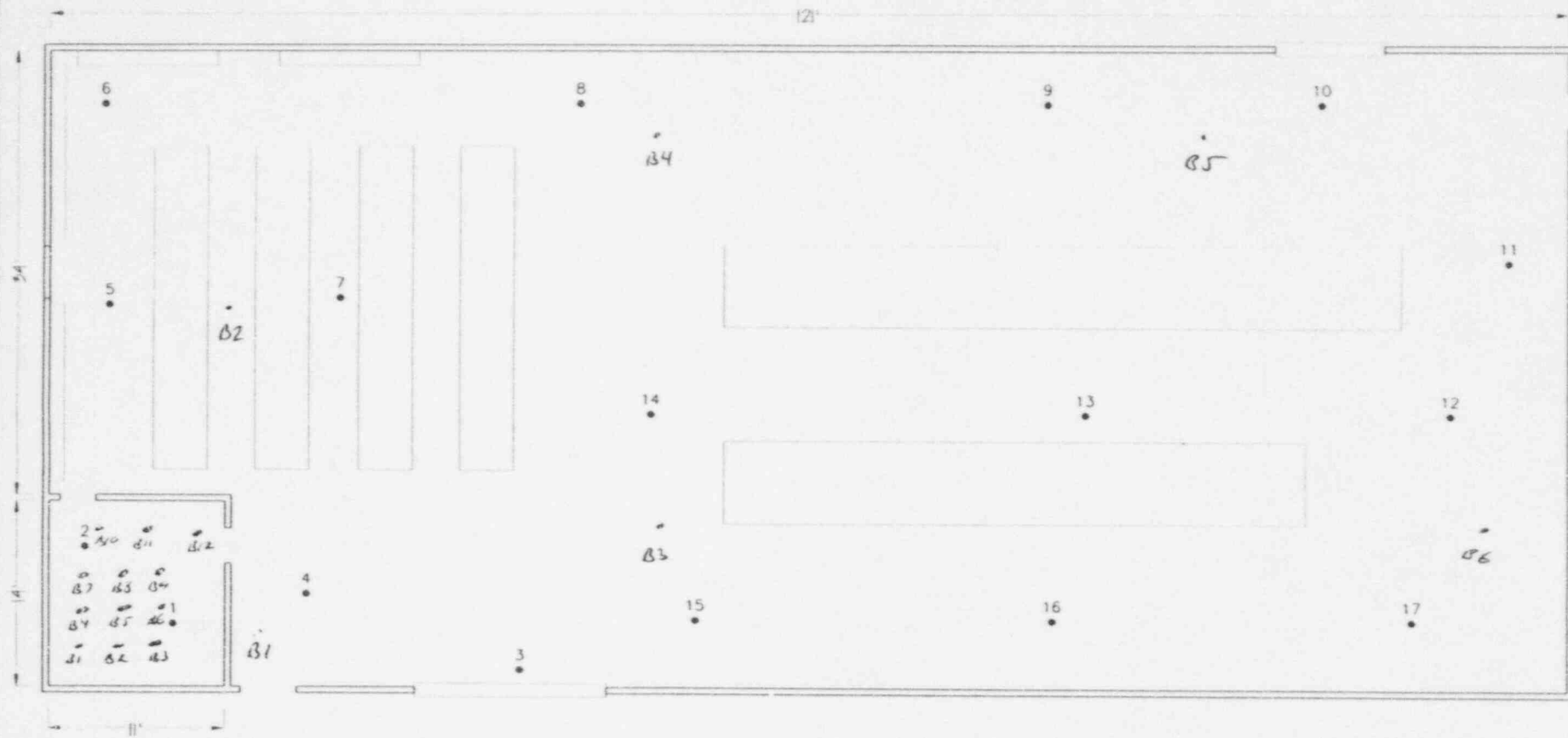
**(B#) - Background**

NORTH WAREHOUSE - #15



Survey/Package #: BOOS	Master Drawing #: SITE 51B	Blkdy: NORTH WAREHOUSE - #15	Elev: 4791'
Location Code: BOOSAOBFOI	Description: CONCRETE FLOORS - PAINTED (SML #1-2)	Approx. M <sup>2</sup> : 15	Grid Size: N/A
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Smears <input type="checkbox"/> H-3 Smears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Adhesive Sol <input type="checkbox"/> Other	<input type="checkbox"/> H-3 Smears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Adhesive Sol <input type="checkbox"/> Other	Approx. M <sup>2</sup> : 522	Grid Size: N/A
Location Code: BOOSAOAFOI	Description: CONCRETE FLOORS - BAKE (SML #3-17)		
<input type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input type="checkbox"/> Total Activity <input type="checkbox"/> Gamma Exp. Rate <input type="checkbox"/> Beta/Gamma Smears <input type="checkbox"/> H-3 Smears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Adhesive Sol <input type="checkbox"/> Other	<input type="checkbox"/> H-3 Smears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Sol <input type="checkbox"/> Adhesive Sol <input type="checkbox"/> Other		
Survey Date/Time: 8-23-75	RP Tech Initials: KCU		

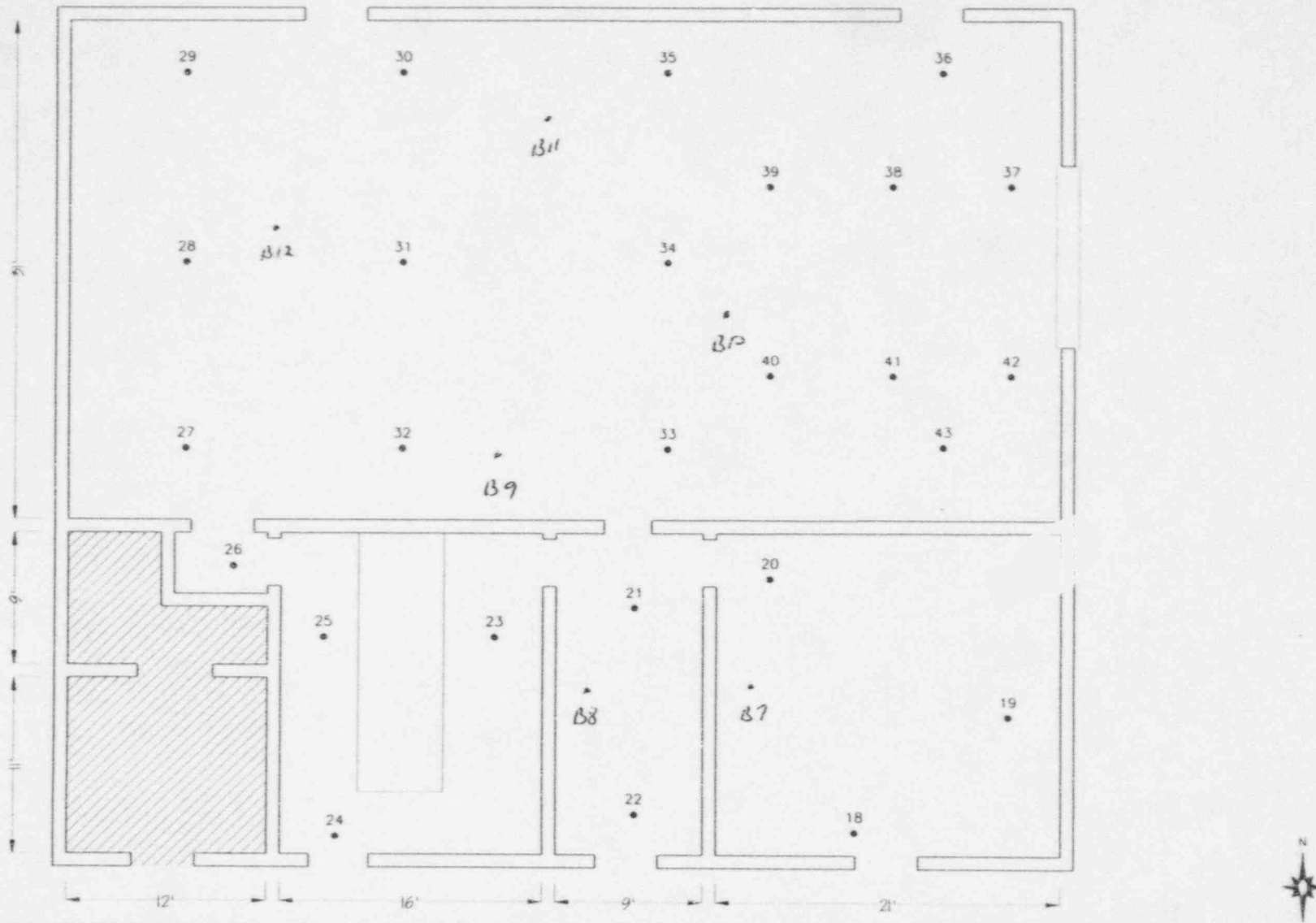
NORTH WAREHOUSE - #13



Survey/Package #: BO05 Master Drawing #: SHE\_SUB Bldg: NORTH WAREHOUSE - #13 Elev: 4791'  
 Location Code: BO05AIBFOI Description: CONCRETE FLOORS - PAINTED (SML #1-2) Approx. M<sup>2</sup> 15 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/ Gamma Scanners  H-3 Scanners  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Location Code: BO05AIAFOI Description: CONCRETE FLOORS - BARE (SML #3-17) Approx. M<sup>2</sup> 522 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/ Gamma Scanners  H-3 Scanners  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Survey Date/Time: 8-8-05 / 12:00 RP Tech Initials: K...

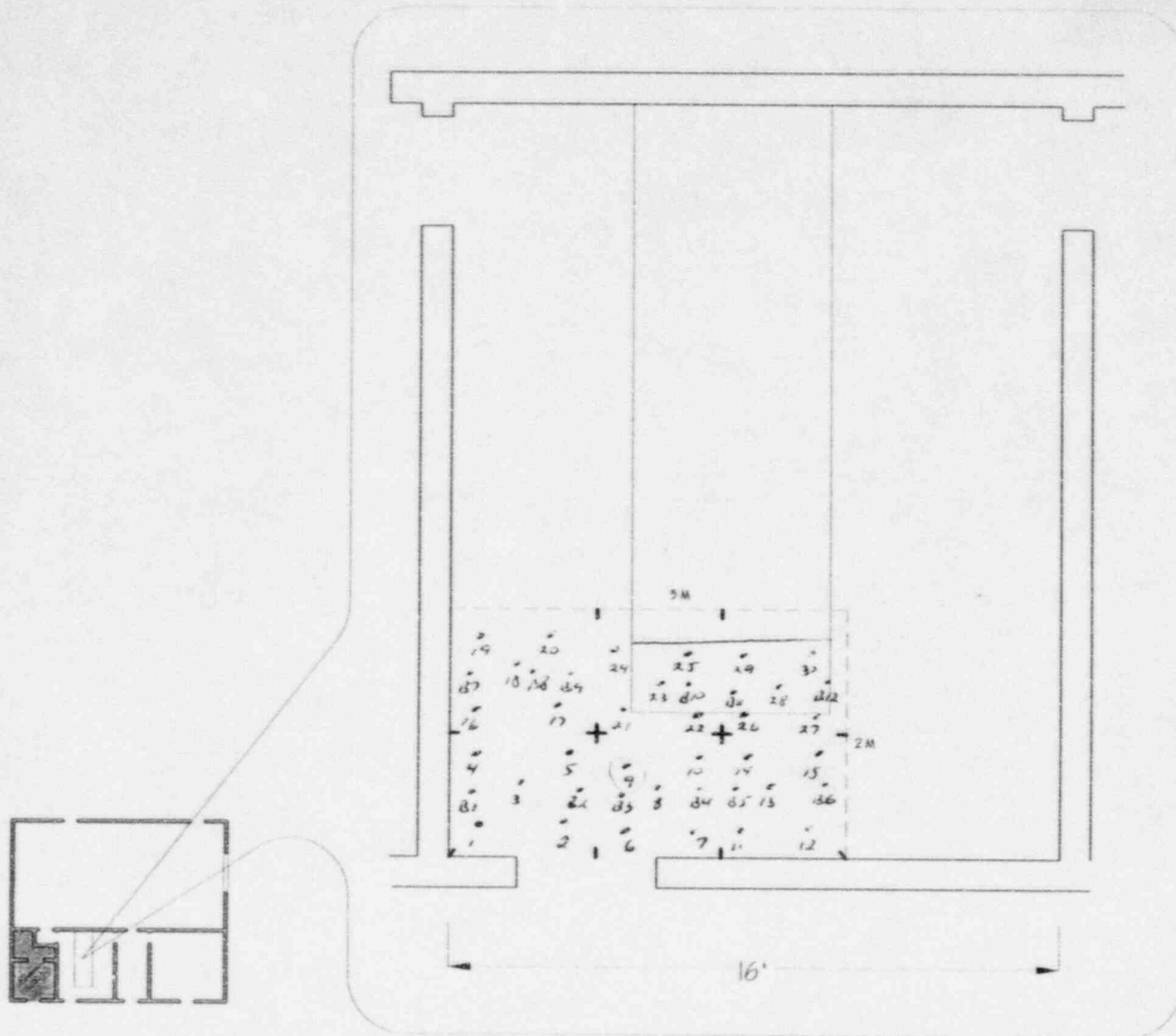


ELECTRICAL WAREHOUSE - #14



Survey/Package #: BOOS Master Drawing #: SITE\_SUB Bldg: ELECTRICAL WAREHOUSE - #14 Elev: 4791'  
 Location Code: BOOSAIAFOI Description: CONCRETE FLOOR - BARE (SML #18-43) Approx. M<sup>2</sup> 257 Grid Size N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Location Code: \_\_\_\_\_ Description: \_\_\_\_\_ Approx. M<sup>2</sup> \_\_\_\_\_ Grid Size \_\_\_\_\_  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Survey Date/Time: 8-8-95 / 1200 RP Tech Initials: RM

ELECTRICAL WAREHOUSE - #14



Survey/Package #: BO05 Master Drawing #: SITE\_SUB Bldg: ELECTRICAL WAREHOUSE - #14 Elev: 4791'  
 Location Code: BO05AGAF01 Description: CONCRETE FLOOR - BARE (SML #44-73) Approx. M<sup>2</sup> 6 Grid Size 1 x 1 M  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Location Code: \_\_\_\_\_ Description: \_\_\_\_\_ Approx. M<sup>2</sup> \_\_\_\_\_ Grid Size \_\_\_\_\_  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Smears  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Survey Date/Time: 9-8-95 /1300 RP Tech Initials: RLW

ATTACHMENT 6.1 (cont.)  
FINAL SURVEY DATA INVESTIGATION FORM

<b>Survey Package #:</b> B005	<b>Location Code(s):</b> B005A1AF01, B005AGAF01, B005A0BF01
<b>Description of Problem(s):</b>  See Page 1 of this attachment.	
<b>Disposition:</b>  The results of the investigation survey showed an uncorrected total activity value of 5,338 dpm/100cm <sup>2</sup> for location #9 (download report 543) in building #14. This confirms the initial reading of 4,748 dpm/100cm <sup>2</sup> (#24, download report 514) and, as this total activity is greater than 50% of the GLV, results in a partial reclassification of the survey unit.  The room in which sample location #24 is found has been reclassified as affected. Package B017 contains the instructions for surveying this room. In addition, a DECON Plan was submitted to MK on the 11th, requesting that the affected area be decontaminated.  In addition to this reclassification and decontamination, an addendum was added to package B005 which calls for further measurements to be taken from the balance of building #14. Specifically, 100 total activity measurements and smears are to be taken from the equipment and cabinets, including the tools and supplies stored in them. The location code for these measurements is B005A02S01.	
<b>Investigation Review Performed By:</b> <u>Chuck Smith</u>	<b>Date:</b> 9-13-95
<b>Reviewed By:</b> <u>[Signature]</u> (Data Evaluation Engineer)	<b>Date:</b> 9-13-95

**ATTACHMENT 6.4 (cont.)  
SURVEY UNIT WORK SHEET**

Package #: B005

Page \_\_\_\_ of \_\_\_\_

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
Electrical Warehouse - Bldg. #14 Cabinets/Equipment - Generic Material	Surface and Structure	Unaffected	250	N/A	100	

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)  
<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas  
<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date: Chuck Burtoff / 9-12-95  
 Radiological Engineer

Revision 1 By/Date: Michael Road / 9/13/95  
 Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
 Radiological Engineer

**ATTACHMENT 6.5**  
**SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: B005

Page \_\_\_\_\_ of \_\_\_\_\_  
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location		
Classification Code: <b>A</b>	Resurvey # : <b>0</b>	Grid size: <b>N/A</b>	Beta Scan	*	* Scan 100% of the tools and equipment of which total activity measurements are taken.	
			Gamma Scan	N/A		
Material Code: <b>2</b>	Surface Code: <b>S01</b>		Total Surface Activity	100	Collect biased total activity measurements of tools and equipment.	
			Exposure Rate	N/A		
Location Code : <b>B005A02S01</b>		Area (m <sup>2</sup> ) <b>250</b>	$\beta\gamma$ Smears	100	At same measurement locations as total surface activity measurements.	
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: Electrical Warehouse - Bldg # 14 SML # 1-100  Tools and Equipment - Generic Material		Type of material /soil sample	N/A		Type of analyses <input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cs-136 <input type="checkbox"/> Other:	
			N/A			
			N/A			
			N/A			

QC    Investigation    Resurvey

Approval:

Chuck Burtol      1 9-12-25  
Radiological Engineer                  Date

\_\_\_\_\_  
Final Survey Lead Engineer                  Date



ATTACHMENT 6.1  
FINAL SURVEY DATA INVESTIGATION FORM

Survey Package #: B005

Location Code(s): B005A1AF01, B005AGAF01,  
B005A0BF01

**Description of Problem(s):**

1. On August 28th, the 43-68B failed the post source check tolerance test as well as the uniformity test. In addition, the efficiency failed high at 27.5%.
2. Sample number 52 (location 24 in electrical warehouse building #14) indicated a total activity value of 4848 dpm/100 cm<sup>2</sup>. This appears to be above the action level limit.

**Follow-up Actions:**

1. All total activity measurement points acquired for location code B005A0AF01 on August 28th will be repeated using a location code of B005A1AF01. All total activity measurement points acquired for location code B005A0BF01 will be repeated using a location code of B005A1BF01. These measurement locations will again be numbered 1 - 43. (See attached maps) The original 10% beta scan performed on August 28th will not have to be repeated.
2. The area surrounding location point 24 in building #14 will be gridded in a 2m x 3m pattern as shown on the attached survey map. Total activity measurements at any location of elevated activity identified during the 100% scan will be acquired, the balance of measurements will be evenly distributed within each square meter, ensuring at least 5 measurements are obtained within each square meter. These 30 measurements will receive a location code of B005AGAF01 and will be numbered 44-73. (See attached map) A total of 30 smears taken at each total activity measurement location will also be acquired.

**Disposition:**

Further data analysis of these location code results will be performed upon completion of the survey.

Investigation Performed By: C. Burtell

Date: 9-7-95

Reviewed By: D. S. [Signature]  
(Data Evaluation Engineer)

Date: 9-7-95

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: B005

Page      of       
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	
Classification Code: A	Resurvey # : 1	Grid size: N/A	Beta Scan *	* Scan survey performed on August 28th and documented on Survey Instruction Form 6.5 for location code B005A0BF01.	<i>RLW 9-11-95</i>
			Gamma Scan N/A		
Material Code: B	Surface Code: F01		Total Surface Activity 2	Collect total activity measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>RLW 9-11-95</i>
			Exposure Rate N/A		
Location Code : B005A1BF01		Area (m <sup>2</sup> ) 15	$\beta\gamma$ Smears N/A		
			Fe-55/H-3 Smears N/A		
Survey Unit Breakdown and Description: North Warehouse - Bldg. #13 SML # 1 - 2  Concrete Floors - painted		Type of material /soil sample	N/A		Type of analyses <input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55 <input type="checkbox"/> Cf-254 <input type="checkbox"/> Other:
			N/A		
			N/A		
			N/A		

QC     Investigation     Resurvey

Approval:

*C. Butell*  
\_\_\_\_\_  
Radiological Engineer                      1 9-7-95  
Date

*D. ...*  
\_\_\_\_\_  
Final Survey Lead Engineer              1 9-7-95  
Date

## ATTACHMENT 6.5 SURVEY INSTRUCTION FORM - (Cont.)


Survey Package #: B005

Page      of       
(RPT initial & date)

Location Code Assignments	Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Survey #: 1	Grid size: N/A	Beta Scan *	* Scan survey performed on August 28th and documented on Survey Instruction Form 6.5 for location code B005A0AF01.  R.L.W. 9-11-95
Material Code: A	Surface Code: F01		Gamma Scan N/A	
			Total Surface Activity 41	Collect total activity measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.  R.L.W. 9-11-95
			Exposure Rate N/A	
Location Code: B005A1AF01		Area (m <sup>2</sup> ) 779	$\beta\gamma$ Smears N/A	
			Fe-55/H-3 Smears N/A	
Survey Unit Breakdown and Description:  North Warehouse - Bldg. #13 SML # 3 - 17 Electrical Warehouse - Bldg. #14 SML # 18 - 43  Concrete Floors - bare	Type of material /soil sample	N/A		Type of analyses  <input type="checkbox"/> $\gamma$ Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
		N/A		
		N/A		
		N/A		

QC     Investigation     Resurvey

Approval:

  
\_\_\_\_\_  
Radiological Engineer      1 9-7-95  
Date

  
\_\_\_\_\_  
Final Survey Lead Engineer      1 9-7-95  
Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: B005

Page      of       
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location		
Classification Code: A	Resurvey #: G	Grid size: 1 x 1 m	Beta Scan	•	* Scan 100% of the gridded region, marking the surface at areas of elevated activity identified during the scan.	RLW 9-11-95
			Gamma Scan	N/A		
Material Code: A	Surface Code: F01		Total Surface Activity	30	Collect total activity measurements at any location of elevated activity identified during the scan, the balance of measurements evenly distributed within each square meter ensuring at least 5 measurements per square meter are obtained.	RLW 9-11-95
			Exposure Rate	N/A		
Location Code: B005AGAF01	Area (m <sup>2</sup> ) 6		$\beta\gamma$ Smears	30	At same measurement locations as total surface activity measurements.	RLW 9-11-95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description: 2 x 3 meter gridded region in southwest area of Electrical Warehouse - Bldg # 14 SML # 44-73 Concrete Floors - bare		Type of material /soil sample	N/A		Type of analysis	
			N/A		<input type="checkbox"/> $\gamma$ Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			
			N/A			

QC     Investigation     Resurvey

Approval: *CDW*    19-7-95  
Radiological Engineer    Date

*D. A. P.*    19-7-95  
Final Survey Lead Engineer    Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM**

Package # B005	Building Various	Elevation 4791	Drawing # SITE_SU_B	Survey Unit B005	Page <u>1</u> of <u>    </u>
-------------------	---------------------	-------------------	------------------------	---------------------	------------------------------

General Description of Survey Unit: North Warehouse - Bldg. #13, Electrical Warehouse - Bldg. #14, Restroom and Shower Facility - Bldg. #1014

FIELD INSTRUMENTATION/INSTRUCTIONS

Instrument & Detector	Measurement Type	Count Time	Location Code	Remarks/Survey Instruction
2350/44-2	Gamma, Fixed Point	15 sec.	All	Collect exposure rate measurements at one meter from the surface at the location of the total activity measurements. No alarm set point is required.
2350/43-68	Beta, Fixed Point	15 sec.	All	Collect a minimum of 12 shielded local area background counts for each surface identified by a location code, using a 15 second count time.  The scaler alarm for fixed point measurements may be set using the following equation: (1250 dpm/100cm <sup>2</sup> * 1.25 * detector efficiency * count time (min.)) + (Bkgd counts (cpm/125cm <sup>2</sup> ) * sample count time (min.)) = alarm set point (counts/125cm <sup>2</sup> ) Note: Bkgd counts is the average of the shielded local area background counts.
2350/43-68	Beta, Scan	N/A	All	Perform a beta scan survey over a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.
2350/44-2	Gamma	15 sec.	All	Enter a zero background subtract when downloading survey data.
2350/43-68	Beta	15 sec.	All	Enter a zero background subtract when downloading survey data.
N/A	N/A	N/A	All	Complete the attached location code comparison forms for each survey unit. These forms will be used in the future to assist in download operations once the new location code format is implemented.
N/A	N/A	N/A	All	If any questions arise during the final survey, contact the survey package engineer, the FOC or FSLE.

*RFJ*  
*8/21/95*

Prepared By/Date:     *R. J. Juty*         1         8/18/95      
Radiological Engineer
Date



**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #:      B005     

Page   2   of       
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location		
Classification Code: <b>A</b>	Resurvey # : <b>0</b>	Grid size: <b>N/A</b>	Beta Scan	*	* Scan a minimum of 10% of accessible floor surfaces, ensuring coverage of those surfaces of highest contamination potential.	RW 9-11-95
			Gamma Scan	N/A		
Material Code: <b>B</b>	Surface Code: <b>F01</b>		Total Surface Activity	2	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	RW 9-11-95
			Exposure Rate	2	At 1 meter from total surface activity measurements.	
Location Code : <b>B005A0BF01</b>		Area (m <sup>2</sup> ) <b>15</b>	βγ Smears	2	At same measurement locations as total surface activity measurements.	RW 9-11-95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description:  North Warehouse - Bldg. #13 SML # 1 - 2  Concrete Floors - painted		Type of material /soil sample	N/A		Type of analyses  <input type="checkbox"/> γ-Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			
			N/A			

QC    Investigation    Resurvey

Approval:

*R. J. J.*  
\_\_\_\_\_  
Radiological Engineer                      1    8/10/95  
Date

\_\_\_\_\_  
Final Survey Lead Engineer              1     
Date

## ATTACHMENT 6.5 SURVEY INSTRUCTION FORM - (Cont.)

Survey Package #: B005

Page 3 of     

(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: A	Resurvey # : 0	Grid size: N/A	Beta Scan *	* Scan a minimum of 10% of accessible floor surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>RLW 9-11-95</i>
			Gamma Scan N/A		
Material Code: A	Surface Code: F01		Total Surface Activity 41	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>RLW 9-11-95</i>
			Exposure Rate 41	At 1 meter from total surface activity measurements.	
Location Code : B005A0AF01		Area (m <sup>2</sup> ) 779	$\beta\gamma$ Smears 41	At same measurement locations as total surface activity measurements.	<i>RLW 9-11-95</i>
			Fe-55/H-3 Smears N/A		
Survey Unit Breakdown and Description:  North Warehouse - Bldg. #13 SML # 3 - 17 Electrical Warehouse - Bldg. #14 SML # 18 - 43  Concrete Floors - bare		Type of material /soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC    Investigation    Resurvey

Approval:

*R. J. [Signature]*      1 8/10/05  
Radiological Engineer      Date

\_\_\_\_\_  
Final Survey Lead Engineer      Date

## ATTACHMENT 6.5 SURVEY INSTRUCTION FORM - (Cont.)

 Survey Package #: B005

 Page 4 of       

(RPT initial &amp; date)

Location Code Assignments	Survey Type	Number	Measurement/Sample Location	
Classification Code: A Resurvey #: 0	Grid size: N/A	Beta Scan *	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	<i>Ln 8-29-95</i>
		Gamma Scan N/A		
Material Code: 2 Surface Code: B01		Total Surface Activity 58	Collect total activity (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	<i>Ln 8-29-95</i>
		Exposure Rate 58	At 1 meter from total surface activity measurements.	
Location Code: B005A02B01	Area (m <sup>2</sup> ): 557	βγ Smears 58	At same measurement locations as total surface activity measurements.	<i>Ln 8-29-95</i>
		Fe-55/H-3 Smears N/A		
Survey Unit Breakdown and Description:  Electrical Warehouse - Bldg. #14 SML # 1 - 22 Restroom/Shower Facility - Bldg. #1014 SML # 23 - 42 North Warehouse - Bldg. #13 SML # 43 - 58  Floors / Walls - generic material	Type of material /soil sample	N/A		Type of analyses
		N/A		<input type="checkbox"/> γ Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:
		N/A		
		N/A		

 QC     Investigation     Resurvey

Approval:

*R. Jechts*    /    8/18/95  
 Radiological Engineer    Date

\_\_\_\_\_ / \_\_\_\_\_  
 Final Survey Lead Engineer    Date

**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

Page 1 of 1

Package #: B005	Bldg. Name: Various	Elevation: 4791	Survey Unit: B005
-----------------	---------------------	-----------------	-------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N) <sup>1</sup>
<del>512</del>	<del>B005A02B01</del>	<del>B<sup>-</sup></del>	<del>95366 / PRO92511</del>	<del>R. Neely</del>	<del>Y</del>
515	B005A02B01	B <sup>-</sup>	95356 / PRO92511	R. Neely	Y
513	B005A02B01	B <sup>-</sup>	95356 / PRO92511	R. Neely	Y
<sup>REV 9-11-95</sup> 514 515	B005A02B01	B <sup>-</sup>	95356 / PRO92511	R. Neely	Y
514	B005A04F01	B <sup>-</sup>	95340 / PRO91050	R. Worrick	Y
514	B005A03F01	B <sup>-</sup>	95340 / PRO91050	R. Worrick	N
543	B005A14F01	B <sup>-</sup>	95356 / PRO92511	R. Worrick	Y
543	B005A13F01	B <sup>-</sup>	95356 / PRO92511	R. Worrick	Y
543	B005A14F01	B <sup>-</sup>	95356 / PRO92511	R. Worrick	Y

*file #512 is not part of this package REV 9-11-95*

<sup>1</sup> IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Field Operations Coordinator Date

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glean Egert Signature: [Signature] Date: 9/8/95  
 Download Station #: 1 Download File #: 543 Time: 12:30  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Ryan Wornick Signature: [Signature] Date: 9-8-95  
 Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Instrument Serial #(s): Model 2350: 95356

Survey Location description: 2nd 9-8-95  
92511 Bldg 14 - Electrical Shop  
 (Example: R1 Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): Investigation

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>PR092511</u>	<u>43-68B</u>	<u>.214</u>	<u>125</u>	<u>543</u>	<u>543</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

BOOSAIALAB												MEAN BKG CPM
<u>132</u>	<u>112</u>	<u>111</u>	<u>100</u>	<u>95</u>	<u>117</u>	<u>129</u>	<u>101</u>	<u>131</u>	<u>107</u>	<u>124</u>	<u>116</u>	<u>458</u>

COMMENTS: Enter "0" for Background not affected  
BOOSAIALAB : 130, 128, 111, 126, 115, 110, 122, 123, 136, 127, 113, 97 = 479  
BOOSAGALAB : 111, 129, 122, 113, 120, 98, 111, 130, 128, 124, 113, 100 = 466



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 543, Building #14 Electrical Shop  
 Reason: Investigation User: RCW1152/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .214

Survey Performed By: *J. D. ...* Date: 9-11-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 Survey Date: 9/08/95 Survey Start Time: 06:16 File: 543 Comments  
 Date/Time Report Printed: 9/08/95 13:47:00 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
	1	B	SC1TC878	0	60	1432	1432	5353	*
	114	B	SC1TC878	0	60	1490	1490	5570	*
Number of Measurements at this Survey Location:							2		
	2	B	SC2TC878	0	60	1477	1477	5521	*
	115	B	SC2TC878	0	60	1476	1476	5518	*
Number of Measurements at this Survey Location:							2		
	3	B	SC3TC878	0	60	1441	1441	5387	*
	116	B	SC3TC878	0	60	1437	1437	5372	*
Number of Measurements at this Survey Location:							2		
	113	B	SCBKGPOST	0	60	381	381	1424	*
Number of Measurements at this Survey Location:							1		
	0	B	SCBKGPRE	0	600	4039	404	1510	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/08/95 Survey Start Time: 06:14  
Date/Time Report Printed: 9/08/95 13:47:00

Station: 1  
File: 543  
Page: 2

Comments

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
--------	--------	-------------	-----------------	--------	------------------	--------------	-----------------------	--------------------------------------	---

Number of Measurements at this Survey Location: 1

1	18	B	B005A1ALAB	1	15	132	522	1574	*
2	19	B	B005A1ALAB	1	15	112	448	1675	*
3	20	B	B005A1ALAB	1	15	111	444	1660	*
4	21	B	B005A1ALAB	1	15	100	400	1495	*
5	22	B	B005A1ALAB	1	15	95	380	1421	*
6	23	B	B005A1ALAB	1	15	117	468	1750	*
7	39	B	B005A1ALAB	1	15	129	516	1929	*
8	40	B	B005A1ALAB	1	15	101	404	1510	*
9	41	B	B005A1ALAB	1	15	131	524	1959	*
10	42	B	B005A1ALAB	1	15	107	428	1600	*
11	43	B	B005A1ALAB	1	15	124	496	1854	*
12	44	B	B005A1ALAB	1	15	116	464	1735	*

Number of Measurements at this Survey Location: 12

1	4	B	B005A1BLAB	1	15	130	520	1944	*
2	5	B	B005A1BLAB	1	15	128	512	1914	*
3	6	B	B005A1BLAB	1	15	111	444	1660	*
4	7	B	B005A1BLAB	1	15	126	504	1884	*
5	8	B	B005A1BLAB	1	15	115	460	1720	*
6	9	B	B005A1BLAB	1	15	110	440	1645	*
7	10	B	B005A1BLAB	1	15	122	488	1824	*
8	11	B	B005A1BLAB	1	15	123	492	1839	*
9	12	B	B005A1BLAB	1	15	136	544	2034	*
10	13	B	B005A1BLAB	1	15	127	508	1899	*
11	14	B	B005A1BLAB	1	15	113	452	1690	*
12	15	B	B005A1BLAB	1	15	97	388	1450	*

Number of Measurements at this Survey Location: 12

1	71	B	B005AGALAB	1	15	111	444	1660	*
2	72	B	B005AGALAB	1	15	129	516	1929	*
3	73	B	B005AGALAB	1	15	122	488	1824	*
4	74	B	B005AGALAB	1	15	113	452	1690	*
5	75	B	B005AGALAB	1	15	120	480	1794	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1

Survey Date: 5/08/95 Survey Start Time: 10:40

File: 543

Comments

Date/Time Report Printed: 9/08/95 13:47:00

Page: 3

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
6	76	B	B005AGALAB	1	15	98	392	1465	*
7	77	B	B005AGALAB	1	15	111	444	1660	*
8	78	B	B005AGALAB	1	15	130	520	1944	*
9	79	B	B005AGALAB	1	15	128	512	1914	*
10	80	B	B005AGALAB	1	15	124	496	1854	*
11	81	B	B005AGALAB	1	15	113	452	1690	*
12	82	B	B005AGALAB	1	15	100	400	1495	*

Number of Measurements at this Survey Location: 12

3	24	B	B005A1AF01	2	15	188	752	2811	*
4	25	B	B005A1AF01	2	15	174	696	2602	*
5	26	B	B005A1AF01	2	15	182	728	2721	*
6	27	B	B005A1AF01	2	15	165	660	2467	*
7	28	B	B005A1AF01	2	15	169	676	2527	*
8	29	B	B005A1AF01	2	15	196	784	2931	*
9	30	B	B005A1AF01	2	15	160	640	2393	*
10	31	B	B005A1AF01	2	15	178	712	2662	*
11	32	B	B005A1AF01	2	15	169	676	2527	*
12	33	B	B005A1AF01	2	15	168	672	2512	*
13	34	B	B005A1AF01	2	15	175	700	2617	*
14	35	B	B005A1AF01	2	15	167	668	2497	*
15	36	B	B005A1AF01	2	15	192	768	2871	*
16	37	B	B005A1AF01	2	15	161	644	2407	*
17	38	B	B005A1AF01	2	15	158	632	2363	*
18	45	B	B005A1AF01	2	15	186	744	2781	*
19	46	B	B005A1AF01	2	15	171	684	2557	*
20	47	B	B005A1AF01	2	15	173	692	2587	*
21	48	B	B005A1AF01	2	15	166	664	2482	*
22	49	B	B005A1AF01	2	15	186	744	2781	*
23	50	B	B005A1AF01	2	15	168	672	2512	*
24	51	B	B005A1AF01	2	15	175	700	2617	*
25	52	B	B005A1AF01	2	15	172	688	2572	*
26	53	B	B005A1AF01	2	15	156	624	2333	*
27	54	B	B005A1AF01	2	15	155	620	2318	*
28	55	B	B005A1AF01	2	15	189	756	2826	*
29	56	B	B005A1AF01	2	15	157	628	2348	*
30	57	B	B005A1AF01	2	15	177	708	2647	*
31	58	B	B005A1AF01	2	15	152	608	2273	*
32	59	B	B005A1AF01	2	15	182	728	2721	*
33	60	B	B005A1AF01	2	15	191	764	2856	*
34	61	B	B005A1AF01	2	15	181	724	2707	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/08/95 Survey Start Time: 10:31  
 Date/Time Report Printed: 9/08/95 13:47:00

Station: 1  
 File: 543  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
35	62	B	B005A1AF01	2	15	148	592	2213	*
36	63	B	B005A1AF01	2	15	161	644	2407	*
37	64	B	B005A1AF01	2	15	191	764	2856	*
38	65	B	B005A1AF01	2	15	155	620	2318	*
39	66	B	B005A1AF01	2	15	176	704	2632	*
40	67	B	B005A1AF01	2	15	159	636	2378	*
41	68	B	B005A1AF01	2	15	167	668	2497	*
42	69	B	B005A1AF01	2	15	165	660	2467	*
43	70	B	B005A1AF01	2	15	176	704	2632	*

Number of Measurements at this Survey Location: 41

1	16	B	B005A1BF01	2	15	166	664	2482	*
2	17	B	B005A1BF01	2	15	167	668	2497	*

Number of Measurements at this Survey Location: 2

1	83	B	B005AGAF01	2	15	185	740	2766	*
2	84	B	B005AGAF01	2	15	207	828	3095	*
3	85	B	B005AGAF01	2	15	214	856	3200	*
4	86	B	B005AGAF01	2	15	211	844	3155	*
5	87	B	B005AGAF01	2	15	168	672	2512	*
6	88	B	B005AGAF01	2	15	195	780	2916	*
7	89	B	B005AGAF01	2	15	194	776	2901	*
8	90	B	B005AGAF01	2	15	179	716	2677	*
9	91	B	B005AGAF01	2	15	357	1428	5338	*
10	92	B	B005AGAF01	2	15	207	828	3095	*
11	93	B	B005AGAF01	2	15	187	748	2796	*
12	94	B	B005AGAF01	2	15	167	668	2497	*
13	95	B	B005AGAF01	2	15	201	804	3006	*
14	96	B	B005AGAF01	2	15	192	768	2871	*
15	97	B	B005AGAF01	2	15	181	724	2707	*
16	98	B	B005AGAF01	2	15	183	732	2736	*
17	99	B	B005AGAF01	2	15	181	724	2707	*
18	100	B	B005AGAF01	2	15	196	784	2931	*
19	101	B	B005AGAF01	2	15	187	748	2796	*
20	102	B	B005AGAF01	2	15	175	700	2617	*
21	103	B	B005AGAF01	2	15	181	724	2707	*
22	104	B	B005AGAF01	2	15	195	780	2916	*
23	105	B	B005AGAF01	2	15	170	680	2542	*
24	106	B	B005AGAF01	2	15	165	660	2467	*
25	107	B	B005AGAF01	2	15	181	724	2707	*

→ Same location as Survey location #24 - File # 514

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/08/95 Survey Start Time: 10:54  
Date/Time Report Printed: 9/08/95 13:47:00

Station: 1  
File: 543  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
26	108	B	B005AGAF01	2	15	166	664	2482	*
27	109	B	B005AGAF01	2	15	196	784	2931	*
28	110	B	B005AGAF01	2	15	160	640	2393	*
29	111	B	B005AGAF01	2	15	183	732	2736	*
30	112	B	B005AGAF01	2	15	175	700	2617	*

Number of Measurements at this Survey Location: 30

Total Number of Measurements on this Report: 117

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
543	7-8-95 1300	Sample points 83-112: Change location code to BOOSAGA FOI	rcw	<i>[Signature]</i>	Changed Loc. Code on samp. 83-112 to BOOSAGA FOI.	<i>[Signature]</i>	9/8/95 15:50

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 543, Building #14 Electrical Shop  
 Reason: Investigation User: RCW1152/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .214

Survey Performed By: JL Dunt Date: 9-8-95

Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 Survey Date: 9/08/95 Survey Start Time: 06:16 File: 543 Comments  
 Date/Time Report Printed: 9/08/95 12:47:24 Page: 1

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
	1	B	SC1TC878	0	60	1432	1432	5353	*
	114	B	SC1TC878	0	60	1490	1490	5570	*
Number of Measurements at this Survey Location:							2		
	2	B	SC2TC878	0	60	1477	1477	5521	*
	115	B	SC2TC878	0	60	1476	1476	5518	*
Number of Measurements at this Survey Location:							2		
	3	B	SC3TC878	0	60	1441	1441	5387	*
	116	B	SC3TC878	0	60	1437	1437	5372	*
Number of Measurements at this Survey Location:							2		
	113	B	SCBKGPST	0	60	381	381	1424	*
Number of Measurements at this Survey Location:							1		
	0	B	SCBKGPPE	0	600	4039	404	1510	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 9/08/95 Survey Start Time: 06:14  
Date/Time Report Printed: 9/08/95 12:47:24

Station: 1  
File: 543  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

1	18	B	B005A1ALAB	1	15	132	528	1974	*
2	19	B	B005A1ALAB	1	15	112	448	1675	*
3	20	B	B005A1ALAB	1	15	111	444	1660	*
4	21	B	B005A1ALAB	1	15	100	400	1495	*
5	22	B	B005A1ALAB	1	15	95	380	1421	*
6	23	B	B005A1ALAB	1	15	117	468	1750	*
7	39	B	B005A1ALAB	1	15	129	516	1929	*
8	40	B	B005A1ALAB	1	15	101	404	1510	*
9	41	B	B005A1ALAB	1	15	131	524	1959	*
10	42	B	B005A1ALAB	1	15	107	428	1600	*
11	43	B	B005A1ALAB	1	15	124	496	1854	*
12	44	B	B005A1ALAB	1	15	116	464	1735	*

Number of Measurements at this Survey Location: 12

1	4	B	B005A1BLAB	1	15	130	520	1944	*
2	5	B	B005A1BLAB	1	15	128	512	1914	*
3	6	B	B005A1BLAB	1	15	111	444	1660	*
4	7	B	B005A1BLAB	1	15	126	504	1884	*
5	8	B	B005A1BLAB	1	15	115	460	1720	*
6	9	B	B005A1BLAB	1	15	110	440	1645	*
7	10	B	B005A1BLAB	1	15	122	488	1824	*
8	11	B	B005A1BLAB	1	15	123	492	1839	*
9	12	B	B005A1BLAB	1	15	136	544	2034	*
10	13	B	B005A1BLAB	1	15	127	508	1899	*
11	14	B	B005A1BLAB	1	15	113	452	1690	*
12	15	B	B005A1BLAB	1	15	97	388	1450	*

Number of Measurements at this Survey Location: 12

1	71	B	B005AGALAB	1	15	111	444	1660	*
2	72	B	B005AGALAB	1	15	129	516	1929	*
3	73	B	B005AGALAB	1	15	122	488	1824	*
4	74	B	B005AGALAB	1	15	113	452	1690	*
5	75	B	B005AGALAB	1	15	120	480	1794	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 9/08/95 Survey Start Time: 10:40  
Date/Time Report Printed: 9/08/95 12:47:24

Station: 1  
File: 543  
Page: 3

Comments

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
6	76	B	B005AGALAB	1	15	98	392	1465	*
7	77	B	B005AGALAB	1	15	111	444	1660	*
8	78	B	B005AGALAB	1	15	130	520	1944	*
9	79	B	B005AGALAB	1	15	128	512	1914	*
10	80	B	B005AGALAB	1	15	124	496	1854	*
11	81	B	B005AGALAB	1	15	113	452	1690	*
12	82	B	B005AGALAB	1	15	100	400	1495	*

Number of Measurements at this Survey Location: 12

3	24	B	B005A1AF01	2	15	188	752	2811	*
4	25	B	B005A1AF01	2	15	174	696	2602	*
5	26	B	B005A1AF01	2	15	182	728	2721	*
6	27	B	B005A1AF01	2	15	165	660	2467	*
7	28	B	B005A1AF01	2	15	169	676	2527	*
8	29	B	B005A1AF01	2	15	196	784	2931	*
9	30	B	B005A1AF01	2	15	160	640	2393	*
10	31	B	B005A1AF01	2	15	178	712	2662	*
11	32	B	B005A1AF01	2	15	169	676	2527	*
12	33	B	B005A1AF01	2	15	168	672	2512	*
13	34	B	B005A1AF01	2	15	175	700	2617	*
14	35	B	B005A1AF01	2	15	167	668	2497	*
15	36	B	B005A1AF01	2	15	192	768	2871	*
16	37	B	B005A1AF01	2	15	161	644	2407	*
17	38	B	B005A1AF01	2	15	158	632	2363	*
18	45	B	B005A1AF01	2	15	186	744	2781	*
19	46	B	B005A1AF01	2	15	171	684	2557	*
20	47	B	B005A1AF01	2	15	173	692	2587	*
21	48	B	B005A1AF01	2	15	166	664	2482	*
22	49	B	B005A1AF01	2	15	186	744	2781	*
23	50	B	B005A1AF01	2	15	168	672	2512	*
24	51	B	B005A1AF01	2	15	175	700	2617	*
25	52	B	B005A1AF01	2	15	172	688	2572	*
26	53	B	B005A1AF01	2	15	156	624	2333	*
27	54	B	B005A1AF01	2	15	155	620	2318	*
28	55	B	B005A1AF01	2	15	189	756	2826	*
29	56	B	B005A1AF01	2	15	157	628	2348	*
30	57	B	B005A1AF01	2	15	177	708	2647	*
31	58	B	B005A1AF01	2	15	152	608	2273	*
32	59	B	B005A1AF01	2	15	182	728	2721	*
33	60	B	B005A1AF01	2	15	191	764	2856	*
34	61	B	B005A1AF01	2	15	181	724	2707	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Station: 1

Survey Date: 9/08/95 Survey Start Time: 10:31

File: 543

Comments

Date/Time Report Printed: 9/08/95 12:47:24

Page: 4

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
					Time (sec)				
35	62	B	B005A1AP01	2	15	148	592	2213	*
36	63	B	B005A1AP01	2	15	161	644	2407	*
37	64	B	B005A1AP01	2	15	191	764	2856	*
38	65	B	B005A1AP01	2	15	155	620	2318	*
39	66	B	B005A1AP01	2	15	176	704	2632	*
40	67	B	B005A1AP01	2	15	159	636	2378	*
41	68	B	B005A1AP01	2	15	167	668	2497	*
42	69	B	B005A1AP01	2	15	165	660	2467	*
43	70	B	B005A1AP01	2	15	176	704	2632	*

Number of Measurements at this Survey Location: 41

1	16	B	B005A1BP01	2	15	166	664	2482	*
2	17	P	B005A1BP01	2	15	167	668	2497	*

Number of Measurements at this Survey Location: 2

1	83	B	B005AGALAB	2	15	185	740	2766	*
2	84	B	B005AGALAB	2	15	207	828	3095	*
3	85	B	B005AGALAB	2	15	214	856	3200	*
4	86	B	B005AGALAB	2	15	211	844	3155	*
5	87	B	B005AGALAB	2	15	168	672	2512	*
6	88	B	B005AGALAB	2	15	195	780	2916	*
7	89	B	B005AGALAB	2	15	194	776	2901	*
8	90	B	B005AGALAB	2	15	179	716	2677	*
9	91	B	B005AGALAB	2	15	357	1428	5338	*
10	92	B	B005AGALAB	2	15	207	828	3095	*
11	93	B	B005AGALAB	2	15	187	748	2796	*
12	94	B	B005AGALAB	2	15	167	668	2497	*
13	95	B	B005AGALAB	2	15	201	804	3006	*
14	96	B	B005AGALAB	2	15	152	768	2871	*
15	97	B	B005AGALAB	2	15	181	724	2707	*
16	98	B	B005AGALAB	2	15	183	732	2736	*
17	99	B	B005AGALAB	2	15	181	724	2707	*
18	100	B	B005AGALAB	2	15	196	784	2931	*
19	101	B	B005AGALAB	2	15	187	748	2796	*
20	102	B	B005AGALAB	2	15	175	700	2617	*
21	103	B	B005AGALAB	2	15	181	724	2707	*
22	104	B	B005AGALAB	2	15	195	780	2916	*
23	105	E	B005AGALAB	2	15	170	680	2542	*
24	106	B	B005AGALAB	2	15	165	660	2467	*
25	107	B	B005AGALAB	2	15	181	724	2707	*

*FD1*  
*RAW 9-8-95*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SURVEILED**



Station: 1

Survey Date: 9/08/95 Survey Start Time: 10:54

File: 543

Comments

Date/Time Report Printed: 9/08/95 12:47:24

Page: 5

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
26	108	B	B005AGALAB	2	15	166	664	2482	*
27	109	B	B005AGALAB	2	15	196	784	2931	*
28	110	B	B005AGALAB	2	15	160	640	2393	*
29	111	B	B005AGALAB	2	15	183	732	2736	*
30	112	B	B005AGALAB	2	15	175	700	2617	*

*run 9-2-95*

Number of Measurements at this Survey Location: 30

Total Number of Measurements on this Report: 117

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: GU Egert Date: 8/29/95  
 Download Station #: 1 Download File #: 515 Time: 08:55  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Rick Neely Signature: Rick Neely Date: 08-29-95  
 Print Name: NA Signature: NA Date: NA

Instrument Serial #(s): Model 2350: 95356

Survey Location description: Bldg #14 Generic Material  
 (Example: R1 Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$	<u>PRO92511</u>	<u>43-68B</u>	<u>.220</u>	<u>125</u>	<u>515</u>	<u>515</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>	<u>NA</u>			
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>	<u>NA</u>			

Local Area Background Measurements

												MEAN BKG CPM
<u>80</u>	<u>95</u>	<u>73</u>	<u>76</u>	<u>89</u>	<u>81</u>	<u>92</u>	<u>79</u>	<u>88</u>	<u>67</u>	<u>73</u>	<u>68</u>	<u>320</u>

COMMENTS: Resurvey of Building #14 from Package # Boos (File 513 had original data which was deleted due to uncertainty in location numbers.)

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: S15, Building #14, Generic Material  
 Reason: Initial Survey User: RLN4080/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .220

Survey Performed By: *Lick Audy* Date: 8-30-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 Survey Date: 8/29/95 Survey Start Time: 06:20 File: S15  
 Date/Time Report Printed: 8/30/95 13:27:28 Page: 1 Comments

*\* Note:  
 Re survey of this Bldg on  
 8-29-95. Noticed one point  
 was missed on 8-28-95  
 File # 513 when downloaded  
 Rn  
 8-30-95*

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
	1	B	SC1TC878	0	60	1510	1510	5491 *	
	33	B	SC1TC878	0	60	1538	1538	5593 *	
Number of Measurements at this Survey Location:							2		
	2	B	SC2TC878	0	60	1500	1500	5455 *	
	34	B	SC2TC878	0	60	1610	1610	5855 *	
Number of Measurements at this Survey Location:							2		
	3	B	SC3TC878	0	60	1367	1367	4971 *	
	35	B	SC3TC878	0	60	1474	1474	5360 *	
Number of Measurements at this Survey Location:							2		
	32	B	SCBKGPOST	0	60	424	424	1542 *	
Number of Measurements at this Survey Location:							1		
	0	B	SCBKGPRE	0	600	4029	403	1465 *	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/29/95 Survey Start Time: 06:17  
Date/Time Report Printed: 8/30/95 13:27:28

Station: 1

File: 515

Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

1	4	B	B005A02LAB	1	15	80	320	1164	
2	5	B	B005A02LAB	1	15	95	380	1382	*
3	6	B	B005A02LAB	1	15	73	292	1062	
4	7	B	B005A02LAB	1	15	76	304	1105	
5	8	B	B005A02LAB	1	15	89	356	1295	*
6	9	B	B005A02LAB	1	15	81	324	1178	
7	10	B	B005A02LAB	1	15	92	368	1338	*
8	11	B	B005A02LAB	1	15	79	316	1149	
9	12	B	B005A02LAB	1	15	88	352	1280	*
10	13	B	B005A02LAB	1	15	67	268	975	
11	14	B	B005A02LAB	1	15	73	292	1062	
12	15	B	B005A02LAB	1	15	68	272	989	

Number of Measurements at this Survey Location: 12

43	16	B	B005A02B01	2	15	79	316	1149	
44	17	B	B005A02B01	2	15	88	352	1280	*
45	18	B	B005A02B01	2	15	84	336	1222	
46	19	B	B005A02B01	2	15	95	380	1382	*
47	20	B	B005A02B01	2	15	96	384	1396	*
48	21	B	B005A02B01	2	15	84	336	1222	
49	22	B	B005A02B01	2	15	100	400	1455	*
50	23	B	B005A02B01	2	15	107	428	1556	*
51	24	B	B005A02B01	2	15	117	468	1702	*
52	25	B	B005A02B01	2	15	94	376	1367	*
53	26	B	B005A02B01	2	15	74	296	1076	
54	27	B	B005A02B01	2	15	120	480	1745	*
55	28	B	B005A02B01	2	15	76	304	1105	
56	29	B	B005A02B01	2	15	89	356	1295	*
57	30	B	B005A02B01	2	15	88	352	1280	*
58	31	B	B005A02B01	2	15	101	404	1469	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/29/95 Survey Start Time: 07:46  
Data/Time Report Printed: 8/30/95 13:27:28

Station: 1  
File: 515  
Page: 3

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Comments

-----  
Loc Smp NG Survey Det Time Gross CPM per DPM per H  
No No Loc Code Loc Code No (sec) Counts DetArea 100 cm2 i  
-----

Number of Measurements at this Survey Location: 16  
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Total Number of Measurements on this Report: 36

End of Report

01559.C:\PDOX15\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
515	8-30-95 1100	Add LAB Loc. # 1-12 to Sample # 4-15	LR	gW Egnit	Added Loc Num 1-12 to samp. 4-15	gW Egnit	8/30/95 13:25

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 515, Building #14, Generic Material  
 Reason: Initial Survey User: RLN4080/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .220

Survey Performed By: R. Neely Date: 08-29-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 8/29/95 Survey Start Time: 06:20 Station: 1  
 Date/Time Report Printed: 8/29/95 09:36:57 File: 515  
 Page: 1

Comments

\* Note:  
 Resurvey of this Bldg on  
 8-29-95 because I noticed one  
 point was missed on 8-28-95  
 file # 513 when downloaded  
 on 8-29-95

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	B	SC1TC878	0	60	1510	1510	5491	*	
33	B	SC1TC878	0	60	1538	1538	5593	*	
Number of Measurements at this Survey Location: 2									
2	B	SC2TC878	0	60	1500	1500	5455	*	
34	B	SC2TC878	0	60	1610	1610	5855	*	
Number of Measurements at this Survey Location: 2									
3	B	SC3TC878	0	60	1367	1367	4971	*	
35	B	SC3TC878	0	60	1474	1474	5360	*	
Number of Measurements at this Survey Location: 2									
32	B	SCBKGPST	0	60	424	424	1542	*	
Number of Measurements at this Survey Location: 1									
0	B	SCBKGPBE	0	600	4029	403	1465	*	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 8/29/95 Survey Start Time: 06:17  
Date/Time Report Printed: 8/29/95 09:36:57

Station: 1  
File: 515  
Page: 2

Comments

Loc No	Sup No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

4	B	B005A02LAB		1	15	80	320	1164	
5	B	B005A02LAB		1	15	95	380	1382	*
6	B	B005A02LAB		1	15	73	292	1062	
7	B	B005A02LAB		1	15	76	304	1105	
8	B	B005A02LAB		1	15	89	356	1295	*
9	B	B005A02LAB		1	15	87	324	1178	
10	B	B005A02LAB		1	15	97	368	1338	*
11	B	B005A02LAB		1	15	75	316	1149	
12	B	B005A02LAB		1	15	88	352	1280	*
13	B	B005A02LAB		1	15	67	268	975	
14	B	B005A02LAB		1	15	73	292	1062	
15	B	B005A02LAB		1	15	68	272	989	

Number of Measurements at this Survey Location: 12

43	16	B	B005A02B01	2	15	79	316	1149	
44	17	B	B005A02B01	2	15	88	352	1280	*
45	18	B	B005A02B01	2	15	84	336	1222	
46	19	B	B005A02B01	2	15	95	380	1382	*
47	20	B	B005A02B01	2	15	96	384	1396	*
48	21	B	B005A02B01	2	15	84	336	1222	
49	22	B	B005A02B01	2	15	100	400	1455	*
50	23	B	B005A02B01	2	15	107	428	1556	*
51	24	B	B005A02B01	2	15	117	468	1702	*
52	25	B	B005A02B01	2	15	94	376	1367	*
53	26	B	B005A02B01	2	15	74	296	1076	
54	27	B	B005A02B01	2	15	120	480	1745	*
55	28	B	B005A02B01	2	15	76	304	1105	
56	29	B	B005A02B01	2	15	89	356	1295	*
57	30	B	B005A02B01	2	15	88	352	1280	*
58	31	B	B005A02B01	2	15	101	404	1469	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 8/29/95 Survey Start Time: 07:46  
Date/Time Report Printed: 8/29/95 09:36:57

Station: 1  
File: 515  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 16

Total Number of Measurements on this Report: 36

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: Glenn Egert Date: 8/28/95  
 Download Station #: 1 Download File #: 514 Time: 16:25  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Roger C. Wosick Signature: Roger C. Wosick Date: 8-28-95  
 Print Name: NA Signature: NA Date: NA

Instrument Serial #(s): Model 2350: 95340

Survey Location description: Book Warehouse #13; Flathead Warehouse #14 - Concrete Floors  
 (Example: Rr Bldg. Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	<u>91050</u>	<u>43-68B</u>	<u>.275</u>	<u>125</u>	<u>514</u>	<u>514</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>				
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>				

Local Area Background Measurements

MEAN  
BKG CPM

COMMENTS: Detector Failed Post Source check tolerance and Uniformity Values.



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 514, North Warehouse #13, Electrical Warehouse #14 - Concrete Floors  
 Reason: Initial Survey User: RCW1152/95340  
 Instrument Model: 2350 S/N: 95340 Detector Model: 43-68B Detector S/N: PR091050  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .275

Survey Performed By: Roger C. Worrick / [Signature] Date: 9-22-95  
 Print Name Signature

Survey Reviewed By: \_\_\_\_\_ / \_\_\_\_\_ Date: \_\_\_\_\_  
 Print Name Signature

Survey Date: 8/28/95 Survey Start Time: 07:54 Station: 1  
 Date/Time Report Printed: 9/22/95 13:06:27 File: 514 Page: 1  
 Comments

Location	Sample	Count	Gross	Net beta	
Number	Number	Time (sec)	Counts	CPM per Det Area	DPM per 100 cm <sup>2</sup>
---Detector Setup # 0					
---Location Code: SC1TC883					
NG Location Code: B					
	1	60	1561	1561	4541 *
	80	60	1863	1863	5420 *
	84	60	1764	1764	5132 *
Number of Measurements: 3		Average: 5031 dpm per 100 cm <sup>2</sup>			
		Average: 1729 cpm per det. area			

*Two Post Source checks performed  
 Both failed. RWS*

---Location Code: SC2TC883					
NG Location Code: B					
	2	60	1504	1504	4375 *
	81	60	1996	1996	5807 *
	85	60	2056	2056	5981 *
Number of Measurements: 3		Average: 5388 dpm per 100 cm <sup>2</sup>			
		Average: 1852 cpm per det. area			

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/28/95 Survey Start Time: 07:57  
Date/Time Report Printed: 9/22/95 13:08:27

Station: 1  
File: 514  
Page: 2

Comments

Location	Sample	Count	Gross	Gross	Net beta	H
Number	Number	Time (sec)	Counts	CPM per Det Area	DPM per 100 cm <sup>2</sup>	i

--Detector Setup # 0

----Location Code: SC3TC883

NG Location Code: B

3	60	1541	1541	4483	*
82	60	1968	1968	5725	*
86	60	1923	1923	5594	*

Number of Measurements: 3 Average: 5267 dpm per 100 cm<sup>2</sup>  
Average: 1811 cpm per det. area

----Location Code: SCBKGPOST

NG Location Code: B

79	60	519	519	1510	*
83	60	530	530	1542	*

Number of Measurements: 2 Average: 1526 dpm per 100 cm<sup>2</sup>  
Average: 525 cpm per det. area

----Location Code: SCBKGPRE

NG Location Code: B

0	600	4272	427	1243	
---	-----	------	-----	------	--

Number of Measurements: 1 Average: 1243 dpm per 100 cm<sup>2</sup>  
Average: 427 cpm per det. area

--Detector Setup # 1

----Location Code: B005A0ALAB

NG Location Code: B

18	15	132	528	1536	*
19	15	127	508	1478	*
20	15	125	500	1455	*
21	15	125	500	1455	*
22	15	141	564	1641	*
23	15	119	476	1385	*
39	15	124	496	1443	*

Survey Date: 8/28/95 Survey Start Time: 10:48  
 Date/Time Report Printed: 9/22/95 13:06:27

Station: 1  
 File: 514  
 Page: 3

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
-----Detector Setup # 1-----						
----Location Code: B005A0ALAB						
NG Location Code: B						
40		15	162	648	1885	*
41		15	117	468	1361	*
42		15	116	464	1350	*
43		15	120	480	1396	*
44		15	124	496	1443	*
72		15	194	776	2257	*
73		15	198	792	2304	*
74		15	172	688	2001	*
75		15	140	560	1629	*
76		15	150	600	1745	*
77		15	130	520	1513	*
78		15	140	560	1629	*

*These background readings were taken at the end of the survey due to a noticeable increase in the background while surveying Bldg 14. RCW*

Number of Measurements: 19      Average: 1627 dpm per 100 cm2  
 Average: 559 cpm per det. area

----Location Code: B005A0BLAB  
 NG Location Code: B

4		15	129	516	1501	*
5		15	115	460	1338	*
6		15	114	456	1327	*
7		15	109	436	1268	*
8		15	119	476	1385	*
9		15	140	560	1629	*
10		15	121	484	1408	*
11		15	113	452	1315	*
12		15	95	380	1105	
13		15	117	468	1361	*
14		15	116	464	1350	*
15		15	138	552	1606	*

Number of Measurements: 12      Average: 1383 dpm per 100 cm2  
 Average: 475 cpm per det. area

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1  
 Survey Date: 8/28/95 Survey Start Time: 08:57 File: 514  
 Date/Time Report Printed: 9/22/95 13:06:27 Page: 4

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	H
---Detector Setup # 2---						
----Location Code:		B005A0AF01				
NG Location Code:		B				
3	24	15	206	824	2397	*
4	25	15	191	764	2223	*
5	26	15	175	700	2036	*
6	27	15	177	708	2060	*
7	28	15	183	732	2129	*
8	29	15	187	748	2176	*
9	30	15	170	680	1978	*
10	31	15	186	744	2164	*
11	32	15	189	756	2199	*
12	33	15	204	816	2374	*
13	34	15	183	732	2129	*
14	35	15	215	860	2502	*
15	36	15	204	816	2374	*
16	37	15	196	784	2281	*
17	38	15	204	816	2374	*
18	46	15	248	992	2886	*
19	47	15	222	888	2583	*
20	48	15	241	964	2804	*
21	49	15	202	808	2351	*
22	50	15	219	876	2548	*
23	51	15	221	884	2572	*
24	52	15	408	1632	4748	*
25	53	15	225	900	2618	*
26	54	15	235	940	2735	*
27	55	15	187	748	2176	*
28	56	15	200	800	2327	*
29	57	15	187	748	2176	*
30	58	15	252	1008	2932	*
31	59	15	192	768	2234	*
32	60	15	198	792	2304	*
33	61	15	190	760	2211	*
34	62	15	198	792	2304	*
35	63	15	178	712	2071	*
36	64	15	187	748	2176	*
37	65	15	211	844	2455	*
38	66	15	214	856	2490	*
39	67	15	217	868	2525	*
40	68	15	219	876	2548	*
41	69	15	231	924	2688	*
42	70	15	204	816	2374	*
43	71	15	231	924	2688	*

*Exceeded reading. NOT. Had ROC run*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/28/95 Survey Start Time: 15:25  
 Date/Time Report Printed: 9/22/95 13:06:27

Station: 1  
 File: S14  
 Page: 5

Comments

Location Number	Sample Number	Count Time (sec)	Gross Counts	Gross CPM per Det Area	Net beta DPM per 100 cm2	K

--Detector Setup # 2  
 ---Location Code: B005A0AFU1  
 NG Location Code: B

Number of Measurements: 41 Average: 2437 dpm per 100 cm2  
 Average: 838 cpm per det. area

--Location Code: B005A0BF01  
 NG Location Code: B

1	16	15	192	768	2234	*
2	17	15	187	748	2176	*

Number of Measurements: 2 Average: 2205 dpm per 100 cm2  
 Average: 758 cpm per det. area

Total Number of Measurements on this Report: 86

End of Report

01559:C:\PDOXJ5\M2350\TLOGREVU:R2 4-23-93 JPA 9/12/95 GWE  
 7-25-95 MRM



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
514	9-22-95 11:50	Samples 72-78 change location code to BOOSAALAS	~	gW Egan	Changed Loc. Code to BOOSAALAB on samples 72-78.	gW Egan	9/22/95 13:05

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 514, North Warehouse #13, Electrical Warehouse #14 - Concrete Floors  
 Reason: Initial Survey User: RCW1152/95340  
 Instrument Model: 2350 S/N: 95340 Detector Model: 43-688 Detector S/N: PR091050  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .275

Survey Performed By: Roger C. Worrick / [Signature] Date: 9-13-95  
 Print Name Signature

Survey Reviewed By: \_\_\_\_\_ / \_\_\_\_\_ Date: \_\_\_\_\_  
 Print Name Signature

Station: 1  
 Survey Date: 8/28/95 Survey Start Time: 07:54 File: 514  
 Date/Time Report Printed: 9/13/95 15:04:37 Page: 1

Comments

Loc No	Smp No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
---Detector Setup # 0							
---Location Code: SC1TC883							
NG Location Code: B							
	1	0	60	1561	1561	4541	*
	80	0	60	1863	1863	5420	*
	84	0	60	1764	1764	5132	*

*Two Post Sweep checks performed both Failed - RCW*

Number of Measurements: 3 Average: 5031 dpm per 100 cm<sup>2</sup>

---Location Code: SC2TC883							
NG Location Code: B							
	2	0	60	1504	1504	4375	*
	81	0	60	1996	1996	5807	*
	85	0	60	2056	2056	5981	*

Number of Measurements: 3 Average: 5388 dpm per 100 cm<sup>2</sup>

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1

Survey Date: 8/28/95 Survey Start Time: 07:57

File: 514

Comments

Date/Time Report Printed: 9/13/95 15:04:37

Page: 2

Loc No	Sep No	Det No	Time (sec)	Count Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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--Detector Setup # 0

----Location Code: SCJTC883

NG Location Code: B

3	0	60	1541	1541	4483	*
82	0	60	1968	1968	5725	*
86	0	60	1923	1923	5594	*

Number of Measurements: 3 Average: 5267 dpm per 100 cm2

----Location Code: SCBKGPST

NG Location Code: B

79	0	60	519	519	1510	*
83	0	60	530	530	1542	*

Number of Measurements: 2 Average: 1526 dpm per 100 cm2

----Location Code: SCBKOP29

NG Location Code: B

0	0	600	4272	427	1243	
---	---	-----	------	-----	------	--

Number of Measurements: 1 Average: 1243 dpm per 100 cm2

--Detector Setup # 1

----Location Code: b005A0ABKG

NG Location Code: B

72	1	15	194	776	2257	*
73	1	15	198	792	2304	*
74	1	15	172	688	2001	*
75	1	15	140	560	1629	*
76	1	15	150	600	1745	*
77	1	15	130	520	1513	*
78	1	15	140	560	1629	*

These background readings were taken at the end of the survey due to noticeable increase in the background while surveying Bldg 14. - KGW

# SUPERSEDED

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1  
 Survey Date: 8/28/95 Survey Start Time: 15:35 File: 514  
 Date/Time Report Printed: 9/13/95 15:04:37 Page: 3

Comments

Loc No	Smp No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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--Detector Setup # 1  
 ----Location Code: B005A0ABKG  
 NG Location Code: B

Number of Measurements: 7 Average: 1868 dpm per 100 cm2

----Location Code: B005A0ALAB  
 NG Location Code: B

18	1	15	132	528	1536	*
19	1	15	127	508	1478	*
20	1	15	125	500	1455	*
21	1	15	125	500	1455	*
22	1	15	141	564	1641	*
23	1	15	119	476	1385	*
39	1	15	124	496	1443	*
40	1	15	162	648	1885	*
41	1	15	117	468	1361	*
42	1	15	116	464	1350	*
43	1	15	120	480	1396	*
44	1	15	124	496	1443	*

Number of Measurements: 12 Average: 1486 dpm per 100 cm2

----Location Code: B005A0BLAB  
 NG Location Code: B

4	1	15	129	516	1501	*
5	1	15	115	460	1338	*
6	1	15	114	456	1327	*
7	1	15	109	436	1268	*
8	1	15	119	476	1385	*
9	1	15	140	560	1629	*
10	1	15	121	484	1408	*
11	1	15	113	452	1315	*
12	1	15	95	380	1105	*
13	1	15	117	468	1361	*
14	1	15	116	464	1350	*
15	1	15	138	552	1606	*

**SUPERSEDED**

Station: 1

Survey Date: 8/28/95 Survey Start Time: 08:11

File: 514

Comments

Date/Time Report Printed: 9/13/95 15:04:37

Page: 4

Loc	Smp	Det	Count	Gross	Gross	Net beta	H
No	No	No	Time (sec)	Counts	CPM per DetArea	DPM per 100 cm2	i
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--Detector Setup # 1

----Location Code: B005A0BLAB

NG Location Code: B

Number of Measurements: 12 Average: 1383 dpm per 100 cm2

--Detector Setup # 2

----Location Code: B005A0AF01

NG Location Code: B

3	24	2	15	206	824	2397	*
4	25	2	15	191	764	2223	*
5	26	2	15	175	700	2036	*
6	27	2	15	177	708	2060	*
7	28	2	15	183	732	2129	*
8	29	2	15	187	748	2176	*
9	30	2	15	170	680	1978	*
10	31	2	15	186	744	2164	*
11	32	2	15	189	756	2199	*
12	33	2	15	204	816	2374	*
13	34	2	15	183	732	2129	*
14	35	2	15	215	860	2502	*
15	36	2	15	204	816	2374	*
16	37	2	15	196	784	2281	*
17	38	2	15	204	816	2374	*
18	46	2	15	248	992	2886	*
19	47	2	15	222	888	2583	*
20	48	2	15	241	964	2804	*
21	49	2	15	202	808	2351	*
22	50	2	15	219	876	2548	*
23	51	2	15	221	884	2572	*
24	52	2	15	408	1632	4748	*
25	53	2	15	225	900	2618	*
26	54	2	15	235	940	2735	*
27	55	2	15	187	748	2176	*
28	56	2	15	200	800	2327	*
29	57	2	15	187	748	2176	*
30	58	2	15	252	1008	2932	*
31	59	2	15	192	768	2234	*
32	60	2	15	198	792	2304	*
33	61	2	15	190	760	2211	*
34	62	2	15	198	792	2304	*

Elevated reading. Not Read for Low

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Station: 1

Survey Date: 8/28/95 Survey Start Time: 14:34

File: 514

Comments

Date/Time Report Printed: 9/13/95 15:04:37

Page: 5

Loc No	Smp No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
35	63	2	15	178	712	2071	*
36	64	2	15	187	748	2176	*
37	65	2	15	211	844	2455	*
38	66	2	15	214	856	2490	*
39	67	2	15	217	868	2525	*
40	68	2	15	219	876	2548	*
41	69	2	15	231	924	2688	*
42	70	2	15	204	816	2374	*
43	71	2	15	231	924	2688	*

--Detector Setup # 2

----Location Code: B005A0AP01

NG Location Code: B

Number of Measurements: 41 Average: 2437 dpm per 100 cm2

----Location Code: B005A0BP01

NG Location Code: B

1	16	2	15	192	768	2234	*
2	17	2	15	187	748	2176	*

Number of Measurements: 2 Average: 2205 dpm per 100 cm2

Total Number of Measurements on this Report: 86

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA 9/12/95 GWB  
7-25-95 MRM

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
514	9-13-95 1425	Sample Points 16-17 are location points 1-2	rcw	gwgust	Added Loc. # 1-2 to samples 16-17.	gwgust	9/12/95 14:55
514	9-13-95 1425	Sample Points 24-71 are location points 2-43	rcw	gwgust	Added Loc. # for Samples 3-17 → 24-38 18-43 → 46-71 1-2 → 16-17	gwgust	9/13/95 14:55

Attach this sheet to the front of the Survey Download Report requiring changes.

**SUPERSEDED**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 514, North Warehouse #13, Electrical Warehouse #14 - Concrete Floors  
 Reason: Initial Survey User: RCW1152/95340  
 M2350 S/N: 95340 Det. SN: PR091050 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .275

Survey Performed By: *J. W. [Signature]* Date: 8-31-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 Survey Date: 8/28/95 Survey Start Time: 07:54 File: 514 Comments  
 Date/Time Report Printed: 8/30/95 14:44:13 Page: 1

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
Number of Measurements at this Survey Location: 3									
	1		SC1TC883	0	60	1561	1561	4541	*
	80		SC1TC883	0	60	1863	1863	5420	*
	84		SC1TC883	0	60	1764	1764	5132	*
Number of Measurements at this Survey Location: 3									
	2		SC2TC883	0	60	1504	1504	4375	*
	81		SC2TC883	0	60	1996	1996	5807	*
	85		SC2TC883	0	60	2056	2056	5981	*
Number of Measurements at this Survey Location: 3									
	3		SC3TC883	0	60	1541	1541	4483	*
	82		SC3TC883	0	60	1968	1968	5725	*
	86		SC3TC883	0	60	1923	1923	5594	*
Number of Measurements at this Survey Location: 3									
	79		SCBKGPST	0	60	519	519	1510	*
	83		SCBKGPST	0	60	530	530	1542	*

*Two post source checks performed, both failed - rcw*

**SUPERSEDED**  
*JW [Signature] 9/15/95*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/28/95 Survey Start Time: 15:47  
 Date/Time Report Printed: 8/30/95 14:44:13

Station: 1  
 File: 514  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 2

0		SCBKGPBB		0	600	4272	427	1243	
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Number of Measurements at this Survey Location: 1

72		B005A0ABKG		1	15	194	776	2257 *	43
73		B005A0ABKG		1	15	198	792	2304 *	38
74		B005A0ABKG		1	15	172	688	2001 *	40
75		B005A0ABKG		1	15	140	560	1629 *	312
76		B005A0ABKG		1	15	150	600	1745 *	33
77		B005A0ABKG		1	15	130	520	1513 *	27
78		B005A0ABKG		1	15	140	560	1629 *	18

Sample Location

These background readings were taken at the end of the survey due to noticeable increase in the background while sweeping Bldg 14.

Number of Measurements at this Survey Location: 7

18		B005A0ALAB		1	15	132	528	1536 *	
19		B005A0ALAB		1	15	127	508	1478 *	
20		B005A0ALAB		1	15	125	500	1455 *	
21		B005A0ALAB		1	15	125	500	1455 *	
22		B005A0ALAB		1	15	141	564	1641 *	
23		B005A0ALAB		1	15	119	476	1385 *	
39		B005A0ALAB		1	15	124	496	1443 *	
40		B005A0ALAB		1	15	162	648	1885 *	
41		B005A0ALAB		1	15	117	468	1361 *	
42		B005A0ALAB		1	15	116	464	1350 *	
43		B005A0ALAB		1	15	120	480	1396 *	
44		B005A0ALAB		1	15	124	496	1443 *	

Number of Measurements at this Survey Location: 12

4		B005A0BLAB		1	15	129	516	1501 *	
5		B005A0BLAB		1	15	115	460	1338 *	
6		B005A0BLAB		1	15	114	456	1327 *	
7		B005A0BLAB		1	15	109	436	1268 *	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

9/13/95

Survey Date: 8/28/95 Survey Start Time: 08:09  
Date/Time Report Printed: 8/30/95 14:44:13

Station: 1  
File: 514  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net bet 100 cm2	DPM per H i
	8		B005A0BLAB	1	15	119	476	1385	*
	9		B005A0BLAB	1	15	140	560	1629	*
	10		B005A0BLAB	1	15	121	484	1408	*
	11		B005A0BLAB	1	15	113	452	1315	*
	12		B005A0BLAB	1	15	95	380	1105	*
	13		B005A0BLAB	1	15	117	468	1361	*
	14		B005A0BLAB	1	15	116	464	1350	*
	15		B005A0BLAB	1	15	138	552	1606	*

Number of Measurements at this Survey Location: 12

	24		B005A0AP01	2	15	206	824	2397	*
	25		B005A0AP01	2	15	191	764	2223	*
	26		B005A0AP01	2	15	175	700	2036	*
	27		B005A0AP01	2	15	177	708	2060	*
	28		B005A0AP01	2	15	183	732	2129	*
	29		B005A0AP01	2	15	187	748	2176	*
	30		B005A0AP01	2	15	170	680	1978	*
	31		B005A0AP01	2	15	186	744	2164	*
	32		B005A0AP01	2	15	189	756	2199	*
	33		B005A0AP01	2	15	204	816	2374	*
	34		B005A0AP01	2	15	183	732	2129	*
	35		B005A0AP01	2	15	215	860	2502	*
	36		B005A0AP01	2	15	204	816	2374	*
	37		B005A0AP01	2	15	196	784	2281	*
	38		B005A0AP01	2	15	204	816	2374	*
	46		B005A0AP01	2	15	248	992	2886	*
	47		B005A0AP01	2	15	222	888	2583	*
	48		B005A0AP01	2	15	241	964	2804	*
	49		B005A0AP01	2	15	202	808	2351	*
	50		B005A0AP01	2	15	219	876	2548	*
	51		B005A0AP01	2	15	221	884	2572	*
	52		B005A0AP01	2	15	408	1632	4748	*
	53		B005A0AP01	2	15	225	900	2618	*
	54		B005A0AP01	2	15	235	940	2735	*
	55		B005A0AP01	2	15	187	748	2176	*
	56		B005A0AP01	2	15	200	800	2327	*
	57		B005A0AP01	2	15	187	748	2176	*
	58		B005A0AP01	2	15	252	1008	2932	*
	59		B005A0AP01	2	15	192	768	2234	*
	60		B005A0AP01	2	15	198	792	2304	*
	61		B005A0AP01	2	15	190	760	2211	*

Sample location #24

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

GW Syst 9/12/95



Survey Date: 8/28/95 Survey Start Time: 14:25  
Date/Time Report Printed: 8/30/95 14:44:13

Station: 1  
File: 514  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	62		B005A0AF01	2	15	198	792	2304	*
	63		B005A0AF01	2	15	178	712	2071	*
	64		B005A0AF01	2	15	187	748	2176	*
	65		B005A0AF01	2	15	211	844	2455	*
	66		B005A0AF01	2	15	214	856	2490	*
	67		B005A0AF01	2	15	217	868	2525	*
	68		B005A0AF01	2	15	219	876	2548	*
	69		B005A0AF01	2	15	231	924	2688	*
	70		B005A0AF01	2	15	204	816	2374	*
	71		B005A0AF01	2	15	231	924	2688	*

Number of Measurements at this Survey Location: 41

	16		B005A0BF01	2	15	192	768	2234	*
	17		B005A0BF01	2	15	187	748	2176	*

Number of Measurements at this Survey Location: 2

Total Number of Measurements on this Report: 86

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R4 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

*gws just 9/13/95*

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
514	8/29/95 0600	Sample Points 18-23: Change detector setup to 1  Delete Sample Point 45	RCW  RCW	<i>gwsjst</i>	Changed det. setup to 1 for samp. 18-23. Deleted samp. 45	<i>gwsjst</i>	8/30/95 14:40
514	8/29/95 0600	Sample Points 46-71 Change location code to B005A0AF01	RCW	<i>gwsjst</i>	Changed Loc Code for samp. 46-71 to B005A0AF01	<i>gwsjst</i>	8/30/95 14:40

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 514, North Warehouse #13, Electrical Warehouse #14 - Concrete Floors  
 Reason: Initial Survey User: RCW1152/95340  
 M2150 S/N: 95340 Det. SN: PR091050 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .275

Survey Performed By: *JE Ward* Date: 8-29-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 8/28/95		Survey Start Time: 07:54		Station: 1		File: 514		Comments		
Date/Time Report Printed: 8/28/95 16:34:48				Page: 1						
Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H	
-----										
	1		SC1TC883	0	60	1561	1561	4541 *		
	80		SC1TC883	0	60	1863	1863	5420 *		
	84		SC1TC883	0	60	1764	1764	5132 *		
-----										
Number of Measurements at this Survey Location:						3				
-----										
	2		SC2TC863	0	60	1504	1504	4375 *		
	81		SC2TC883	0	60	1996	1996	5807 *		
	85		SC2TC883	0	60	2056	2056	5981 *		
-----										
Number of Measurements at this Survey Location:						3				
-----										
	3		SC3TC883	0	60	1541	1541	4483 *		
	82		SC3TC883	0	60	1968	1968	5725 *		
	86		SC3TC883	0	60	1923	1923	5594 *		
-----										
Number of Measurements at this Survey Location:						3				
-----										
	79		SCBKGPOST	0	60	519	519	1510 *		
	83		SCBKGPOST	0	60	530	530	1542 *		

*2 Post Source Checks Performed.  
 Both Failed - high efficiency seen*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 8/28/95 Survey Start Time: 19:47  
 Date/Time Report Printed: 8/28/95 16:34:48

Station: 1  
 File: 514  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 2

0		SCBKGPBE		0	600	4272	427	1243	
---	--	----------	--	---	-----	------	-----	------	--

Number of Measurements at this Survey Location: 1

72		B005A0ABKG		1	15	194	776	2257 *	43
73		B005A0ABKG		1	15	198	792	2304 *	38
74		B005A0ABKG		1	15	172	688	2001 *	30
75		B005A0ABKG		1	15	140	560	1629 *	012
76		B005A0ABKG		1	15	150	600	1745 *	138
77		B005A0ABKG		1	15	130	520	1513 *	137
78		B005A0ABKG		1	15	140	560	1629 *	118

*Sample location*  
 These background readings were taken at the end of the survey - Row

Number of Measurements at this Survey Location: 7

39		B005A0ALAB		1	15	124	496	1443 *	
40		B005A0ALAB		1	15	162	648	1885 *	
41		B005A0ALAB		1	15	117	468	1361 *	
42		B005A0ALAB		1	15	116	464	1350 *	
43		B005A0ALAB		1	15	120	480	1396 *	
44		B005A0ALAB		1	15	124	496	1443 *	
45		<del>B005A0ALAB</del>		<del>1</del>	<del>15</del>	<del>228</del>	<del>912</del>	<del>2653 *</del>	

Delete - wrong code/wrong location row

Number of Measurements at this Survey Location: 7

4		B005A0BLAB		1	15	129	516	1501 *	
5		B005A0BLAB		1	15	115	460	1338 *	
6		B005A0BLAB		1	15	114	456	1327 *	
7		B005A0BLAB		1	15	109	436	1268 *	
8		B005A0BLAB		1	15	119	476	1385 *	
9		B005A0BLAB		1	15	140	560	1629 *	
10		B005A0BLAB		1	15	121	484	1408 *	
11		B005A0BLAB		1	15	113	452	1315 *	
12		B005A0BLAB		1	15	95	380	1105 *	

\* Flag is set at 1250 dpm/100 sq. cm. for beta location.

**SUPERSEDED**

Survey Date: 8/28/95 Survey Start Time: 08:10  
 Date/Time Report Printed: 8/28/95 16:34:48

Station: 1  
 File: 514  
 Page: 3

Comments

Loc No	Map No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
13		B005A0BLAB		1	15	117	468	1361	*
14		B005A0BLAB		1	15	116	464	1350	*
15		B005A0BLAB		1	15	138	552	1606	*

Number of Measurements at this Survey Location: 12

24		B005A0AP01		2	15	206	824	2397	*
25		B005A0AP01		2	15	191	764	2223	*
26		B005A0AP01		2	15	175	700	2036	*
27		B005A0AP01		2	15	177	708	2060	*
28		B005A0AP01		2	15	183	732	2129	*
29		B005A0AP01		2	15	187	748	2176	*
30		B005A0AP01		2	15	170	680	1978	*
31		B005A0AP01		2	15	186	744	2164	*
32		B005A0AP01		2	15	189	756	2199	*
33		B005A0AP01		2	15	204	816	2374	*
34		B005A0AP01		2	15	183	732	2129	*
35		B005A0AP01		2	15	215	860	2502	*
36		B005A0AP01		2	15	204	816	2374	*
37		B005A0AP01		2	15	196	784	2281	*
38		B005A0AP01		2	15	204	816	2374	*

Number of Measurements at this Survey Location: 15

18		B005A0ALAB		3	15	132	528	1536	*
19		B005A0ALAB		3	15	127	508	1478	*
20		B005A0ALAB		3	15	125	500	1455	*
21		B005A0ALAB		3	15	125	500	1455	*
22		B005A0ALAB		3	15	141	564	1641	*
23		B005A0ALAB		3	15	119	476	1385	*

*Rw 8/29/95*

Number of Measurements at this Survey Location: 6

16		B005A0BF01		2	15	192	768	2234	*
17		B005A0BF01		2	15	187	748	2176	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**



Survey Date: 8/28/95 Survey Start Time: 08:24  
 Date/Time Report Printed: 8/28/95 16:34:49

Station: 1  
 File: 514  
 Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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Number of Measurements at this Survey Location: 2

*0 2.140 8/28/95*

46			B055A0AP01	2	15	248	992	2886 *	
47			B055A0AP01	2	15	222	888	2583 *	
48			B055A0AP01	2	15	241	964	2804 *	
49			B055A0AP01	2	15	202	808	2351 *	
50			B055A0AP01	2	15	219	876	2548 *	
51			B055A0AP01	2	15	221	884	2572 *	
52			B055A0AP01	2	15	408	1632	4748 *	
53			B055A0AP01	2	15	225	900	2618 *	
54			B055A0AP01	2	15	235	940	2735 *	
55			B055A0AP01	2	15	187	748	2176 *	
56			B055A0AP01	2	15	200	800	2327 *	
57			B055A0AP01	2	15	187	748	2176 *	
58			B055A0AP01	2	15	252	1008	2932 *	
59			B055A0AP01	2	15	192	768	2234 *	
60			B055A0AP01	2	15	198	792	2304 *	
61			B055A0AP01	2	15	190	760	2211 *	
62			B055A0AP01	2	15	198	792	2304 *	
63			B055A0AP01	2	15	178	712	2071 *	
64			B055A0AP01	2	15	187	748	2176 *	
65			B055A0AP01	2	15	211	844	2455 *	
66			B055A0AP01	2	15	214	856	2490 *	
67			B055A0AP01	2	15	217	868	2525 *	
68			B055A0AP01	2	15	219	876	2548 *	
69			B055A0AP01	2	15	231	924	2688 *	
70			B055A0AP01	2	15	204	816	2374 *	
71			B055A0AP01	2	15	231	924	2688 *	

Number of Measurements at this Survey Location: 26

Total Number of Measurements on this Report: 87

End of Report

01559:C:\PDOX15\M2150\TLOGRBVU:R2 4-23-93 JPA  
 7-25-95 MRM  
 8-09-95 GWE

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

# COPY



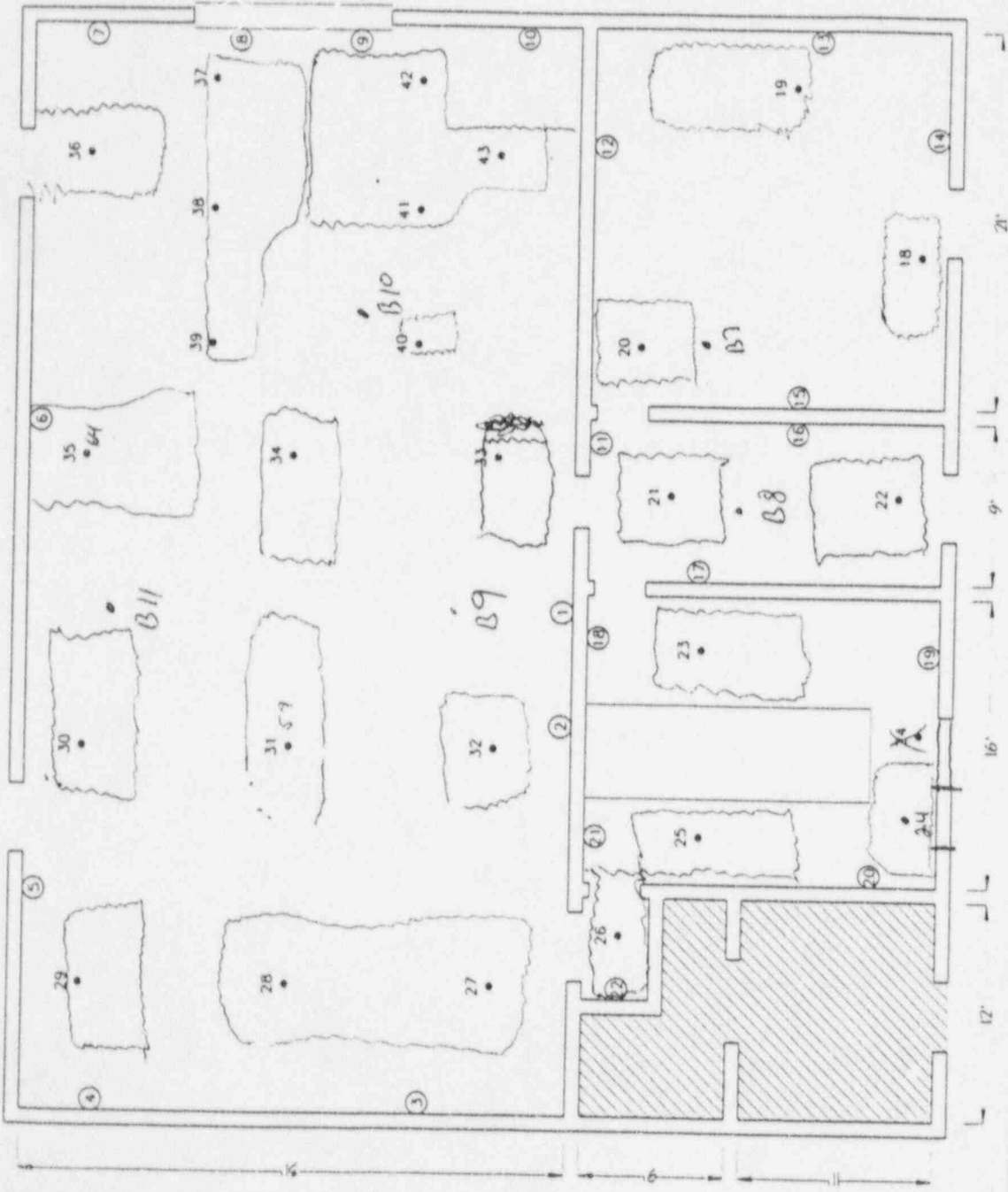
124  
117  
116  
162  
170  
124

143  
43  
38  
30  
R12  
B8  
B7

Page:

FORT ST. VRAIN DECOMMISSIONING FINAL SURVEY MAP

ELECTRICAL WAREHOUSE - #14



Survey/Package #: BOOS BOOS  
 Location Code: BOOSAOAFOI  
 Location Code: BOOSAOZBOI  
 Survey Date/Time: /

Master Drawing #: SHE SUB  
 Description: CONCRETE FLOOR - BARE (SML #18-45)  
 Description: FLOORS / WALLS - GENERIC MATERIAL (SML #1-22)

Bldg: ELECTRICAL WAREHOUSE - #14  
 Approx. M<sup>2</sup>: 257  
 Grid Size: N/A

Approx. M<sup>2</sup>: 212  
 Grid Size: N/A

RP Tech Initials:

Data Scan    Gamma Scan    Total Activity    Gamma Exp. Rate    Beta/Gamma Sweeps    H-5 Sweeps    Liquid Sample    Solid Sample    Surface Sat    Subsurface Sat    Other  
 Data Scan    Gamma Scan    Total Activity    Gamma Exp. Rate    Beta/Gamma Sweeps    H-5 Sweeps    Liquid Sample    Solid Sample    Surface Sat    Subsurface Sat    Other

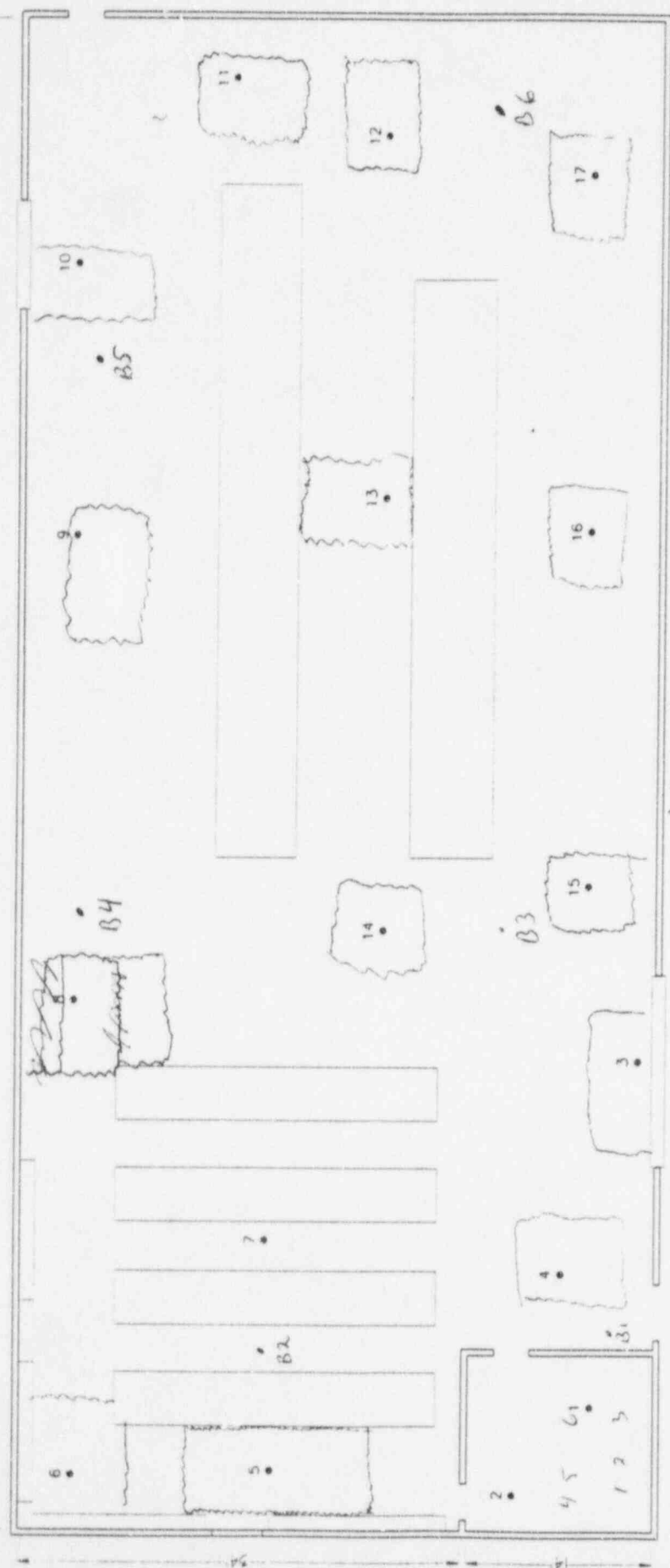
WALL MEASUREMENT LOCATIONS    FLOOR MEASUREMENT LOCATIONS    FLOOR SCAN LOCATIONS    WALL SCAN LOCATIONS    NEARBY STRUCTURE    FILE: GP\_VAPNFACE\BOOS (09)

- 0 - 3/2
- 4-15 BUS FOR LAB 1-12 ✓
- 16-17 BUS FOR LAB 1-2 ✓
- 18-23 BUS FOR LAB 1-6 ✓ (Dotted)
- 24-38 BUS FOR LAB 3-17 ✓

- 39-44 = LAB 7-12
- 46-48 = 18-20
- 49-51 = 21-23

NORTH WAREHOUSE - #15

121'



132	137	135	141	119
132	137	135	141	119
132	137	135	141	119
132	137	135	141	119
132	137	135	141	119

120	115	138	116	117	95	113	121	140	118	109	111	115	129
120	115	138	116	117	95	113	121	140	118	109	111	115	129
120	115	138	116	117	95	113	121	140	118	109	111	115	129
120	115	138	116	117	95	113	121	140	118	109	111	115	129
120	115	138	116	117	95	113	121	140	118	109	111	115	129

Survey/Package #: BOOS  
 Location Code: BOOSAOAFOI  
 Description: CONCRETE FLOORS - PAINTED (SNL #1-2)  
 Survey Date/Time: /  
 RP Tech Initials:

Blk#: NORTH WAREHOUSE - #15 Elev: 4791'  
 Approx. M<sup>2</sup>: 15 Grid Size N/A  
 Approx. M<sup>2</sup>: 522 Grid Size N/A

Legend:  
 (●) WALL BEARING LOCATIONS    (○) FLOOR SCULLEREN    (□) WALL SCULLEREN

**COPY**

9/27/95 95340/1050

745

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/28/95  
 Download Station #: 1 Download File #: 513 Time: 14:20  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Lick Neely Signature: [Signature] Date: 08-28-95  
 Print Name: NA Signature: NA Date: NA

Instrument Serial #(s): Model 2350: 95356

Survey Location description: Generic Material Walls + Floor  
BLD 13, 14, Restroom + Shower # 1014  
 (Example: Rr Bldg. Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$	<u>Pro 92511</u>	<u>43-68B</u>	<u>.218</u>	<u>1.25</u>	<u>513</u>	<u>513</u>
<input type="checkbox"/> Alpha $\alpha$		<u>43-68A</u>	<u>NA</u>			
<input type="checkbox"/> Gamma $\gamma$		<u>44-2</u>	<u>NA</u>			

Local Area Background Measurements

											MEAN BKG CPM	
<u>72</u>	<u>83</u>	<u>79</u>	<u>83</u>	<u>110</u>	<u>118</u>	<u>91</u>	<u>93</u>	<u>101</u>	<u>105</u>	<u>85</u>	<u>105</u>	<u>375</u>

COMMENTS: 1 Sample point missed on samples 43-58 on this download  
re-surveyed on 8-29-95 see file 515

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 513, Building #13 and 14, Restroom and Shower Building #1014, Walls and Floors,  
 Generic Material

Reason: Initial Survey User: RLN4080/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .218

Survey Performed By: *Rich Nuly* Date: *8-31-95*  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 8/28/95 Survey Start Time: 07:58 Station: 1  
 Date/Time Report Printed: 8/30/95 14:11:33 File: 513  
 Page: 1 Comments

Loc No	Sup No	NG Loc Code	Survey Loc Code	Det No	Count (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
1	B	SC1TC878	0	60	1435	1435	5266	*	
74	B	SC1TC878	0	60	1651	1651	6059	*	
Number of Measurements at this Survey Location:						2			
2	B	SC2TC878	0	60	1464	1464	5372	*	
75	B	SC2TC878	0	60	1566	1566	5747	*	
Number of Measurements at this Survey Location:						2			
3	B	SC3TC878	0	60	1415	1415	5193	*	
76	B	SC3TC878	0	60	1572	1572	5769	*	
Number of Measurements at this Survey Location:						2			
73	B	SCBKGPOST	0	60	487	487	1787	*	
Number of Measurements at this Survey Location:						1			
0	B	SCBKGPRE	0	600	4053	405	1487	*	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Survey Date: 8/28/95 Survey Start Time: 07:55  
Date/Time Report Printed: 8/30/95 14:11:33

Station: 1  
File: 513  
Page: 2

Comments

Loc No	Jmp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

1	4	B	B005A02LAB	1	15	72	288	1057	
2	5	B	B005A02LAB	1	15	83	332	1218	
3	6	B	B005A02LAB	1	15	79	316	1160	
4	7	B	B005A02LAB	1	15	83	332	1218	
5	30	B	B005A02LAB	1	15	110	440	1615	*
6	31	B	B005A02LAB	1	15	118	472	1732	*
7	32	B	B005A02LAB	1	15	91	364	1336	*
8	33	B	B005A02LAB	1	15	93	372	1365	*
9	54	B	B005A02LAB	1	15	101	404	1483	*
10	55	B	B005A02LAB	1	15	105	420	1541	*
11	56	B	B005A02LAB	1	15	8	340	1248	
12	57	B	B005A02LAB	1	15	105	420	1541	*

Number of Measurements at this Survey Location: 12

1	8	B	B005A02B01	2	15	74	296	1086	
2	9	B	B005A02B01	2	15	69	276	1013	
3	10	B	B005A02B01	2	15	98	392	1439	*
4	11	B	B005A02B01	2	15	95	380	1394	*
5	12	B	B005A02B01	2	15	74	296	1086	
6	13	B	B005A02B01	2	15	100	400	1468	*
7	14	B	B005A02B01	2	15	93	372	1365	*
8	15	B	B005A02B01	2	15	67	268	983	
9	16	B	B005A02B01	2	15	108	432	1585	*
10	17	B	B005A02B01	2	15	85	340	1248	
11	18	B	B005A02B01	2	15	88	352	1292	*
12	19	B	B005A02B01	2	15	89	356	1306	*
13	20	B	B005A02B01	2	15	111	444	1629	*
14	21	B	B005A02B01	2	15	85	340	1248	
15	22	B	B005A02B01	2	15	86	344	1262	*
16	23	B	B005A02B01	2	15	76	304	1116	
17	24	B	B005A02B01	2	15	74	296	1086	
18	25	B	B005A02B01	2	15	116	464	1703	*
19	26	B	B005A02B01	2	15	77	308	1130	
20	27	B	B005A02B01	2	15	80	320	1174	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/28/95 Survey Start Time: 09:55  
Date/Time Report Printed: 8/30/95 14:11:33

Station: 1  
File: 513  
Page: 3

Comments

Loc No	Sam No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
21	28	B	B005A02B01	2	15	69	276	1013	
22	29	B	B005A02B01	2	15	137	548	2011	*
23	34	B	B005A02B01	2	15	135	540	1982	*
24	35	B	B005A02B01	2	15	108	432	1585	*
25	36	B	B005A02B01	2	15	84	336	1233	
26	37	E	B005A02B01	2	15	152	608	2231	*
27	38	B	B005A02B01	2	15	108	432	1585	*
28	39	B	B005A02B01	2	15	129	516	1894	*
29	40	B	B005A02B01	2	15	104	416	1527	*
30	41	B	B005A02B01	2	15	85	340	1248	
31	42	B	B005A02B01	2	15	131	524	1923	*
32	43	B	B005A02B01	2	15	91	364	1336	*
33	44	B	B005A02B01	2	15	99	396	1453	*
34	45	B	B005A02B01	2	15	191	764	2804	*
35	46	B	B005A02B01	2	15	141	564	2070	*
36	47	B	B005A02B01	2	15	135	540	1982	*
37	48	E	B005A02B01	2	15	97	388	1424	*
38	49	B	B005A02B01	2	15	98	392	1439	*
39	50	B	B005A02B01	2	15	151	604	2217	*
40	51	B	B005A02B01	2	15	119	476	1747	*
41	52	B	B005A02B01	2	15	90	360	1321	*
42	53	S	B005A02B01	2	15	107	428	1571	*

Number of Measurements at this Survey Location: 42

Total Number of Measurements on this Report: 62

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
513	8-28-95 1326	Delete Sample numbers 58-72 Delete Bkg loc. # 1-12	Rm	gwsjst	Deleted samp. 58-72. Deleted Loc. Num for samples 4-7, 30-33, 54-57.	gwsjst	8/28/95 16:15
513	8-30-95 1050	Add LAB location # 1-12 for Sample # <del>4-7</del> <sup>4-7, 30-33, 54-57</sup> Add loc #42 to sample #53	Rm	gwsjst	Added Loc Num 1-12 to samples 4-7, 30-33, and 54-57. Added Loc Num 42 to samp. 53.	gwsjst	8/30/95 14:05

Attach this sheet to the front of the Survey Download Report requiring changes.

Radiological Engineering & Decommissioning Services  
 Port St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 513, Building #13 and 14, Restroom and Shower Building #1014, Walls and Floors,  
 Generic Material

Reason: Initial Survey User: RLN4080/95356  
 M2350 S/N: 95354 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .218

Survey Performed By: Aick Neely

Date: 08-29-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 Survey Date: 8/28/95 Survey Start Time: 07:58 File: 513  
 Date/Time Report Printed: 8/28/95 16:13:40 Page: 1  
 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
	1	B	SC1TC878	0	60	1435	1435	5266	*
	74	B	SC1TC878	0	60	1651	1651	6059	*
Number of Measurements at this Survey Location: 2									
	2	B	SC2TC878	0	60	1464	1464	5372	*
	75	B	SC2TC878	0	60	1566	1566	5747	*
Number of Measurements at this Survey Location: 2									
	3	B	SC3TC878	0	60	1415	1415	5193	*
	76	B	SC3TC878	0	60	1572	1572	5769	*
Number of Measurements at this Survey Location: 2									
	73	B	SCBKGPOST	0	60	487	487	1787	*
Number of Measurements at this Survey Location: 1									
	0	B	SCBKGPRE	0	600	4053	405	1487	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 8/28/95 Survey Start Time: 07:55  
Date/Time Report Printed: 8/28/95 16:13:40

Station: 1  
File: 513  
Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

4	B	B005A02LAB	1	15	72	288	1057		
5	B	B005A02LAB	1	15	83	332	1218		
6	B	B005A02LAB	1	15	79	316	1160		
7	B	B005A02LAB	1	15	83	332	1218		
30	B	B005A02LAB	1	15	110	440	1615	*	
31	B	B005A02LAB	1	15	118	472	1732	*	
32	B	B005A02LAB	1	15	91	364	1336	*	
33	B	B005A02LAB	1	15	93	372	1365	*	
54	B	B005A02LAB	1	15	101	404	1483	*	
55	B	B005A02LAB	1	15	105	420	1541	*	
56	B	B005A02LAB	1	15	65	340	1248		
57	B	B005A02LAB	1	15	105	420	1541	*	

Number of Measurements at this Survey Location: 12

1	8	B	B005A02B01	2	15	74	296	1086	
2	9	B	B005A02B01	2	15	69	276	1013	
3	10	B	B005A02B01	2	15	98	392	1439	*
4	11	B	B005A02B01	2	15	95	380	1394	*
5	12	B	B005A02B01	2	15	74	296	1086	
6	13	B	B005A02B01	2	15	100	400	1468	*
7	14	B	B005A02B01	2	15	93	372	1365	*
8	15	B	B005A02B01	2	15	67	268	983	
9	16	B	B005A02B01	2	15	108	432	1585	*
10	17	B	B005A02B01	2	15	85	340	1248	
11	18	B	B005A02B01	2	15	88	352	1292	*
12	19	B	B005A02B01	2	15	89	356	1306	*
13	20	B	B005A02B01	2	15	111	444	1629	*
14	21	B	B005A02B01	2	15	85	340	1248	
15	22	B	B005A02B01	2	15	86	344	1262	*
16	23	B	B005A02B01	2	15	76	304	1116	
17	24	B	B005A02B01	2	15	74	296	1086	
18	25	B	B005A02B01	2	15	116	464	1703	*
19	26	B	B005A02B01	2	15	77	308	1130	
20	27	B	B005A02B01	2	15	80	320	1174	

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**



Station: 1

Survey Date: 8/28/95 Survey Start Time: 09:55

File: 513

Comments

Date/Time Report Printed: 8/28/95 16:13:40

Page: 3

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
21	28	B	B005A02B01	2	15	69	276	1013	
22	29	B	B005A02B01	2	15	137	548	2011	*
23	34	B	B005A02B01	2	15	135	540	1982	*
24	35	B	BC05A02B01	2	15	108	432	1585	*
25	36	B	B005A02B01	2	15	84	336	1233	
26	37	B	B005A02B01	2	15	152	608	2231	*
27	38	B	B005A02B01	2	15	108	432	1585	*
28	39	B	B005A02B01	2	15	129	516	1894	*
29	40	B	B005A02B01	2	15	104	416	1527	*
30	41	B	B005A02B01	2	15	85	340	1248	
31	42	B	B005A02B01	2	15	131	524	1923	*
32	43	B	B005A02B01	2	15	91	364	1336	*
33	44	B	B005A02B01	2	15	99	396	1453	*
34	45	B	B005A02B01	2	15	191	764	2804	*
35	46	B	B005A02B01	2	15	141	564	2070	*
36	47	B	B005A02B01	2	15	135	540	1982	*
37	48	B	B005A02B01	2	15	97	388	1424	*
38	49	B	B005A02B01	2	15	98	392	1439	*
39	50	B	B005A02B01	2	15	151	604	2217	*
40	51	B	B005A02B01	2	15	119	476	1747	*
41	52	B	B005A02B01	2	15	90	360	1321	*
42	53	B	B005A02B01	2	15	107	428	1571	*

Number of Measurements at this Survey Location: 42

Total Number of Measurements on this Report: 62

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM  
8-09-95 GWE

\* Note:  
Sample Point missed on 8-28-95  
in Sample points 43-58, resurvey  
on 8-29-95 see file # 515  
Rn 8-29-95

\* Flag is set at 1250 dpm/100 aq. cm. for beta contamination.

**SUPERSEDED**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 513, Building #13 and 14, Restroom and Shower Building #1014, Walls and Floors,  
 Generic Material

Reason: Initial Survey User: RLN4080/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Model: 43-68B  
 Detector Type: 125 cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Detector Area: 125.0 cm<sup>2</sup> Background: 0 cpm Efficiency: .218

Survey Performed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Station: 1  
 Survey Date: 8/28/95 Survey Start Time: 07:58 File: 513  
 Date/Time Report Printed: 8/28/95 14:52:41 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H i
	1	B	SC1TC878	0	60	1435	1435	5266	*
	74	B	SC1TC878	0	60	1651	1651	6059	*
Number of Measurements at this Survey Location:						2			
	2	B	SC2TC878	0	60	1464	1464	5372	*
	75	B	SC2TC878	0	60	1566	1566	5747	*
Number of Measurements at this Survey Location:						2			
	3	B	SC3TC878	0	60	1415	1415	5193	*
	76	B	SC3TC878	0	60	1572	1572	5769	*
Number of Measurements at this Survey Location:						2			
	73	B	SCBKGPOST	0	60	487	487	1787	*
Number of Measurements at this Survey Location:						1			
	0	B	SCBKGPRE	0	600	4053	405	1487	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 8/28/95 Survey Start Time: 07:55  
 Date/Time Report Printed: 8/28/95 14:52:41

Station: 1  
 File: 513  
 Page: 2

Comments

Loc No	Sam No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 1

4	B	B005A02LAB	1	15	72	288	1057
5	B	B005A02LAB	1	15	83	332	1218
6	B	B005A02LAB	1	15	79	316	1160
7	B	B005A02LAB	1	15	83	332	1218
30	B	B005A02LAB	1	15	110	440	1615 *
31	B	B005A02LAB	1	15	118	472	1732 *
32	B	B005A02LAB	1	15	91	364	1336 *
33	B	B005A02LAB	1	15	93	372	1365 *
54	B	B005A02LAB	1	15	101	404	1483 *
55	B	B005A02LAB	1	15	105	420	1541 *
56	B	B005A02LAB	1	15	85	340	1248
57	B	B005A02LAB	1	15	105	420	1541 *

Number of Measurements at this Survey Location: 12

1	8	B	B005A02B01	2	15	74	296	1086
2	9	B	B005A02B01	2	15	69	276	1013
3	10	B	B005A02B01	2	15	98	392	1439 *
4	11	B	B005A02B01	2	15	95	380	1394 *
5	12	B	B005A02B01	2	15	74	296	1086
6	13	B	B005A02B01	2	15	100	400	1468 *
7	14	B	B005A02B01	2	15	93	372	1365 *
8	15	B	B005A02B01	2	15	67	268	983
9	16	B	B005A02B01	2	15	108	432	1585 *
10	17	B	B005A02B01	2	15	85	340	1248
11	18	B	B005A02B01	2	15	88	352	1292 *
12	19	B	B005A02B01	2	15	89	356	1306 *
13	20	B	B005A02B01	2	15	111	444	1629 *
14	21	B	B005A02B01	2	15	85	340	1248
15	22	B	B005A02B01	2	15	86	344	1262 *
16	23	B	B005A02B01	2	15	76	304	1116
17	24	B	B005A02B01	2	15	74	296	1086
18	25	B	B005A02B01	2	15	116	464	1703 *
19	26	B	B005A02B01	2	15	77	308	1130
20	27	B	B005A02B01	2	15	80	320	1174

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

**SUPERSEDED**

Survey Date: 8/28/95 Survey Start Time: 09:55  
 Date/Time Report Printed: 8/28/95 14:52:41

Station: 1  
 File: 513  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Gross CPM per DetArea	Net DPM per 100 cm2	beta H i
21	28	B	B005A02B01	2	15	69	276	1013	
22	29	B	B005A02B01	2	15	137	548	2011	*
23	34	B	B005A02B01	2	15	135	540	1982	*
24	35	B	B005A02B01	2	15	108	432	1585	*
25	36	B	B005A02B01	2	15	84	336	1233	
26	37	B	B005A02B01	2	15	152	608	2231	*
27	38	B	B005A02B01	2	15	108	432	1585	*
28	39	B	B005A02B01	2	15	129	516	1894	*
29	40	B	B005A02B01	2	15	104	416	1527	*
30	41	B	B005A02B01	2	15	85	340	1248	
31	42	B	B005A02B01	2	15	131	524	1923	*
32	43	B	B005A02B01	2	15	91	364	1336	*
33	44	B	B005A02B01	2	15	99	396	1453	*
34	45	B	B005A02B01	2	15	191	764	2804	*
35	46	B	B005A02B01	2	15	141	564	2070	*
36	47	B	B005A02B01	2	15	135	540	1982	*
37	48	B	B005A02B01	2	15	97	388	1424	*
38	49	B	B005A02B01	2	15	98	392	1439	*
39	50	B	B005A02B01	2	15	151	604	2217	*
40	51	B	B005A02B01	2	15	119	476	1747	*
41	52	B	B005A02B01	2	15	90	360	1321	*
42	53	B	B005A02B01	2	15	107	428	1571	*
43	58	B	B005A02B01	2	15	78	312	1145	*
44	59	B	B005A02B01	2	15	110	440	1615	*
45	60	B	B005A02B01	2	15	88	352	1292	*
46	61	B	B005A02B01	2	15	59	236	866	*
47	62	B	B005A02B01	2	15	77	308	1130	*
48	63	B	B005A02B01	2	15	105	420	1541	*
49	64	B	B005A02B01	2	15	103	412	1512	*
50	65	B	B005A02B01	2	15	101	404	1483	*
51	66	B	B005A02B01	2	15	92	368	1350	*
52	67	B	B005A02B01	2	15	85	340	1248	*
53	68	B	B005A02B01	2	15	111	444	1629	*
54	69	B	B005A02B01	2	15	98	392	1439	*
55	70	B	B005A02B01	2	15	98	392	1439	*
56	71	B	B005A02B01	2	15	123	492	1806	*
57	72	B	B005A02B01	2	15	110	440	1615	*

Sample Point missed in No. Warehouse #13 on walls Resurvey on 8-29-95 see file # 515 on 8-29-95

58 ?

Number of Measurements at this Survey Location: 57

**SUPERSEDED**

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/28/95 Survey Start Time: 12:39  
Date/Time Report Printed: 8/28/95 14:52:41

Station: 1  
File: 513  
Page: 4

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Comments

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Total Number of Measurements on this Report: 77

End of Report

01559:C:\PDOX15\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRH  
8-09-95 GWE

**SUPERSEDED**



**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 8/29/95      Report Date: 8/30/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: B005A02B01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03396	1	8.8	24.0	-6.2	
26.03397	2	8.8	24.0	-1.6	
26.03398	3	8.8	24.0	-3.9	
26.03399	4	8.8	24.0	-3.9	
26.03400	5	8.8	24.0	5.3	
26.03401	6	8.8	24.0	3.0	
26.03402	7	8.8	24.0	7.6	
26.03403	8	8.8	24.0	3.0	
26.03404	9	8.8	24.0	-3.9	
26.03405	10	8.8	24.0	-1.6	
26.03406	11	8.8	24.0	-3.9	
26.03407	12	8.8	24.0	.7	
26.03408	13	8.8	24.0	-1.6	
26.03409	14	8.8	24.0	-1.6	
26.03410	15	8.8	24.0	.7	
26.03411	16	8.8	24.0	-1.6	
26.03412	17	8.8	24.0	3.0	
26.03413	18	8.8	24.0	.7	
26.03414	19	8.8	24.0	3.0	
26.03415	20	8.8	24.0	-3.9	
26.03416	21	8.8	24.0	-1.6	
26.03417	22	8.8	24.0	.7	
26.03418	23	8.8	24.0	-1.6	
26.03419	24	8.8	24.0	.7	
26.03420	25	8.8	24.0	-6.2	
26.03421	26	8.8	24.0	-1.6	
26.03422	27	8.8	24.0	-6.2	
26.03423	28	8.8	24.0	-1.6	
26.03424	29	8.8	24.0	-1.6	
26.03425	30	8.8	24.0	-6.2	

Analysis Date :8/29/95

Report Date: 8/30/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: B005A02B01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03426	31	8.8	24.0	.7	
26.03427	32	8.8	24.0	-3.9	
26.03428	33	8.8	24.0	-6.2	
26.03429	34	8.8	24.0	-1.6	
26.03430	35	8.8	24.0	.7	
26.03431	36	8.8	24.0	7.6	
26.03432	37	8.8	24.0	-3.9	
26.03433	38	8.8	24.0	-1.6	
26.03434	39	8.8	24.0	-1.6	
26.03435	40	8.8	24.0	-1.6	
26.03436	41	8.8	24.0	-1.6	
26.03437	42	8.8	24.0	3.0	
26.03438	43	8.8	24.0	-1.6	
26.03439	44	8.8	24.0	-1.6	
26.03440	45	8.8	24.0	5.3	
26.03441	46	8.8	24.0	5.3	
26.03442	47	8.8	24.0	-3.9	
26.03443	48	8.8	24.0	.7	
26.03444	49	8.8	24.0	-1.6	
26.03445	50	8.8	24.0	-3.9	
26.03446	51	8.8	24.0	-1.6	
26.03447	52	8.8	24.0	-3.9	
26.03448	53	8.8	24.0	-1.6	
26.03449	54	8.8	24.0	.7	
26.03450	55	8.8	24.0	.7	
26.03451	56	8.8	24.0	-3.9	
26.03452	57	8.8	24.0	-6.2	
26.03453	58	8.8	24.0	-6.2	

Flag Values:

- 1. Unaffected
- 2. Non-suspect Affected
- 3. Suspected Affected

Individual > 500 dpm/100cm2  
 Individual > 562 dpm/100cm2  
 Individual > 750 dpm/100cm2

Radiochemistry Review:

*MG*

Date: 8/30/95

Final Survey Technician Review:

*ZP*

Date: 8/30/95

Field Operation Coordinator Review:

Date:

**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :8/29/95

Report Date: 8/30/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: B005A0AF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03454	3	8.8	24.0	-6.2	
26.03455	4	8.8	24.0	-1.6	
26.03456	5	8.8	24.0	-1.6	
26.03457	6	8.8	24.0	3.0	
26.03458	7	8.8	24.0	.7	
26.03459	8	8.8	24.0	-1.6	
26.03460	9	8.8	24.0	5.3	
26.03461	10	8.8	24.0	-1.6	
26.03462	11	8.8	24.0	3.0	
26.03463	12	8.8	24.0	-1.6	
26.03464	13	8.8	24.0	-1.6	
26.03465	14	8.8	24.0	3.0	
26.03466	15	8.8	24.0	.7	
26.03467	16	8.8	24.0	-6.2	
26.03468	17	8.8	24.0	-6.2	
26.03469	18	8.8	24.0	7.6	
26.03470	19	8.8	24.0	-3.9	
26.03471	20	8.8	24.0	.7	
26.03472	21	8.8	24.0	5.3	
26.03473	22	8.8	24.0	-1.6	
26.03474	23	8.8	24.0	.7	
26.03475	24	8.8	24.0	5.3	
26.03476	25	8.8	24.0	.7	
26.03477	26	8.8	24.0	-6.2	
26.03478	27	8.8	24.0	.7	
26.03479	28	8.8	24.0	-1.6	
26.03480	29	8.8	24.0	.7	
26.03481	30	8.8	24.0	-3.9	
26.03482	31	8.8	24.0	-1.6	
26.03483	32	8.8	24.0	.7	

Analysis Date :8/29/95

Report Date: 8/30/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: B005A0AF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03484	33	8.8	24.0	3.0	
26.03485	34	8.8	24.0	.7	
26.03486	35	8.8	24.0	.7	
26.03487	36	8.8	24.0	-1.6	
26.03488	37	8.8	24.0	.7	
26.03489	38	8.8	24.0	.7	
26.03490	39	8.8	24.0	-3.9	
26.03491	40	8.8	24.0	-3.9	
26.03492	41	8.8	24.0	7.6	
26.03493	42	8.8	24.0	3.0	
26.03494	43	8.8	24.0	3.0	

Location Code: B005A0BF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.03495	1	8.8	24.0	-3.9	
26.03496	2	8.8	24.0	5.3	

Flag Values:

- 1. Unaffected
- 2. Non-suspect Affected
- 3. Suspected Affected

- Individual > 500 dpm/100cm2
- Individual > 562 dpm/100cm2
- Individual > 750 dpm/100cm2

Radiochemistry Review:

*mg*

Date: 8/30/95

Final Survey Technician Review:

*JP*

Date: 8/30/95

Field Operation Coordinator Review:

Date:

**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 9/10/95      Report Date: 9/10/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: B005AGAF01      Sampled By: DETRICK      Analysis Type: Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.04146	1	7.2	20.7	2.8	
26.04147	2	7.2	20.7	5.1	
26.04148	3	7.2	20.7	2.8	
26.04149	4	7.2	20.7	-4.2	
26.04150	5	7.2	20.7	5.1	
26.04151	6	7.2	20.7	-1.9	
26.04152	7	7.2	20.7	.5	
26.04153	8	7.2	20.7	5.1	
26.04154	9	7.2	20.7	7.4	
26.04155	10	7.2	20.7	2.8	
26.04156	11	7.2	20.7	-1.9	
26.04157	12	7.2	20.7	5.1	
26.04158	13	7.2	20.7	9.7	
26.04159	14	7.2	20.7	7.4	
26.04160	15	7.2	20.7	-1.9	
26.04161	16	7.2	20.7	.5	
26.04162	17	7.2	20.7	.5	
26.04163	18	7.2	20.7	.5	
26.04164	19	7.2	20.7	-1.9	
26.04165	20	7.2	20.7	2.8	
26.04166	21	7.2	20.7	2.8	
26.04167	22	7.2	20.7	.5	
26.04168	23	7.2	20.7	7.4	
26.04169	24	7.2	20.7	-1.9	
26.04170	25	7.2	20.7	2.8	
26.04171	26	7.2	20.7	.5	
26.04172	27	7.2	20.7	2.8	
26.04173	28	7.2	20.7	2.8	
26.04174	29	7.2	20.7	2.8	
26.04175	30	7.2	20.7	2.8	



Analysis Date :9/10/95

Report Date: 9/10/95

SCN : 236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date : 12/23/95

Efficiency : 43.2 %

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review:

*CS*

Date: 9/10/95

Final Survey Technician Review:

*ZP*

Date: 9/15/95

Field Operation Coordinator Review:

Date:

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

Page  1  of  2

Package #: B014	Building: Various - See below	Elevation: 4791	Drawing #: SITE_SUB	Survey Unit: B014
Survey Unit Description <sup>1</sup> : Chiller Building #3, Gas Charging Building #4, Security Diesel Generator Bldg. #36, Acid Storage Tank Pump Shack Bldg. #1008				
History of Area(s) <sup>2</sup> :				
<p>The Chiller Bldg., Gas Charging Bldg., Security Diesel Generator Bldg. and the Acid Storage Tank Shack have no history of containing radioactive material.</p> <p>The floors and lower walls of these buildings will be surveyed as an Unaffected survey unit.</p>				
Special Support Requirements <sup>3</sup> : None				
Specific Safety Precautions <sup>4</sup> : None				
Field Operations Coordinator: <i>[Signature]</i> Date: 9-6-95 / 9-6-95				
Isolation Controls <sup>5</sup> : Level 1 <input type="checkbox"/> Level 2 <input checked="" type="checkbox"/> Level 3 <input type="checkbox"/>				
<p>No use, storage or movement of radioactive material is permitted in Group B buildings. All radioactive storage areas outside the Reactor Bldg are controlled by the Radwaste Supervisor. The Radwaste Supervisor has been notified that final surveys of Group B buildings are to begin and that no radioactive material shall be authorized in these areas.</p> <p>All access points to these buildings shall be posted with a Level 2 Isolation Label.</p> <p>Final configuration of this area is to be maintained. Authorization must be obtained prior to the painting of surfaces, structural renovation and/or removal of components from this area.</p>				
Surface Grid Requirements:				
Unaffected survey units will not be gridded. Measurement locations will be labeled on the floor and lower wall surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.				

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

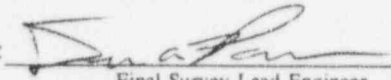
Page 2 of 2

- 1 The general area addressed by the survey package. (e.g. machine shop, hot service facility, helium storage system, PCRV, etc.).
- 2 Describe functional use and any known abnormal operating conditions which may have impacted the radiological conditions, especially potentials for past contamination.
- 3 Scaffolding, ladders, temporary lighting, installation of a power supply, etc.
- 4 Confined space entry permits, etc. Interface with MK safety as necessary.
- 5 Isolation requirements in accordance with procedure FSV-SC-FRS-I-108, "Final Survey Isolation and Control Measures."

**SURVEY PACKAGE IMPLEMENTATION**

Survey package ready for implementation.

Signed:  Date: 8/29/95  
Technical Projects Supervisor

Signed:  Date: 8/31/95  
Final Survey Lead Engineer

**SURVEY PACKAGE CLOSURE**

Final Survey Package is authorized for closure. All required reviews are completed and data analysis results meet acceptance criteria.

Final Survey Lead Engineer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Technical Projects Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Radiation Protection Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## ATTACHMENT 6.4 SURVEY UNIT WORK SHEET

Package #: B014

Page  1  of  1

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
Security Diesel Generator - Building #36 Acid Storage Tank Pump - Bldg #1008 Chiller Building #3 Gas Charging Building #4  Concrete Floors / Walls - bare	Surface and Structure	Unaffected	257	29		
Security Diesel Generator - Building #36  Concrete Floors / Walls - painted	Surface and Structure	Unaffected	7	3		
Security Diesel Generator - Building #36 Acid Storage Tank Pump - Bldg #1008 Chiller Building #3 Gas Charging Building #4  Walls - generic	Surface and Structure	Unaffected	186	16		

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)

<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas

<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date:  *Cheryl Dacko* <sup>RD/24/95</sup> / 24 August 1995   
 Radiological Engineer

Revision 1 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
 Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
 Radiological Engineer

## ATTACHMENT 6.8 SURVEY PACKAGE VALIDATION CHECKLIST

Survey Package # B014

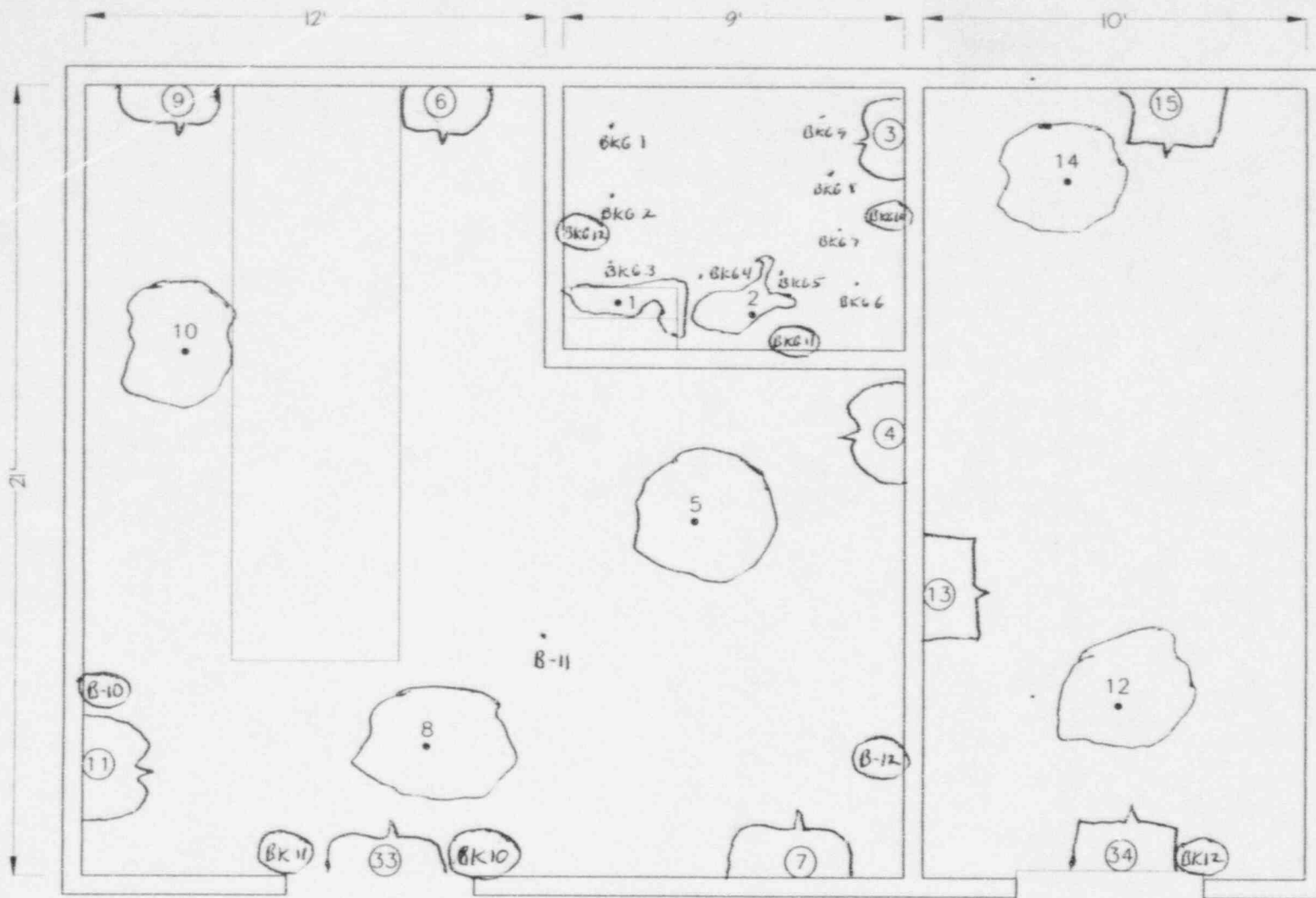
Page 1 of 1

### DATA REVIEWS

SURVEY DOCUMENTATION REVIEWED FOR COMPLETION:	Remarks
Gamma & Beta Scan Surveys	<i>MGM</i> 9-20-95
Total (Beta) Activity Surveys	<i>MGM</i> 9-20-95
Gamma Exposure Rate Surveys	<i>MGM</i> 9-20-95
Smear Samples	<i>MGM</i> 9-20-95
Soil Samples	N/A
Water Samples	/
ALL REQ'D MEASUREMENTS & SAMPLES ACCOUNTED:	
Gamma & Beta Scan Surveys	<i>MGM</i> 9-20-95
Total (Beta) Activity Surveys	<i>MGM</i> 9-20-95
Gamma Exposure Rate Surveys	<i>MGM</i> 9-20-95
Smear Samples	<i>MGM</i> 9-20-95
Soil Samples	N/A
Water Samples	/
COMMENTS: _____	
SURVEYS ARE COMPLETED & VALIDATED: <u><i>MGM</i></u> DATE: <u>9-20-95</u> Field Operations Coordinator	
Surveys are completed and the Survey Package review has been completed.	
Final Survey Operations Supervisor:	Date:
Survey package meets acceptance criteria and all required elements of the survey package have been completed.	
Radiological Engineer Signature:	Date:
Survey results & supporting documentation have been reviewed & found to be satisfactory. All data satisfies final survey acceptance criteria per procedure FSV-SC-FRS-I-110, "Final Survey Data Analysis".	
Data Evaluation Engineer Signature:	Date:
Final survey package is complete and ready for closure.	
Final Survey Lead Engineer Signature:	Date:



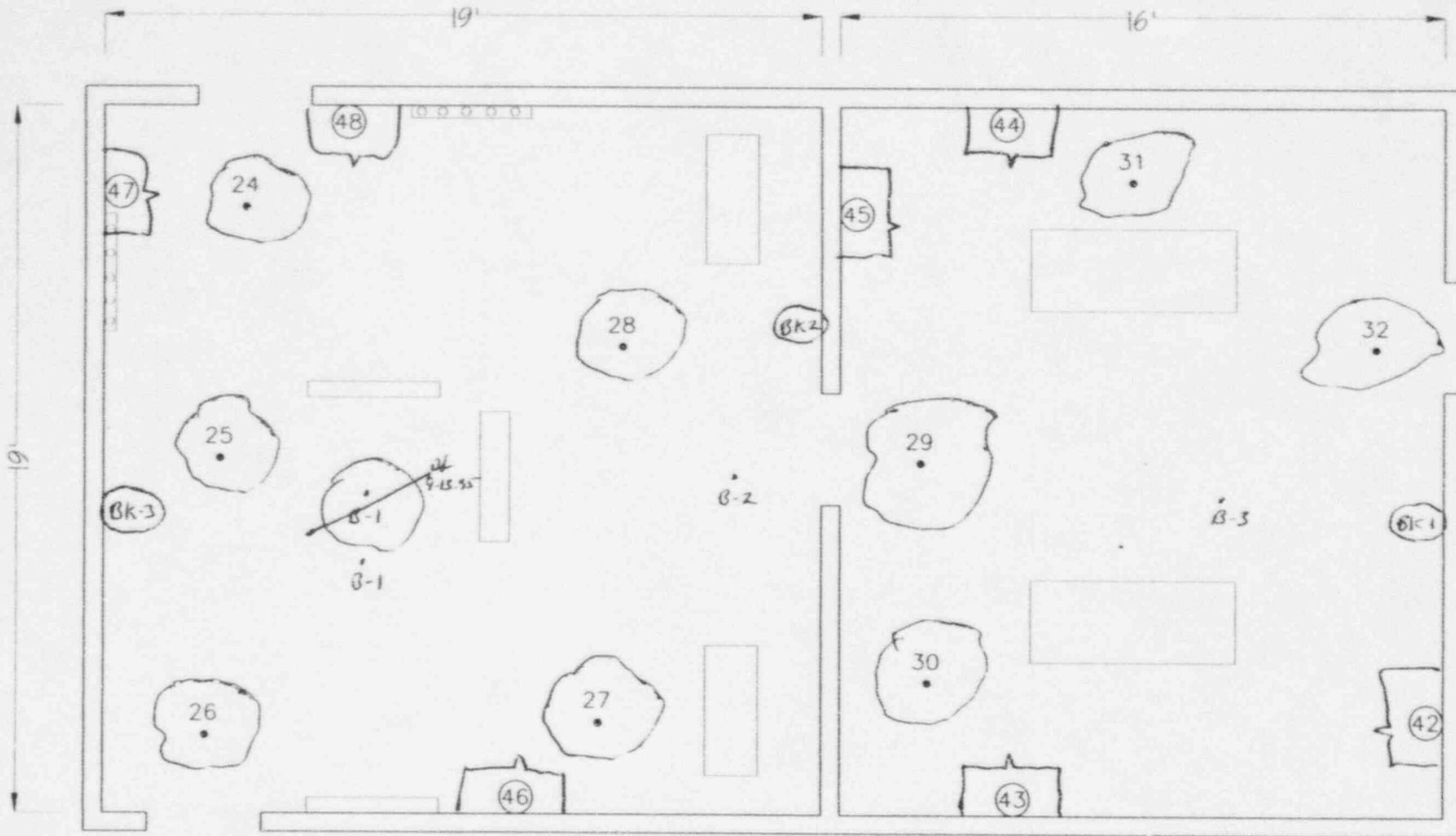
SECURITY DIESEL GENERATOR - #36



B# = BACKGROUND FOR B014A0B01    BK# = BACKGROUND FOR B014A02B01    BKG# = BACKGROUND FOR B014A0BB01

Survey/Package #:	B014	Master Drawing #:	SITE SUB	Bldg:	SECURITY DIESEL GENERATOR - #36	Elev:	4791'			
Location Code:	B014A0BB01	Description:	CONCRETE FLOORS / WALLS - PAINTED (SML #1-3)	Approx. M <sup>2</sup>	7	Grid Size	N/A			
<input checked="" type="checkbox"/> Beta Scan	<input type="checkbox"/> Gamma Scan	<input checked="" type="checkbox"/> Total Activity	<input checked="" type="checkbox"/> Gamma Exp. Rate	<input checked="" type="checkbox"/> Beta/Gamma Smears	<input type="checkbox"/> H-3 Smears	<input type="checkbox"/> Liquid Sample	<input type="checkbox"/> Sediment Sample	<input type="checkbox"/> Surface Soil	<input type="checkbox"/> Subsurface Soil	<input type="checkbox"/> Other
Location Code:	B014A0A001	Description:	CONCRETE FLOORS / WALLS - BARE (SML #4-15)	Approx. M <sup>2</sup>	78	Grid Size	N/A			
<input checked="" type="checkbox"/> Beta Scan	<input type="checkbox"/> Gamma Scan	<input checked="" type="checkbox"/> Total Activity	<input checked="" type="checkbox"/> Gamma Exp. Rate	<input checked="" type="checkbox"/> Beta/Gamma Smears	<input type="checkbox"/> H-3 Smears	<input type="checkbox"/> Liquid Sample	<input type="checkbox"/> Sediment Sample	<input type="checkbox"/> Surface Soil	<input type="checkbox"/> Subsurface Soil	<input type="checkbox"/> Other
Location Code:	B014A02B01	Description:	WALLS - GENERIC MATERIALS (SML #33-34)	Approx. M <sup>2</sup>	6	Grid Size	N/A			
<input checked="" type="checkbox"/> Beta Scan	<input type="checkbox"/> Gamma Scan	<input checked="" type="checkbox"/> Total Activity	<input checked="" type="checkbox"/> Gamma Exp. Rate	<input checked="" type="checkbox"/> Beta/Gamma Smears	<input type="checkbox"/> H-3 Smears	<input type="checkbox"/> Liquid Sample	<input type="checkbox"/> Sediment Sample	<input type="checkbox"/> Surface Soil	<input type="checkbox"/> Subsurface Soil	<input type="checkbox"/> Other
Survey Date/Time:	9-12-95	/1400	RP Tech Initials:	al						

GAS CHARGING BUILDING - #4



B# = BACKGROUND FOR B014A0A01

BK# = BACKGROUND FOR B014A02B01

Survey/Package #: B014 Master Drawing #: SITE SUB Bldg: GAS CHARGING BUILDING - #4 Elev: 4791'

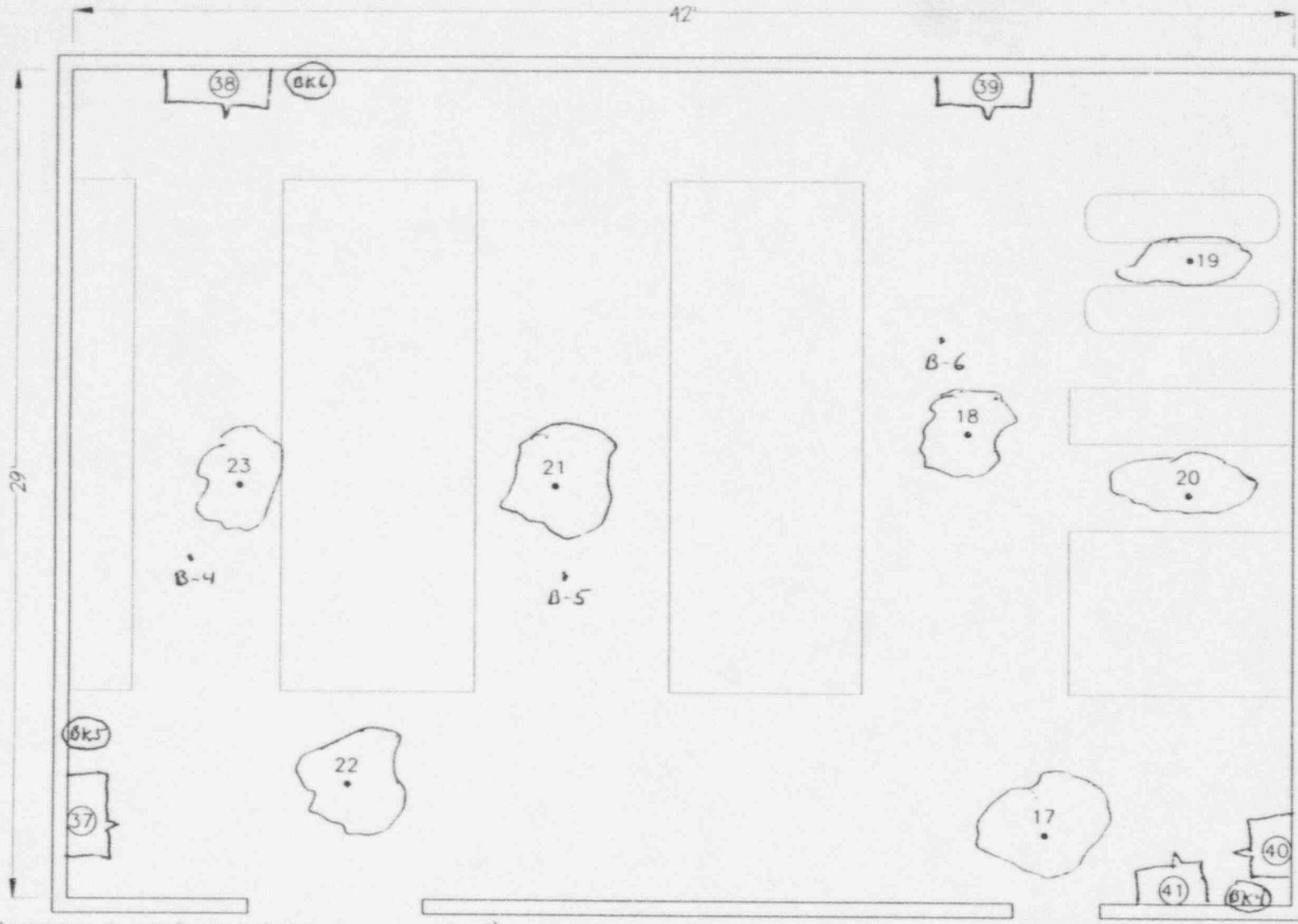
Location Code: B014A0A01 Description: CONCRETE FLOORS / WALLS - BARE (SML #24-32) Approx. M<sup>2</sup> 62 Grid Size N/A

Location Code: B014A02B01 Description: WALLS - GENERIC MATERIALS (SML #42-48) Approx. M<sup>2</sup> 77 Grid Size N/A

Survey Date/Time: 9-12-95 11400 RP Tech Initials: AF

LEGEND (•) WALL MEASUREMENT LOCATION (•) FLOOR MEASUREMENT LOCATION (○) FLOOR SCAN LOCATION (□) WALL SCAN LOCATION

CHILLER BUILDING - #3



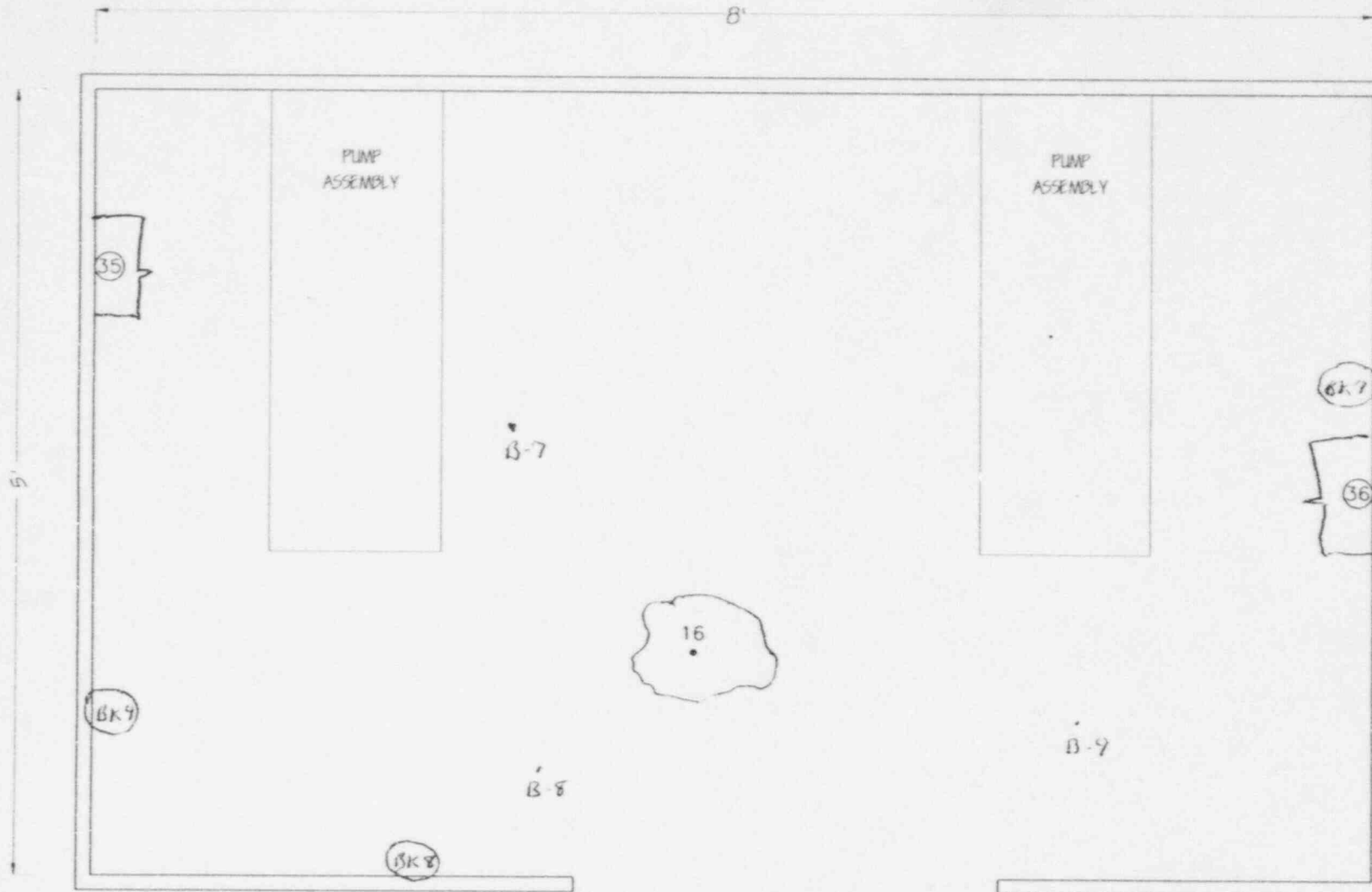
BK # = BACKGROUND FOR BO14AOABOI

BK # = BACKGROUND FOR BO14AO2BO1

Survey/Package #: BO14	Master Drawing #: SITE SUB	Bldg: CHILLER BUILDING - #3	Elev: 4791'
Location Code: BO14AOABOI	Description: CONCRETE FLOORS / WALLS - BARE (SML #17-25)	Approx. M <sup>2</sup> : 113	Grid Size: N/A
<input checked="" type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input checked="" type="checkbox"/> Total Activity <input checked="" type="checkbox"/> Gamma Exp. Rate <input checked="" type="checkbox"/> Beta/Gamma Smears <input type="checkbox"/> H-3 Smears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Soil <input type="checkbox"/> Subsurface Soil <input type="checkbox"/> Other			
Location Code: BO14AO2BO1	Description: WALLS - GENERIC MATERIALS (SML #37-41)	Approx. M <sup>2</sup> : 87	Grid Size: N/A
<input checked="" type="checkbox"/> Beta Scan <input type="checkbox"/> Gamma Scan <input checked="" type="checkbox"/> Total Activity <input checked="" type="checkbox"/> Gamma Exp. Rate <input checked="" type="checkbox"/> Beta/Gamma Smears <input type="checkbox"/> H-3 Smears <input type="checkbox"/> Liquid Sample <input type="checkbox"/> Sediment Sample <input type="checkbox"/> Surface Soil <input type="checkbox"/> Subsurface Soil <input type="checkbox"/> Other			
Survey Date/Time: 9-12-95	11400	RP Tech Initials: <i>al</i>	

LEGEND  
  WALL MEASUREMENT LOCATION  
  FLOOR MEASUREMENT LOCATION  
 FLOOR SCAN LOCATION  
 WALL SCAN LOCATION

ACID STORAGE TANK PUMP - #1008



B# = BACKGROUND FOR B014A0A01

BK# = BACKGROUND FOR B014A02B01

Survey/Package #: B014 Master Drawing #: SITE SUB Bldg: ACID STORAGE TANK PUMP - #1008 Elev: 4791'

Location Code: B014A0A01 Description: CONCRETE FLOORS / WALLS - BARE (SML #16) Approx. M<sup>2</sup> 4 Grid Size N/A

Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Sensors  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other

Location Code: B014A02B01 Description: WALLS - GENERIC MATERIALS (SML #35-36) Approx. M<sup>2</sup> 16 Grid Size N/A

Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Smears  H-3 Sensors  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other

Survey Date/Time: 9-12-95 / 1400 RP Tech Initials: *al*







### ATTACHMENT 6.5 SURVEY INSTRUCTION FORM - (Cont.)


Survey Package #: B014

Page 3 of 4  
(RPT initial & date)

Location Code Assignments	Survey Type	Number	Measurement/Sample Location			
Classification Code: A	Resurvey #: 0	Grid size: N/A	Beta Scan	*	* Scan a minimum of 10% of accessible floor and wall (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	DL 9-13-95
			Gamma Scan	N/A		
Material Code: A	Surface Code: B01		Total Surface Activity	29	Collect total activity; (fixed) measurements at any area(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	DL 9-13-95
			Exposure Rate	29	At 1 meter from total surface activity measurements.	JJP 9-13-95
Location Code: B014A0AB01		Area (m <sup>2</sup> ): 257	βγ Smears	29	At same measurement locations as total surface activity measurements.	DL 9-13-95
			Fe-55/H-3 Smears	N/A		
Survey Unit Breakdown and Description:		Type of material /soil sample	N/A		Type of analyses	
Security Diesel Generator Bldg #36 SML # 4 - 15 Acid Storage Tank Pump Bldg #1008 SML # 16 Chiller Building #3 SML #17 - 23 Gas Charging Building # 4 SML # 24 - 32  Concrete Floors / Walls - bare			N/A		<input type="checkbox"/> Dry Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			
			N/A			

QC    Investigation    Resurvey

Approval:

<sup>by 8/24/95</sup>  
  
 Cheryl Walker      1 24 August 1995  
 Radiological Engineer      Date

\_\_\_\_\_ / \_\_\_\_\_  
 Final Survey Lead Engineer      Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: B014

Page 4 of 4  
(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location		
Classification Code: A	Resurvey # : 0	Beta Scan	*	* Scan a minimum of 10% of accessible walls (below 2 m) surfaces, ensuring coverage of those surfaces of highest contamination potential.	OL 9-13-95	
		Gamma Scan	N/A			
Material Code: 2	Surface Code: B01	Total Surface Activity	16	Collect total activity (fixed) measurements at any ar. a(s) of elevated activity identified during the scan, the balance of the measurements uniformly distributed throughout the survey unit.	OL 9-13-95	
		Exposure Rate	16	At 1 meter from total surface activity measurements.	7/8 9-13-95	
Location Code : B014A02B01	Area (m <sup>2</sup> ) 186	β Smears	16	At same measurement locations as total surface activity measurements.	OL 9-13-95	
		Fe-55/H-3 Smears	N/A			
Survey Unit Breakdown and Description:  Security Diesel Generator Bldg #36 SML # 33 - 34 Acid Storage Tank Pump Bldg #1008 SML # 35 - 36 Chiller Building #3 SML # 37 - 41 Gas Charging Building #4 SML # 42 - 48  Walls - generic material		Type of material /soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> Cy-Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3 + Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			

QC    Investigation    Resurvey

Approval:

*Chaf Dalton* <sup>PH 8/24/95</sup>  
Radiological Engineer      124 August 1995  
Date

\_\_\_\_\_  
Final Survey Lead Engineer      Date

**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

Package #: B014	Bldg. Name: Various	Elevation: 4791	Survey Unit: B014
-----------------	---------------------	-----------------	-------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N) <sup>1</sup>
551	B014A02B01	BETA	98635 / PR095532	D. STRAIT / 9-12-95	Y
551	B014ADA B01	BETA	98635 / PR095532	D. STRAIT / 9-12-95	Y
551	B014A0B B01	BETA	98635 / PR095532	D. STRAIT / 9-12-95	Y
550	B014 A02 B01	GAMMA	98617 / 94975	T. PAFF / 9-12-95	Y
↓	B014 A0A B01	↓	↓	↓	↓
↓	B014 A0B B01	↓	↓	↓	↓
		N/A			

<sup>1</sup> IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date: Heinrich / 9-20-95  
Field Operations Coordinator \_\_\_\_\_ Date \_\_\_\_\_

# FINAL SURVEY HISTORY FILE

Page   1   of   3  

## OVERVIEW

Package #: B014	Building: Various	Elevation: 4791	Drawing #: SITE_SUB	Survey Unit: B014
Survey Unit Name: Chiller Building #3, Gas Charging Building #4, Security Diesel Generator Bldg #36, Acid Storage Tank Pump Shack Bldg #1008				
Survey Unit Description:  These structures are located within the Protected Area fence and southwest of the road running west to east from the main truck access gate.  The major equipment/components in B014 are as follows: Bldg. #3 - system 73 (unaffected portion) Bldg. #4 - system 29				
Summary of Operational / Utilization History of Area(s):  These buildings were in service prior to August 18, 1989				
Most recent radiological classification and survey results (range, averages, etc.):  These areas have no history of radioactive contamination events or storage of radioactive materials.  There are no affected systems residing within or traversing these areas. The portion of system #73 within the Chiller Building #3 is considered to be unaffected.				
References:  FSV Decommissioning Project Initial Radiological Site Characterization Report - Volume 9				



FINAL SURVEY HISTORY FILE

CHECKLIST

Has the survey unit ever been within an RCA?  Yes  No If Yes explain:

Has the survey unit ever been exposed to reactor coolant or radioactive process system liquid?

Yes  No  N/A If Yes explain:

Has the survey unit ever experienced any known contaminated spills or breaches of contaminated systems?

Yes  No  N/A If Yes explain:

# FINAL SURVEY HISTORY FILE

Page 3 of 3

## CONCLUSIONS

Classification for Final Survey:

Affected

Unaffected

Basis for Classification:

Operational / Utilization history

Does this classification require a change to the FSV Final Survey Area Breakdown Structure?

Yes  No

Prepared By/Date:

*Cheryl White*  
Radiological Engineer

1 20 September 1995

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: Glenn Egert Date: 9/12/95

Download Station #: 1 Download File #: 551 Time: 15:35

Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: DAVID STRAIT Signature: David Strait Date: 9-12-95

Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 98635

Survey Location description: CHILLER BLDG #3, GAS CHARGING BLDG #4, SECURITY DIESEL GEN. BLDG. # 36

(Example: Rm Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

\* ACID STORAGE TANK PUMP SHACK BLDG # 1008, FLOOR/WALL SURFACES - LOCATIONS 1 THROUGH 48  
BARE CONCRETE / GENERIC / PAINTED CONCRETE

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only

Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$	PR095532	43-68B	-207	125 cm <sup>2</sup>	551	551
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input type="checkbox"/> Gamma $\gamma$		44-2				

Local Area Background Measurements

B014A02B01

MEAN  
BKG CPM

360	392	352	320	348	420	360	380	288	324	336	420	358
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS: UNAFFECTED SURVEY UNIT - ENTER A ZERO BACKGROUND  
SUBTRACT WHEN DOWNLOADING SURVEY DATA.

LOCAL AREA BACKGROUND MEASUREMENTS

MEAN BKG CPM

B014A0A B01

572	524	436	536	484	504	528	436	452	404	404	380	472
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

B014A0B B01

504	460	520	464	<del>522</del> 512	<sup>04-11-95</sup> 488	452	492	540	368	412	456	472
-----	-----	-----	-----	-----------------------	----------------------------	-----	-----	-----	-----	-----	-----	-----

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Unaffected Surfaces and Structures

File #: 551, Chiller Bldg #3, Gas Charging Bldg #4, Security Diesel Gen. Bldg #36, Acid Storage Tank Pump Bldg #1008 - Floors/Walls, Bare/Painted Concrete, Generic  
 Reason: Initial Survey User: DTS6208/98635  
 Instrument Model: 2350 S/N: 98635 Detector Model: 43-68B Detector S/N: PR095532  
 Detector Type: 125 cm2 Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .207

Survey Performed By: DAVID STRAIT David Strait Date: 9-13-95  
 Print Name Signature  
 Survey Reviewed By: ME MILES ME Miles Date: 9-20-95  
 Print Name Signature

Station: 1  
 Survey Date: 9/12/95 Survey Start Time: 07:54 File: 551 Comments  
 Date/Time Report Printed: 9/12/95 16:11:19 Page: 1

Loc No	Smp No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
---Detector Setup # 0---							
----Location Code: SC1TC882							
NG Location Code: B							
	1	0	60	1470	1470	5681	*
	89	0	60	1477	1477	5708	*
Number of Measurements: 2				Average: 5695 dpm per 100 cm2			

----Location Code: SC1TC882							
NG Location Code: B							
	2	0	60	1506	1506	5820	*
	90	0	60	1489	1489	5755	*
Number of Measurements: 2				Average: 5787 dpm per 100 cm2			

----Location Code: SC3TC882							
NG Location Code: B							
	3	0	60	1514	1514	5851	*
	91	0	60	1523	1523	5886	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1

Survey Date: 9/12/95 Survey Start Time: 14:28

File: 551

Comments

Date/Time Report Printed: 9/12/95 16:11:19

Page: 2

Loc No	Sap No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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--Detector Setup # 0

----Location Code: SCJTC882

NG Location Code: B

Number of Measurements: 2 Average: 5869 dpm per 100 cm2

----Location Code: SCBKGPST

NG Location Code: B

88	0	60	454	454	1755	*
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Number of Measurements: 1 Average: 1755 dpm per 100 cm2

----Location Code: SCBKGPPE

NG Location Code: B

0	0	600	4320	432	1670	*
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Number of Measurements: 1 Average: 1670 dpm per 100 cm2

--Detector Setup # 1

----Location Code: B014A02LAB

NG Location Code: B

1	45	1	15	90	360	1391	*
2	46	1	15	98	392	1515	*
3	47	1	15	88	352	1360	*
4	48	1	15	80	320	1237	
5	49	1	15	87	348	1345	*
6	50	1	15	105	420	1623	*
7	51	1	15	90	360	1391	*
8	52	1	15	95	380	1469	*
9	53	1	15	72	288	1113	
10	54	1	15	81	324	1252	*
11	55	1	15	84	336	1299	*
12	56	1	15	105	420	1623	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.



Survey Date: 9/12/95 Survey Start Time: 12:35  
Date/Time Report Printed: 9/12/95 16:11:19

Station: 1  
File: 551  
Page: 3

Comments

Loc No	Smp No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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--Detector Setup # 1  
----Location Code: B014A02LAB  
NG Location Code: B

Number of Measurements: 12 Average: 1385 dpm per 100 cm2

----Location Code: B014A0ALAB  
NG Location Code: B

1	4	1	15	143	572	2211	*
2	5	1	15	131	524	2025	*
3	6	1	15	109	436	1685	*
4	7	1	15	134	536	2071	*
5	8	1	15	121	484	1871	*
6	9	1	15	126	504	1948	*
7	10	1	15	132	528	2041	*
8	11	1	15	109	436	1685	*
9	12	1	15	113	452	1747	*
10	13	1	15	101	404	1561	*
11	14	1	15	101	404	1561	*
12	15	1	15	95	380	1469	*

Number of Measurements: 12 Average: 1823 dpm per 100 cm2

----Location Code: B014A0BLAB  
NG Location Code: B

1	57	1	15	126	504	1948	*
2	58	1	15	115	460	1778	*
3	59	1	15	130	520	2010	*
4	60	1	15	116	464	1793	*
5	61	1	15	128	512	1979	*
6	62	1	15	122	488	1886	*
7	63	1	15	113	452	1747	*
8	64	1	15	123	492	1901	*
9	65	1	15	135	540	2087	*
10	66	1	15	92	368	1422	*
11	67	1	15	103	412	1592	*
12	68	1	15	114	456	1762	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/12/95 Survey Start Time: 12:49  
Date/Time Report Printed: 9/12/95 16:11:19

Station: 1  
File: 551  
Page: 4

Comments

Loc No	Sap No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
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--Detector Setup # 1

----Location Code: B014A08LAB  
NG Location Code: B

Number of Measurements: 12 Average: 1825 dpm per 100 cm2

--Detector Setup # 2

----Location Code: B014A02B01  
NG Location Code: B

33	72	2	15	90	360	1391	*
34	73	2	15	104	416	1608	*
35	74	2	15	86	344	1329	*
36	75	2	15	88	352	1360	*
37	76	2	15	99	396	1530	*
38	77	2	15	109	436	1685	*
39	78	2	15	104	416	1608	*
40	79	2	15	77	308	1190	
41	80	2	15	98	392	1515	*
42	81	2	15	112	448	1731	*
43	82	2	15	86	344	1329	*
44	83	2	15	114	456	1762	*
45	84	2	15	97	388	1500	*
46	85	2	15	105	420	1623	*
47	86	2	15	92	368	1422	*
48	87	2	15	88	352	1360	*

Number of Measurements: 16 Average: 1497 dpm per 100 cm2

----Location Code: B014A0AB01  
NG Location Code: B

4	16	2	15	139	556	2149	*
5	17	2	15	211	844	3262	*
6	18	2	15	133	532	2056	*
7	19	2	15	146	584	2257	*
8	20	2	15	181	724	2798	*
9	21	2	15	152	608	2350	*
10	22	2	15	185	740	2860	*
11	23	2	15	140	560	2164	*

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Station: 1  
 Survey Date: 9/12/95 Survey Start Time: 10:21 File: 551  
 Date/Time Report Printed: 9/12/95 16:11:19 Page: 5

Comments

Loc No	Smp No	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
---Detector Setup # 2---							
----Location Code: B014A0AB01							
NG Location Code: B							
12	24	2	15	188	752	2906	*
13	25	2	15	144	576	2226	*
14	26	2	15	187	748	2891	*
15	27	2	15	164	656	2535	*
16	28	2	15	202	808	3123	*
17	29	2	15	191	764	2953	*
18	30	2	15	224	896	3463	*
19	31	2	15	179	716	2767	*
20	32	2	15	172	688	2659	*
21	33	2	15	218	872	3370	*
22	34	2	15	229	916	3540	*
23	35	2	15	234	936	3617	*
24	36	2	15	213	852	3293	*
25	37	2	15	164	656	2535	*
26	38	2	15	196	784	3030	*
27	39	2	15	175	700	2705	*
28	40	2	15	182	728	2814	*
29	41	2	15	164	656	2535	*
30	42	2	15	170	680	2628	*
31	43	2	15	195	780	3014	*
32	44	2	15	193	772	2984	*

Number of Measurements: 29 Average: 2810 dpm per 100 cm2

----Location Code: B014A08B01  
 NG Location Code: B

1	69	2	15	148	592	2288	*
2	70	2	15	179	716	2767	*
3	71	2	15	141	564	2180	*

Number of Measurements: 3 Average: 2412 dpm per 100 cm2

\* Flag is set at 1250 dpm/100 sq. cm. for beta contamination.

Survey Date: 9/12/95 Survey Start Time: 13:54  
Date/Time Report Printed: 9/12/95 16:11:19

Station: 1  
File: 551  
Page: 6

-----  
Comments

-----  
Total Number of Measurements on this Report: 92  
End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA  
7-25-95 MRM

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 9/12/95  
 Download Station #: 1 Download File #: 550 Time: 11:20  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: [Signature] Signature: [Signature] Date: 9-12-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 98617

Survey Location description: Source Drive Gen Bldg #36, Gas Cabinet Room #4, Corridor 300 A1, A1.3 Source Tank Room #100B  
 (Example: Rm Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7) - All Locations

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	94975	44-2	1.068444 ± 10	N/A	550	550

Local Area Background Measurements

										MEAN BKG CPM
N/A										

COMMENTS: UNAFFERED SURVEY UNIT

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Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 550, Security Diesel Generator building #36, Gas Charging Building #4, Chiller  
 Building #3, Acid Storage Tank Pump Building #1008 - All Locations  
 Reason: Initial Survey User: TJP0445/98617  
 M2350 S/N: 98617 Det. S/N: PR094975 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI  
 background: 0.0 uR/hr Gamma Calibration Constant: 10684450000

Survey Performed By: *TJP* Date: 9-12-95  
 Survey Reviewed By: *M. Smith* Date: 9-20-95

Survey Date: 9/12/95 Survey Start Time: 08:36 Station: 1  
 Date/Time Report Printed: 9/12/95 12:01 pm File: 550  
 Page: 1 Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	1	B	RC1CS857	6	60	845937	4750.48	*
	54	B	RC1CS857	6	60	830575	4664.21	*

----- Maximum  
 Average uR/hr: 4707.34 4750.48

Number of Measurements at this Survey Location: 2

	2	B	RC2CS857	6	60	24300	136.46	*
	55	B	RC2CS857	6	60	24233	136.08	*

----- Maximum  
 Average uR/hr: 136.27 136.46

Number of Measurements at this Survey Location: 2

	3	B	RC3CS857	6	60	6489	36.44	*
	56	B	RC3CS857	6	60	6583	36.97	*

----- Maximum  
 Average uR/hr: 36.70 36.97

Number of Measurements at this Survey Location: 2

\* Hi flag set at 30 micro-R/hr.

Survey Date: 9/12/95 Survey Start Time: 08:42  
 Date/Time Report Printed: 9/12/95 12:01 pm

Station: 1  
 File: 550  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	4	B	RC4CS857	6	60	4431	24.88	
	57	B	RC4CS857	6	60	4298	24.14	

-----  
 Average uR/hr: 24.51      Maximum 24.88

Number of Measurements at this Survey Location: 2  
 -----

53	B	RCBKGPOST	6	300	17274	19.40
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-----  
 Average uR/hr: 19.40      Maximum 19.40

Number of Measurements at this Survey Location: 1  
 -----

0	B	RCBKGPRE	6	300	17086	19.19
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-----  
 Average uR/hr: 19.19      Maximum 19.19

Number of Measurements at this Survey Location: 1  
 -----

33	16	B	B014A02B01	8	15	836	18.78
34	17	B	B014A02B01	8	15	926	20.80
35	23	B	B014A02B01	8	15	739	16.60
36	24	B	B014A02B01	8	15	818	18.37
37	25	B	B014A02B01	8	15	816	18.33
38	26	B	B014A02B01	8	15	1008	22.64
39	27	B	B014A02B01	8	15	774	17.39
40	28	B	B014A02B01	8	15	591	13.28
41	29	B	B014A02B01	8	15	710	15.95
42	46	B	B014A02B01	8	15	1042	23.41
43	47	B	B014A02B01	8	15	884	19.86
44	48	B	B014A02B01	8	15	975	21.90
45	49	B	B014A02B01	8	15	889	19.97
46	50	B	B014A02B01	8	15	748	16.80
47	51	B	B014A02B01	8	15	742	16.67
48	52	B	B014A02B01	8	15	818	18.37

Survey Date: 9/12/95 Survey Start Time: 10:16  
 Date/Time Report Printed: 9/12/95 12:01 pm

Station: 1  
 File: 550  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
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----- Maximum  
 Average uR/hr: 18.69 23.41

Number of Measurements at this Survey Location: 16

4	8	B	B014A0AB01	8	15	835	18.76	
5	9	B	B014A0AB01	8	15	805	18.08	
6	10	B	B014A0AB01	8	15	713	16.02	
7	11	B	B014A0AB01	8	15	814	18.28	
8	12	B	B014A0AB01	8	15	848	19.05	
9	13	B	B014A0AB01	8	15	765	17.18	
10	14	B	B014A0AB01	8	15	701	15.75	
11	15	B	B014A0AB01	8	15	831	18.67	
12	18	B	B014A0AB01	8	15	959	21.54	
13	19	B	B014A0AB01	8	15	942	21.16	
14	20	B	B014A0AB01	8	15	924	20.76	
15	21	B	B014A0AB01	8	15	932	20.94	
16	22	B	B014A0AB01	8	15	761	17.09	
17	30	B	B014A0AB01	8	15	899	20.19	
18	31	B	B014A0AB01	8	15	887	19.92	
19	32	B	B014A0AB01	8	15	646	14.51	
20	33	B	B014A0AB01	8	15	584	13.12	
21	34	B	B014A0AB01	8	15	736	16.53	
22	35	B	B014A0AB01	8	15	828	18.60	
23	36	B	B014A0AB01	8	15	826	18.55	
24	37	B	B014A0AB01	8	15	775	17.41	
25	38	B	B014A0AB01	8	15	773	17.36	
26	39	B	B014A0AB01	8	15	835	18.76	
27	40	B	B014A0AB01	8	15	794	17.84	
28	41	B	B014A0AB01	8	15	796	17.88	
29	42	B	B014A0AB01	8	15	980	22.01	
30	43	B	B014A0AB01	8	15	900	20.22	
31	44	B	B014A0AB01	8	15	955	21.45	
32	45	B	B014A0AB01	8	15	945	21.23	

----- Maximum  
 Average uR/hr: 18.58 22.01

Number of Measurements at this Survey Location: 29

1	5	B	B014A0BB01	8	15	834	18.73	
2	6	B	B014A0BB01	8	15	816	18.33	
3	7	B	B014A0BB01	8	15	789	17.72	

Survey Date: 9/12/95 Survey Start Time: 09:36  
Date/Time Report Printed: 9/12/95 12:01 pm

Station: 1  
File: 550  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
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Average uR/hr: 18.26      Maximum 18.73

Number of Measurements at this Survey Location: 3  
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Total Number of Measurements on this Report: 58

End of Report

C:\PDOX35\M2350\TLOGRBU.R6 7-25-95 MRM  
8-08-95 GWE

**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 9/12/95      Report Date: 9/13/95      SCN : 236.00      Activity (dpm) :      2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: B014A0AB01      Sampled By : STRAIT      Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.04308	4	7.4	21.1	2.5	
26.04309	5	7.4	21.1	.2	
26.04310	6	7.4	21.1	-2.1	
26.04311	7	7.4	21.1	2.5	
26.04312	8	7.4	21.1	16.4	
26.04313	9	7.4	21.1	.2	
26.04314	10	7.4	21.1	2.5	
26.04315	11	7.4	21.1	.2	
26.04316	12	7.4	21.1	2.5	
26.04317	13	7.4	21.1	-4.4	
26.04318	14	7.4	21.1	-2.1	
26.04319	15	7.4	21.1	.2	
26.04320	16	7.4	21.1	4.9	
26.04321	17	7.4	21.1	2.5	
26.04322	18	7.4	21.1	.2	
26.04323	19	7.4	21.1	.2	
26.04324	20	7.4	21.1	-2.1	
26.04325	21	7.4	21.1	.2	
26.04326	22	7.4	21.1	4.9	
26.04327	23	7.4	21.1	.2	
26.04328	24	7.4	21.1	-2.1	
26.04329	25	7.4	21.1	-2.1	
26.04330	26	7.4	21.1	2.5	
26.04331	27	7.4	21.1	4.9	
26.04332	28	7.4	21.1	-2.1	
26.04333	29	7.4	21.1	.2	
26.04334	30	7.4	21.1	.2	
26.04335	31	7.4	21.1	-4.4	
26.04336	32	7.4	21.1	2.5	



Analysis Date :9/12/95

Report Date: 9/13/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *m G*

Date: 9/13/95

Final Survey Technician Review: *D. Stueck*

Date: 9-13-95

Field Operation Coordinator Review: *M. Smith*

Date: 9-20-95

**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :9/12/95      Report Date: 9/13/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: B014A0BB01      Sampled By : STRAIT      Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.04305	1	7.4	21.1	-2.1	
26.04306	2	7.4	21.1	.2	
26.04307	3	7.4	21.1	.2	

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *m G*

Date: 9/13/95

Final Survey Technician Review: *D Strait*

Date: 9-13-95

Field Operation Coordinator Review: *M Emile*

Date: 9-20-95

**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 9/12/95      Report Date: 9/13/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: B014A02B01      Sampled By : STRAIT      Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.04337	33	7.4	21.1	-2.1	
26.04338	34	7.4	21.1	-2.1	
26.04339	35	7.4	21.1	2.5	
26.04340	36	7.4	21.1	-2.1	
26.04341	37	7.4	21.1	-4.4	
26.04342	38	7.4	21.1	-4.4	
26.04343	39	7.4	21.1	7.2	
26.04344	40	7.4	21.1	7.2	
26.04345	41	7.4	21.1	-4.4	
26.04346	42	7.4	21.1	-4.4	
26.04347	43	7.4	21.1	2.5	
26.04348	44	7.4	21.1	2.5	
26.04349	45	7.4	21.1	-2.1	
26.04350	46	7.4	21.1	.2	
26.04351	47	7.4	21.1	-4.4	
26.04352	48	7.4	21.1	-4.4	

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *hmg*

Date: 9/13/95

Final Survey Technician Review: *D. Staal*

Date: 9-13-95

Field Operation Coordinator Review: *M. Smith*

Date: 9-20-95

**ATTACHMENT 6.3  
SURVEY PACKAGE COVER SHEET**

Package #: 0342	Building: Production Training Complex	Elevation: 4791	Drawing #: PP1-A	Survey Unit: A003
Survey Unit Description <sup>1</sup> : Production Training Complex - Building #109 - Classroom - Suspect Affected Areas				
History of Area(s) <sup>2</sup> :  During background determination surveys, a small discrete particle of radioactive contamination was detected on the classroom floor in the Production Training Complex (see attached copy of ROR-95-028 for details). The entire classroom was thoroughly surveyed using final survey instrumentation and methods (ie., 100% beta scan of the floor, 30 total surface activity measurements, 30 beta-gamma smears, and 30 exposure rate measurements at 1 meter); no further contamination was found.  The Classroom will be classified as Affected to verify the absence of licensed material and support assessment of background which will be implemented concurrent with the survey of this area. The floor and walls are classified as Suspect Affected.				
Special Support Requirements <sup>3</sup> : Ladders will be needed to survey upper walls and ceilings.				
Specific Safety Precautions <sup>4</sup> : Observe proper safety precautions when working on ladders.				
Field Operations Coordinator: <i>Michael D. Smith</i>			Date: <i>7-31-95</i>	
Isolation Controls <sup>5</sup> : Level 1 <input checked="" type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/>  No use, storage or movement of radioactive material is permitted in Group A buildings. All radioactive storage areas outside the Reactor Bldg are controlled by the Radwaste Supervisor. The Radwaste Supervisor has been notified that final surveys of Group A building are to begin and that no radioactive material shall be authorized in these areas.  Prior to the final survey of Group A buildings, training sessions will be held with site personnel regarding final survey isolation controls.  Final configuration of this area is to be maintained. Authorization must be obtained prior to the painting of surfaces, structural renovation and/or removal of components from this area.  Exempt quantity sealed sources used for training purposes will be controlled and periodically monitored to verify source integrity.				

**Surface Grid Requirements:**

Suspect affected survey units in the Visitor Center will be gridded using 1 x 1 meter grids. Grid intersections will be labeled on the floor and lower wall surfaces. Measurement locations will be labeled on all surfaces. All measurement locations are to be marked on the attached maps to designate where measurements have been collected.

- <sup>1</sup> The general area addressed by the survey package. (e.g. machine shop, hot service facility, helium storage system, PCRV, etc.).
- <sup>2</sup> Describe functional use and any known abnormal operating conditions which may have impacted the radiological conditions, especially potentials for past contamination.
- <sup>3</sup> Scaffolding, ladders, temp lighting, the installation of a power supply, etc.
- <sup>4</sup> Confined space entry permits, etc. Interface with MK safety as necessary.
- <sup>5</sup> Isolation requirements in accordance with procedure FSV-SC-FRS-I-108, "Final Survey Isolation and Control Measures."

**SURVEY PACKAGE IMPLEMENTATION**

Survey package ready for implementation.

Signed:  Date: 7-31-95  
 Technical Projects Supervisor

Signed:  Date: 7/31/95  
 Final Survey Lead Engineer

**SURVEY PACKAGE CLOSURE**

Final Survey Package is authorized for closure. All required reviews are completed and data analysis results meet acceptance criteria.

Final Survey Lead Engineer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Technical Projects Supervisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Radiation Protection Manager Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**COPY**



**ATTACHMENT 6.4  
SURVEY UNIT WORK SHEET**

Package #: 0342

Page 1 of 1

Survey Unit Breakdown & Description <sup>1</sup>	Survey Unit Type <sup>2</sup>	Classification <sup>3</sup>	Area (M <sup>2</sup> )	Minimum Number of Measurement Locations		
				Initial	Rev 1	Rev 2
Production Training Complex, Bldg 109 Class Room Carpeted Floors over concrete	Surface and Structure	Suspect-Affected	36	50 (30 exp. rate)		
Production Training Complex, Bldg 109 Class Room Carpeted Wall up to the ceiling (south wall)	Surface and Structure	Suspect-Affected	21	34		
Production Training Complex, Bldg 109 Class Room Drywall up to the ceiling (north, east & west walls) - painted	Surface and Structure	Suspect-Affected	41	76		
Production Training Complex, Bldg 109 Class Room Wood Doors (3)	Surface and Structure	Suspect-Affected	8	30		

<sup>1</sup> Brief description of survey unit including the material (e.g. concrete walls below 2 meters, tiled floor, steel cabinets, etc.)

<sup>2</sup> Surface and Structure, Plant Systems, Open Land Areas

<sup>3</sup> Unaffected, affected, non-suspect affected, suspect affected

Prepared By/Date: *R. Puth* / 7/31/95  
Radiological Engineer

Revision 1 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

Revision 2 By/Date: \_\_\_\_\_ / \_\_\_\_\_  
Radiological Engineer

**COPY**

## ATTACHMENT 6.8 SURVEY PACKAGE VALIDATION CHECKLIST

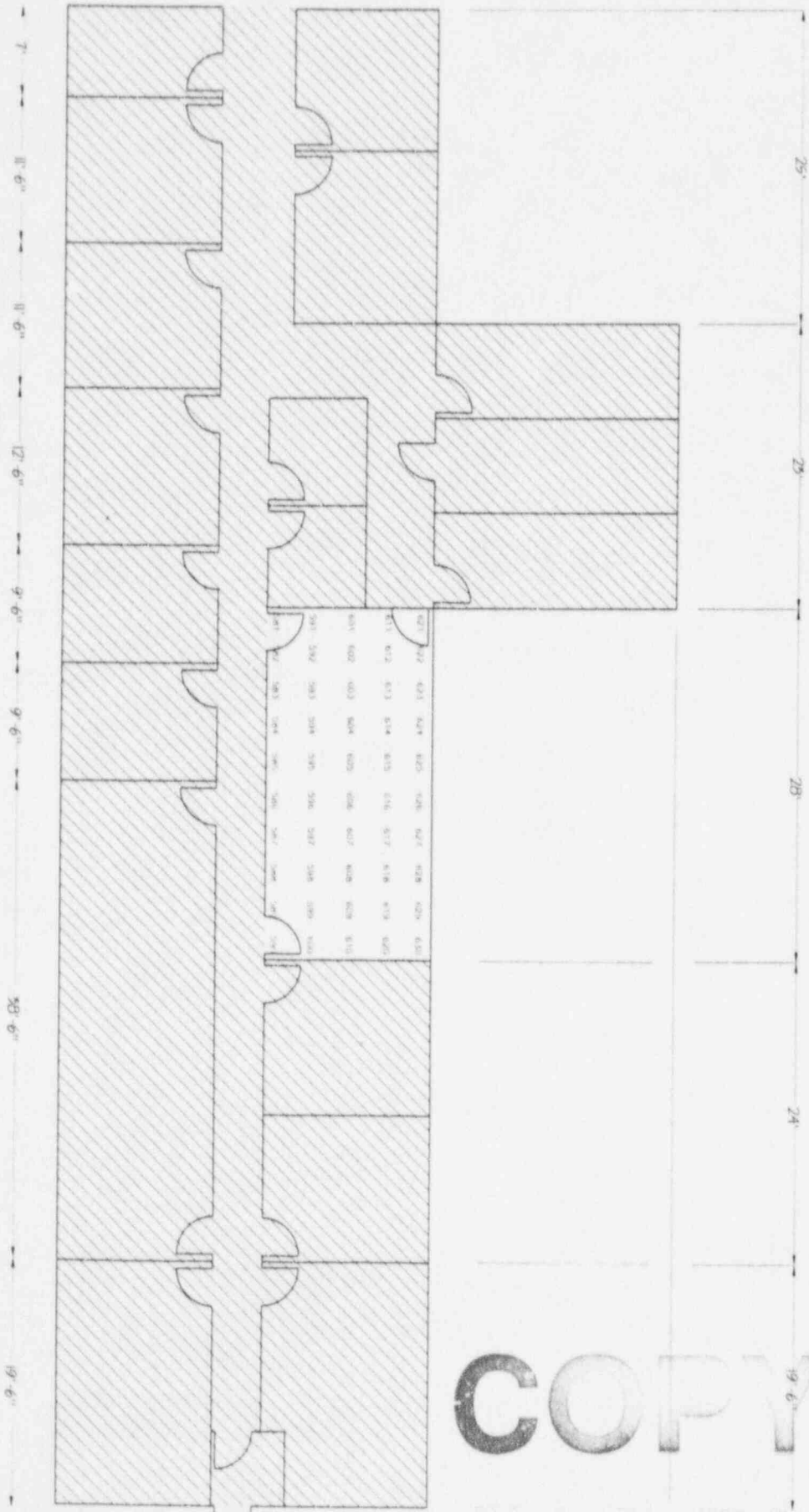
Survey Package # 0342

Page 1 of 1

**DATA REVIEWS**

<b>SURVEY DOCUMENTATION REVIEWED FOR COMPLETION:</b>	
Gamma & Beta Scan Surveys	<u>MEM</u> 9-5-95
Total (Beta) Activity Surveys	<u>MEM</u> 9-5-95
Gamma Exposure Rate Surveys	<u>MEM</u> 9-5-95
Smear Samples	<u>MEM</u> 9-5-95
Soil Samples	N/A
Water Samples	N/A
<b>ALL REQ'D MEASUREMENTS &amp; SAMPLES ACCOUNTED:</b>	
Gamma & Beta Scan Surveys	<u>MEM</u> 9-5-95
Total (Beta) Activity Surveys	<u>MEM</u> 9-5-95
Gamma Exposure Rate Surveys	<u>MEM</u> 9-5-95
Smear Samples	<u>MEM</u> 9-5-95
Soil Samples	N/A
Water Samples	N/A
<b>COMMENTS:</b> _____	
SURVEYS ARE COMPLETED & VALIDATED: <u>MEM</u> DATE: <u>9-5-95</u> Field Operations Coordinator	
Surveys are completed and the Survey Package review has been completed.	
Final Survey Operations Supervisor:	Date:
Survey package meets acceptance criteria and all required elements of the survey package have been completed.	
Radiological Engineer Signature:	Date:
Survey results & supporting documentation have been reviewed & found to be satisfactory. All data satisfies final survey acceptance criteria per procedure FSV-SC-FRS-I-110, "Final Survey Data Analysis".	
Data Evaluation Engineer Signature:	Date:
Final survey package is complete and ready for closure.	
Final Survey Lead Engineer Signature:	Date:

PRODUCTION TRAINING COMPLEX - BUILDING 109  
EAST SIDE



627	628	629	630	631	632	633	634	635	636	637	638	639	640	641
642	643	644	645	646	647	648	649	650	651	652	653	654	655	656
657	658	659	660	661	662	663	664	665	666	667	668	669	670	671
672	673	674	675	676	677	678	679	680	681	682	683	684	685	686
687	688	689	690	691	692	693	694	695	696	697	698	699	700	701

Survey/Package #: 0542  
 Location Code: 0542BOCF01  
 Description: CARPETED FLOORS OVER CONCRETE  
 Master Drawing #: PPI-A  
 Bldg: PRODUCTION TRAINING COMPLEX - #109 Elev: 47' 6" ±  
 Approx. M<sup>2</sup>: 36  
 Grid Size: N/A

Location Code:  Data Scan  Total Area  General Elevation  Detail/General Surveys  H-S Surveys  Liquid Sample  Sediment Sample  Surface Sd  Subsurface Sd  Other

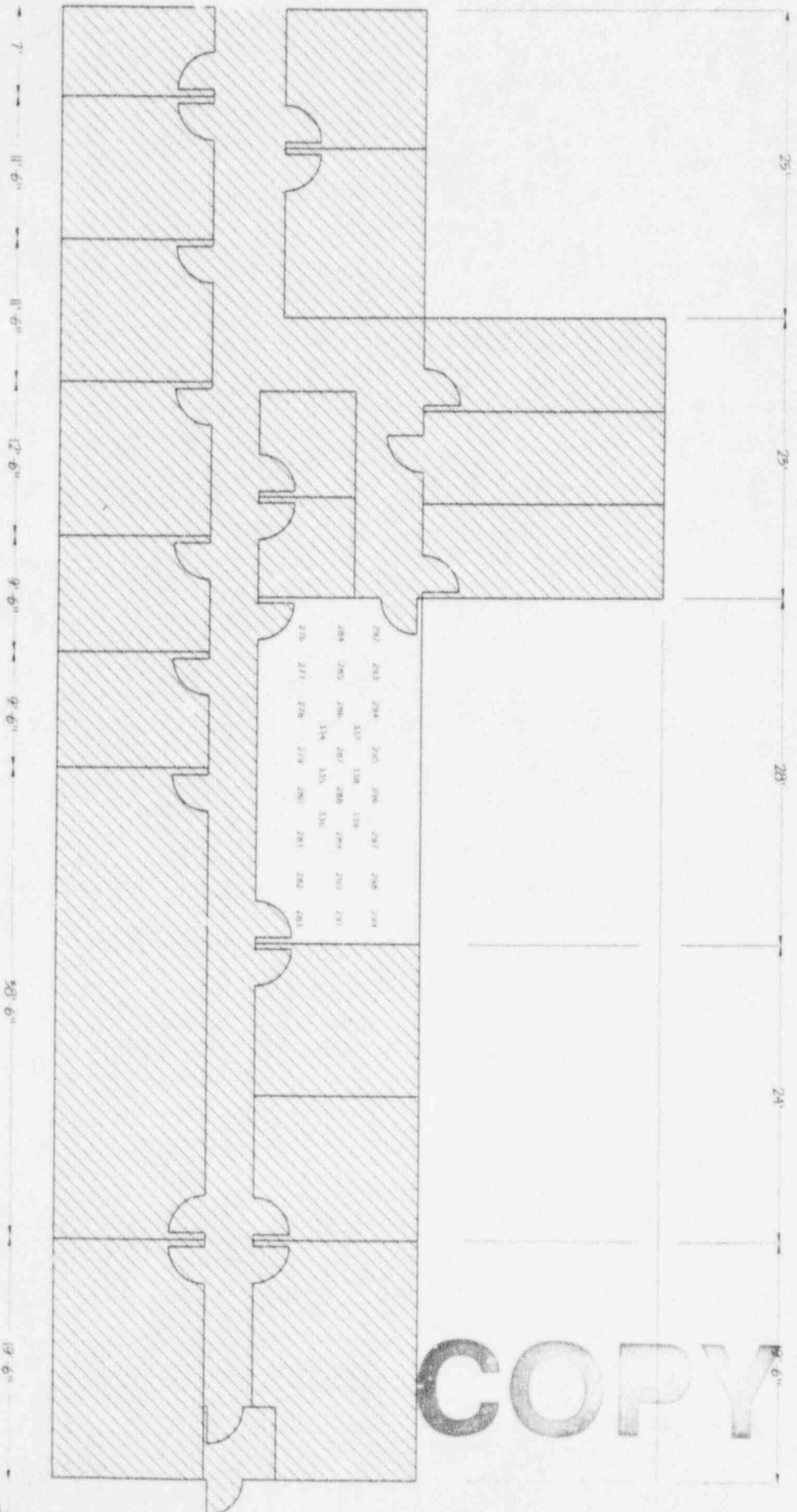
Survey Date/Time: 8-3-95 / oevs RP Tech Initials: ZJF

Legend:  CARPET SURFACES

FILE: GP\_A\PROJECT\0542.CAD

PRODUCTION TRAINING COMPLEX - BUILDING 109

EAST SIDE



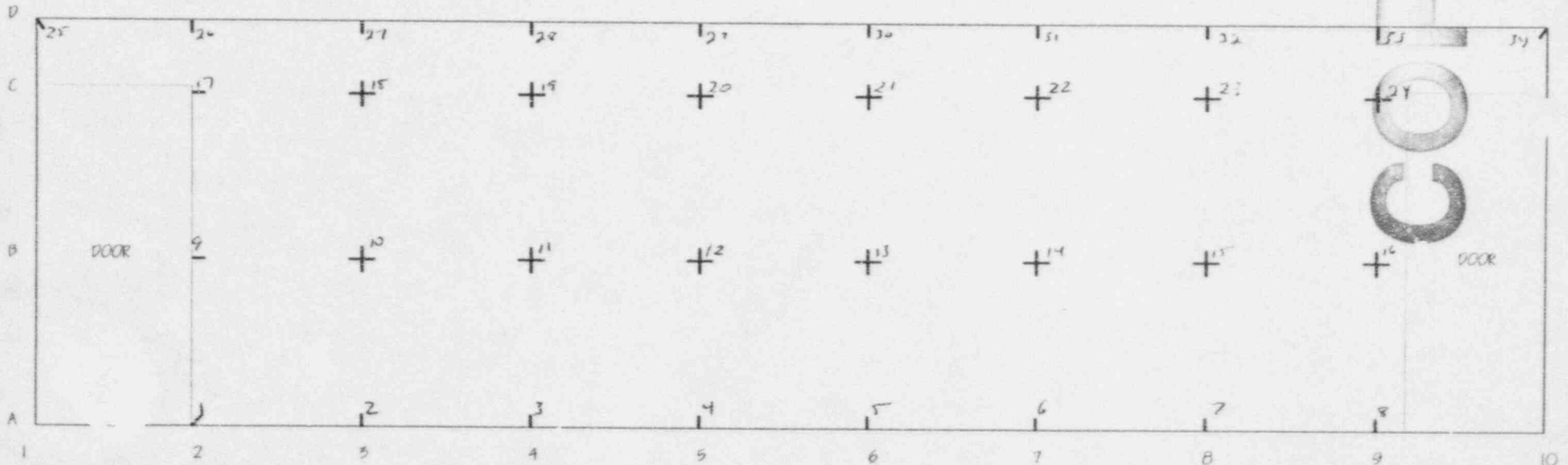
COPY

Survey/Package #: 0342  
 Location Code: 0542BOCF01  
 Description: CARPETED FLOORS OVER CONCRETE  
 Master Drawing #: PPI-A  
 Bid #: PRODUCTION TRAINING COMPLEX - #109 Elev: 4765'±  
 Location Code:  Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Scans  H-3 Scans  Liquid Sample  Sediment Sample  Surface Sed  Subsurface Sed  Other  
 Survey Date/Time: 8-2-93 / 16:00 RP Tech Initials: JF  
 Approx. M<sup>2</sup>: 36 Grid Size: N/A Grid Size: Grid Size

Legend:  REPAIR NEEDED

FILE: (RP\_A)\PROJ\0342(CR)

PRODUCTION TRAINING COMPLEX  
AFFECTED TRAINING ROOM  
SOUTH WALL (CARPET ON DRYWALL)



Survey/Package #: 0342 Master Drawing #: PPI-A Bldg: PRODUCTION TRAINING COMPLEX - #109 Elev: 4700 <sup>9'</sup> ft ±

Location Code: 0342BOCWO1 Description: CARPETED WALL UP TO THE CEILING (SOUTH WALL) IN CLASSROOM Approx. M<sup>2</sup>: 21 Grid Size: 1M x 1M

Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Sensors  H-3 Sensors  Liquid Sample  Sediment Sample  Surface Sol  Subsurface Sol  Other

Location Code: Description: Approx. M<sup>2</sup>: Grid Size:

Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Sensors  H-3 Sensors  Liquid Sample  Sediment Sample  Surface Sol  Subsurface Sol  Other

Survey Date/Time: 8-3-95 / 0843 RP Tech Initials: ZJP



PRODUCTION TRAINING COMPLEX  
AFFECTED TRAINING CLASSROOM  
WALLS (PAINTED DRYWALL)



Survey/Package #: 0542 Master Drawing #: PPI-A Blk#: PRODUCTION TRAINING COMPLEX - #109 Elev: 4700 <sup>91</sup> 844'

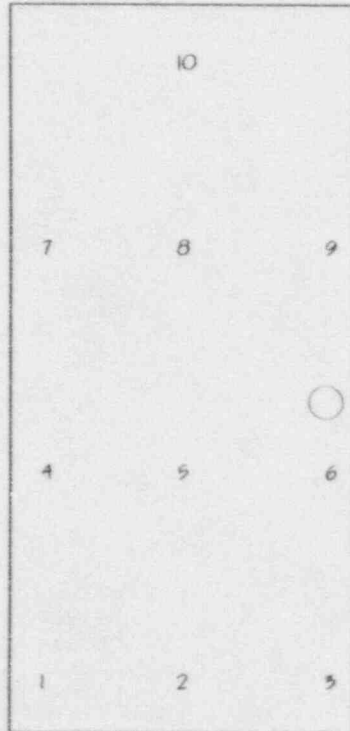
Location Code: 0542B0AMW02 Description: PAINTED DRYWALL UP TO THE CEILING (NORTH, EAST AND WEST WALLS) Approx. M<sup>2</sup>: 41 Grid Size: 1M x 1M

Location Code:  Delta Scan  Gamma Scan  Total Activity  Gamma Eye Rate  Beta/Gamma Scans  H-9 Scans  Liquid Sample  Sediment Sample  Surface Sd  Subsurface Sd  Other

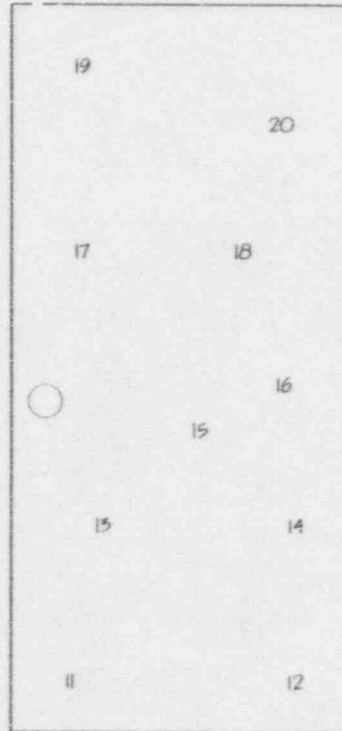
Survey Date/Time: 8-3-95 10:00 RP Tech Initials: [Signature]

PRODUCTION TRAINING COMPLEX  
AFFECTED TRAINING CLASSROOM  
DOORS (WOOD)

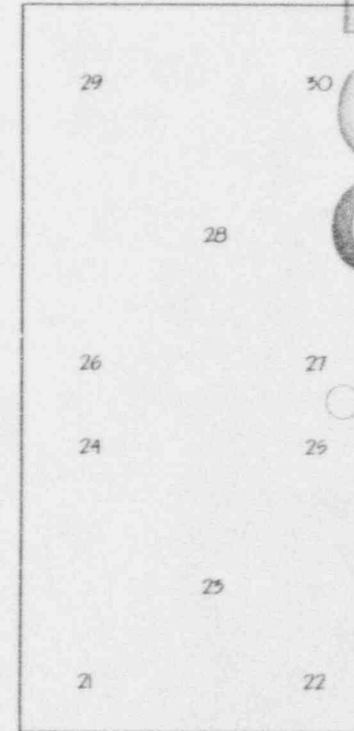
DOOR #1



DOOR #2



DOOR #3



COPY

Survey/Package #: 0542 Master Drawing #: PPI-A Bldg: PRODUCTION TRAINING COMPLEX - #109 Elev: 47<sup>91</sup> ft  
 Location Code: 0542BOKSO1 Description: WOOD DOORS 1, 2 AND 3 Approx. M<sup>2</sup>: 8 Grid Size: N/A  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Sensors  H-3 Sensors  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Location Code: Description: Approx. M<sup>2</sup>: Grid Size:  
 Beta Scan  Gamma Scan  Total Activity  Gamma Exp. Rate  Beta/Gamma Sensors  H-3 Sensors  Liquid Sample  Sediment Sample  Surface Soil  Subsurface Soil  Other  
 Survey Date/Time: 8-3-95 / 0845 RP Tech Initials: Z

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM**

Package # 0342	Building PTC	Elevation 4791'	Drawing # PP1-A	Survey Unit A003	Page <u>1</u> of <u>1</u>
----------------	-----------------	--------------------	--------------------	---------------------	---------------------------

General Description of Survey Unit: Production Training Complex - Building #109 - Classroom

**FIELD INSTRUMENTATION/INSTRUCTIONS**

Instrument & Detector	Measurement Type	Count Time	Location Code	Remarks/Survey Instruction
2350/44-2	Gamma, Fixed Point	15 sec.	0342B0CF01 0342B0CW01 0342B0MW02 0342B0KS01	No alarm set point is required.
2350/43-68	Beta, Fixed Point	15 sec.	0342B0CF01 0342B0CW01 0342B0MW02 0342B0KS01	Collect a minimum of 12 shielded local area background counts for each surface identified by a location code, using a 15 second count time.  The scaler alarm for fixed point measurements may be set using the following equation: $(1250 \text{ dpm}/100\text{cm}^2 * 1.25 * \text{detector efficiency} * \text{count time (min.)}) + (\text{Bkgd counts (cpm}/125\text{cm}^2) * \text{sample count time (min.)}) = \text{alarm set point (counts}/125\text{cm}^2)$ <i>Note: Bkgd counts is the average of the shielded local area background counts</i>
2350/43-68	Beta, Scan	N/A	0342B0CF01 0342B0CW01 0342B0MW02 0342B0KS01	Perform a 100% beta scan survey of all suspect affected surfaces.
2350/44-2	Gamma	15 sec.	All	Enter a zero background subtract when downloading survey data.
2350/43-68	Beta	15 sec.	All	Enter a zero background subtract when downloading survey data.
N/A	N/A	N/A	All	Complete the attached location code comparison forms for each survey unit. These forms will be used in the future to assist in download operations once the new location code format is implemented.
N/A	N/A	N/A	All	If any questions arise during the final survey, contact the survey package engineer, the FOC or FSLE.

Prepared By/Date: R. J. [Signature] 1 2/3/95  
Radiological Engineer

*RAP*  
*8-22-95*

**ATTACHMENT 6.5**  
**SURVEY INSTRUCTION FORM - (Cont.)**

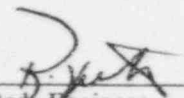
Survey Package #: 0342

Page 1 of 4

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(RPT initial & date)

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)
Classification Code: B	Resurvey #: 0	Beta Scan	*	* Scan 100% of the floor surfaces.	JP 8-2-98
Material Code: C	Surface Code: F01	Gamma Scan	N/A		
		Total Surface Activity	50	At marked areas on the floor surfaces.	JP 8-2-98
		Exposure Rate	30	At 1 meter from marked areas on the floor surfaces.	JP 8-2-98
		$\beta\gamma$ Smears	50	At same measurement locations as total surface activity measurements.	JP 8-2-98
Location Code: 0342B0CF01		Area (m <sup>2</sup> )	H-3/Fe-55 Smears	N/A	
Survey Unit Breakdown and Description:  Production Training Complex, #109 Class Room Carpeted Floors over concrete		36			
		Type of material/soil sample	N/A		Type of analyses
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> CI-36 <input type="checkbox"/> Other:
			N/A		
			N/A		

QC    Investigation    Resurvey     
 Approval:  / 2/1/98            /              
Rad. Engineer   Date   Final Survey Lead Engineer   Date

**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

Survey Package #: 0342

Page 2 of 4

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Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: B	Resurvey #: 0	Grid size:	Beta Scan	*	* Scan 100% of the wall surfaces.	VB 8/2/95
			Gamma Scan	N/A		
Material Code: C	Surface Code: W01	1 x 1 m	Total Surface Activity	34	At marked areas on the wall surfaces.	VB 8/2/95
			Exposure Rate	34	At 1 meter from marked areas on the wall surfaces.	7/28/95
Location Code: 0342B0CW01		Area (m <sup>2</sup> )	βγ Smears	34	At same measurement locations as total surface activity measurements.	8/2/95
		21	H-3/Fe-55 Smears	N/A		
Survey Unit Breakdown and Description:		Type of material/soil sample	N/A		Type of analyses	
Production Training Complex, #109 Class Room Carpeted Wall up to the ceiling (south wall)			N/A		<input type="checkbox"/> γ-Spec <input type="checkbox"/> H-3 <input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55 <input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	
			N/A			
			N/A			
			N/A			

QC    Investigation    Resurvey

Approval: \_\_\_\_\_

Rad. Engineer

10/2/95

Date

Final Survey Lead Engineer

Date



**ATTACHMENT 6.5  
SURVEY INSTRUCTION FORM - (Cont.)**

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Survey Package #: 0342

Page 3 of 4

Location Code Assignments		Survey Type	Number	Measurement/Sample Location	(RPT initial & date)	
Classification Code: B	Resurvey #: 0	Grid size: 1 x 1 m	Beta Scan	*	* Scan 100% of the wall surfaces.	1B/2/95
			Gamma Scan	N/A		
Material Code: M	Surface Code: W02		Total Surface Activity	76	At marked areas on the wall surfaces.	VB 0/2/95
			Exposure Rate	76	At 1 meter from marked areas on the wall surfaces.	ZP 8/3-2
Location Code : 0342B0MW02		Area (m <sup>2</sup> ): 41	$\beta\gamma$ Smears	76	At same measurement locations as total surface activity measurements.	ZP 8/3/95
			H-3/Fe-55 Smears	N/A		
Survey Unit Breakdown and Description:  Production Training Complex, #109 Class Room Drywalls up to the ceiling (north, east & west walls) - painted		Type of material/soil sample	N/A		Type of analyses	
			N/A		<input type="checkbox"/> $\gamma$ -Spec <input type="checkbox"/> H-3	
			N/A		<input type="checkbox"/> Fe-55 <input type="checkbox"/> H-3+Fe-55	
			N/A		<input type="checkbox"/> Cl-36 <input type="checkbox"/> Other:	

QC  Investigation  Resurvey

Approval: *R. J. [Signature]* 1 2/2/95  
Rad. Engineer Date

1  
Final Survey Lead Engineer Date



**ATTACHMENT 6.6  
COVER SHEET - DOWNLOAD REPORTS**

Page 1 of 1

Package #: 0342	Bldg. Name: Production Training Center #109	Elevation: 4791	Survey Unit: A003
-----------------	---	-----------------	-------------------

Download File #	Location Code	Measurement Type	M2350/Detector Serial #	Technician/Date	Inst. Function Sat (Y or N) <sup>1</sup>
421	034200CF01	BETA	98617	PRATT / 8/2/95	Y
421	0342B0KSO1	BETA	98617	PRATT / 8/2/95	Y
425	0342B0CW01	BETA	95356	BALDWIN / 8/2/95	Y
425	0342B0MW02	BETA	95356	BALDWIN / 8/2/95	Y
424	0342B0CF01	GAMMA	98617	PRATT / 8/2/95	Y
424	0342B0KSO1	GAMMA	98617	PRATT / 8/2/95	Y
426	0342B0CW01	GAMMA	98617	PRATT / 8/3/95	Y
426	0342B0MW02	GAMMA	98617	PRATT / 8/3/95	Y
* 439	0342B0MW02 0342B0CW01	GAMMA	<sup>MEM 9-5-95</sup> <del>98617</del> 94975	PRATT / 8/3/95	Y
* 418	0342B0KSO1 0342B0CW01	GAMMA	94975	PRATT / 8/2/95	Y
* 419	0342B0MW02	BETA	92511	BALDWIN / 8/2/95	Y

<sup>1</sup> IF the instrument response check DID NOT pass acceptance (e.g., failed source response, efficiency, improper count time, etc.), THEN indicate this face in this space, annotate the download report, and contact RP Supervision and a Final Survey Engineer so that data can be evaluated and the survey unit in the package can be re-surveyed and the Survey Instruction Form can be annotated properly by a Final Survey Engineer as necessary.

Reviewed By/Date: M. Smith, 9-5-95  
Field Operations Coordinator

- \* POST SOURCE CHECK FILE # 439 LOCATED IN PACKAGE # 343
- \* PRE SOURCE CHECK FILE # 418 LOCATED IN PACKAGE # 340
- \* PRE SOURCE CHECK FILE # 419 LOCATED IN PACKAGE # 340

NOTE: \* ENTRIES ADDED ON DOWNLOAD REPORT ON 9-5-95 FOR CROSS REFERENCE. MEM

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ATTACHMENT 6.1  
RADIOLOGICAL OCCURRENCE REPORT

INITIATION

Initiator's Name Dwane Parsons Dept./Company SEG / REIDS

Date of Occurrence 4-11-95 Location of Occurrence Training Bldg, main classroom

Persons Involved Name	Soc. Sec. #	Badge #	Work Group & Supervisor
Tim Pratt	414310445	5496	SEG / M. Zachary
Chuck Finkenbine	585119819	4752	SEG / M. Zachary

Initiator describe event (Include RWP #): While surveying the classroom  
for Final Survey Background determination an area on the  
floor was found to be contaminated. The area of carpet was  
smeared and then removed. Carpet and smear was sent  
to RC Lab for gamma spec. A complete (100%) survey  
was performed of the classroom and no further  
contamination was found. Notified Mark Zachary of occurrence.

Signature [Signature] Date 4-11-95

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ATTACHMENT 6.1, (continued)  
RADIOLOGICAL OCCURRENCE REPORT

CLASSIFY

ROR # 95-028

Accepted

Rejected

If rejected, reason for rejection: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Major Deficiency   
Minor Deficiency

Reportable Incident   
Non-reportable Incident

Immediate corrective actions taken/underway: ENTIRE AREA WAS SURVEYED  
(LOOSE & FIXED), A PORTION OF THE CARPET WAS REMOVED  
AND SENT FOR A ISOTOPIC ANALYSIS. RPOS & FSQS &  
TPS NOTIFIED. (SEE ATTACHED RESULTS OF AREA). NO  
FURTHER CONTAMINATION WAS DETECTED.

PRPM Notified  NOTICED AT 13:40 HR. MIZ  
PSC FSM Notified

RPOS Michael R. Boring

Date 4/12/95

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ATTACHMENT 6.1 (continued)  
RADIOLOGICAL OCCURRENCE REPORT

ROOT CAUSE EVALUATION

Attached

Not Required

REPORTABILITY ACTIONS:

RPOS Informed PRPM Date & Time \_\_\_\_\_

Vice President, RE & DS Date & Time \_\_\_\_\_

Others Informed Date & Time \_\_\_\_\_

PRP<sup>1</sup> Informed PSC FSM Date & Time \_\_\_\_\_

APPROVAL

Minor Deficiency RPOS \_\_\_\_\_ Date \_\_\_\_\_

Major Deficiency or Incident PRPM Hill Date 5-18-95

PSC FSM \_\_\_\_\_ Date \_\_\_\_\_

CLOSURE:

ROR Completed TPS \_\_\_\_\_ Date \_\_\_\_\_

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## Root Cause Evaluation of ROR 95-028

### ABSTRACT

Background determination surveys for final survey preparations were being performed in the FSV Training building on the morning of April 11, 1995. HP Technicians, Tim Pratt and Chuck Finkenbine, were surveying the main classroom floor located across the hall from Rowena Argal's office. The survey consisted of performing 30 gamma rate measurements at 1 meter from the carpeted floor, 30 fixed point total activity measurements, 30 beta-gamma smears, and beta scanning in a 1 meter<sup>2</sup> area around the fixed point measurements. While performing the scan survey, an area of elevated activity was observed near a classroom door. The initial survey of the area indicated 6300 dpm/100cm<sup>2</sup> using a M2350 instrument coupled to a 43-68 probe (MDA = 1870 dpm/100cm<sup>2</sup>, efficiency = 21.0%, probe area = 125 cm<sup>2</sup>). After discovering the contamination the technicians notified the final survey engineer assisting with the survey (Duane Parsons). The engineer notified the Final Survey Operations Supervisor (Mark Zachary), whom then notified the Project Radiation Protection Manager, Radiation Protection Operations Manager, Technical Support Manager, and the PSC Facility Support Manager.

### PERSONNEL INTERVIEWED

Tim Pratt	Chuck Finkenbine
John Keith	John Ledger
Ron Gentry	Tim Schiegler
Bill Woodard	Ted Borst

### FINDINGS

1. After notifications were made to the appropriate personnel, the technicians performed further investigational surveys of the elevated area. Beta/Gamma smears indicated no loose activity. An area of the carpet approximately 1 foot<sup>2</sup> was removed and sent to the RC Lab for gamma spectrum analysis. The initial gamma spectrum results indicated Co-60 as the only licensed isotope present. Further dissection of the carpet indicated that all of the contamination was contained in a small speck of material. The speck was recounted using a point source geometry; results showed 4.32 E-3  $\mu$ Ci/speck.
  
2. Discussions were held the Training Supervisor (Ron Gentry) as to the use of the classroom since decommissioning began. Ron could provide no explanation as to how the contamination could have been deposited since October of 1992, the date that the SEG training group took over the classrooms. None of the training aids used in the classroom contain cobalt-60.

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3. Discussions with long-term PSC employees (Tim Schleiger and Bill Woodard) concerning the history of the Training Building prior to October 1992, revealed that the classroom had been used by three different groups since the time of construction. The three groups were: General Atomic Construction, FSV Training Department, and the FSV Security Force. The primary use of the building prior to October 1992 was for office space and classroom training. The only time radioactive materials were brought into the building during this time frame was when instructors used sealed sources to demonstrate instrumentation responses for GET students. There is no longer any General Atomic personnel to interview, and discussions with the Security Supervisor (John Ledger) indicated no reason for the presence of contamination in the classroom.
4. Sometime around 1980-1981 portal monitors were placed in service at the exit turnstiles of the Security Badge Building. However, the sensitivity of these portals was later determined to be inadequate. In the late 1980's or early 1990's, the old portals were replaced with the more sensitive Eberline PM-6A models. The Instrumentation Supervisor (John Keith), stated that the PM-6A monitors may, or may not, detect a radioactive particle of the strength found in the carpet. Location of the particle on the body and the amount it was shielded by clothing would greatly influence the detection probability. The PM-6As are set up for a five second count regardless of the changing background levels. Typically, the detector will alarm at levels between 5100 and 6900 dpm/100cm<sup>2</sup> considering normal background fluctuations.
5. Although the PCM-1B's at the Reactor Bldg access are more sensitive than the PM-6A's, the chance of particle detection is also dependent on body placement and shielding due to personnel clothing. It is possible, yet unlikely, that a particle of the strength found in the carpet could escape undetected by the PCM-1B. The PCM-1Bs are set to alarm at 5000 dpm/100cm<sup>2</sup>, within three inches of the detector.
6. The time frame of carpet installation in the training building could not be confirmed; however, Ted Borst guessed that the carpet was installed in the early to mid 1980's.

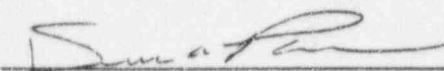
## CONCLUSIONS

The root cause of how the contamination migrated into the training building could not be confirmed. Several possibilities exist, but none could be proven. Possibilities include the following:

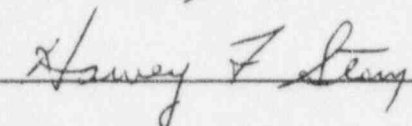
1. The contamination could have been carried out of the Protected Area by an unsuspecting worker, escaped undetected from the PCM-1B's and/or PM-6A's, and fallen off while in the classroom.

2. The contamination may have been brought on site from a worker coming from another nuclear facility (e.g., truck driver, HP Technician, other nuclear worker, etc...).

Routine surveys of clean areas inside the Protected Area do not indicate a trend of spreading contamination. Detection sensitivity of the PCM-1B's and PM-6A's are set at appropriate levels, without causing an unreasonable number of false alarms. This incident appears to be an isolated case, and no further actions are recommended.

Performed By:  Date: 5-15-95

Reviewed By:  Date: 5-15-95

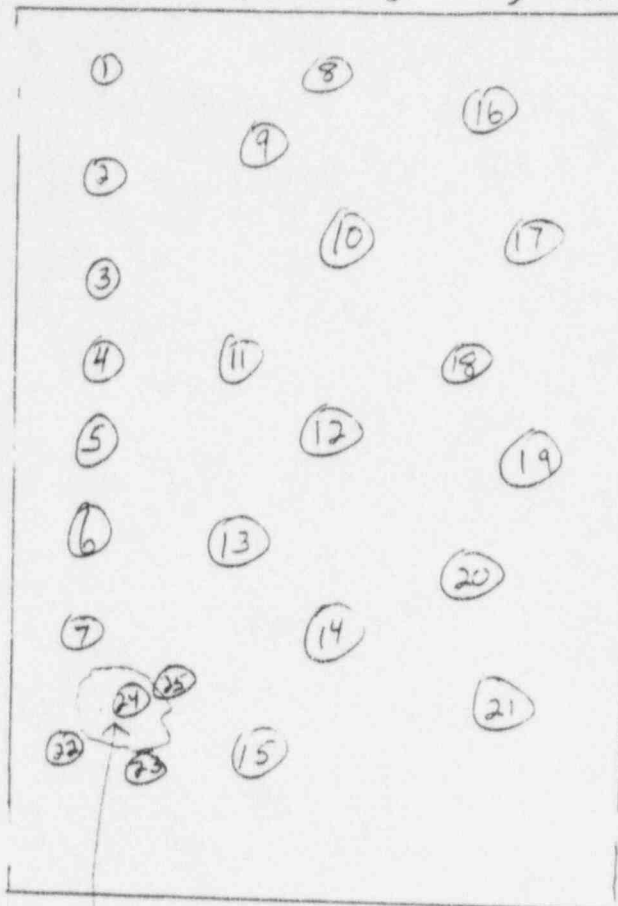
Approved By:  Date: 5-18-95

# RADIATION PROTECTION SURVEY FORM

Sheet 1 of 1

R.P. Tech (print): <u>F. Koubine</u>			Location <u>Training Bldg Class Room</u>	RWP # <u>95-2062</u>
Instruments Used			Comments or Purpose of Survey	Date: <u>4/11/95</u>
Model	S/N	Cal. Due	<u>Follow up survey</u>	Time: <u>1030</u>
<u>M2350</u>	<u>117573</u>	<u>6/27/95</u>		<u>investigating contamination</u>
<u>43-68</u>	<u>119446</u>	<u>6/27/95</u>	<u>found on carpet</u>	Air Sample # <u>NA</u>
<u>RM-14</u>	<u>3831</u>	<u>4/20/95</u>	<u>MDA = 1870 dpm/100cm<sup>2</sup></u>	Results: <u>NA</u> $\mu\text{Ci/ml}$
<u>NA</u>			<u>M2350/43-68 21.0% eff 1258000</u>	Survey Pt #
			All dose rates in mR/hr unless otherwise noted.	Contamination (dpm/100 cm <sup>2</sup> )

## Training Bldg CLASS ROOM

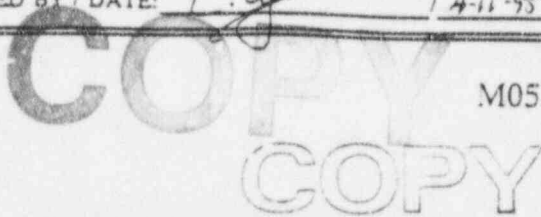


Carpet Removed  
initial Frisk found  
6.3k dpm/100cm<sup>2</sup>

100% scan performed after carpet  
Removed. All ~~scan~~ <sup>areas</sup>  $< \text{MDA}$ .  
4-11-95

1	<u>L/K</u>	<u>H. L/K</u>
2		<u>20.</u>
3		<u>23.</u>
4		<u>24.</u>
5		<u>25</u> ✓
6		<u>NA</u>
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20	✓	✓
A/S - air sample	LAS - Large Area Smear	
* - Direct frisk in dpm/100 cm <sup>2</sup>	K = 1000	
* contact/18 inch	H Head Level	
	F.-foot level	
	O Smear Loc	

PERFORMED BY/DATE: C. J. [Signature] / 4/11/95      REVIEWED BY/DATE: [Signature] / 4-11-95





\*\*\*\*\*  
\*\*\*\*\* G A M M A S P E C T R U M A N A L Y S I S \*\*\*\*\*  
\*\*\*\*\*

Report Generated On 4-11-95 11:02:02

Detector DET4  
Sample I.D. 26.00415  
Spectrum Number GP01429  
Sample Description 26.00415  
Sample Type CARPET  
Sample Geometry 5

Peak Locate Threshold 3.50  
Peak Locate Range (in channels) 100 - 4096  
Peak Area Range (in channels) 100 - 4096  
Identification Energy Tolerance 1.00 keV

Sample Size 1.000E+00 EACH  
Sample Collected On 4-11-95 9:40:00  
Spectrum Collected 4-11-95 10:34:09  
Decay Corrected To 4-11-95 9:40:00  
Collected By YATES

Live Time 1000.0 seconds  
Real Time 1001.4 seconds  
% Dead Time 0.14 %  
Background Type STEP

Energy Calibration Performed On 4-11-95  
Efficiency Calibration Performed On 9-30-94  
Calibration Geometry Used 5

*qualitative only*

Reviewed By

*[Signature]*

Date

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*4/11/95*

**COPY**

\*\*\*\*\*  
\*\*\*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
\*\*\*\*\*

Sample I.D. 26.00415  
Sample Spectrum Number GP01429  
Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/EACH)	Activity Uncertainty (uCi/EACH)
CO-60	1.000	1173.22*	100.00	6.496E-03	4.020E-04
		1332.49*	100.00	6.559E-03	4.428E-04

O\* = Energy line found in the spectrum.  
OEnergy tolerance used was 1.000  
ONuclide confidence index threshold = 0.10  
OErrors quoted at 1.96 sigma  
OActivity decay corrected to: 4-11-95 9:40:00

*2 Weeks*

*cc + 92*

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\*\*\*\*\*  
\*\*\*\*\* INTERFERENCE CORRECTED REPORT \*\*\*\*\*  
\*\*\*\*\*

Sample I.D. 26.00415  
Spectrum Number GP01429  
Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/EACH)	Wt mean Activity Uncertainty (uCi/EACH)
CO-60	1.000	6.5242E-03	2.9766E-04

OX = nuclide rejected by the interference analysis

Errors quoted at 1.96 sigma

\*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak No.	Energy (keV)	Peak Area (cps)	% Peak Uncertainty
----------	--------------	-----------------	--------------------

All peaks were identified.

OM = First peak in a multiplet region  
Om = Other peak in a multiplet region

Errors quoted at 1.96 sigma

Reviewed By           All York           Date           4/11/95          

*Qualitative only*

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\*\*\*\*\*  
 \*\*\*\*\* N U C L I D E M D A R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET4  
 Sample Geometry: 5  
 Sample Title: 26.00415  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\FSV.NLB

Nuclide Name	Energy (keV)	Yield (%)	Critical Level (uCi/EACH)	Nuclide MDA (uCi/EACH)
K-40	1460.81	10.67	3.44E-04	7.26E-04
MN-54	834.83	99.97	4.37E-05	8.99E-05
CO-58	810.76	99.40	4.03E-05	8.31E-05
FE-59	142.65	1.03	6.95E-04	1.57E-04
	192.34	3.11	3.14E-04	
	1099.22	56.50	9.93E-05	
	1291.56	43.20	7.44E-05	
+ CO-60	1173.22*	100.00	5.48E-05	9.58E-05
	1332.49*	100.00	4.60E-05	
ZN-65	1115.52	50.75	1.18E-04	2.42E-04
SE-75	96.73	3.41	2.13E-04	2.47E-05
	121.11	16.70	4.11E-05	
	136.00	59.20	1.18E-05	
	198.60	1.45	7.05E-04	
	264.65	59.80	2.16E-05	
	279.53	25.20	4.80E-05	
	303.91	1.32	9.93E-04	
	400.65	11.40	1.48E-04	
NB-94	702.63	100.00	3.11E-05	6.43E-05
	871.10	100.00	4.51E-05	
RU-106	621.84	9.80	2.79E-04	5.77E-04
	1050.47	1.73	3.15E-03	
CD-109	88.03	3.72	2.10E-04	4.38E-04
SB-125	176.33	6.89	1.29E-04	1.20E-04
	380.43	1.50	1.10E-03	
	427.89	29.33	5.76E-05	
	463.38	10.35	1.82E-04	
	600.56	17.80	1.50E-04	
	606.64	5.02	5.04E-04	
	635.90	11.32	2.42E-04	
	671.41	1.81	1.69E-03	
BA-133	79.62	2.55	3.38E-04	4.96E-05
	81.00	33.00	2.54E-05	
	276.40	6.90	1.72E-04	
	302.84	17.80	7.60E-05	
	356.01	60.00	2.39E-05	
	383.85	8.70	1.84E-04	
CS-134	475.35	1.46	1.38E-03	5.43E-05
	563.23	8.38	2.96E-04	
	569.32	15.43	1.68E-04	
	604.70	97.60	2.62E-05	
	795.84	85.40	4.31E-05	

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Nuclide Name	Energy (keV)	Yield (%)	Critical Level (uCi/EACH)	Nuclide MDA (uCi/EACH)
CS-134	801.93	8.73	4.50E-04	5.43E-05
	1038.57	1.00	5.38E-03	
	1167.94	1.80	1.08E-02	
	1365.15	3.04	8.84E-04	
CS-137	661.65	85.12	3.52E-05	7.26E-05
CE-139	165.85	80.35	9.32E-06	1.94E-05
CE-144	80.11	1.60	5.26E-04	1.43E-04
	133.54	10.80	6.87E-05	
EU-152	121.78	28.40	2.52E-05	5.25E-05
	344.27	26.50	5.74E-05	
	443.98	3.11	5.53E-04	
	778.89	12.74	2.84E-04	
	867.32	4.16	1.12E-03	
	964.01	14.40	4.14E-04	
	1407.95	20.70	1.57E-04	
EU-154	123.07	40.50	1.81E-05	3.77E-05
	1274.45	35.50	8.26E-05	
EU-155	86.54	31.05	2.51E-05	5.23E-05
	105.31	20.70	3.50E-05	
TL-208	277.35	6.80	1.70E-04	6.14E-05
	583.14	84.20	2.97E-05	
	860.37	12.46	3.47E-04	
RA-226	186.21	3.28	2.98E-04	6.17E-04
AM-241	59.54	36.30	3.86E-05	8.06E-05

+ = Nuclide identified during the nuclide identification

\* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

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Report Generated On 4-11-95 16:01:04

Detector DET4  
Sample I.D. 26.00415  
Spectrum Number GP01434  
Sample Description PARTICLE  
Sample Type PARTICLE  
Sample Geometry 22

Peak Locate Threshold 3.50  
Peak Locate Range (in channels) 100 - 4096  
Peak Area Range (in channels) 100 - 4096  
Identification Energy Tolerance 1.00 keV

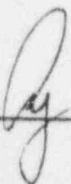
Sample Size 1.000E+00 EA  
Sample Collected On 4-11-95 9:40:00  
Spectrum Collected 4-11-95 13:09:09  
Decay Corrected To 4-11-95 9:40:00  
Collected By YATES

Live Time 10000.0 seconds  
Real Time 10006.8 seconds  
% Dead Time 0.07 %  
Background Type STEP

Energy Calibration Performed On 4-11-95  
Efficiency Calibration Performed On 10-21-94  
Calibration Geometry Used 22

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Reviewed By



Date

4/11/95

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\*\*\*\*\*  
 \*\*\*\*\* P E A K L O C A T E R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. 26.00415  
 Spectrum Number GP01434  
 Sample Description PARTICLE  
 Sample Type PARTICLE

Peak Locate Performed on 4-11-95 16:00:50  
 Peak Locate From Channel 100  
 Peak Locate To Channel 4096  
 Peak Search Sensitivity 3.50  
 MDA Confidence 5.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance	FWHM (keV)
1	149.67	0.4373	74.69	3.53	0.8296
2	477.52	0.2261	238.65	10.21	1.1775
3	590.54	0.3087	295.17	5.66	1.2391
4	676.93	0.3274	338.37	4.90	1.4399
5	704.10	0.2154	351.96	12.24	1.0870
6	1022.00	0.2497	510.95	4.67	1.7416
7	1166.27	0.2053	583.10	11.00	1.3185
8	1218.57	0.1870	609.26	13.05	1.3534
9	1323.19	0.3048	661.58	4.21	1.7394
10	1454.66	0.3430	727.33	3.83	1.7134
11	1822.11	0.1928	911.08	11.51	1.5387
12	1937.76	0.2258	968.91	6.81	2.1802
13	2240.35	0.2242	1120.20	6.86	2.0434
14	2346.15	0.1582	1173.10	14.72	1.8001
15	2475.63	0.3118	1237.83	3.64	2.0694
16	2664.71	0.1548	1332.34	14.69	1.7997
17	2755.08	0.3109	1377.51	4.37	1.5469
18	2921.47	0.1032	1460.67	29.72	2.0272
19	3529.11	0.1938	1764.26	8.40	1.9922

Errors quoted at 1.96 sigma

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\*\*\*\*\*  
 \*\*\*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector DET4  
 Sample I.D. 26.00415  
 Spectrum Number GP01434  
 Sample Description PARTICLE

Peak Analysis Performed on 4-11-95 16:00:55  
 Peak Analysis From Channel 100  
 Peak Analysis To Channel 4096

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area Counts	Net Area Uncert. Counts	Continuum Counts
1	146-	152	149.67	74.69	3.13E+02	159.40	3.32E+03
2	473-	481	477.52	238.65	7.02E+02	141.37	2.10E+03
3	584-	596	590.54	295.17	2.45E+02	143.20	1.93E+03
4	671-	680	676.93	338.37	1.66E+02	100.43	1.09E+03
5	699-	710	704.10	351.96	6.21E+02	116.96	1.17E+03
6	1010-	1042	1022.00	510.95	7.74E+02	189.83	1.66E+03
7	1159-	1170	1166.27	583.10	5.14E+02	83.09	5.13E+02
8	1213-	1225	1218.57	609.26	6.41E+02	87.33	5.11E+02
9	1316-	1327	1323.19	661.58	1.35E+02	66.38	4.03E+02
10	1448-	1459	1454.66	727.33	4.01E+01	64.26	4.13E+02
11	1814-	1827	1822.11	911.08	4.36E+02	71.75	3.29E+02
12	1933-	1943	1937.76	968.91	1.32E+02	59.04	3.21E+02
13	2234-	2245	2240.35	1120.20	1.93E+02	53.54	2.21E+02
14	2338-	2351	2346.15	1173.10	7.21E+02	76.16	2.86E+02
15	2470-	2480	2475.63	1237.83	5.51E+01	47.49	2.24E+02
16	2655-	2673	2664.71	1332.34	6.53E+02	70.70	1.92E+02
17	2746-	2760	2755.08	1377.51	5.07E+01	38.18	1.14E+02
18	2912-	2930	2921.47	1460.67	3.15E+03	119.08	1.60E+02
19	3520-	3538	3529.11	1764.26	2.09E+02	37.24	4.50E+01

M = First peak in a multiplet region

m = Other peak in a multiplet region

Errors quoted at 1.96 sigma

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\*\*\*\*\*  
 \*\*\*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Sample I.D. 26.00415  
 Sample Spectrum Number GP01434  
 Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/EA )	Activity Uncertainty (uCi/EA )
K-40	0.997	1460.81*	10.67	2.094E-01	1.584E-02
CO-60	0.997	1173.22*	100.00	4.335E-03	5.165E-04
		1332.49*	100.00	4.314E-03	5.364E-04
CS-137	0.999	661.65*	85.12	6.162E-04	3.055E-04
TL-208	0.674	277.35	6.80		
		583.14*	84.20	2.139E-03	3.738E-04
		860.37	12.46		
BI-212	0.641	727.17*	11.80	1.422E-03	2.282E-03
		785.42	2.00		
		1620.56	2.75		
PB-212	0.437	74.81*	9.60	6.118E-03	3.436E-03
		77.11	17.50		
		87.20	6.30		
		89.80	1.75		
		115.19	0.60		
		238.63*	44.60	2.741E-03	5.840E-04
		300.09	3.41		
BI-214	0.764	609.31*	46.30	5.032E-03	7.628E-04
		768.36	5.04		
		806.17	1.23		
		934.06	3.21		
		1120.29*	15.10	7.433E-03	2.097E-03
		1238.11*	5.94	5.803E-03	5.012E-03
		1377.67*	4.11	8.356E-03	6.315E-03
		1385.31	0.78		
		1407.98	2.48		
		1509.19	2.19		
		1729.60	3.05		
		1764.49*	15.80	1.091E-02	2.096E-03
PB-214	0.520	74.81*	6.33	9.279E-03	5.210E-03
		77.11	10.70		
		87.20	3.70		
		241.98	7.49		
		295.21*	19.20	2.572E-03	1.513E-03
		351.92*	37.20	3.860E-03	7.647E-04
AC-228	0.116	89.95	2.10		
		93.35	3.50		
		129.08	2.80		
		209.28	4.40		
		270.23	3.60		
		327.64	3.20		
		338.32*	11.40	3.253E-03	1.983E-03

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Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/EA )	Activity Uncertainty
AC-228	0.116	409.51	2.13		
		463.00	4.40		
		794.70	4.60		
		835.50	1.75		
		911.60*	27.70	7.845E-03	1.354E-03
		964.60	5.20		
		969.10*	16.60	4.149E-03	1.867E-03
		1459.30	1.00		

0\* = Energy line found in the spectrum.

0Energy tolerance used was 1.000

0Nuclide confidence index threshold = 0.10

0Errors quoted at 1.96 sigma

0Activity decay corrected to: 4-11-95 9:40:00

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\*\*\*\*\* INTERFERENCE CORRECTED REPORT \*\*\*\*\*

Sample I.D. 26.00415
Spectrum Number GP01434
Nuclide Library Used C:\GENIEPC\CAMFILES\FSV.NLB

Table with 4 columns: Nuclide Name, Nuclide Id Confidence, Wt mean Activity (uCi/EA), Wt mean Activity Uncertainty (uCi/EA). Rows include K-40, CO-60, CS-137, PL-208, BI-212, PB-212, BI-214, PB-214, AC-228.

Background
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OX = nuclide rejected by the interference analysis

Errors quoted at 1.96 sigma

\*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Table with 4 columns: Peak No., Energy (keV), Peak Area (cps), % Peak Uncertainty. Row 1: 6, 510.95, 7.7410E-02, 24.52.

OM = First peak in a multiplet region
Om = Other peak in a multiplet region

Errors quoted at 1.96 sigma

Reviewed By [Signature] Date 4/11/95

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No MDA analysis results available for reporting purposes

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	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (uCi/Unit)	Nuclide MDA (uCi/Unit)
+	AC-228	968.97*	16.20	1.33E-04	8.01E-05
	PA-234m	1001.00	0.65	3.20E-03	3.20E-03
	TH-234	63.29	4.50	2.00E-03	1.24E-03
		92.50	5.51	1.24E-03	
	U-235	93.35	4.50	1.50E-03	6.22E-05
		143.76	10.90	4.19E-04	
		163.33	5.00	8.12E-04	
		185.71	57.50	6.22E-05	
		205.31	5.00	6.72E-04	

+ = Nuclide identified during the nuclide identification

\* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

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\*\*\*\*\*  
 \*\*\* N U C L I D E M D A R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Geometry:  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\SOIL\_lt4.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (uCi/Unit)	Nuclide MDA (uCi/Unit)
+	K-40	1460.81*	10.67	1.59E-04	1.59E-04
	CO-60	1173.24	99.90	2.24E-05	1.94E-05
		1332.50	99.98	1.94E-05	
	CS-137	661.65	85.12	2.51E-05	2.51E-05
+	TL-208	72.80	2.02	4.26E-03	2.93E-05
		74.97*	3.41	1.84E-03	
		510.77*	22.60	2.17E-04	
		583.19*	84.50	2.93E-05	
		860.56	12.42	1.76E-04	
	PB-211	87.30	0.16	4.53E-02	5.01E-04
		404.84	3.83	6.01E-04	
		831.83	3.81	5.01E-04	
	BI-212	727.18	6.65	3.28E-04	3.28E-04
+	PB-212	74.81*	10.50	5.99E-04	6.05E-05
		77.11	17.60	4.83E-04	
		87.30	7.90	9.18E-04	
		238.63*	43.60	6.05E-05	
	PO-212	583.02*	2.00	1.24E-03	1.24E-03
+	BI-214	609.31*	44.80	4.35E-05	4.35E-05
		768.36	4.80	4.33E-04	
		1120.29*	14.80	1.80E-04	
		1764.49*	15.56	8.66E-05	
+	PB-214	74.81*	5.90	1.07E-03	6.37E-05
		77.11	9.90	8.58E-04	
		87.30	4.41	1.64E-03	
		241.98	7.50	4.53E-04	
		295.21*	18.50	7.64E-05	
		351.92*	35.80	6.37E-05	
	FR-223	50.20	34.00	3.16E-04	3.16E-04
		61.51	0.14	7.04E-02	
		79.77	9.20	9.43E-04	
		88.47	2.70	2.87E-03	
	RA-223	83.78	24.80	2.99E-04	2.02E-04
		94.90	11.30	5.85E-04	
		144.20	3.26	1.39E-03	
		269.41	13.60	2.02E-04	
	RA-226	94.90	0.14	4.72E-02	1.02E-03
		186.21	3.50	1.02E-03	
+	AC-228	89.95	1.94	3.65E-03	8.01E-05
		93.35	3.20	2.11E-03	
		338.32*	11.30	1.95E-04	
		911.21*	26.60	8.01E-05	

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\*\*\*\*\*  
AMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

✓ 5A0CF02

File Generated On : 4-11-95 11:57:23 AM

Sample Title : Inf. Plane unif. dist w/ depth  
Spectrum Description :  
Sample Identification : IPV210 BACK 11 in training classroom (Pre-Particle Removal)  
Sample Type : ipv - 210  
Sample Geometry :

Peak Locate Threshold : 3.00  
Peak Locate Range (in channels) : 1 - 8192  
Peak Area Range (in channels) : 1 - 8192  
Identification Energy Tolerance : 1.000 keV

Sample Size : 1.000E+00 Unit

Sample Taken On : 4-11-95 7:28:07 AM  
Acquisition Started : 4-11-95 7:28:07 AM

Live Time : 300.0 seconds  
Real Time : 302.6 seconds

Energy Calibration Used Done On : 3-17-95  
Efficiency Calibration Used Done On : 7-26-94

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\*\*\*\*\*  
 \*\*\*\*\* P E A K L O C A T E R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Peak Locate Performed on: 4-11-95 11:57:22 AM  
 Peak Locate From Channel: 1  
 Peak Locate To Channel: 8192  
 Peak Search Sensitivity: 3.00

Peak No.	Centroid Channel	Centroid Uncertainty	Energy (keV)	Peak Significance
1	180.98	0.2572	44.83	4.04
2	299.04	0.2499	74.36	3.32
3	954.57	0.2098	238.36	6.14
4	1181.37	0.2073	295.10	6.66
5	1199.60	0.3321	299.66	3.02
6	1353.17	0.4276	338.08	3.57
7	1408.14	0.1566	351.83	7.40
8	2042.89	0.4386	510.63	3.23
9	2332.83	0.3027	583.16	5.51
10	2436.47	0.2123	609.09	7.54
11	3644.36	0.2334	911.27	6.62
12	3875.78	0.3836	969.17	4.60
13	4480.96	0.5295	1120.57	3.07
14	5841.00	0.1160	1460.81	14.36
15	7055.41	0.5081	1764.62	3.58

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
 \*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Peak Analysis Performed on: 4-11-95 11:57:29 AM  
 Peak Analysis From Channel: 1  
 Peak Analysis To Channel: 8192

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	172-	187	180.98	44.83	1.17E+02	48.04	1.80E+02
2	294-	304	299.04	74.36	-1.10E+00	108.49	1.28E+03
3	947-	961	954.57	238.36	1.37E+02	73.46	4.38E+02
M 4	1170-	1209	1181.29	295.08	9.82E+01	97.02	1.30E+02
m 5	1170-	1209	1199.41	299.61	2.12E+01	23.37	1.41E+02
6	1343-	1361	1353.17	338.08	5.08E+01	53.14	2.02E+02
7	1399-	1417	1408.14	351.83	1.78E+02	58.45	2.10E+02
8	2019-	2084	2042.89	510.63	1.52E+02	97.10	2.51E+02
9	2320-	2341	2332.83	583.16	3.58E+01	44.89	1.30E+02
10	2427-	2446	2436.47	609.09	1.59E+02	41.10	8.00E+01
11	3633-	3655	3644.36	911.27	6.26E+01	32.68	5.54E+01
12	3864-	3887	3875.78	969.17	5.63E+01	31.81	5.12E+01
13	4467-	4494	4480.96	1120.57	2.02E+01	34.12	6.28E+01
14	5825-	5854	5841.00	1460.81	6.28E+02	52.55	1.89E+01
15	7038-	7073	7055.41	1764.62	4.00E+01	18.54	9.00E+00

M = First peak in a multiplet region  
 m = Other peak in a multiplet region

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
\*\*\* EFFICIENCY CALIBRATION REPORT \*\*\*  
\*\*\*\*\*

Detector Name: DET01  
Sample Title: Inf. Plane unif. dist w/ depth

Geometry Description:  
Efficiency Calibration Performed on: 7-26-94 11:33:34 AM  
by:

Efficiency Triplets  
=====

Energy	Efficiency	Error
50.00	1.42E-01	1.42E-02
100.00	3.66E-01	3.66E-02
200.00	4.29E-01	4.29E-02
500.00	2.60E-01	2.60E-02
1000.00	2.31E-01	2.31E-02
1500.00	1.89E-01	1.89E-02
2000.00	1.63E-01	1.63E-02

DUAL Efficiency Calibration Equation  
=====

Single Equation Terms ->   Offset:       -32.369  
                                  Slope:        15.720  
                          Quadratic:     -2.550  
                                  Cubic:         0.133  
                          4th Order:       0.000  
                          5th Order:       0.000  
                          6th Order:       0.000  
                          7th Order:       0.000  
                          8th Order:       0.000  
                          9th Order:       0.000

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EMPIRICAL Efficiency Calibration Equation

=====

Empirical Equation Terms ->   Scaling:       1025.000  
                                  Offset:       -1.522  
                                  Slope:        0.324  
                  Quadratic:     -0.038  
                                  Cubic:        0.135  
                  4th Order:     -0.057  
                  5th Order:     0.000

LINEAR Efficiency Calibration Equation

=====

Linear Equation Terms ->   Offset:       -0.000  
                                  Slope:       -0.730  
                  Quadratic:     128.628  
                                  Cubic:       -12960.390  
                  4th Order:     312026.375  
                  5th Order:     0.000  
                  6th Order:     0.000  
                  7th Order:     0.000  
                  8th Order:     0.000  
                  9th Order:     0.000

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\*\*\* P E A K E F F I C I E N C Y R E P O R T \*\*\*\*\*  
\*\*\*\*\*

Detector Name: DET01  
Sample Title: Inf. Plane unif. dist w/ depth  
Peak Analysis Performed on: 4-11-95 11:57:29 AM

Peak No.	Energy (keV)	Net Peak Area	Net Area Uncertainty	Peak Efficiency	Efficiency Uncertainty
1	44.83	1.17E+02	48.04	1.17E-01	2.74E-02
2	74.36	-1.10E+00	108.49	2.65E-01	3.55E-02
3	238.36	1.37E+02	73.46	4.10E-01	5.44E-02
M 4	295.08	9.82E+01	97.02	3.84E-01	4.92E-02
m 5	299.61	2.12E+01	23.37	3.82E-01	4.88E-02
6	338.08	5.08E+01	53.14	3.64E-01	4.64E-02
7	351.83	1.78E+02	58.45	3.57E-01	4.57E-02
8	510.63	1.52E+02	97.10	2.95E-01	4.04E-02
9	583.16	3.58E+01	44.89	2.74E-01	3.84E-02
10	609.09	1.59E+02	41.10	2.68E-01	3.77E-02
11	911.27	6.26E+01	32.68	2.16E-01	2.92E-02
12	969.17	5.68E+01	31.81	2.09E-01	2.76E-02
13	1120.57	2.02E+01	34.12	1.97E-01	2.41E-02
14	1460.81	6.28E+02	52.55	1.81E-01	2.01E-02
15	1764.62	4.00E+01	18.54	1.75E-01	2.34E-02

M = First peak in a multiplet region  
m = Other peak in a multiplet region

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
 \*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
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Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\SOIL\_lt4.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/Unit)	Activity Uncertainty
K-40	1.000	1460.81*	10.67	2.936E-03	4.132E-04
TL-208	0.844	72.80	2.02		
		74.97*	3.41	-1.100E-05	-1.082E-03
		510.77*	22.60	2.058E-04	1.342E-04
		583.19*	84.50	1.393E-05	1.757E-05
BI-211	0.820	860.56	12.42		
		72.87	1.20		
		351.10*	12.20	3.688E-04	1.297E-04
PB-212	0.570	74.81*	10.50	-3.572E-06	-3.515E-04
		77.11	17.60		
		87.30	7.90		
BI-214	0.896	238.63*	43.60	6.887E-05	3.838E-05
		609.31*	44.80	1.195E-04	3.528E-05
		768.36	4.80		
		1120.29*	14.80	6.244E-05	1.059E-04
PB-214	0.596	1764.49*	15.36	1.340E-04	6.473E-05
		74.81*	5.90	-6.357E-06	-6.255E-04
		77.11	9.90		
		87.30	4.41		
AC-228	0.816	241.98	7.50		
		295.21*	18.50	1.245E-04	1.241E-04
		351.92*	35.80	1.257E-04	4.433E-05
		89.95	1.94		
		93.35	3.20		
		338.32*	11.30	1.113E-04	1.175E-04
		911.21*	26.60	9.830E-05	5.325E-05
		968.97*	16.20	1.507E-04	8.707E-05

\* = Energy line found in the spectrum.

Energy tolerance used was 1.000

Nuclide confidence index threshold = 0.10

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
\*\*\* INTERFERENCE CORRECTED REPORT \*\*\*\*\*  
\*\*\*\*\*

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/Unit)	Wt mean Activity Uncertainty
K-40	1.000	2.9364E-03	4.1316E-04
TL-208	0.844	1.3931E-05	1.7565E-05
BI-211	0.820	3.3781E-06	3.8639E-04
PB-212	0.570	6.8870E-05	3.8166E-05
X PO-212	0.997		
BI-214	0.896	1.1807E-04	2.9729E-05
PB-214	0.596	1.2453E-04	1.2403E-04
AC-228	0.816	1.1240E-04	4.2370E-05

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

Errors quoted at 1.960 sigma

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## \*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak Locate Performed on: 4-11-95 11:57:22 AM  
Peak Locate From Channel: 1  
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	44.83	3.9056E-01	41.00
m 5	299.61	7.0753E-02	110.10

M = First peak in a multiplet region

m = Other peak in a multiplet region

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

Report Generated On : 4-14-95 2:27:45 PM  
Sample Title : Inf. Plane unif. dist w/ depth  
Spectrum Description : 0005A0CF02 TRAINING BLDG CLASSROOM, PRE-  
PARTICLE REMOVAL  
Sample Identification : IPV206 BACK1  
Sample Type : ipv  
Sample Geometry :  
  
Peak Locate Threshold : 2.80  
Peak Locate Range (in channels) : 100 - 8192  
Peak Area Range (in channels) : 200 - 8192  
Identification Energy Tolerance : 1.600 keV  
  
Sample Size : 1.000E+00 Unit  
  
Sample Taken On : 4-05-95 12:51:20 PM  
Acquisition Started : 4-05-95 12:51:20 PM  
  
Live Time : 3600.0 seconds  
Real Time : 3632.8 seconds  
  
Energy Calibration Used Done On : 3-17-95  
Efficiency Calibration Used Done On : 7-26-94

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\*\*\*\*\*  
 \*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Peak Analysis Performed on: 4-14-95 2:27:59 PM  
 Peak Analysis From Channel: 200  
 Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	3	248-	261	256.06	63.61	1.55E+02	418.73	1.64E+04
M	4	296-	317	301.81	75.05	9.76E+02	347.56	1.89E+04
m	5	296-	317	311.36	77.44	1.23E+03	417.21	1.90E+04
	6	368-	381	374.01	93.12	5.10E+02	463.04	2.00E+04
	7	741-	755	747.61	186.58	4.64E+02	296.24	7.77E+03
	8	832-	846	839.20	209.50	2.83E+02	262.91	6.14E+03
	9	948-	963	956.80	238.91	2.43E+03	269.91	5.51E+03
	10	1073-	1091	1082.33	270.32	2.13E+02	237.65	4.29E+03
M	11	1175-	1209	1183.03	295.51	7.22E+02	300.38	2.78E+03
m	12	1175-	1209	1202.50	300.38	1.80E+02	97.76	2.45E+03
	13	1347-	1364	1355.23	338.59	4.85E+02	179.62	2.43E+03
	14	1400-	1417	1409.73	352.23	1.62E+03	183.09	2.19E+03
	15	1845-	1863	1854.18	463.42	1.59E+02	134.83	1.35E+03
	16	2025-	2088	2045.24	511.21	1.22E+03	359.76	3.59E+03
	17	2325-	2347	2334.17	583.50	1.44E+03	142.24	9.89E+02
	18	2429-	2451	2438.60	609.62	1.68E+03	145.14	9.81E+02
	19	2900-	2922	2910.57	727.70	2.79E+02	112.82	7.79E+02
M	20	3063-	3100	3074.30	768.66	1.80E+02	113.21	6.24E+02
m	21	3063-	3100	3091.18	772.88	8.01E+01	58.62	5.67E+02
	22	3132-	3155	3143.12	785.87	2.88E+01	106.37	7.28E+02
	23	3166-	3193	3180.45	795.21	1.79E+02	115.19	7.24E+02
	24	3330-	3355	3344.75	836.32	7.78E+01	111.58	7.42E+02
	25	3428-	3453	3442.89	860.87	1.72E+02	105.02	6.34E+02
	26	3634-	3656	3645.33	911.51	8.11E+02	113.26	6.52E+02
	27	3725-	3748	3736.80	934.40	1.09E+02	94.15	5.49E+02
M	28	3848-	3891	3859.69	965.14	1.55E+02	51.12	5.19E+02
m	29	3848-	3891	3876.16	969.26	5.77E+02	137.45	5.22E+02
	30	4221-	4249	4234.76	1058.97	-5.70E+01	107.85	6.67E+02
	31	4469-	4493	4481.26	1120.64	4.27E+02	101.88	5.49E+02
	32	4680-	4708	4692.90	1173.59	1.81E+02	108.00	6.16E+02
	33	4936-	4966	4952.44	1238.52	2.62E+02	116.81	6.74E+02
	34	5109-	5136	5122.59	1281.08	-2.41E+01	89.82	4.70E+02
	35	5312-	5341	5328.98	1332.72	1.25E+02	77.67	3.04E+02
	36	5497-	5525	5510.80	1378.20	8.62E+01	67.80	2.37E+02
	37	5825-	5855	5842.08	1461.08	8.46E+03	189.96	1.87E+02
	38	6021-	6049	6035.76	1509.53	2.05E+01	49.80	1.35E+02
M	39	6336-	6386	6350.57	1588.29	7.75E+01	41.77	9.76E+01
m	40	6336-	6386	6368.83	1592.86	1.03E+02	51.86	8.06E+01
	41	6464-	6498	6481.76	1621.11	8.87E+01	42.04	6.93E+01
	42	6627-	6656	6643.00	1661.45	-2.37E+01	44.40	1.13E+02

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Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
43	6900-	6930	6915.72	1729.68	7.68E+01	42.70	8.12E+01
44	7039-	7071	7055.97	1764.76	3.76E+02	53.15	7.01E+01
45	7369-	7403	7387.41	1847.68	6.61E+01	37.53	5.59E+01

One or more peaks were dropped due to multiplet de-convolution.

M = First peak in a multiplet region

m = Other peak in a multiplet region

Errors quoted at 1.960 sigma

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 \*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*  
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Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\FSV1.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Unit)	Activity Uncertainty
K-40	0.993	1460.81*	10.67	3.296E+03	1.939E+02
Mn-54	0.801	834.83*	99.97	2.595E+00	1.908E+00
CO-60	0.992	1173.24*	99.90	7.048E+00	2.186E+00
		1332.50*	99.98	5.078E+00	1.634E+00
TL-208	0.851	72.80	2.02		
		74.97*	3.41	8.028E+02	1.580E+02
		277.35	6.80		
		510.77*	22.60	1.373E+02	2.285E+01
		583.19*	84.50	4.668E+01	4.099E+00
		860.56*	12.42	4.679E+01	1.497E+01
BI-212	0.974	727.18*	11.80	7.324E+01	1.603E+01
		785.42*	2.00	4.646E+01	8.772E+01
PB-212	0.855	74.81*	9.60	2.852E+02	5.662E+01
		77.11*	17.50	1.896E+02	3.622E+01
		87.20	6.30		
		89.80	1.75		
		238.63*	44.60	1.000E+02	9.293E+00
		300.09*	3.41	1.039E+02	4.944E+01
BI-214	0.930	609.31*	46.30	1.016E+02	8.637E+00
		768.36*	5.04	1.142E+02	3.750E+01
		806.17	1.23		
		934.06*	3.21	1.192E+02	5.386E+01
		1120.29*	14.80	1.102E+02	1.514E+01
		1238.11*	5.94	1.746E+02	4.148E+01
		1377.67*	4.11	8.588E+01	3.506E+01
		1385.31	0.78		
		1407.98	2.48		
		1509.19*	2.19	3.914E+01	4.877E+01
		1729.60*	3.05	1.077E+02	3.217E+01
		1764.49*	15.80	1.020E+02	1.021E+01
PB-214	0.763	74.81*	5.90	4.640E+02	9.311E+01
		77.11*	10.70	3.101E+02	5.970E+01
		87.30	3.70		
		241.98	7.50		
		295.21*	19.20	7.349E+01	1.637E+01
		351.92*	37.20	9.161E+01	8.072E+00
AC-228	0.763	89.95	1.94		
		93.35*	3.20	3.623E+02	1.733E+02
		129.08	2.80		
		209.28*	4.40	1.151E+02	5.573E+01
		270.23*	3.60	1.123E+02	6.500E+01
		327.64	3.20		

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Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Unit)	Activity Uncertainty		
AC-228	0.763	338.32*	11.40	8.791E+01	1.772E+01		
		409.51	2.13				
		463.00*	4.40	8.724E+01	3.864E+01		
		794.70*	4.60	1.267E+02	4.327E+01		
		835.50*	1.75	1.482E+02	1.119E+02		
		911.21*	27.70	1.019E+02	1.043E+01		
		964.60*	5.20	1.063E+02	2.098E+01		
		969.10*	16.60	1.245E+02	1.757E+01		
		TH-234	0.975	63.29*	4.50	1.194E+02	1.666E+02
				92.50*	5.51	2.104E+02	1.013E+02
U-235	0.546			93.35*	4.50	2.576E+02	1.450E+02
		143.76	10.90				
		163.33	5.00				
		185.71*	57.50	1.433E+01	4.784E+00		
		205.31	5.00				

\* = Energy line found in the spectrum.

Energy tolerance used was 1.600

Nuclide confidence index threshold = 0.30

Errors quoted at 0.000 sigma

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 \*\*\* INTERFERENCE CORRECTED REPORT \*\*\*  
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Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Unit)	Wt mean Activity Uncertainty	
	K-40	0.993	3.2956E+03	1.9391E+02
	Mn-54	0.801	7.7119E-01	1.9115E+00
	CO-60	0.992	5.7839E+00	1.3086E+00
	TL-208	0.851	4.6879E+01	3.9355E+00
	BI-212	0.974	7.2377E+01	1.5773E+01
	PB-212	0.855	1.0458E+02	8.1412E+00
X	PO-212	0.978		
	BI-214	0.930	1.0370E+02	5.6620E+00
	PB-214	0.763	8.9990E+01	7.0976E+00
X	RA-226	0.935		
	AC-228	0.763	1.0417E+02	7.0192E+00
	TH-234	0.975	1.3326E+02	8.4769E+01
	U-235	0.546	1.4335E+01	4.7753E+00

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

Errors quoted at 0.000 sigma

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## \*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak Locate Performed on: 4-14-95 2:27:48 PM  
Peak Locate From Channel: 100  
Peak Locate To Channel: 8192

	Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
m	21	772.88	2.2237E-02	0.00
	30	1058.97	-1.5833E-02	-0.00
	34	1281.08	-6.7028E-03	-0.00
M	39	1588.29	2.1522E-02	0.00
m	40	1592.86	2.8692E-02	0.00
	41	1621.11	2.4652E-02	0.00
	42	1661.45	-6.5793E-03	-0.00
	45	1847.68	1.8355E-02	0.00

M = First peak in a multiplet region

m = Other peak in a multiplet region

Errors quoted at 0.000 sigma

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 \*\*\* N U C L I D E M D A R E P O R T \*\*\*\*\*  
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Detector Name: DET01  
 Sample Geometry:  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\FSV1.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Unit)	Nuclide MDA (pCi/Unit)
+	K-40	1460.81*	10.67	4.03E+01	4.03E+01
+	Mn-54	834.83*	99.97	6.26E+00	6.26E+00
+	CO-60	1173.24*	99.90	6.94E+00	5.18E+00
		1332.50*	99.98	5.18E+00	
	Cs-134	569.32	15.43	3.80E+01	6.78E+00
		604.70	97.60	6.90E+00	
		795.84	85.40	6.78E+00	
		801.93	8.73	6.50E+01	
	CS-137	661.65	85.12	6.81E+00	6.81E+00
	Eu-152	344.30	27.00	2.44E+01	2.12E+01
		1407.95	20.70	2.12E+01	
	Eu-154	1274.45	35.50	1.57E+01	1.57E+01
	Eu-155	105.31	20.70	8.51E+01	8.51E+01
+	TL-208	72.80	2.02	1.28E+03	6.69E+00
		74.97*	3.41	6.19E+02	
		277.35	6.80	1.15E+02	
		510.77*	22.60	6.71E+01	
		583.19*	84.50	6.69E+00	
		860.56*	12.42	4.73E+01	
+	BI-212	727.18*	11.80	4.83E+01	4.83E+01
		785.42*	2.00	2.91E+02	
+	PB-212	74.81*	9.60	2.20E+02	1.75E+01
		77.11*	17.50	1.20E+02	
		87.20	6.30	3.46E+02	
		89.80	1.75	1.21E+03	
		238.63*	44.60	1.75E+01	
		300.09*	3.41	1.78E+02	
	PO-212	583.02*	2.00	2.82E+02	2.82E+02
+	BI-214	609.31*	46.30	1.25E+01	1.25E+01
		768.36*	5.04	1.08E+02	
		806.17	1.23	4.55E+02	
		934.06*	3.21	1.72E+02	
		1120.29*	14.80	4.12E+01	
		1238.11*	5.94	1.28E+02	
		1377.67*	4.11	1.12E+02	
		1385.31	0.78	5.57E+02	
		1407.98	2.48	1.77E+02	
		1509.19*	2.19	1.62E+02	
		1729.60*	3.05	9.59E+01	
		1764.49*	15.80	1.77E+01	
+	PB-214	74.81*	5.90	3.58E+02	1.58E+01
		77.11*	10.70	1.96E+02	

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	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Unit)	Nuclide MDA (pCi/Unit)
+	PB-214	87.30	3.70	5.88E+02	1.58E+01
		241.98	7.50	1.32E+02	
		295.21*	19.20	3.09E+01	
		351.92*	37.20	1.58E+01	
FR-223	FR-223	50.20	34.00	1.97E+02	1.97E+02
		61.51	0.14	4.39E+04	
		79.77	9.20	5.85E+02	
		88.47	2.70	1.79E+03	
		83.78	24.80	9.08E+01	
RA-223	RA-223	94.90	11.30	1.75E+02	5.73E+01
		144.20	3.26	4.13E+02	
		269.41	13.60	5.73E+01	
		94.90	0.14	1.41E+04	
		186.21*	3.28	2.68E+02	
RA-226	RA-226	94.90	0.14	1.41E+04	2.68E+02
		186.21*	3.28	2.68E+02	
+	AC-228	89.95	1.94	1.09E+03	2.11E+01
		93.35*	3.20	5.52E+02	
		129.08	2.80	5.45E+02	
		209.28*	4.40	1.79E+02	
		270.23*	3.60	2.10E+02	
		327.64	3.20	2.14E+02	
		338.32*	11.40	5.35E+01	
		409.51	2.13	3.01E+02	
		463.00*	4.40	1.23E+02	
		794.70*	4.60	1.35E+02	
		835.50*	1.75	3.58E+02	
		911.21*	27.70	2.11E+01	
		964.60*	5.20	1.17E+02	
		969.10*	16.60	3.31E+01	
PA-234m	1001.00	0.65	8.89E+02	8.89E+02	
+	TH-234	63.29*	4.50	5.43E+02	3.20E+02
		92.50*	5.51	3.20E+02	
		93.35*	4.50	3.92E+02	
+	U-235	93.35*	4.50	3.92E+02	1.53E+01
		143.76	10.90	1.24E+02	
		163.33	5.00	2.36E+02	
		185.71*	57.50	1.53E+01	
		205.31	5.00	1.94E+02	

+ = Nuclide identified during the nuclide identification

\* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

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\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

Report Generated On : 4-11-95 9:30:30 AM  
Sample Title : Inf. Plane unif. dist w/ depth  
Spectrum Description : 0005A0CF02 TRAINING BLDG CLASSROOM, PRE-PARTIC  
REMOVAL  
Sample Identification : IPV207 BACK1  
Sample Type : ipv  
Sample Geometry :  
Peak Locate Threshold : 2.80  
Peak Locate Range (in channels) : 100 - 8192  
Peak Area Range (in channels) : 200 - 8192  
Identification Energy Tolerance : 1.600 keV  
Sample Size : 1.000E+00 Unit  
Sample Taken On : 4-05-95 2:41:58 PM  
Acquisition Started : 4-05-95 2:41:58 PM  
Live Time : 3600.0 seconds  
Real Time : 3639.2 seconds

Energy Calibration Used Done On : 3-17-95  
Efficiency Calibration Used Done On : 7-26-94

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 \*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Peak Analysis Performed on: 4-11-95 9:30:47 AM  
 Peak Analysis From Channel: 200  
 Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	2	294-	316	302.78	75.30	1.33E+03	414.97	2.16E+04
m	3	294-	316	311.19	77.40	1.19E+03	379.50	1.88E+04
	4	346-	358	352.45	87.72	4.36E+02	464.44	2.11E+04
	5	368-	380	373.15	92.90	3.49E+02	458.87	2.07E+04
	6	740-	754	746.81	186.38	3.06E+02	324.86	9.43E+03
	7	769-	781	775.98	193.68	-3.75E+02	276.47	7.68E+03
	8	831-	847	838.85	209.41	4.46E+02	318.45	8.29E+03
	9	948-	964	957.18	239.01	2.58E+03	304.08	6.87E+03
	10	1104-	1119	1111.99	277.74	8.13E+01	220.45	4.18E+03
M	11	1175-	1209	1183.46	295.62	8.25E+02	324.89	2.79E+03
m	12	1175-	1209	1202.89	300.48	2.32E+02	109.56	2.79E+03
M	13	1307-	1363	1315.82	328.73	1.91E+02	149.52	2.34E+03
	14	1307-	1363	1331.69	332.70	5.91E+01	72.31	2.51E+03
	15	1307-	1363	1355.56	338.67	5.35E+02	392.49	2.49E+03
	16	1402-	1418	1410.15	352.33	1.47E+03	196.96	2.76E+03
	17	1597-	1615	1606.89	401.55	-1.07E+02	177.13	2.45E+03
	18	1632-	1648	1640.04	409.84	1.76E+02	153.67	1.91E+03
	19	1845-	1866	1855.01	463.62	1.68E+02	173.73	2.05E+03
	20	2025-	2087	2045.41	511.26	1.09E+03	423.81	5.13E+03
	21	2159-	2180	2168.30	542.00	1.80E+01	150.29	1.56E+03
	22	2323-	2347	2334.63	583.61	1.55E+03	179.49	1.66E+03
	23	2426-	2448	2439.07	609.74	1.73E+03	162.60	1.33E+03
	24	2637-	2661	2648.54	662.14	9.39E-02	155.63	1.52E+03
	25	2900-	2921	2910.94	727.79	3.05E+02	129.33	1.08E+03
	26	3062-	3084	3074.56	768.72	1.21E+02	130.34	1.11E+03
	27	3134-	3157	3144.54	786.23	9.08E+01	126.94	1.03E+03
	28	3170-	3193	3181.54	795.48	5.70E+01	132.28	1.12E+03
	29	3227-	3249	3238.72	809.74	-1.43E+02	124.29	1.07E+03
	30	3313-	3335	3324.60	831.28	3.36E+01	118.48	9.33E+02
	31	3429-	3457	3443.72	861.08	2.32E+02	139.91	1.05E+03
	32	3634-	3657	3645.74	911.62	1.00E+03	134.86	9.32E+02
M	33	3845-	3887	3859.84	965.18	1.80E+02	50.20	6.67E+02
m	34	3845-	3887	3876.73	969.40	7.16E+02	156.79	6.51E+02
	35	4466-	4493	4481.35	1120.66	4.70E+02	120.76	7.39E+02
M	36	4584-	4632	4598.20	1149.90	1.04E+02	109.23	5.67E+02
m	37	4584-	4632	4618.86	1155.07	8.44E+01	91.58	6.34E+02
	38	4680-	4705	4693.25	1173.67	1.01E+03	128.88	7.80E+02
	39	4938-	4964	4951.98	1238.40	6.45E+01	116.61	7.94E+02
	40	5313-	5343	5329.89	1332.94	1.46E+03	110.65	3.52E+02
	41	5491-	5522	5508.58	1377.65	1.28E+02	67.09	2.06E+02
	42	5616-	5646	5631.54	1408.41	7.90E+01	65.94	2.12E+02

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	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	43	5825-	5858	5842.56	1461.20	8.78E+03	196.42	2.39E+02
	44	5969-	5997	5983.87	1496.55	2.84E+01	46.17	1.13E+02
	45	6019-	6053	6036.56	1509.74	7.42E+01	56.71	1.41E+02
M	46	6337-	6386	6351.93	1588.63	7.95E+01	41.96	1.18E+02
m	47	6337-	6386	6368.79	1592.85	1.06E+02	51.62	8.85E+01
	48	6468-	6496	6482.65	1621.33	3.16E+01	46.61	1.15E+02
	49	6505-	6534	6520.96	1630.92	6.94E+01	38.77	6.76E+01
	50	6900-	6929	6915.39	1729.60	6.36E+01	44.82	9.64E+01
	51	7039-	7070	7055.90	1764.75	3.52E+02	57.06	9.94E+01
	52	7372-	7402	7387.17	1847.62	6.63E+01	38.03	6.37E+01
	53	7805-	7840	7824.72	1957.08	6.25E-01	43.79	8.74E+01

One or more peaks were dropped due to multiplet de-convolution.

M = First peak in a multiplet region

m = Other peak in a multiplet region

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
 \*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*  
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Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\FSV1.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Unit)	Activity Uncertainty
K-40	0.985	1460.81*	10.67	3.421E+03	2.013E+02
CO-60	0.981	1173.24*	99.90	3.930E+01	3.500E+00
		1332.50*	99.98	5.913E+01	4.084E+00
CS-137	0.976	661.65*	85.12	3.242E-03	2.743E+00
TL-208	0.958	72.80	2.02		
		74.97*	3.41	1.086E+03	1.920E+02
		277.35*	6.80	2.287E+01	3.169E+01
		510.77*	22.60	1.224E+02	2.585E+01
		583.19*	84.50	5.010E+01	4.668E+00
		860.56*	12.42	6.329E+01	1.996E+01
BI-212	0.960	727.18*	11.80	8.001E+01	1.829E+01
		785.42*	2.00	1.467E+02	1.056E+02
PB-212	0.955	74.81*	9.60	3.859E+02	6.894E+01
		77.11*	17.50	1.849E+02	3.338E+01
		87.20*	6.30	1.655E+02	9.135E+01
		89.80	1.75		
		238.63*	44.60	1.060E+02	1.009E+01
		300.09*	3.41	1.338E+02	6.096E+01
BI-214	0.912	609.31*	46.30	1.049E+02	9.128E+00
		768.36*	5.04	7.681E+01	4.246E+01
		806.17	1.23		
		934.06	3.21		
		1120.29*	14.80	1.213E+02	1.768E+01
		1238.11*	5.94	4.300E+01	3.979E+01
		1377.67*	4.11	1.276E+02	3.541E+01
		1385.31	0.78		
		1407.98*	2.48	1.312E+02	5.701E+01
		1509.19*	2.19	1.419E+02	5.741E+01
		1729.60*	3.05	8.925E+01	3.314E+01
		1764.49*	15.80	9.541E+01	1.031E+01
PB-214	0.819	74.81*	5.90	6.278E+02	1.137E+02
		77.11*	10.70	3.025E+02	5.508E+01
		87.30*	3.70	2.818E+02	1.553E+02
		241.98	7.50		
		295.21*	19.20	8.408E+01	1.780E+01
		351.92*	37.20	8.329E+01	7.943E+00
RA-226	0.945	94.90	0.14		
		186.21*	3.28	1.653E+02	9.047E+01
AC-228	0.757	89.95	1.94		
		93.35*	3.20	2.486E+02	1.693E+02
		129.08	2.80		
		209.28*	4.40	1.817E+02	6.845E+01

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Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Unit)	Activity Uncertainty
AC-228	0.757	270.23	3.60		
		327.64*	3.20	1.216E+02	5.057E+01
		338.32*	11.40	9.705E+01	3.693E+01
		409.51*	2.13	1.870E+02	8.820E+01
		463.00*	4.40	9.215E+01	4.940E+01
		794.70*	4.60	4.028E+01	4.782E+01
		835.50	1.75		
		911.21*	27.70	1.263E+02	1.268E+01
		964.60*	5.20	1.239E+02	2.171E+01
		969.10*	16.60	1.547E+02	2.051E+01
TH-234	0.434	63.29	4.50		
		92.50*	5.51	1.444E+02	9.862E+01

\* = Energy line found in the spectrum.

Energy tolerance used was 1.600

Nuclide confidence index threshold = 0.30

Errors quoted at 0.000 sigma

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\*\*\* INTERFERENCE CORRECTED REPORT \*\*\*  
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	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/Unit)	Wt mean Activity Uncertainty
	K-40	0.985	3.4210E+03	2.0126E+02
	CO-60	0.981	4.7701E+01	2.6577E+00
	CS-137	0.976	3.2425E-03	2.7427E+00
	TL-208	0.958	5.0542E+01	4.4818E+00
X	BI-211	0.422		
	BI-212	0.960	8.1952E+01	1.8019E+01
	PB-212	0.955	1.1354E+02	8.7700E+00
X	PO-212	0.966		
	BI-214	0.912	1.0245E+02	5.9639E+00
	PB-214	0.819	8.5428E+01	7.1113E+00
	RA-226	0.945	1.6532E+02	9.0470E+01
	AC-228	0.757	1.2618E+02	8.6198E+00
	TH-234	0.434	7.1072E+01	9.7488E+01
X	U-235	0.565		

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

Errors quoted at 0.000 sigma

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## \*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak Locate Performed on: 4-11-95 9:30:33 AM  
Peak Locate From Channel: 100  
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
7	193.68	-1.0412E-01	-0.00
m 14	332.70	1.6416E-02	0.00
17	401.55	-2.9770E-02	-0.00
21	542.00	4.9953E-03	0.00
29	809.74	-3.9856E-02	-0.00
30	831.28	9.3343E-03	0.00
M 36	1149.90	2.8818E-02	0.00
m 37	1155.07	2.3432E-02	0.00
44	1496.55	7.8842E-03	0.00
M 46	1588.63	2.2085E-02	0.00
m 47	1592.85	2.9368E-02	0.00
48	1621.33	8.7708E-03	0.00
49	1630.92	1.9282E-02	0.00
52	1847.62	1.8422E-02	0.00
53	1957.08	1.7361E-04	0.00

M = First peak in a multiplet region  
m = Other peak in a multiplet region

Errors quoted at 0.000 sigma

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\*\*\*\*\*  
 \*\*\* N U C L I D E M D A R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Geometry:  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\F5V1.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Unit)	Nuclide MDA (pCi/Unit)
+	K-40	1460.81*	10.67	4.66E+01	4.66E+01
	Mn-54	334.83	99.97	6.93E+00	6.93E+00
+	CO-60	1173.24*	99.90	7.47E+00	5.66E+00
		1332.50*	99.98	5.66E+00	
	Cs-134	569.32	15.43	4.41E+01	7.60E+00
		604.70	97.60	7.60E+00	
		795.84	85.40	8.36E+00	
		801.93	8.73	8.03E+01	
+	CS-137	661.65*	85.12	9.12E+00	9.12E+00
	Eu-152	344.30	27.00	2.75E+01	2.14E+01
		1407.95	20.70	2.14E+01	
	Eu-154	1274.45	35.50	1.66E+01	1.66E+01
	Eu-155	105.31	20.70	8.96E+01	8.96E+01
+	TL-208	72.80	2.02	1.32E+03	8.91E+00
		74.97*	3.41	6.75E+02	
		277.35*	6.80	1.05E+02	
		510.77*	22.60	7.95E+01	
		583.19*	84.50	8.91E+00	
		860.56*	12.42	6.33E+01	
+	BI-212	727.18*	11.80	5.57E+01	5.57E+01
		785.42*	2.00	3.45E+02	
+	PB-212	74.81*	9.60	2.40E+02	1.99E+01
		77.11*	17.50	1.21E+02	
		87.20*	6.30	2.96E+02	
		89.80	1.75	1.27E+03	
		238.63*	44.60	1.99E+01	
		300.09*	3.41	1.85E+02	
	PO-212	583.02*	2.00	3.76E+02	3.76E+02
+	BI-214	609.31*	46.30	1.45E+01	1.45E+01
		768.36*	5.04	1.38E+02	
		806.17	1.23	5.55E+02	
		934.06	3.21	2.21E+02	
		1120.29*	14.80	4.96E+01	
		1238.11*	5.94	1.31E+02	
		1377.67*	4.11	1.09E+02	
		1385.31	0.78	5.33E+02	
		1407.98*	2.48	1.81E+02	
		1509.19*	2.19	1.79E+02	
		1729.60*	3.05	1.03E+02	
		1764.49*	15.80	2.06E+01	
+	PB-214	74.81*	5.90	3.90E+02	1.74E+01
		77.11*	10.70	1.98E+02	

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	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Unit)	Nuclide MDA (pCi/Unit)		
+	PB-214	87.30*	3.70	5.04E+02	1.74E+01		
		241.98	7.50	1.42E+02			
		295.21*	19.20	3.14E+01			
		351.92*	37.20	1.74E+01			
FR-223	FR-223	50.20	34.00	2.03E+02	2.03E+02		
		61.51	0.14	4.54E+04			
		79.77	9.20	6.06E+02			
		88.47	2.70	1.88E+03			
		83.78	24.80	9.42E+01			
RA-223	RA-223	94.90	11.30	1.84E+02	6.31E+01		
		144.20	3.26	4.43E+02			
		269.41	13.60	6.31E+01			
		94.90	0.14	1.48E+04			
+	RA-226	186.21*	3.28	2.95E+02	2.95E+02		
		89.95	1.94	1.15E+03			
+	AC-228	93.35*	3.20	5.49E+02	2.56E+01		
		129.08	2.80	5.78E+02			
		209.28*	4.40	2.17E+02			
		270.23	3.60	2.38E+02			
		327.64*	3.20	1.94E+02			
		338.32*	11.40	5.70E+01			
		409.51*	2.13	2.73E+02			
		463.00*	4.40	1.60E+02			
		794.70*	4.60	1.58E+02			
		835.50	1.75	3.96E+02			
		911.21*	27.70	2.56E+01			
		964.60*	5.20	1.23E+02			
		969.10*	16.60	3.76E+01			
		PA-234m	1001.00	0.65		1.06E+03	1.06E+03
		+	TH-234	63.29		4.50	6.18E+02
92.50*	5.51			3.19E+02			
U-235	U-235	93.35*	4.50	3.90E+02	1.68E+01		
		143.76	10.90	1.33E+02			
		163.33	5.00	2.52E+02			
		185.71*	57.50	1.68E+01			
		205.31	5.00	2.12E+02			

+ = Nuclide identified during the nuclide identification

\* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

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\*\*\*\*\*  
\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
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Report Generated On : 4-11-95 7:09:49 AM  
Sample Title : Inf. Plane unif. dist w/ depth  
Spectrum Description : 0005A0CF02 TRAINING BLDG, CLASSROOM, PRE-PARTI  
Sample Identification : IPV209 BACK10  
Sample Type : ipv  
Sample Geometry :  
Peak Locate Threshold : 2.80  
Peak Locate Range (in channels) : 100 - 8192  
Peak Area Range (in channels) : 200 - 8192  
Identification Energy Tolerance : 1.600 keV  
Sample Size : 1.000E+00 Unit  
Sample Taken On : 4-11-95 7:01:01 AM  
Acquisition Started : 4-11-95 7:01:01 AM  
Live Time : 300.0 seconds  
Real Time : 302.9 seconds

Energy Calibration Used Done On : 3-17-95  
Efficiency Calibration Used Done On : 7-26-94

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 \*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Peak Analysis Performed on: 4-11-95 7:09:57 AM  
 Peak Analysis From Channel: 200  
 Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	2	227-	240	235.82	58.55	-4.05E+01	57.27	1.21E+03
	3	304-	317	309.18	76.90	4.25E+01	71.79	1.86E+03
	4	838-	852	845.71	211.12	-5.68E+01	38.81	5.44E+02
M	5	947-	973	954.29	238.29	2.34E+02	47.66	3.48E+02
m	6	947-	973	966.80	241.42	6.13E+01	17.62	3.54E+02
	7	1173-	1188	1180.01	294.76	9.90E+01	30.15	2.70E+02
	8	1344-	1360	1352.54	337.92	7.15E+01	26.12	1.96E+02
	9	1399-	1415	1407.50	351.67	1.99E+02	27.76	1.83E+02
	10	2319-	2341	2331.76	582.89	1.35E+02	20.34	7.19E+01
	11	2424-	2449	2436.71	609.15	1.89E+02	22.52	7.47E+01
	12	3629-	3653	3642.83	910.89	7.83E+01	16.08	4.38E+01
	13	3862-	3884	3873.59	968.62	4.56E+01	16.72	6.04E+01
	14	4464-	4492	4480.76	1120.52	4.03E+01	16.58	5.07E+01
	15	4522-	4548	4536.75	1134.52	-1.08E+01	15.97	6.07E+01
	16	5825-	5855	5840.09	1460.58	7.02E+02	28.21	1.94E+01
	17	7039-	7067	7053.47	1764.14	3.38E+01	8.20	7.25E+00

One or more peaks were dropped due to multiplet de-convolution.  
 M = First peak in a multiplet region  
 m = Other peak in a multiplet region

Errors quoted at 1.000 sigma

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 \*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*  
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Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\FSV1.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/Unit)	Activity Uncertainty
K-40	0.995	1460.81*	10.67	3.280E-03	2.307E-04
		72.80	2.02		
		74.97	3.41		
		277.35	6.80		
		510.77	22.60		
TL-208	0.404	583.19*	84.50	5.253E-05	8.763E-06
		860.56	12.42		
		74.81	9.60		
		77.11*	17.50		
		87.20	6.30		
PB-212	0.646	89.80	1.75	7.954E-05	1.345E-04
		238.63*	44.60		
		300.09	3.41		
		583.02*	2.00		
		609.31*	46.30		
PO-212	0.998	768.36	5.04	1.376E-04	1.919E-05
		806.17	1.23		
		934.06	3.21		
		1120.29*	14.80		
		1238.11	5.94		
BI-214	0.620	1377.67	4.11	1.246E-04	5.193E-05
		1385.31	0.78		
		1407.98	2.48		
		1509.19	2.19		
		1729.60	3.05		
		1764.49*	15.80		
		74.81	5.90		
		77.11*	10.70		
		87.30	3.70		
		241.98*	7.50		
PB-214	0.841	295.21*	19.20	1.099E-04	2.778E-05
		351.92*	37.20		

\* = Energy line found in the spectrum.

Energy tolerance used was 1.600

Nuclide confidence index threshold = 0.30

Errors quoted at 1.000 sigma

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\*\*\*\*\*  
\*\*\*\* INTERFERENCE CORRECTED REPORT \*\*\*\*  
\*\*\*\*\*

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/Unit)	Wt mean Activity Uncertainty
	K-40	0.995	3.2803E-03	2.3073E-04
?	TL-208	0.404	5.2534E-05	8.7629E-06
X	BI-211	0.325		
	PB-212	0.646	1.1153E-04	2.4359E-05
?	PO-212	0.998	2.2196E-03	3.6978E-04
	BI-214	0.620	1.2833E-04	1.5103E-05
	PB-214	0.841	1.3566E-04	1.7162E-05

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

Errors quoted at 1.000 sigma

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## \*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak Locate Performed on: 4-11-95 7:09:52 AM  
Peak Locate From Channel: 100  
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
2	58.55	-1.3500E-01	-141.41
4	211.12	-1.8917E-01	-68.39
8	337.92	2.3833E-01	36.54
12	910.89	2.6083E-01	20.56
13	968.62	1.5208E-01	36.65
15	1134.52	-3.5833E-02	-148.56

M = First peak in a multiplet region  
m = Other peak in a multiplet region

Errors quoted at 1.000 sigma

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\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\*\*\*\*

0005A 0CF02

Report Generated On : 4-11-95 11:53:29 AM

Sample Title : Inf. Plane unif. dist w/ depth  
Spectrum Description : Training Building Classroom After Hot  
Sample Identification : Particle Removal IPV215 back16  
Sample Type : ipv - 215  
Sample Geometry :

Peak Locate Threshold : 2.80  
Peak Locate Range (in channels) : 100 - 8192  
Peak Area Range (in channels) : 200 - 8192  
Identification Energy Tolerance : 1.600 keV

Sample Size : 1.000E+00 Unit

Sample Taken On : 4-11-95 10:52:32 AM  
Acquisition Started : 4-11-95 10:52:32 AM

Live Time : 3600.0 seconds  
Real Time : 3633.3 seconds

Energy Calibration Used Done On : 3-17-95  
Efficiency Calibration Used Done On : 7-26-94

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 \*\*\* P E A K A N A L Y S I S R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Peak Analysis Performed on: 4-11-95 11:54:00 AM  
 Peak Analysis From Channel: 200  
 Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	2	297-	317	302.65	75.26	9.97E+02	306.93	1.89E+04
m	3	297-	317	311.50	77.48	1.39E+03	406.99	1.88E+04
	4	346-	357	352.02	87.61	3.06E+00	415.32	1.79E+04
	5	739-	754	747.51	186.56	5.59E+02	317.15	8.53E+03
M	6	948-	979	957.25	239.03	3.13E+03	412.63	4.44E+03
m	7	948-	979	969.25	242.03	4.22E+02	110.05	4.30E+03
	8	1104-	1122	1112.92	277.97	3.16E+01	233.28	4.18E+03
M	10	1163-	1210	1183.77	295.70	4.81E+02	450.76	2.41E+03
m	11	1163-	1210	1203.07	300.53	6.49E+01	80.37	2.22E+03
	12	1304-	1322	1314.95	328.51	3.04E+02	195.22	2.84E+03
	13	1346-	1365	1355.43	338.64	5.82E+02	200.84	2.83E+03
	14	1402-	1418	1410.27	352.36	1.69E+03	181.01	2.19E+03
	15	1518-	1539	1528.62	381.97	1.30E+02	180.08	2.22E+03
	16	1630-	1673	1640.32	409.91	1.40E+01	174.78	1.01E+03
m	17	1630-	1673	1664.98	416.08	6.11E+01	145.20	9.66E+02
	18	1845-	1863	1854.51	463.50	2.13E+02	136.68	1.37E+03
	19	2024-	2087	2045.25	511.22	8.62E+02	375.14	3.95E+03
	20	2323-	2343	2334.77	583.65	1.33E+03	140.89	1.06E+03
	21	2429-	2448	2439.13	609.75	1.69E+03	133.02	8.32E+02
	22	2639-	2659	2649.82	662.46	8.37E+00	112.69	9.08E+02
	23	2900-	2920	2910.71	727.73	3.20E+02	106.74	7.30E+02
	24	2937-	2959	2947.32	736.89	-6.25E+00	107.40	7.76E+02
	25	3065-	3086	3075.25	768.89	1.23E+01	108.62	8.13E+02
	26	3128-	3153	3141.61	785.50	1.40E+02	112.36	7.40E+02
	27	3168-	3194	3180.84	795.31	1.06E+02	117.85	8.02E+02
	28	3333-	3355	3344.38	836.22	5.31E+01	101.98	6.77E+02
	30	3406-	3456	3443.96	861.14	-9.27E+00	202.42	1.44E+03
M	31	3605-	3660	3617.28	904.50	4.02E+01	36.43	5.07E+02
m	32	3605-	3660	3645.90	911.66	1.09E+03	211.66	4.99E+02
	33	3725-	3747	3736.71	934.37	6.71E+01	97.67	6.20E+02
M	34	3844-	3887	3860.04	965.23	2.07E+02	55.74	4.55E+02
m	35	3844-	3887	3876.69	969.39	6.89E+02	133.29	4.55E+02
	36	4468-	4493	4481.65	1120.74	4.46E+02	105.12	5.72E+02
	37	4830-	4856	4842.56	1211.03	-3.59E+01	107.36	6.94E+02
	38	4937-	4965	4952.97	1238.65	1.51E+02	117.64	7.46E+02
	39	4993-	5021	5006.37	1252.01	2.08E+01	96.85	5.23E+02
	40	5317-	5343	5330.53	1333.10	9.13E+01	71.84	2.86E+02
	41	5495-	5527	5510.42	1378.11	1.34E+02	70.22	2.25E+02
	42	5593-	5646	5606.45	1402.13	2.99E+01	40.00	1.58E+02

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	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
m	43	5593-	5646	5632.28	1408.60	5.92E+01	74.00	1.26E+02
	44	5825-	5857	5842.71	1461.24	8.75E+03	190.97	1.44E+02
	45	6021-	6049	6035.56	1509.48	3.73E+01	51.75	1.42E+02
	46	6158-	6186	6172.64	1543.78	1.95E+01	38.35	7.85E+01
	47	6221-	6250	6236.94	1559.87	-1.60E+01	46.28	1.20E+02
M	48	6337-	6383	6351.83	1588.61	4.15E+01	34.89	1.11E+02
m	49	6337-	6383	6368.86	1592.87	7.53E+01	57.73	9.83E+01
	50	6465-	6497	6480.46	1620.79	5.53E+01	46.43	9.87E+01
	51	6506-	6535	6520.86	1630.89	4.52E+01	44.02	9.68E+01
	52	6629-	6661	6644.49	1661.82	5.75E+00	46.22	1.07E+02
	53	6902-	6934	6917.76	1730.19	6.60E+01	44.54	8.70E+01
	54	7042-	7071	7056.00	1764.77	4.75E+02	55.50	6.95E+01
	55	7176-	7209	7194.33	1799.38	-1.13E+01	41.93	8.93E+01
	56	7371-	7404	7386.93	1847.56	3.79E+01	43.85	8.81E+01

One or more peaks were dropped due to multiplet de-convolution.

M = First peak in a multiplet region

m = Other peak in a multiplet region

Errors quoted at 1.960 sigma

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\*\*\*\*\*  
 \*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
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Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\FSV1.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Unit)	Activity Uncertainty
K-40	0.982	1460.81*	10.67	3.411E+03	2.005E+02
CS-137	0.936	661.65*	85.12	2.892E-01	1.986E+00
TL-208	0.956	72.80	2.02		
		74.97*	3.41	8.173E+02	1.425E+02
		277.35*	6.80	8.891E+00	3.351E+01
		510.77*	22.60	9.706E+01	2.262E+01
		583.19*	84.50	4.311E+01	3.879E+00
BI-212	0.974	860.56*	12.42	-2.525E+00	-2.814E+01
		727.18*	11.80	8.407E+01	1.557E+01
		785.42*	2.00	2.255E+02	9.541E+01
PB-212	0.954	74.81*	9.60	2.903E+02	5.119E+01
		77.11*	17.50	2.151E+02	3.638E+01
		87.20*	6.30	1.163E+00	8.057E+01
		89.80	1.75		
PO-212	0.962	238.63*	44.60	1.287E+02	1.284E+01
		300.09*	3.41	3.747E+01	2.775E+01
		583.02*	2.00	1.822E+03	1.632E+02
BI-214	0.953	609.31*	46.30	1.027E+02	8.521E+00
		768.36*	5.04	7.810E+00	3.509E+01
		806.17	1.23		
		934.06*	3.21	7.366E+01	5.511E+01
		1120.29*	14.80	1.151E+02	1.566E+01
		1238.11*	5.94	1.007E+02	4.061E+01
		1377.67*	4.11	1.340E+02	3.708E+01
		1385.31	0.78		
		1407.98*	2.48	9.832E+01	6.347E+01
		1509.19*	2.19	7.142E+01	5.108E+01
PB-214	0.983	1729.60*	3.05	9.261E+01	3.303E+01
		1764.49*	15.80	1.290E+02	1.180E+01
		74.81*	5.90	4.724E+02	8.442E+01
		77.11*	10.70	3.519E+02	6.010E+01
		87.30*	3.70	1.980E+00	1.372E+02
RA-226	0.936	241.98*	7.50	1.034E+02	1.550E+01
		295.21*	19.20	4.904E+01	2.366E+01
		351.92*	37.20	9.529E+01	8.222E+00
		94.90	0.14		
AC-228	0.601	186.21*	3.28	3.023E+02	9.031E+01
		89.95	1.94		
		93.35	3.20		
		129.08	2.80		
		209.28	4.40		
		270.23	3.60		

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Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/Unit)	Activity Uncertainty
AC-228	0.601	327.64*	3.20	1.936E+02	6.721E+01
		338.32*	11.40	1.055E+02	2.000E+01
		409.51*	2.13	7.854E+01	9.548E+01
		463.00*	4.40	1.168E+02	3.985E+01
		794.70*	4.60	7.512E+01	4.308E+01
		835.50*	1.75	1.011E+02	1.009E+02
		911.21*	27.70	1.366E+02	1.688E+01
		964.60*	5.20	1.424E+02	2.439E+01
		969.10*	16.60	1.489E+02	1.814E+01
		U-235	0.480	93.35	4.50
143.76	10.90				
163.33	5.00				
185.71*	57.50			1.724E+01	5.155E+00
205.31	5.00				

\* = Energy line found in the spectrum.

Energy tolerance used was 1.600

Nuclide confidence index threshold = 0.30

Errors quoted at 0.000 sigma

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\*\*\*\*\*  
\*\* INTERFERENCE CORRECTED REPORT \*\*\*\*\*  
\*\*\*\*\*

	Nuclide	Nuclide	Wt mean	Wt mean
	Name	Id	Activity	Activity
		Confidence	(pCi/Unit)	Uncertainty
	K-40	0.982	3.4109E+03	2.0049E+02
X	Mn-54	0.823		
	CS-137	0.936	2.8923E-01	1.9865E+00
	TL-208	0.956	2.6206E+01	3.2630E+01
	BI-212	0.974	8.7739E+01	1.5363E+01
	PB-212	0.954	1.1552E+02	1.0149E+01
	PO-212	0.962	7.1434E+02	1.3883E+03
	BI-214	0.953	1.0794E+02	5.8670E+00
	PB-214	0.983	9.4493E+01	6.8083E+00
?	RA-226	0.936	3.0229E+02	9.0309E+01
	AC-228	0.601	1.2902E+02	9.2299E+00
?	U-235	0.480	1.7244E+01	5.1554E+00

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

Errors quoted at 0.000 sigma

COPY

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## \*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak Locate Performed on: 4-11-95 11:53:35 AM  
Peak Locate From Channel: 100  
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
15	381.97	3.6215E-02	0.00
m 17	416.08	1.6974E-02	0.00
24	736.89	-1.7361E-03	-0.00
M 31	904.50	1.1175E-02	0.00
37	1211.03	-9.9635E-03	-0.00
39	1252.01	5.7839E-03	0.00
40	1333.10	2.5350E-02	0.00
M 42	1402.13	8.3173E-03	0.00
46	1543.78	5.4124E-03	0.00
48	1559.87	-4.4444E-03	-0.00
M 48	1588.61	1.1537E-02	0.00
m 49	1592.87	2.0907E-02	0.00
50	1620.79	1.5350E-02	0.00
51	1630.89	1.2567E-02	0.00
52	1661.82	1.5972E-03	0.00
55	1799.38	-3.1259E-03	-0.00
56	1847.56	1.0528E-02	0.00

M = First peak in a multiplet region  
m = Other peak in a multiplet region

Errors quoted at 0.000 sigma

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\*\*\*\*\*  
 \*\* NUCLIDE MDA REPORT \*\*\*\*\*  
 \*\*\*\*\*

Detector Name: DET01  
 Sample Geometry:  
 Sample Title: Inf. Plane unif. dist w/ depth  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\FSV1.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Unit)	Nuclide MDA (pCi/Unit)	
+	K-40	1460.81*	10.67	3.59E+01	3.59E+01	
	Mn-54	834.83*	99.97	5.74E+00	5.74E+00	
	CO-60	1173.24	99.90	6.84E+00	5.00E+00	
		1332.50	99.98	5.00E+00		
+	Cs-134	569.32	15.43	3.76E+01	6.76E+00	
		604.70	97.60	6.76E+00		
		795.84	85.40	6.92E+00		
		801.93	8.73	6.56E+01		
+	CS-137	661.65*	85.12	6.62E+00	6.62E+00	
		344.30	27.00	2.45E+01	2.09E+01	
	Eu-152	1407.95	20.70	2.09E+01		
		1274.45	35.50	1.63E+01	1.63E+01	
+	Eu-155	105.31	20.70	8.49E+01	8.49E+01	
		72.80	2.02	1.28E+03	6.70E+00	
	TL-208	74.97*	3.41	6.15E+02		
		277.35*	6.80	1.11E+02		
510.77*		22.60	7.04E+01			
583.19*		84.50	6.70E+00			
+	BI-212	860.56*	12.42	9.34E+01		
		727.18*	11.80	4.51E+01	4.51E+01	
+	PB-212	785.42*	2.00	3.02E+02		
		74.81*	9.60	2.19E+02	1.53E+01	
+	PB-212	77.11*	17.50	1.18E+02		
		87.20*	6.30	2.66E+02		
		89.80	1.75	1.20E+03		
		238.63*	44.60	1.53E+01		
		300.09*	3.41	1.64E+02		
		PO-212	583.02*	2.00	2.83E+02	2.83E+02
		+	BI-214	609.31*	46.30	1.09E+01
768.36*	5.04			1.17E+02		
806.17	1.23			4.60E+02		
934.06*	3.21			1.80E+02		
1120.29*	14.80			4.25E+01		
1238.11*	5.94			1.31E+02		
1377.67*	4.11			1.14E+02		
1385.31	0.78			5.47E+02		
1407.98*	2.48			1.26E+02		
1509.19*	2.19			1.67E+02		
1729.60*	3.05			1.02E+02		
+	PB-214	1764.49*	15.80	1.69E+01		
		74.81*	5.90	3.56E+02	1.55E+01	
		77.11*	10.70	1.94E+02		

COPY

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	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/Unit)	Nuclide MDA (pCi/Unit)
+	PB-214	87.30*	3.70	4.53E+02	1.55E+01
		241.98*	7.50	9.60E+01	
		295.21*	19.20	2.63E+01	
		351.92*	37.20	1.55E+01	
	FR-223	50.20	34.00	1.93E+02	1.93E+02
		61.51	0.14	4.35E+04	
		79.77	9.20	5.83E+02	
		88.47	2.70	1.78E+03	
	RA-223	83.78	24.80	9.06E+01	5.84E+01
		94.90	11.30	1.74E+02	
		144.20	3.26	4.17E+02	
		269.41	13.60	5.84E+01	
+	RA-226	94.90	0.14	1.41E+04	2.86E+02
		186.21*	3.28	2.86E+02	
+	AC-228	89.95	1.94	1.08E+03	1.87E+01
		93.35	3.20	6.27E+02	
		129.08	2.80	5.49E+02	
		209.28	4.40	2.21E+02	
		270.23	3.60	2.20E+02	
		327.64*	3.20	2.07E+02	
		338.32*	11.40	5.99E+01	
		409.51*	2.13	1.84E+02	
		463.00*	4.40	1.24E+02	
		794.70*	4.60	1.40E+02	
		835.50*	1.75	3.28E+02	
		911.21*	27.70	1.87E+01	
		964.60*	5.20	1.04E+02	
969.10*	16.60	3.12E+01			
	PA-234m	1001.00	0.65	9.01E+02	9.01E+02
	TH-234	63.29	4.50	5.92E+02	3.69E+02
		92.50	5.51	3.69E+02	
+	U-235	93.35	4.50	4.46E+02	1.63E+01
		143.76	10.90	1.25E+02	
		163.33	5.00	2.35E+02	
		185.71*	57.50	1.63E+01	
		205.31	5.00	1.96E+02	

+ = Nuclide identified during the nuclide identification

\* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

COPY

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**ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM**

Download Operator: Print Name: T. Pratt Signature: [Signature] Date: 4-11-95  
 Download Station #: 1 Download File #: 264 Time: 1115  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: T. Pratt Signature: [Signature] Date: 4-11-95  
 Print Name: C. Finkenbine Signature: [Signature] Date: 4/11/95  
 Instrument Serial #(s): Model 2350: 117573 Location Code: 0005A0CF02  
 Survey Unit Description: ~~Background~~ ~~Background~~ DETERMINATION - TRAINING BLDG  
 (Example: Rx Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Type Of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): BKGP DETERMINATION

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	Source Mean BKG Value	Pre & Post Use Info	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	119446	43-68B	0.21	491	264	
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input type="checkbox"/> Gamma $\gamma$		44-2		N/A		

Local Area Background Measurements:									% Diff	Survey Grand Mean
			Pre-Mean			Post-Mean				
Beta	1	2	3	4	5	6	7	8	9	10
	1504	2468	3506	493	1501	2510	3456	489	0.81	491
Alpha	1	2	3		1	2	3			

COMMENTS: DELETED SAMPLE #6 WROTE AT TIME - REMOVE AS #7  
CHANGED LOCATION CODE ON SAMPLES 7-13 FROM 0005A0CLAB TO 0005A0CF02  
[Signature] 4/11/95

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report

File #: 264, BACKGROUND DETERMINATION - TRAINING BLDG  
 Reason: BACKGROUND DETERMINATION User: CDF9819/117573  
 M2350 S/N: 117573 Det. SN: PR119446 Detector Area: 125.0 cm<sup>2</sup>  
 Detector Type: 125cm<sup>2</sup> Gas-Flow Proportional Detector (BETA)  
 Background: 490 cpm Efficiency: .210

Survey Performed By: [Signature] Date: 4/11/95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 4/11/95 Survey Start Time: 08:05 Station: 1  
 Date/Time Report Printed: 4/11/95 13:40:54 File: 264  
 Page: 1

Sample Number	Survey Location Code	Det. No.	Count Time (sec)	Gross Counts	Gross cpm per Probe Area	Net beta dpm per 100 sq. cm	H
1	SC1TC806	0	60	5223	5223	18030	*
Survey Location Average dpm/100 sq. cm. :						18030	
Survey Location Average cpm:						5223	
Number of Measurements at this Survey Location:						1	
2	SC2TC806	0	60	5223	5223	18030	*
Survey Location Average dpm/100 sq. cm. :						18030	
Survey Location Average cpm:						5223	
Number of Measurements at this Survey Location:						1	
0	SCBKGPRE	0	600	4238	424	-252	
Survey Location Average dpm/100 sq. cm. :						-252	
Survey Location Average cpm:						424	
Number of Measurements at this Survey Location:						1	
3	0005A0CLAB	1	60	504	504	53	

**COPY**

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

**COPY**

Survey Date: 4/11/95 Survey Start Time: 08:46  
 Date/Time Report Printed: 4/11/95 13:40:54

Station: 1  
 File: 264  
 Page: 2

Sample Number	Survey Location Code	Det. No.	Count Time (sec)	Gross Counts	Gross cpm per Probe Area	Net beta dpm per 100 sq. cm	H i
4	0005A0CLAB	1	60	460	460	-114	
5	0005A0CLAB	1	60	506	506	61	
37	0005A0CLAB	1	60	501	501	42	
38	0005A0CLAB	1	60	510	510	76	
39	0005A0CLAB	1	60	456	456	-130	

Survey Location Average dpm/100 sq. cm. : -2

Survey Location Average cpm: 490

Number of Measurements at this Survey Location: 6

7	0005A0CF02	2	60	625	625	514	
8	0005A0CF02	2	60	573	573	316	
9	0005A0CF02	2	60	531	531	156	
10	0005A0CF02	2	60	566	566	290	
11	0005A0CF02	2	60	534	534	168	
12	0005A0CF02	2	60	582	582	350	
13	0005A0CF02	2	60	554	554	244	
14	0005A0CF02	2	60	554	554	244	
15	0005A0CF02	2	60	599	599	415	
16	0005A0CF02	2	60	513	513	88	
17	0005A0CF02	2	60	568	568	297	
18	0005A0CF02	2	60	509	509	72	
19	0005A0CF02	2	60	580	580	343	
20	0005A0CF02	2	60	554	554	244	
21	0005A0CF02	2	60	586	586	366	
22	0005A0CF02	2	60	545	545	210	
23	0005A0CF02	2	60	556	556	251	
24	0005A0CF02	2	60	489	489	-4	
25	0005A0CF02	2	60	546	546	213	
26	0005A0CF02	2	60	578	578	335	
27	0005A0CF02	2	60	519	519	110	
28	0005A0CF02	2	60	637	637	560	
29	0005A0CF02	2	60	553	553	240	
30	0005A0CF02	2	60	539	539	187	
31	0005A0CF02	2	60	546	546	213	
32	0005A0CF02	2	60	515	515	95	
33	0005A0CF02	2	60	553	553	240	
34	0005A0CF02	2	60	555	555	248	
35	0005A0CF02	2	60	549	549	225	
36	0005A0CF02	2	60	544	544	206	

COPY

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

COPY

Survey Date: 4/11/95 Survey Start Time: 10:29  
Date/Time Report Printed: 4/11/95 13:40:54

Station: 1  
File: 264  
Page: 3

Sample Number	Survey Location Code	Det. No.	Count Time (sec)	Gross Counts	Gross cpm per Probe Area	Net beta dpm per 100 sq. cm	H
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Survey Location Average dpm/100 sq. cm. : 248

Survey Location Average cpm: 555

Number of Measurements at this Survey Location: 30

-----  
Total Number of Measurements on this Report: 39

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA

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\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

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ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET

FILE #	DATE /TIME	CORRECTIONS REQUIRED STAMP	CORRECTIONS NEEDED	REQUESTED BY	APPROVED BY	REVISED STAMP	PERFORMED BY DATE/TIME
24	4-8-95 1140		DELETE SAMPLE #6 CHANGE LOC. CODE OF SAMPLES 7-13 TO 0005A01FOZ	BO			BP 4-11-95

ATTACH THIS SHEET TO THE FRONT OF THE SURVEY DOWNLOAD REPORT REQUIRING CHANGES

COPY

COPY



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report

File #: 264, BACKGROUND DETERMINATION - TRAINING BLDG  
 Reason: BACKGROUND DETERMINATION User: CDF9819/117573  
 M2350 S/N: 117573 Det. SN: 119446 Detector Area: 125.0 cm<sup>2</sup>  
 Detector Type: 125cm<sup>2</sup> Gas-Flow Proportional Detector (BETA)  
 Background: 491 cpm Efficiency: .210

Survey Performed By: Tim. Pratt J.P. Hill Date: 4-11-95  
 Survey Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Survey Date: 4/11/95 Survey Start Time: 08:05 Station: 1  
 Date/Time Report Printed: 4/11/95 11:25:30 File: 264  
 Page: 1

Sample Number	Survey Location Code	Det. No.	Count Time (sec)	Gross Counts	Gross cpm per Probe Area	Net beta dpm per 100 sq. cm	H
1	SC1TC806	0	60	5223	5223	18027	*
						Survey Location Average dpm/100 sq. cm. :	18027
						Survey Location Average cpm:	5223
						Number of Measurements at this Survey Location:	1
2	SC2TC806	0	60	5223	5223	18027	*
						Survey Location Average dpm/100 sq. cm. :	18027
						Survey Location Average cpm:	5223
						Number of Measurements at this Survey Location:	1
0	SCBKGP	0	600	4238	424	-256	
						Survey Location Average dpm/100 sq. cm. :	-256
						Survey Location Average cpm:	424
						Number of Measurements at this Survey Location:	1

3 0005A0CLAB 1 60 504 504 50

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.



Survey Date: 4/11/95 Survey Start Time: 08:46  
Date/Time Report Printed: 4/11/95 11:25:30

Station: 1  
File: 264  
Page: 2

Sample Number	Survey Location Code	Det. No.	Count Time (sec)	Gross Counts	Gross cpm per Probe Area	Net beta dpm per 100 sq. cm	H
4	0005A0CLAB	1	60	460	460	-118	
5	0005A0CLAB	1	60	506	506	57	
37	0005A0CLAB	1	60	501	501	38	
38	0005A0CLAB	1	60	510	510	72	
39	0005A0CLAB	1	60	456	456	-133	

Survey Location Average dpm/100 sq. cm. : -6

Survey Location Average cpm: 490

Number of Measurements at this Survey Location: 6

14	0005A0CF02	2	60	554	554	240	
15	0005A0CF02	2	60	599	599	411	
16	0005A0CF02	2	60	513	513	84	
17	0005A0CF02	2	60	568	568	293	
18	0005A0CF02	2	60	509	509	69	
19	0005A0CF02	2	60	580	580	339	
20	0005A0CF02	2	60	554	554	240	
21	0005A0CF02	2	60	586	586	362	
22	0005A0CF02	2	60	545	545	206	
23	0005A0CF02	2	60	556	556	248	
24	0005A0CF02	2	60	489	489	-8	
25	0005A0CF02	2	60	546	546	210	
26	0005A0CF02	2	60	578	578	331	
27	0005A0CF02	2	60	519	519	107	
28	0005A0CF02	2	60	637	637	556	
29	0005A0CF02	2	60	553	553	236	
30	0005A0CF02	2	60	539	539	183	
31	0005A0CF02	2	60	546	546	210	
32	0005A0CF02	2	60	515	515	91	
33	0005A0CF02	2	60	553	553	236	
34	0005A0CF02	2	60	555	555	244	
35	0005A0CF02	2	60	549	549	221	
36	0005A0CF02	2	60	544	544	202	

Survey Location Average dpm/100 sq. cm. : 231

Survey Location Average cpm: 552

Number of Measurements at this Survey Location: 23

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

COPY

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Survey Date: 4/11/95 Survey Start Time: 08:52  
Date/Time Report Printed: 4/11/95 11:25:30

Station: 1  
File: 264  
Page: 3

Sample Number	Survey Location Code	Det. No.	Count Time (sec)	Gross Counts	Gross cpm per Probe Area	Net beta dpm per 100 sq. cm	H
<del>6</del>	<del>0005A0CLAB</del>	<del>2</del>	<del>15</del>	<del>152</del>	<del>608</del>	<del>446</del>	
7	0005A0CLAB	2	60	625	625	510	
8	0005A0CLAB	2	60	573	573	312	
9	0005A0CLAB	2	60	531	531	152	
10	0005A0CLAB	2	60	566	566	286	
11	0005A0CLAB	2	60	534	534	164	
12	0005A0CLAB	2	60	582	582	347	
13	0005A0CLAB	2	60	554	554	240	

*Detect  
was  
CT  
Time  
7p  
4-11-95*

*4-11-95*

Survey Location Average dpm/100 sq. cm. : 307

Survey Location Average cpm: 572

Number of Measurements at this Survey Location: 8

Total Number of Measurements on this Report: 40  
End of Report  
01559:C:\PDOX35\M2350\TLOGREVU:R2 4-23-93 JPA

COPY

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

COPY

**ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM**

Download Operator: Print Name: T. Pratt Signature: [Signature] Date: 4.5.95  
 Download Station #: 1 Download File #: 2597 260 Time: 1550  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

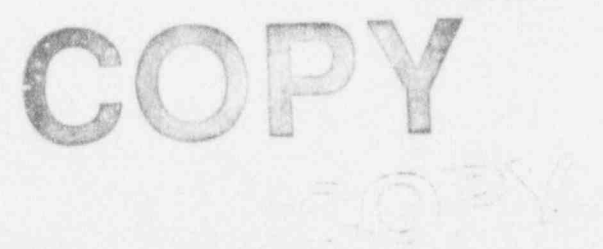
Surveyor(s): Print Name: T. Pratt Signature: [Signature] Date: 4.5.95  
 Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Instrument Serial #(s): Model 2350: 117570 117578 Location Code: 0005AOC F02

Survey Unit Description: BUGO DETERMINATION - TRAINING SLOG  
 (Example: Rm Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)  
 Type Of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): BUGO DETERMINATION

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	Source Mean BKG Value	Pre & Post Use Info	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	PR118687	44-2	1.678724E10	N/A	260	260

Local Area Background Measurements:									% Diff	Survey Grand Mean
			Pre-Mean			Post-Mean				
Beta	1	2	3	1	2	3				
Alpha	1	2	3	1	2	3				

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



SCIENTIFIC ECOLOGY GROUP, INC. - SEG

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 260, BACKGROUND DETERMINATION - TRAINING CENTER  
 Reason: BKGD DETERMINATION User: TJP0445/117578  
 M2350 S/N: 117578 Det. S/N: PR118687 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: T. Post JP Date: 4-5-95

Survey Reviewed By: Styer Date: 4/6/95

Survey Date: 4/05/95 Survey Start Time: 13:50 Station. 1  
 Date/Time Report Printed: 4/05/95 3:16 pm File: 260  
 Page: 1

Sample Number	Survey Location Code	Det. Setup No.	Count Time (sec)	Logged Counts	uR/hr	Hi
1	RC1CS857	6	30	380364	4231.27	*
2	RC1CS857	6	60	760975	4232.64	*
38	RC1CS857	6	60	759028	4221.81	*

Average uR/hr: 3523.36 Maximum 4232.64

Number of Measurements at this Survey Location: 3

3	RC2CS857	6	60	23597	131.25	*
39	RC2CS857	6	60	23931	133.11	*

Average uR/hr: 132.18 Maximum 133.11

Number of Measurements at this Survey Location: 2

4	RC3CS857	6	60	5925	32.96	*
40	RC3CS857	6	60	6121	34.05	*

Average uR/hr: 33.50 Maximum 34.05

Number of Measurements at this Survey Location: 2

5	RC4CS857	6	60	4164	23.16	*
6	RC4CS857	6	60	4039	22.47	*

\* Hi flag set at 5 micro-R/hr above background. c:\pdox35\tlogrevu.r4

COPY

COPY



Survey Date: 4/05/95 Survey Start Time: 15:48  
 Date/Time Report Printed: 4/05/95 3:16 pm

Station: 1  
 File: 260  
 Page: 2

Sample Number	Survey Location Code	Det. Setup No.	Count Time (sec)	Logged Counts	uR/hr	Hi
41	RC4CS857	6	60	4000	22.25	*
					Average uR/hr: 22.62	Maximum 23.16
Number of Measurements at this Survey Location:						3
37	RCBKGPOST	6	300	16287	18.12	*
					Average uR/hr: 18.12	Maximum 18.12
Number of Measurements at this Survey Location:						1
0	RCBKGPRE	6	300	15843	17.62	*
					Average uR/hr: 17.62	Maximum 17.62
Number of Measurements at this Survey Location:						1
7	0005AOCF02	8	60	2794	15.54	*
8	0005AOCF02	8	60	2826	15.72	*
9	0005AOCF02	8	60	2915	16.21	*
10	0005AOCF02	8	60	3107	17.28	*
11	0005AOCF02	8	60	2929	16.29	*
12	0005AOCF02	8	60	3031	16.86	*
13	0005AOCF02	8	60	2972	16.53	*
14	0005AOCF02	8	60	3021	16.80	*
15	0005AOCF02	8	60	2920	16.24	*
16	0005AOCF02	8	60	2953	16.42	*
17	0005AOCF02	8	60	3028	16.84	*
18	0005AOCF02	8	60	3017	16.78	*
19	0005AOCF02	8	60	3051	16.97	*
20	0005AOCF02	8	60	2963	16.48	*
21	0005AOCF02	8	60	3061	17.03	*
22	0005AOCF02	8	60	3072	17.09	*
23	0005AOCF02	8	60	3025	16.83	*
24	0005AOCF02	8	60	2907	16.17	*
25	0005AOCF02	8	60	3016	16.78	*
26	0005AOCF02	8	60	2988	16.62	*
27	0005AOCF02	8	60	2809	15.62	*

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Survey Date: 4/05/95 Survey Start Time: 15:10  
Date/Time Report Printed: 4/05/95 3:16 pm

Station: 1  
File: 260  
Page: 3

Sample Number	Survey Location Code	Det. Setup No.	Count Time (sec)	Logged Counts	uR/hr	Hi
28	0005A0CF02	8	60	2905	16.16	*
29	0005A0CF02	8	60	2613	14.53	*
30	0005A0CF02	8	60	2688	14.95	*
31	0005A0CF02	8	60	2672	14.86	*
32	0005A0CF02	8	60	2749	15.29	*
33	0005A0CF02	8	60	2760	15.35	*
34	0005A0CF02	8	60	2806	15.61	*
35	0005A0CF02	8	60	2625	14.60	*
36	0005A0CF02	8	60	2516	13.99	*

Average uR/hr: 16.08      Maximum 17.28

Number of Measurements at this Survey Location: 30

Total Number of Measurements on this Report: 42  
End of Report

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**ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM**

Download Operator: Print Name: T. Post Signature: [Signature] Date: 4-5-95  
 Download Station #: 1 Download File #: 261 Time: 1615  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: C. Finkenbinder Signature: [Signature] Date: 4/5/95  
 Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 Instrument Serial #(s): Model 2350: 117566 Location Code: 0005A0CF02  
 Survey Unit Description: Bkg Determination - Training Bldg.  
(Example: Rx Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)  
 Type Of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain): Bkg Determination

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	Source Mean BKG Value	Pre & Post Use Info	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	119309	44-2	1.044589e+10	N/A	261	261

Local Area Background Measurements:								% Diff	Survey Grand Mean
Pre-Mean				Post-Mean					
Beta	1	2	3	1	2	3			
Alpha	1	2	3	1	2	3			

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



SCIENTIFIC ECOLOGY GROUP, INC. - SEG

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 261, BKGD DETERMINATION - TRAINING BLDG  
 Reason: BKGD DETERMINATION User: CDF9819/117566  
 M2350 S/N: 117566 Det. S/N: PR119309 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: [Signature] Date: 4/6/95

Survey Reviewed By: [Signature] Date: 4/6/95

Survey Date: 4/05/95 Survey Start Time: 13:58 Station: 1  
 Date/Time Report Printed: 4/05/95 3:16 pm File: 261  
 Page: 1

Sample Number	Survey Location Code	Det. Setup No.	Count Time (sec)	Logged Counts	uR/hr	Hi
1	RC1CS857	6	60	822209	4722.67	*
36	RC1CS857	6	60	817753	4697.08	*

-----  
 Average uR/hr: 4709.88 Maximum 4722.67

Number of Measurements at this Survey Location: 2  
 -----

2	RC2CS857	6	60	23571	135.39	*
37	RC2CS857	6	60	23796	136.68	*

-----  
 Average uR/hr: 136.04 Maximum 136.68

Number of Measurements at this Survey Location: 2  
 -----

3	RC3CS857	6	60	6073	34.88	*
38	RC3CS857	6	60	5919	34.00	*

-----  
 Average uR/hr: 34.44 Maximum 34.88

Number of Measurements at this Survey Location: 2  
 -----

4	RC4CS857	6	60	3975	22.83	*
39	RC4CS857	6	60	3932	22.58	*

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Survey Date: 4/05/95 Survey Start Time: 15:53  
 Date/Time Report Printed: 4/05/95 3:16 pm

Station: 1  
 File: 261  
 Page: 2

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-----
Sample   Survey   Det.   Count   Logged   uR/hr   H
Number  Location Code   Setup Time   Counts
-----

```

```

-----
Average uR/hr: 22.71
-----
Maximum
22.83

```

Number of Measurements at this Survey Location: 2

```

35 RCBKGPOST      6      300      15607      17.93      *

```

```

-----
Average uR/hr: 17.93
-----
Maximum
17.93

```

Number of Measurements at this Survey Location: 1

```

0 RCBKGPRES      6      300      15896      18.26      *

```

```

-----
Average uR/hr: 18.26
-----
Maximum
18.26

```

Number of Measurements at this Survey Location: 1

```

5 0005A0CF02      8      60      2804      16.11      *
6 0005A0CF02      8      60      2750      15.80      *
7 0005A0CF02      8      60      2882      16.55      *
8 0005A0CF02      8      60      2750      15.80      *
9 0005A0CF02      8      60      2928      16.82      *
10 0005A0CF02     8      60      2894      16.62      *
11 0005A0CF02     8      60      2893      16.62      *
12 0005A0CF02     8      60      2941      16.89      *
13 0005A0CF02     8      60      3055      17.55      *
14 0005A0CF02     8      60      2968      17.05      *
15 0005A0CF02     8      60      2930      16.83      *
16 0005A0CF02     8      60      2845      16.34      *
17 0005A0CF02     8      60      2993      17.19      *
18 0005A0CF02     8      60      2910      16.71      *
19 0005A0CF02     8      60      2863      16.44      *
20 0005A0CF02     8      60      2891      16.61      *
21 0005A0CF02     8      60      2969      17.05      *
22 0005A0CF02     8      60      2869      16.48      *
23 0005A0CF02     8      60      2892      16.61      *
24 0005A0CF02     8      60      2827      16.24      *
25 0005A0CF02     8      60      2774      15.93      *
26 0005A0CF02     8      60      2833      16.27      *

```

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Survey Date: 4/05/95 Survey Start Time: 15:09  
Date/Time Report Printed: 4/05/95 3:16 pm

Station: 1  
File: 261  
Page: 3

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Sample Number	Survey Location Code	Det. Setup No.	Count Time (sec)	Logged Counts	uR/hr	H i
27	0005A0CF02	8	60	2652	15.23	*
28	0005A0CF02	8	60	2725	15.65	*
29	0005A0CF02	8	60	2695	15.48	*
30	0005A0CF02	8	60	2705	15.54	*
31	0005A0CF02	8	60	2778	15.96	*
32	0005A0CF02	8	60	2677	15.38	*
33	0005A0CF02	8	60	2660	15.28	*
34	0005A0CF02	8	60	2634	15.13	*

Average uR/hr: 16.27      Maximum 17.55

Number of Measurements at this Survey Location: 30

---

Total Number of Measurements on this Report: 40  
End of Report

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BETA ACTIVITY ON SMEARS

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Number	Sample Date	Location Code or Identification	Gross cpm	Bkg Cnt Time (min)	Bkg cpm	Sample Cnt Time (min)	Net cpm	Net Source Eff.	Activity (dpm)	Critical Level (dpm)	MDA
26 00416	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00417	04/11/95	0005A0CF02	3	1	2	1	1	0.452	2.21	7.28	20.54
26 00418	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00419	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00420	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00421	04/11/95	0005A0CF02	4	1	2	1	2	0.452	4.42	7.28	20.54
26 00422	04/11/95	0005A0CF02	0	1	2	1	-2	0.452	-4.42	7.28	20.54
26 00423	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00424	04/11/95	0005A0CF02	3	1	2	1	1	0.452	2.21	7.28	20.54
26 00425	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00426	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00427	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00428	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00429	04/11/95	0005A0CF02	3	1	2	1	1	0.452	2.21	7.28	20.54
26 00430	04/11/95	0005A0CF02	0	1	2	1	-2	0.452	-4.42	7.28	20.54
26 00431	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00432	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00433	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00434	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00435	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00436	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00437	04/11/95	0005A0CF02	3	1	2	1	1	0.452	2.21	7.28	20.54
26 00438	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00439	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00440	04/11/95	0005A0CF02	3	1	2	1	1	0.452	2.21	7.28	20.54
26 00441	04/11/95	0005A0CF02	0	1	2	1	-2	0.452	-4.42	7.28	20.54
26 00442	04/11/95	0005A0CF02	2	1	2	1	0	0.452	0.00	7.28	20.54
26 00443	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54
26 00444	04/11/95	0005A0CF02	3	1	2	1	1	0.452	2.21	7.28	20.54
26 00445	04/11/95	0005A0CF02	1	1	2	1	-1	0.452	-2.21	7.28	20.54

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/3/95  
 Download Station #: 1 Download File #: 426 Time: 08:25  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: T. Pratt Signature: [Signature] Date: 8-3-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 98617

Survey Location description: Production Training Center - Classroom - Carpet wall / Drywall wall  
 (Example: Rt Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	94975	44-2	1.065444E10	N/A	426	439 432 #38-22-95

Local Area Background Measurements

										MEAN BKG CPM
MA										

COMMENTS: CHANGED DEECAL SETUP # FROM 7 TO 8 ON  
SAME POS 5-114 7/9

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Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 426, Prod Trng Complex, Classrm, Carpeted Wall/Drywall Wall  
 Reason: Initial Survey User: TJP0445/98617  
 M2150 S/N: 98617 Det. S/N: PR094975 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: [Signature]

Date: 8-8-95

Survey Reviewed By: [Signature]

Date: 9-5-95

Survey Date: 8/03/95 Survey Start Time: 06:59 Station: 1  
 Date/Time Report Printed: 8/07/95 8:40 am File: 426  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	1		RC1CS857	6	60	852782	4788.92	*

Maximum

Average uR/hr: 4788.92 4788.92

Number of Measurements at this Survey Location: 1

	2		RC1CS857	6	60	25574	143.61	*
--	---	--	----------	---	----	-------	--------	---

Maximum

Average uR/hr: 143.61 143.61

Number of Measurements at this Survey Location: 1

	3		RC1CS857	6	60	6652	37.36	*
--	---	--	----------	---	----	------	-------	---

Maximum

Average uR/hr: 37.36 37.36

Number of Measurements at this Survey Location: 1

	4		RC4CS857	6	60	4243	23.83	*
--	---	--	----------	---	----	------	-------	---

**COPY**

Survey Date: 8/03/95 Survey Start Time: 07:07  
 Date/Time Report Printed: 8/07/95 8:40 am

Station: 1  
 File: 426  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
 Average uR/hr: 23.83      Maximum 23.83

Number of Measurements at this Survey Location: 1

0		RCBKGP	PRE	6	300	16534	18.57	*
---	--	--------	-----	---	-----	-------	-------	---

-----  
 Average uR/hr: 18.57      Maximum 18.57

Number of Measurements at this Survey Location: 1

1	81	A	0342B0CW01	8	15	842	18.91	*
2	82	A	0342B0CW01	8	15	822	18.46	*
3	83	A	0342B0CW01	8	15	803	18.04	*
4	84	A	0342B0CW01	8	15	832	18.69	*
5	85	A	0342B0CW01	8	15	830	18.64	*
6	86	A	0342B0CW01	8	15	804	18.06	*
7	87	A	0342B0CW01	8	15	764	17.16	*
8	88	A	0342B0CW01	8	15	786	17.66	*
9	89	A	0342B0CW01	8	15	762	17.12	*
10	90	A	0342B0CW01	8	15	763	17.14	*
11	91	A	0342B0CW01	8	15	710	15.95	*
12	92	A	0342B0CW01	8	15	741	16.64	*
13	93	A	0342B0CW01	8	15	696	15.63	*
14	94	A	0342B0CW01	8	15	748	16.80	*
15	95	A	0342B0CW01	8	15	715	16.06	*
16	96	A	0342B0CW01	8	15	727	16.33	*
17	97	A	0342B0CW01	8	15	693	15.57	*
18	98	A	0342B0CW01	8	15	736	16.53	*
19	99	A	0342B0CW01	8	15	658	14.78	*
20	100	A	0342B0CW01	8	15	781	17.54	*
21	101	A	0342B0CW01	8	15	689	15.48	*
22	102	A	0342B0CW01	8	15	737	16.55	*
23	103	A	0342B0CW01	8	15	685	15.39	*
24	104	A	0342B0CW01	8	15	702	15.77	*
25	105	A	0342B0CW01	8	15	674	15.14	*
26	106	A	0342B0CW01	8	15	645	14.49	*
27	107	A	0342B0CW01	8	15	773	17.36	*
28	108	A	0342B0CW01	8	15	687	15.43	*
29	109	A	0342B0CW01	8	15	660	14.83	*
30	110	A	0342B0CW01	8	15	671	15.07	*

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Survey Date: 8/03/95 Survey Start Time: 08:04  
 Date/Time Report Printed: 8/07/95 8:40 am

Station: 1  
 File: 426  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count		Micro R/hr	H i
					Time (sec)	Gross Counts		
31	111	A	0342B0CW01	8	15	712	15.99	*
32	112	A	0342B0CW01	8	15	699	15.70	*
33	113	A	0342B0CW01	8	15	683	15.34	*
34	114	A	0342B0CW01	8	15	682	15.32	*

-----  
 Average uR/hr: 16.46      Maximum 18.91

Number of Measurements at this Survey Location: 34

1	5	A	0342B0MW02	8	15	779	17.50	*
2	6	A	0342B0MW02	8	15	845	18.98	*
3	7	A	0342B0MW02	8	15	860	19.32	*
4	8	A	0342B0MW02	8	15	823	18.49	*
5	9	A	0342B0MW02	8	15	857	19.25	*
6	10	A	0342B0MW02	8	15	800	17.97	*
7	11	A	0342B0MW02	8	15	874	19.63	*
8	12	A	0342B0MW02	8	15	838	18.82	*
9	13	A	0342B0MW02	8	15	781	17.54	*
10	14	A	0342B0MW02	8	15	790	17.75	*
11	15	A	0342B0MW02	8	15	795	17.86	*
12	16	A	0342B0MW02	8	15	839	18.85	*
13	17	A	0342B0MW02	8	15	811	18.22	*
14	18	A	0342B0MW02	8	15	808	18.15	*
15	19	A	0342B0MW02	8	15	771	17.32	*
16	20	A	0342B0MW02	8	15	836	18.78	*
17	21	A	0342B0MW02	8	15	839	18.85	*
18	22	A	0342B0MW02	8	15	822	18.46	*
19	23	A	0342B0MW02	8	15	778	17.48	*
20	24	A	0342B0MW02	8	15	729	16.60	*
21	25	A	0342B0MW02	8	15	766	17.21	*
22	26	A	0342B0MW02	8	15	774	17.39	*
23	27	A	0342B0MW02	8	15	753	16.91	*
24	28	A	0342B0MW02	8	15	774	17.39	*
25	29	A	0342B0MW02	8	15	810	18.19	*
26	30	A	0342B0MW02	8	15	747	16.78	*
27	31	A	0342B0MW02	8	15	727	16.33	*
28	32	A	0342B0MW02	8	15	683	15.34	*
29	33	A	0342B0MW02	8	15	693	15.57	*
30	34	A	0342B0MW02	8	15	712	15.99	*
31	35	A	0342B0MW02	8	15	724	16.26	*
32	36	A	0342B0MW02	8	15	733	16.47	*
33	37	A	0342B0MW02	8	15	772	17.34	*
34	38	A	0342B0MW02	8	15	684	15.36	*
35	39	A	0342B0MW02	8	15	758	17.03	*

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Survey Date: 8/03/95 Survey Start Time: 07:28  
Date/Time Report Printed: 8/07/95 8:40 am

Station: 1  
File: 426  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count		Micro R/hr	H i
					Time (sec)	Gross Counts		
36	40	A	0342BOMW02	8	15	688	15.45	*
37	41	A	0342BOMW02	8	15	726	16.31	*
38	42	A	0342BOMW02	8	15	678	15.23	*
39	43	A	0342BOMW02	8	15	704	15.81	*
40	44	A	0342BOMW02	8	15	686	15.41	*
41	45	A	0342BOMW02	8	15	729	16.38	*
42	46	A	0342BOMW02	8	15	735	16.51	*
43	47	A	0342BOMW02	8	15	772	17.34	*
44	48	A	0342BOMW02	8	15	725	16.29	*
45	49	A	0342BOMW02	8	15	729	16.38	*
46	50	A	0342BOMW02	8	15	751	16.87	*
47	51	A	0342BOMW02	8	15	756	16.98	*
48	52	A	0342BOMW02	8	15	765	17.18	*
49	53	A	0342BOMW02	8	15	714	16.04	*
50	54	A	0342BOMW02	8	15	682	15.32	*
51	55	A	0342BOMW02	8	15	758	17.03	*
52	56	A	0342BOMW02	8	15	734	16.26	*
53	57	A	0342BOMW02	8	15	687	15.43	*
54	58	A	0342BOMW02	8	15	696	15.63	*
55	59	A	0342BOMW02	8	15	682	15.32	*
56	60	A	0342BOMW02	8	15	663	14.89	*
57	61	A	0342BOMW02	8	15	677	15.21	*
58	62	A	0342BOMW02	8	15	641	14.40	*
59	63	A	0342BOMW02	8	15	718	16.13	*
60	64	A	0342BOMW02	8	15	685	15.39	*
61	65	A	0342BOMW02	8	15	747	16.78	*
62	66	A	0342BOMW02	8	15	743	16.69	*
63	67	A	0342BOMW02	8	15	750	16.85	*
64	68	A	0342BOMW02	8	15	729	16.38	*
65	69	A	0342BOMW02	8	15	709	15.93	*
66	70	A	0342BOMW02	8	15	725	16.29	*
67	71	A	0342BOMW02	8	15	726	16.31	*
68	72	A	0342BOMW02	8	15	646	14.51	*
69	73	A	0342BOMW02	8	15	726	16.31	*
70	74	A	0342BOMW02	8	15	762	17.12	*
71	75	A	0342BOMW02	8	15	691	15.52	*
72	76	A	0342BOMW02	8	15	654	14.69	*
73	77	A	0342BOMW02	8	15	652	14.65	*
74	78	A	0342BOMW02	8	15	699	15.70	*
75	79	A	0342BOMW02	8	15	722	16.22	*
76	80	A	0342BOMW02	8	15	689	15.48	*

COPY

Survey Date: 8/03/95 Survey Start Time: 07:48  
Date/Time Report Printed: 8/07/95 8:40 am

Station: 1  
File: 426  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

----- Maximum  
Average uR/hr: 16.71 19.63

Number of Measurements at this Survey Location: 76  
-----

-----  
Total Number of Measurements on this Report: 115

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

COPY

\* Hi flag set at 5 micro-R/hr above background.

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
426	8-3-95 0920	CHANGE DET SET UP # FROM 7 TO 8 FOR SAMPLES 5-114	T. [unclear]	JW Egert	Changed det. setup # from 7 to 8 on samples 5-114	JW Egert	3/7/95 08:40

Attach this sheet to the front of the Survey Download Report requiring changes.

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 426, Prod Trng Complex, Classrm, Carpeted Wall/Drywall Wall  
 Reason: Initial Survey User: TJP0445/98617  
 M2350 S/N: 98617 Det. S/N: PR094975 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: *[Signature]*

Date: 8-3-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 Survey Date: 8/03/95 Survey Start Time: 06:59 File: 426  
 Date/Time Report Printed: 8/03/95 8:37 am Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
1		RC1CS857		6	60	852782	4788.92	*
							Maximum	
Average uR/hr:							4788.92	4788.92
Number of Measurements at this Survey Location:								1
2		RC2CS857		6	60	25574	143.61	*
							Maximum	
Average uR/hr:							143.61	143.61
Number of Measurements at this Survey Location:								1
3		RC3CS857		6	60	6652	37.36	*
							Maximum	
Average uR/hr:							37.36	37.36
Number of Measurements at this Survey Location:								1
4		RC4CS857		6	60	4243	23.83	*

**COPY**

**SUPERSEDED**

\* Hi flag set at 5 micro-R/hr above background.



Survey Date: 8/03/95 Survey Start Time: 07:07  
 Date/Time Report Printed: 8/03/95 8:37 am

Station: 1  
 File: 426  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
--------	--------	-------------	-----------------	--------	------------	--------------	------------	---

-----  
 Average uR/hr: 23.83      Maximum 23.83

Number of Measurements at this Survey Location: 1

0                    RCBKGPPE            6    300      16534    18.57 \*

-----  
 Average uR/hr: 18.57      Maximum 18.57

Number of Measurements at this Survey Location: 1

1	81	A	0342B0CW01	15	842	18.91	*
2	82	A	0342B0CW01	15	822	18.46	*
3	83	A	0342B0CW01	15	803	16.04	*
4	84	A	0342B0CW01	15	832	18.69	*
5	85	A	0342B0CW01	15	830	18.64	*
6	86	A	0342B0CW01	15	804	18.06	*
7	87	A	0342B0CW01	15	764	17.16	*
8	88	A	0342B0CW01	15	786	17.66	*
9	89	A	0342B0CW01	15	762	17.12	*
10	90	A	0342B0CW01	15	763	17.14	*
11	91	A	0342B0CW01	15	710	15.95	*
12	92	A	0342B0CW01	15	741	16.64	*
13	93	A	0342B0CW01	15	696	15.63	*
14	94	A	0342B0CW01	15	748	16.80	*
15	95	A	0342B0CW01	15	715	16.06	*
16	96	A	0342B0CW01	15	727	16.33	*
17	97	A	0342B0CW01	15	693	15.57	*
18	98	A	0342B0CW01	15	736	16.53	*
19	99	A	0342B0CW01	15	658	14.78	*
20	100	A	0342B0CW01	15	781	17.54	*
21	101	A	0342B0CW01	15	689	15.48	*
22	102	A	0342B0CW01	15	737	16.55	*
23	103	A	0342B0CW01	15	685	15.39	*
24	104	A	0342B0CW01	15	702	15.77	*
25	105	A	0342B0CW01	15	674	15.14	*
26	106	A	0342B0CW01	15	645	14.49	*
27	107	A	0342B0CW01	15	773	17.36	*
28	108	A	0342B0CW01	15	687	15.43	*
29	109	A	0342B0CW01	15	660	14.83	*
30	110	A	0342B0CW01	15	671	15.07	*

*RF3-95*



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SUPERSEDED

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/03/95 Survey Start Time: 08:04  
 Date/Time Report Printed: 8/03/95 8:37 am

Station: 1  
 File: 426  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
31	111	A	0342B0CW01	15	15	712	15.99	*
32	112	A	0342B0CW01	15	15	699	15.70	*
33	113	A	0342B0CW01	15	15	683	15.34	*
34	114	A	0342B0CW01	15	15	682	15.32	*

----- Maximum  
 Average uR/hr: 16.46 18.91

Number of Measurements at this Survey Location: 34

1	5	A	0342B0MW02	15	15	779	17.50	*
2	6	A	0342B0MW02	15	15	845	18.98	*
3	7	A	0342B0MW02	15	15	860	19.32	*
4	8	A	0342B0MW02	15	15	823	18.49	*
5	9	A	0342B0MW02	15	15	857	19.25	*
6	10	A	0342B0MW02	15	15	800	17.97	*
7	11	A	0342B0MW02	15	15	874	19.63	*
8	12	A	0342B0MW02	15	15	838	18.82	*
9	13	A	0342B0MW02	15	15	781	17.54	*
10	14	A	0342B0MW02	15	15	790	17.75	*
11	15	A	0342B0MW02	15	15	795	17.86	*
12	16	A	0342B0MW02	15	15	839	18.85	*
13	17	A	0342B0MW02	15	15	811	18.22	*
14	18	A	0342B0MW02	15	15	808	18.15	*
15	19	A	0342B0MW02	15	15	771	17.32	*
16	20	A	0342B0MW02	15	15	836	18.78	*
17	21	A	0342B0MW02	15	15	839	18.85	*
18	22	A	0342B0MW02	15	15	822	18.46	*
19	23	A	0342B0MW02	15	15	778	17.48	*
20	24	A	0342B0MW02	15	15	739	16.60	*
21	25	A	0342B0MW02	15	15	766	17.21	*
22	26	A	0342B0MW02	15	15	774	17.39	*
23	27	A	0342B0MW02	15	15	753	16.91	*
24	28	A	0342B0MW02	15	15	774	17.39	*
25	29	A	0342B0MW02	15	15	810	18.19	*
26	30	A	0342B0MW02	15	15	747	16.78	*
27	31	A	0342B0MW02	15	15	727	16.33	*
28	32	A	0342B0MW02	15	15	683	15.34	*
29	33	A	0342B0MW02	15	15	693	15.57	*
30	34	A	0342B0MW02	15	15	712	15.99	*
31	35	A	0342B0MW02	15	15	724	16.26	*
32	36	A	0342B0MW02	15	15	733	16.47	*
33	37	A	0342B0MW02	15	15	772	17.34	*
34	38	A	0342B0MW02	15	15	684	15.36	*
35	39	A	0342B0MW02	15	15	758	17.03	*

COPY

SUPERSEDED

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/03/95 Survey Start Time: 07:28  
 Date/Time Report Printed: 8/03/95 8:17 am

Station: 1  
 File: 426  
 Page: 4

Comments

Loc No	Snap No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	M i	Count
36	40	A	0342BOMW02	7	15	688	15.45	*	8
37	41	A	0342BOMW02	7	15	726	16.31	*	
38	42	A	0342BOMW02	7	15	678	15.23	*	
39	43	A	0342BOMW02	7	15	704	15.81	*	
40	44	A	0342BOMW02	7	15	686	15.41	*	
41	45	A	0342BOMW02	7	15	729	16.38	*	
42	46	A	0342BOMW02	7	15	735	16.51	*	
43	47	A	0342BOMW02	7	15	772	17.34	*	
44	48	A	0342BOMW02	7	15	725	16.29	*	
45	49	A	0342BOMW02	7	15	729	16.38	*	
46	50	A	0342BOMW02	7	15	751	16.87	*	
47	51	A	0342BOMW02	7	15	756	16.98	*	
48	52	A	0342BOMW02	7	15	765	17.18	*	
49	53	A	0342BOMW02	7	15	714	16.04	*	
50	54	A	0342BOMW02	7	15	682	15.32	*	
51	55	A	0342BOMW02	7	15	758	17.03	*	
52	56	A	0342BOMW02	7	15	724	16.26	*	
53	57	A	0342BOMW02	7	15	687	15.43	*	
54	58	A	0342BOMW02	7	15	696	15.63	*	
55	59	A	0342BOMW02	7	15	682	15.32	*	
56	60	A	0342BOMW02	7	15	663	14.89	*	
57	61	A	0342BOMW02	7	15	677	15.21	*	
58	62	A	0342BOMW02	7	15	641	14.40	*	
59	63	A	0342BOMW02	7	15	718	16.13	*	
60	64	A	0342BOMW02	7	15	685	15.39	*	
61	65	A	0342BOMW02	7	15	747	16.78	*	
62	66	A	0342BOMW02	7	15	743	16.69	*	
63	67	A	0342BOMW02	7	15	750	16.85	*	
64	68	A	0342BOMW02	7	15	729	16.38	*	
65	69	A	0342BOMW02	7	15	709	15.93	*	
66	70	A	0342BOMW02	7	15	725	16.29	*	
67	71	A	0342BOMW02	7	15	726	16.31	*	
68	72	A	0342BOMW02	7	15	646	14.51	*	
69	73	A	0342BOMW02	7	15	726	16.31	*	
70	74	A	0342BOMW02	7	15	762	17.12	*	
71	75	A	0342BOMW02	7	15	691	15.52	*	
72	76	A	0342BOMW02	7	15	654	14.69	*	
73	77	A	0342BOMW02	7	15	652	14.65	*	
74	78	A	0342BOMW02	7	15	699	15.70	*	
75	79	A	0342BOMW02	7	15	722	16.22	*	
76	80	A	0342BOMW02	7	15	689	15.48	*	

COPY

SUPERSEDED

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/03/95 Survey Start Time: 07:48  
Date/Time Report Printed: 8/03/95 8:37 am

Station: 1  
File: 426  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
Average uR/hr: 16.71      Maximum 19.63

Number of Measurements at this Survey Location: 76  
-----

-----  
Total Number of Measurements on this Report: 115  
End of Report  
C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

COPY

**SUPERSEDED**

\* Hi flag set at 5 micro-R/hr above background.

ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: Glenn Egert Date: 8/2/95  
 Download Station #: 1 Download File #: 425 Time: 19:25  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: Vicky M. Baldwin Signature: Vicky M. Baldwin Date: 8/2/95  
 Print Name: N/A Signature: N/A Date: N/A  
 Instrument Serial #(s): Model 2350: 95356

Survey Location description: TRAINING Complex #109 CLASS ROOM PAINTED DRYWALL (N, E & W WALLS) CARPETED WALL (SOUTH)  
 (Example: Rr Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	PRO 92511	43-68B	.212	125 cm <sup>2</sup>	419	425
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input type="checkbox"/> Gamma $\gamma$		44-2				

Local Area Background Measurements

												MEAN BKG CPM	
100	109	96	95	82	89	90	97	68	86	92	70	358	NOTE 1
90	72	85	93	82	72	96	92	93	75	63	98	337	NOTE 2

COMMENTS: 10090 B-SCAN, SUSPECT AFFECTED AREA, IS APPLIED TO BACKGROUND  
NOTE 1. 12-15 SEC BACKGROUNDS FOR W02<sup>PAINTED</sup> DRYWALL UP TO CEILING  
NOTE 2. 12-15 SEC BACKGROUNDS FOR W01 CARPETED WALL UP TO CEILING  
Add "A" to NG Loc Code field for samples 0-11, 88-99, and 134-141. 8/2/95

**COPY**



Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Suspect Affected Surfaces and Structures

File #: 425, Trng Comp, Classroom, Painted Drywall (N,E,W), Carptd Wall (S)  
 Reason: Initial Survey User: VMB6153/95356  
 M2350 S/N: 95356 Det. SN: PR092511 Detector Area: 125.0 cm2  
 Detector Type: 125cm2 Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .212

Survey Performed By: Jicky M. Baldwin  
 Survey Reviewed By: [Signature]

Date: 8/3/95  
 Date: 9-5-95

Station: 1  
 Survey Date: 8/02/95 Survey Start Time: 15:39 File: 425  
 Data/Time Report Printed: 8/02/95 19:40:16 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
135	A	SC1TC878	SC1TC878	0	60	1726	1726	6513	*
139	A	SC1TC878	SC1TC878	0	60	1585	1585	5981	*
Number of Measurements at this Survey Location: 2									
136	A	SC2TC878	SC2TC878	0	60	1755	1755	6623	*
140	A	SC2TC878	SC2TC878	0	60	1599	1599	6034	*
Number of Measurements at this Survey Location: 2									
137	A	SC3TC878	SC3TC878	0	60	1634	1634	6166	*
141	A	SC3TC878	SC3TC878	0	60	1631	1631	6155	*
Number of Measurements at this Survey Location: 2									
134	A	SCBKGPST	SCBKGPST	0	60	472	472	1781	
138	A	SCBKGPST	SCBKGPST	0	60	529	529	1996	
Number of Measurements at this Survey Location: 2									

← FIRST POST SOURCE CHECK FAILED.  
 SECOND ATTEMPT PASSED  
 MGB  
 9-5-95

COPY

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/02/95 Survey Start Time: 14:42  
 Date/Time Report Printed: 8/02/95 19:40:16

Station: 1  
 File: 425  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	88	A	0342B0CLAB	1	15	90	360	1358	
	89	A	0342B0CLAB	1	15	72	288	1087	
	90	A	0342B0CLAB	1	15	85	340	1283	
	91	A	0342B0CLAB	1	15	93	372	1404	
	92	A	0342B0CLAB	1	15	82	328	1238	
	93	A	0342B0CLAB	1	15	72	288	1087	
	94	A	0342B0CLAB	1	15	96	384	1449	
	95	A	0342B0CLAB	1	15	92	368	1389	
	96	A	0342B0CLAB	1	15	93	372	1404	
	97	A	0342B0CLAB	1	15	75	300	1132	
	98	A	0342B0CLAB	1	15	63	252	951	
	99	A	0342B0CLAB	1	15	98	392	1479	

Number of Measurements at this Survey Location: 12

	0	A	0342B0MLAB	1	15	100	400	1509	
	1	A	0342B0MLAB	1	15	109	436	1645	
	2	A	0342B0MLAB	1	15	96	384	1449	
	3	A	0342B0MLAB	1	15	95	380	1434	
	4	A	0342B0MLAB	1	15	82	328	1238	
	5	A	0342B0MLAB	1	15	89	356	1343	
	6	A	0342B0MLAB	1	15	90	360	1358	
	7	A	0342B0MLAB	1	15	97	388	1464	
	8	A	0342B0MLAB	1	15	68	272	1026	
	9	A	0342B0MLAB	1	15	86	344	1298	
	10	A	0342B0MLAB	1	15	92	368	1389	
	11	A	0342B0MLAB	1	15	70	280	1057	

Number of Measurements at this Survey Location: 12

	1	100	A	0342B0CW01	2	15	87	348	1313	
	2	101	A	0342B0CW01	2	15	100	400	1509	
	3	102	A	0342B0CW01	2	15	102	408	1540	
	4	103	A	0342B0CW01	2	15	85	340	1283	
	5	104	A	0342B0CW01	2	15	100	400	1509	
	6	105	A	0342B0CW01	2	15	101	404	1525	
	7	106	A	0342B0CW01	2	15	108	432	1630	
	8	107	A	0342B0CW01	2	15	110	440	1660	
	9	108	A	0342B0CW01	2	15	79	316	1192	
	10	109	A	0342B0CW01	2	15	99	396	1494	

COPY

Survey Date: 8/02/95 Survey Start Time: 15:22  
 Date/Time Report Printed: 8/02/95 19:40:16

Station: 1  
 File: 425  
 Page: 3

Comments

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
11	110	A	0342B0CW01	2	15	105	420	1585	
12	111	A	0342B0CW01	2	15	76	304	1147	
13	112	A	0342B0CW01	2	15	92	368	1389	
14	113	A	0342B0CW01	2	15	80	320	1208	
15	114	A	0342B0CW01	2	15	90	360	1358	
16	115	A	0342B0CW01	2	15	82	328	1238	
17	116	A	0342B0CW01	2	15	72	288	1087	
18	117	A	0342B0CW01	2	15	81	324	1223	
19	118	A	0342B0CW01	2	15	82	328	1238	
20	119	A	0342B0CW01	2	15	73	292	1102	
21	120	A	0342B0CW01	2	15	107	428	1615	
22	121	A	0342B0CW01	2	15	70	280	1057	
23	122	A	0342B0CW01	2	15	85	340	1283	
24	123	A	0342B0CW01	2	15	78	312	1177	
25	124	A	0342B0CW01	2	15	85	340	1283	
26	125	A	0342B0CW01	2	15	67	268	1011	
27	126	A	0342B0CW01	2	15	87	348	1313	
28	127	A	0342B0CW01	2	15	81	324	1223	
29	128	A	0342B0CW01	2	15	80	320	1208	
30	129	A	0342B0CW01	2	15	98	392	1479	
31	130	A	0342B0CW01	2	15	103	412	1555	
32	131	A	0342B0CW01	2	15	103	412	1555	
33	132	A	0342B0CW01	2	15	79	316	1192	
34	133	A	0342B0CW01	2	15	85	340	1283	

Number of Measurements at this Survey Location: 34

1	12	A	0342B0MW02	2	15	103	412	1555	
2	13	A	0342B0MW02	2	15	99	396	1494	
3	14	A	0342B0MW02	2	15	115	460	1736	
4	15	A	0342B0MW02	2	15	88	352	1328	
5	16	A	0342B0MW02	2	15	97	388	1464	
6	17	A	0342B0MW02	2	15	99	396	1494	
7	18	A	0342B0MW02	2	15	105	420	1585	
8	19	A	0342B0MW02	2	15	99	396	1494	
9	20	A	0342B0MW02	2	15	84	336	1268	
10	21	A	0342B0MW02	2	15	85	340	1283	
11	22	A	0342B0MW02	2	15	111	444	1675	
12	23	A	0342B0MW02	2	15	115	460	1736	
13	24	A	0342B0MW02	2	15	123	492	1857	
14	25	A	0342B0MW02	2	15	88	352	1328	
15	26	A	0342B0MW02	2	15	114	456	1721	
16	27	A	0342B0MW02	2	15	101	404	1525	
17	28	A	0342B0MW02	2	15	107	428	1615	

COPY

Survey Date: 8/02/95 Survey Start Time: 13:53  
Date/Time Report Printed: 8/02/95 19:40:16

Station: 1  
File: 425  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
18	29	A	0342BOMW02	2	15	113	452	1706	
19	30	A	0342BOMW02	2	15	105	420	1585	
20	31	A	0342BOMW02	2	15	94	376	1419	
21	32	A	0342BOMW02	2	15	95	380	1434	
22	33	A	0342BOMW02	2	15	100	400	1509	
23	34	A	0342BOMW02	2	15	97	388	1464	
24	35	A	0342BOMW02	2	15	101	404	1525	
25	36	A	0342BOMW02	2	15	108	432	1630	
26	37	A	0342BOMW02	2	15	97	388	1464	
27	38	A	0342BOMW02	2	15	101	404	1525	
28	39	A	0342BOMW02	2	15	83	332	1253	
29	40	A	0342BOMW02	2	15	105	420	1585	
30	41	A	0342BOMW02	2	15	76	304	1147	
31	42	A	0342BOMW02	2	15	89	356	1343	
32	43	A	0342BOMW02	2	15	90	360	1358	
33	44	A	0342BOMW02	2	15	81	324	1223	
34	45	A	0342BOMW02	2	15	84	336	1268	
35	46	A	0342BOMW02	2	15	105	420	1585	
36	47	A	0342BOMW02	2	15	84	336	1268	
37	48	A	0342BOMW02	2	15	79	316	1192	
38	49	A	0342BOMW02	2	15	110	440	1660	
39	50	A	0342BOMW02	2	15	94	376	1419	
40	51	A	0342BOMW02	2	15	109	436	1645	
41	52	A	0342BOMW02	2	15	116	464	1751	
42	53	A	0342BOMW02	2	15	109	436	1645	
43	54	A	0342BOMW02	2	15	102	408	1540	
44	55	A	0342BOMW02	2	15	97	388	1464	
45	56	A	0342BOMW02	2	15	101	404	1525	
46	57	A	0342BOMW02	2	15	102	408	1540	
47	58	A	0342BOMW02	2	15	79	316	1192	
48	59	A	0342BOMW02	2	15	105	420	1585	
49	60	A	0342BOMW02	2	15	110	440	1660	
50	61	A	0342BOMW02	2	15	86	344	1298	
51	62	A	0342BOMW02	2	15	81	324	1223	
52	63	A	0342BOMW02	2	15	89	356	1343	
53	64	A	0342BOMW02	2	15	79	316	1192	
54	65	A	0342BOMW02	2	15	100	400	1509	
55	66	A	0342BOMW02	2	15	85	340	1283	
56	67	A	0342BOMW02	2	15	83	332	1253	
57	68	A	0342BOMW02	2	15	89	356	1343	
58	69	A	0342BOMW02	2	15	101	404	1525	
59	70	A	0342BOMW02	2	15	102	408	1540	
60	71	A	0342BOMW02	2	15	116	464	1751	
61	72	A	0342BOMW02	2	15	107	428	1615	
62	73	A	0342BOMW02	2	15	87	348	1313	
63	74	A	0342BOMW02	2	15	112	448	1691	

COPY

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/02/95 Survey Start Time: 14:11  
Date/Time Report Printed: 8/02/95 19:40:16

Station: 1  
File: 425  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
64	75	A	0342B0MW02	2	15	97	388	1464	
65	76	A	0342B0MW02	2	15	91	364	1374	
66	77	A	0342B0MW02	2	15	90	360	1358	
67	78	A	0342B0MW02	2	15	104	416	1570	
68	79	A	0342B0MW02	2	15	102	408	1540	
69	80	A	0342B0MW02	2	15	124	496	1872	
70	81	A	0342B0MW02	2	15	94	376	1419	
71	82	A	0342B0MW02	2	15	84	336	1268	
72	83	A	0342B0MW02	2	15	85	340	1283	
73	84	A	0342B0MW02	2	15	113	452	1706	
74	85	A	0342B0MW02	2	15	106	424	1600	
75	86	A	0342B0MW02	2	15	82	328	1238	
76	87	A	0342B0MW02	2	15	109	436	1645	

Number of Measurements at this Survey Location: 76

Total Number of Measurements on this Report: 142

End of Report

01559:C:\PDOX35\M2150\TLOGREVU:R3 4-23-93 JPA  
7-25-95 MRM

COPY



ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egeert Signature: GW Egeert Date: 8/2/95  
 Download Station #: 1 Download File #: 424 Time: 19:10  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: T. P... Signature: [Signature] Date: 8-2-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 98617  
 Survey Location description: PRODUCTION TRANSMISSION <sup>5.725</sup> DISC - CLASSROOM - CARTON OVER CONCRETE FLOOR / WOOD DOORS  
 (Example: Rm Bldg, Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input type="checkbox"/> Beta $\beta$		43-68B				
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input checked="" type="checkbox"/> Gamma $\gamma$	<u>94975</u>	44-2	<u>1.068444 E10</u>	<u>N/A</u>	<u>418</u>	<u>424</u>

Local Area Background Measurements

										MEAN BKG CPM
<u>N/A</u>										<u>→</u>

COMMENTS: CHANGED DET. SET UP # FROM 7 TO 8 ON SAMPLE #S 0.59 JP

**COPY**

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 424, Prod Trng Comp, Classrm, Carpet Over Concr Flr, Wood Doors  
 Reason: Initial Survey User: TJP0445/98617  
 M2350 S/N: 98617 Det. S/N: PR094975 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: *[Signature]* Date: 8-8-95  
 Survey Reviewed By: *[Signature]* Date: 9-5-95

Station: 1  
 File: 424  
 Page: 1  
 Survey Date: 8/02/95 Survey Start Time: 15:49  
 Date/Time Report Printed: 8/07/95 8:30 am

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
	61		RC1CS857	6	60	854804	4800.27	*
							Maximum	
Average uR/hr:							4800.27	4800.27
Number of Measurements at this Survey Location:								1
	62		RC2CS857	6	60	25515	143.28	*
							Maximum	
Average uR/hr:							143.28	143.28
Number of Measurements at this Survey Location:								1
	63		RC3CS857	6	60	6359	35.71	*
							Maximum	
Average uR/hr:							35.71	35.71
Number of Measurements at this Survey Location:								1
	64		RC4CS857	6	60	4070	22.86	*

COPY

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/02/95 Survey Start Time: 15:54  
 Date/Time Report Printed: 8/07/95 8:10 am

Station: 1  
 File: 424  
 Page: 2

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H
--------	--------	-------------	-----------------	--------	------------	--------------	------------	---

----- Maximum  
 Average uR/hr: 22.86 22.86

Number of Measurements at this Survey Location: 1

60		RCBKGPOST		6	300	15840	17.79	*
----	--	-----------	--	---	-----	-------	-------	---

----- Maximum  
 Average uR/hr: 17.79 17.79

Number of Measurements at this Survey Location: 1

276	0	A	0342B0CF01	8	15	703	15.79	*
277	1	A	0342B0CF01	8	15	737	16.55	*
278	2	A	0342B0CF01	8	15	747	16.78	*
279	3	A	0342B0CF01	8	15	719	16.15	*
280	4	A	0342B0CF01	8	15	717	16.11	*
281	5	A	0342B0CF01	8	15	683	15.34	*
282	6	A	0342B0CF01	8	15	722	16.22	*
283	7	A	0342B0CF01	8	15	670	15.05	*
284	8	A	0342B0CF01	8	15	706	15.86	*
285	9	A	0342B0CF01	8	15	687	15.43	*
286	10	A	0342B0CF01	8	15	665	14.94	*
287	11	A	0342B0CF01	8	15	765	17.18	*
288	12	A	0342B0CF01	8	15	710	15.95	*
289	13	A	0342B0CF01	8	15	747	16.78	*
290	14	A	0342B0CF01	8	15	735	16.51	*
291	15	A	0342B0CF01	8	15	720	16.17	*
292	16	A	0342B0CF01	8	15	678	15.23	*
293	17	A	0342B0CF01	8	15	712	15.99	*
294	18	A	0342B0CF01	8	15	693	15.57	*
295	19	A	0342B0CF01	8	15	732	16.44	*
296	20	A	0342B0CF01	8	15	721	16.20	*
297	21	A	0342B0CF01	8	15	750	16.85	*
298	22	A	0342B0CF01	8	15	695	15.61	*
299	23	A	0342B0CF01	8	15	716	16.08	*
334	24	A	0342B0CF01	8	15	742	16.67	*
335	25	A	0342B0CF01	8	15	700	15.72	*
336	26	A	0342B0CF01	8	15	713	16.02	*
337	27	A	0342B0CF01	8	15	701	15.75	*
338	28	A	0342B0CF01	8	15	774	17.39	*
339	29	A	0342B0CF01	8	15	794	17.84	*

COPY

Survey Date: 8/02/95 Survey Start Time: 15:22  
 Date/Time Report Printed: 8/07/95 8:30 am

Station: 1  
 File: 424  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

----- Maximum  
 Average uR/hr: 16.14 17.84

Number of Measurements at this Survey Location: 30

1	30	A	0342BOKS01	8	15	774	17.39	*
2	31	A	0342BOKS01	8	15	771	17.32	*
3	32	A	0342BOKS01	8	15	733	16.47	*
4	33	A	0342BOKS01	8	15	736	16.53	*
5	34	A	0342BOKS01	8	15	718	16.13	*
6	35	A	0342BOKS01	8	15	730	16.40	*
7	36	A	0342BOKS01	8	15	626	14.06	*
8	37	A	0342BOKS01	8	15	696	15.63	*
9	38	A	0342BOKS01	8	15	699	15.70	*
10	39	A	0342BOKS01	8	15	654	14.69	*
11	40	A	0342BOKS01	8	15	731	16.42	*
12	41	A	0342BOKS01	8	15	690	15.50	*
13	42	A	0342BOKS01	8	15	709	15.93	*
14	43	A	0342BOKS01	8	15	666	14.96	*
15	44	A	0342BOKS01	8	15	706	15.86	*
16	45	A	0342BOKS01	8	15	623	13.99	*
17	46	A	0342BOKS01	8	15	660	14.83	*
18	47	A	0342BOKS01	8	15	692	15.54	*
19	48	A	0342BOKS01	8	15	607	13.63	*
20	49	A	0342BOKS01	8	15	672	15.09	*
21	50	A	0342BOKS01	8	15	718	16.13	*
22	51	A	0342BOKS01	8	15	768	17.25	*
23	52	A	0342BOKS01	8	15	700	15.72	*
24	53	A	0342BOKS01	8	15	709	15.93	*
25	54	A	0342BOKS01	8	15	712	15.99	*
26	55	A	0342BOKS01	8	15	616	13.84	*
27	56	A	0342BOKS01	8	15	732	16.44	*
28	57	A	0342BOKS01	8	15	650	14.60	*
29	58	A	0342BOKS01	8	15	669	15.03	*
30	59	A	0342BOKS01	8	15	654	14.69	*

----- Maximum  
 Average uR/hr: 15.59 17.39

Number of Measurements at this Survey Location: 30

COPY

Survey Date: 8/02/95 Survey Start Time: 15:36  
Date/Time Report Printed: 8/07/95 8:30 am

Station: 1  
File: 424  
Page: 4

Comments

-----  
Total Number of Measurements on this Report: 65

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

COPY

\* Hi flag set at 5 micro-R/hr above background.



**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
424	8-7-95 0820	CENSUS DET. SET UP # FROM 7 TO 8 ON SAMPLES 0-59	T. P. [unclear]	JW Egert	Changed det. setup # from 7 to 8 on samples 0-59.	JW Egert	8/7/95 08:30

Attach this sheet to the front of the Survey Download Report requiring changes.

COPY

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Gamma Radiation, Micro-R/hour - Integrated Measurement

File #: 424, Prod Trng Comp, Classrm, Carpet Over Concr Flr, Wood Doors  
 Reason: Initial Survey User: TJP0445/98617  
 M2350 S/N: 98617 Det. S/N: PR094975 Detector Model: 44-2  
 Detector Type: High Energy Gamma Scintillator, 1x1 NaI

Survey Performed By: TJP

Date: 8-3-95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Survey Date: 8/02/95 Survey Start Time: 15:49 Station: 1  
 Date/Time Report Printed: 8/02/95 7:21 pm File: 424  
 Page: 1

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
61		RC1CS857		6	60	854804	4800.27	*

----- Maximum  
 Average uR/hr: 4800.27 4800.27

Number of Measurements at this Survey Location: 1

62		RC2CS857		6	60	25515	143.28	*
----	--	----------	--	---	----	-------	--------	---

----- Maximum  
 Average uR/hr: 143.28 143.28

Number of Measurements at this Survey Location: 1

63		RC3CS857		6	60	6359	35.71	*
----	--	----------	--	---	----	------	-------	---

----- Maximum  
 Average uR/hr: 35.71 35.71

Number of Measurements at this Survey Location: 1

64		RC4CS857		6	60	4070	22.86	*
----	--	----------	--	---	----	------	-------	---

COPY

SUPERSEDED

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/02/95 Survey Start Time: 15:54  
 Date/Time Report Printed: 8/02/95 7:21 pm

Station: 1  
 File: 424  
 Page: 2

Comments

Loc No	Sap No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
 Average uR/hr: 22.86      Maximum 22.86

Number of Measurements at this Survey Location: 1

60			RCBKGPST	6	300	15840	17.79	*
----	--	--	----------	---	-----	-------	-------	---

-----  
 Average uR/hr: 17.79      Maximum 17.79

Number of Measurements at this Survey Location: 1

276	0	A	0342B0CF01	8	15	703	15.79	*
277	1	A	0342B0CF01	8	15	737	16.55	*
278	2	A	0342B0CF01	8	15	747	16.78	*
279	3	A	0342B0CF01	8	15	719	16.15	*
280	4	A	0342B0CF01	8	15	717	16.11	*
281	5	A	0342B0CF01	8	15	683	15.34	*
282	6	A	0342B0CF01	8	15	722	16.22	*
283	7	A	0342B0CF01	8	15	670	15.05	*
284	8	A	0342B0CF01	8	15	706	15.86	*
285	9	A	0342B0CF01	8	15	687	15.43	*
286	10	A	0342B0CF01	8	15	665	14.94	*
287	11	A	0342B0CF01	8	15	765	17.18	*
288	12	A	0342B0CF01	8	15	710	15.95	*
289	13	A	0342B0CF01	8	15	747	16.78	*
290	14	A	0342B0CF01	8	15	735	16.51	*
291	15	A	0342B0CF01	8	15	720	16.17	*
292	16	A	0342B0CF01	8	15	678	15.23	*
293	17	A	0342B0CF01	8	15	712	15.99	*
294	18	A	0342B0CF01	8	15	693	15.57	*
295	19	A	0342B0CF01	8	15	732	16.44	*
296	20	A	0342B0CF01	8	15	721	16.20	*
297	21	A	0342B0CF01	8	15	750	16.85	*
298	22	A	0342B0CF01	8	15	695	15.61	*
299	23	A	0342B0CF01	8	15	716	16.08	*
334	24	A	0342B0CF01	8	15	742	16.67	*
335	25	A	0342B0CF01	8	15	700	15.72	*
336	26	A	0342B0CF01	8	15	713	16.02	*
337	27	A	0342B0CF01	8	15	701	15.75	*
338	28	A	0342B0CF01	8	15	774	17.39	*
339	29	A	0342B0CF01	8	15	794	17.84	*

*Handwritten:* 8-2-95  
 A vertical line with an arrow pointing down, spanning the rows of the table.

**COPY**

**SUPERSEDED**

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/02/95 Survey Start Time: 15:22  
 Date/Time Report Printed: 8/02/95 7:21 pm

Station: 1  
 File: 424  
 Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Gross Counts	Micro R/hr	H i
--------	--------	-------------	-----------------	--------	------------	--------------	------------	-----

-----  
 Average uR/hr: 16.14      Maximum 17.84

Number of Measurements at this Survey Location: 30

1	30	A	0342BOKS01	15	774	17.39	*
2	31	A	0342BOKS01	15	771	17.32	*
3	32	A	0342BOKS01	15	733	16.47	*
4	33	A	0342BOKS01	15	736	16.53	*
5	34	A	0342BOKS01	15	718	16.13	*
6	35	A	0342BOKS01	15	730	16.40	*
7	36	A	0342BOKS01	15	626	14.06	*
8	37	A	0342BOKS01	15	696	15.63	*
9	38	A	0342BOKS01	15	699	15.70	*
10	39	A	0342BOKS01	15	654	14.69	*
11	40	A	0342BOKS01	15	731	16.42	*
12	41	A	0342BOKS01	15	690	15.50	*
13	42	A	0342BOKS01	15	709	15.93	*
14	43	A	0342BOKS01	15	666	14.96	*
15	44	A	0342BOKS01	15	706	15.86	*
16	45	A	0342BOKS01	15	623	13.99	*
17	46	A	0342BOKS01	15	660	14.83	*
18	47	A	0342BOKS01	15	692	15.54	*
19	48	A	0342BOKS01	15	607	13.63	*
20	49	A	0342BOKS01	15	672	15.09	*
21	50	A	0342BOKS01	15	718	16.13	*
22	51	A	0342BOKS01	15	768	17.25	*
23	52	A	0342BOKS01	15	700	15.72	*
24	53	A	0342BOKS01	15	709	15.93	*
25	54	A	0342BOKS01	15	712	15.99	*
26	55	A	0342BOKS01	15	616	13.84	*
27	56	A	0342BOKS01	15	732	16.44	*
28	57	A	0342BOKS01	15	650	14.60	*
29	58	A	0342BOKS01	15	669	15.03	*
30	59	A	0342BOKS01	15	654	14.69	*

-----  
 Average uR/hr: 15.59      Maximum 17.39

Number of Measurements at this Survey Location: 30

COPY

SUPERSEDED

\* Hi flag set at 5 micro-R/hr above background.

Survey Date: 8/02/95 Survey Start Time: 15:36  
Date/Time Report Printed: 8/02/95 7:21 pm

Station: 1  
File: 424  
Page: 4

Comments

-----  
Total Number of Measurements on this Report: 65

End of Report

C:\PDOX35\M2350\TLOGREVU.R6 7-25-95 MRM

COPY

**SUPERSEDED**



ATTACHMENT 6.1  
SURVEY DOWNLOAD DATA FORM

Download Operator: Print Name: Glenn Egert Signature: [Signature] Date: 8/2/95  
 Download Station #: 1 Download File #: 421 Time: 14:05  
 Serial # Verification: Model 2350:  Detector:  Problems:  (See Comments)

Surveyor(s): Print Name: T Pratt Signature: [Signature] Date: 8-2-95  
 Print Name: N/A Signature: N/A Date: N/A

Instrument Serial #(s): Model 2350: 98617

Survey Location description: Predation Training Center - Classroom - Carpet over concrete floor / window doors  
 (Example: Rr Bldg. Level 11, Room 100, Floor Surface - Grid Locations A1 through A7)

Reason/Type of Survey:  Final Survey  QC Verification  Characterization  Information Only  
 Other (explain):

Type of Measurement	Detector Serial Number	Detector Model Number	Detector Efficiency ( $\alpha, \beta$ ) or Calibration Constant ( $\gamma$ )	DETECTOR AREA	Pre & Post Source Check File #'s	
					Pre File#	Post File#
<input checked="" type="checkbox"/> Beta $\beta$	98617	43-68B	.206	125cm <sup>2</sup>	421	421
<input type="checkbox"/> Alpha $\alpha$		43-68A				
<input type="checkbox"/> Gamma $\gamma$		44-2				

Local Area Background Measurements

1st set of bkgs for floor  
 2nd set of bkgs for wood doors 7:30 8:25

MEAN BKG CPM

132	101	132	123	131	128	109	132	112	117	114	114	480 480
78	91	89	82	81	84	81	89	91	93	90	103	

COMMENTS: SUBSET AFFECTED AREA  
APPLY  $\phi$  TO DOWNLOAD RESULT  
100%  $\beta$ -SCAN AND TOTAL ACTIVITY MEASUREMENTS

COPY

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Suspect Affected Surfaces and Structures

File #: 421, Prod Trng Comp, Classrm, Carpet Over Concr Floor/Wood Door  
 Reason: Initial Survey User: TJP0445/98617  
 M2350 S/N: 98617 Det. SN: PR095081 Detector Area: 125.0 cm2  
 Detector Type: 125cm2 Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .206

Survey Performed By: *ZJP*  
 Survey Reviewed By: *MS Miles*

Date: 8-2-95  
 Date: 9-5-95

Station: 1  
 File: 421  
 Page: 1  
 Survey Date: 8/02/95 Survey Start Time: 10:02  
 Date/Time Report Printed: 8/02/95 14:28:52

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
Number of Measurements at this Survey Location: 3									
1	A		SC1TC879	0	60	1534	1534	5957	*
5	A		SC1TC879	0	60	1551	1551	6023	*
114	A		SC1TC879	0	60	1477	1477	5736	*
Number of Measurements at this Survey Location: 3									
2	A		SC2TC879	0	60	1663	1663	6458	*
6	A		SC2TC879	0	60	1570	1570	6097	*
115	A		SC2TC879	0	60	1616	1616	6276	*
Number of Measurements at this Survey Location: 3									
3	A		SC3TC879	0	60	1477	1477	5736	*
7	A		SC3TC879	0	60	1512	1512	5872	*
116	A		SC3TC879	0	60	1510	1510	5864	*
Number of Measurements at this Survey Location: 3									
113	A		SCBKGPST	0	60	513	513	1992	
Number of Measurements at this Survey Location: 1									

→ 1<sup>ST</sup> S/C FAILED, 2<sup>ND</sup> ATTEMPT PASSED TJP 9-5-95

COPY

\* Flag is set at 3000 dpm/100 sq. cm. for beta contaminati

Station: 1

Comments

Survey Date: 8/02/95 Survey Start Time: 09:59

File: 421

Date/Time Report Printed: 8/02/95 14:28:52

Page: 2

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
	0	A	SCBKGP	PRE	0	600	5189	519	2015
	4	A	SCBKGP	PRE	0	600	4991	499	1938

Number of Measurements at this Survey Location: 2

9	A		0342B0CLAB	1	15	132	528	2050	
10	A		0342B0CLAB	1	15	101	404	1569	
11	A		0342B0CLAB	1	15	132	528	2050	
12	A		0342B0CLAB	1	15	123	492	1911	
13	A		0342B0CLAB	1	15	131	524	2035	
14	A		0342B0CLAB	1	15	128	512	1988	
15	A		0342B0CLAB	1	15	109	436	1693	
16	A		0342B0CLAB	1	15	132	528	2050	
17	A		0342B0CLAB	1	15	112	448	1740	
18	A		0342B0CLAB	1	15	117	468	1817	
19	A		0342B0CLAB	1	15	114	456	1771	
20	A		0342B0CLAB	1	15	114	456	1771	

Number of Measurements at this Survey Location: 12

71	A		0342B0KLAB	1	15	78	312	1212	
72	A		0342B0KLAB	1	15	91	364	1414	
73	A		0342B0KLAB	1	15	89	356	1383	
74	A		0342B0KLAB	1	15	82	328	1274	
75	A		0342B0KLAB	1	15	81	324	1258	
76	A		0342B0KLAB	1	15	84	336	1305	
77	A		0342B0KLAB	1	15	81	324	1258	
78	A		0342B0KLAB	1	15	89	356	1383	
79	A		0342B0KLAB	1	15	91	364	1414	
80	A		0342B0KLAB	1	15	93	372	1445	
81	A		0342B0KLAB	1	15	90	360	1398	
82	A		0342B0KLAB	1	15	103	412	1600	

Number of Measurements at this Survey Location: 12

581	21	A	0342B0CP01	2	15	132	528	2050	
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COPY

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

Station: 1

Comments

Survey Date: 8/02/95 Survey Start Time: 12:43

File: 421

Date/Time Report Printed: 8/02/95 14:28:52

Page: 3

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
582	22	A	0342B0CF01	2	15	137	548	2128	
583	23	A	0342B0CF01	2	15	149	596	2315	
584	24	A	0342B0CF01	2	15	126	504	1957	
585	25	A	0342B0CF01	2	15	140	560	2175	
586	26	A	0342B0CF01	2	15	140	560	2175	
587	27	A	0342B0CF01	2	15	142	568	2206	
588	28	A	0342B0CF01	2	15	133	532	2066	
589	29	A	0342B0CF01	2	15	162	648	2517	
590	30	A	0342B0CF01	2	15	143	572	2221	
591	31	A	0342B0CF01	2	15	128	512	1988	
592	32	A	0342B0CF01	2	15	151	604	2346	
593	33	A	0342B0CF01	2	15	147	588	2283	
594	34	A	0342B0CF01	2	15	161	644	2501	
595	35	A	0342B0CF01	2	15	147	588	2283	
596	36	A	0342B0CF01	2	15	185	740	2874	
597	37	A	0342B0CF01	2	15	130	520	2019	
598	38	A	0342B0CF01	2	15	128	512	1988	
599	39	A	0342B0CF01	2	15	140	560	2175	
600	40	A	0342B0CF01	2	15	152	608	2361	
601	41	A	0342B0CF01	2	15	121	484	1880	
602	42	A	0342B0CF01	2	15	142	568	2206	
603	43	A	0342B0CF01	2	15	132	528	2050	
604	44	A	0342B0CF01	2	15	158	632	2454	
605	45	A	0342B0CF01	2	15	130	520	2019	
606	46	A	0342B0CF01	2	15	158	632	2454	
607	47	A	0342B0CF01	2	15	139	556	2159	
608	48	A	0342B0CF01	2	15	154	616	2392	
609	49	A	0342B0CF01	2	15	139	556	2159	
610	50	A	0342B0CF01	2	15	143	572	2221	
611	51	A	0342B0CF01	2	15	159	636	2470	
612	52	A	0342B0CF01	2	15	150	600	2330	
613	53	A	0342B0CF01	2	15	143	572	2221	
614	54	A	0342B0CF01	2	15	148	592	2299	
615	55	A	0342B0CF01	2	15	156	624	2423	
616	56	A	0342B0CF01	2	15	136	544	2113	
617	57	A	0342B0CF01	2	15	164	656	2548	
618	58	A	0342B0CF01	2	15	151	604	2346	
619	59	A	0342B0CF01	2	15	126	504	1957	
620	60	A	0342B0CF01	2	15	145	580	2252	
621	61	A	0342B0CF01	2	15	135	540	2097	
622	62	A	0342B0CF01	2	15	138	552	2144	
623	63	A	0342B0CF01	2	15	159	636	2470	
624	64	A	0342B0CF01	2	15	123	492	1911	
625	65	A	0342B0CF01	2	15	124	496	1926	
626	66	A	0342B0CF01	2	15	114	456	1771	
627	67	A	0342B0CF01	2	15	102	408	1584	

COPY

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/02/95 Survey Start Time: 13:00  
Date/Time Report Printed: 8/02/95 14:28:52

Station: 1  
File: 421  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
628	68	A	0342B0CF01	2	15	129	516	2004	
629	69	A	0342B0CF01	2	15	132	528	2050	
630	70	A	0342B0CF01	2	15	111	444	1724	

Number of Measurements at this Survey Location: 50

1	83	A	0342B0KS01	2	15	89	356	1383	
2	84	A	0342B0KS01	2	15	103	412	1600	
3	85	A	0342B0KS01	2	15	106	424	1647	
4	86	A	0342B0KS01	2	15	101	404	1569	
5	87	A	0342B0KS01	2	15	95	380	1476	
6	88	A	0342B0KS01	2	15	88	352	1367	
7	89	A	0342B0KS01	2	15	91	364	1414	
8	90	A	0342B0KS01	2	15	90	360	1398	
9	91	A	0342B0KS01	2	15	84	336	1305	
10	92	A	0342B0KS01	2	15	79	316	1227	
11	93	A	0342B0KS01	2	15	97	388	1507	
12	94	A	0342B0KS01	2	15	104	416	1616	
13	95	A	0342B0KS01	2	15	86	344	1336	
14	96	A	0342B0KS01	2	15	103	412	1600	
15	97	A	0342B0KS01	2	15	75	300	1165	
16	98	A	0342B0KS01	2	15	99	396	1538	
17	99	A	0342B0KS01	2	15	79	316	1227	
18	100	A	0342B0KS01	2	15	115	460	1786	
19	101	A	0342B0KS01	2	15	70	280	1087	
20	102	A	0342B0KS01	2	15	103	412	1600	
21	103	A	0342B0KS01	2	15	99	396	1538	
22	104	A	0342B0KS01	2	15	98	392	1522	
23	105	A	0342B0KS01	2	15	91	364	1414	
24	106	A	0342B0KS01	2	15	99	396	1538	
25	107	A	0342B0KS01	2	15	107	428	1662	
26	108	A	0342B0KS01	2	15	106	424	1647	
27	109	A	0342B0KS01	2	15	91	364	1414	
28	110	A	0342B0KS01	2	15	115	460	1786	
29	111	A	0342B0KS01	2	15	92	368	1429	
30	112	A	0342B0KS01	2	15	94	376	1460	

Number of Measurements at this Survey Location: 30

COPY



Survey Date: 8/02/95 Survey Start Time: 13:39  
Date/Time Report Printed: 8/02/95 14:28:52

Station: 1  
File: 421  
Page: 5

Comments

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Total Number of Measurements on this Report: 116

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R3 4-23-93 JPA  
7-25-95 MRM

COPY

**ATTACHMENT 6.2  
CORRECTIONS REQUIRED COVER SHEET**

FILE #	Date / Time	Corrections Needed	Requested by	Approved by	Comments	Performed by	Date / Time
421	8-2-95 1420	CHANGE LOCATION CODE FOR SAMPLE PT 115 AS SHOWN ON DOWNHOLE REPORT DELETE SAMPLE PT # 8	T. P. [Signature]	JW [Signature]	Changed Loc. Code of Samp. 115 from SC1TC879 to SC2TC879. Deleted Samp. # 8.	JW [Signature]	8/2/95 14:30

Attach this sheet to the front of the Survey Download Report requiring changes.

COMPLY

Radiological Engineering & Decommissioning Services  
 Fort St. Vrain - Decommissioning Survey Report  
 Direct Beta Survey Report, Suspect Affected Surfaces and Structures

File #: 421, Prod Trng Comp, Classrm, Carpet Over Concr Floor/Wood Door  
 Reason: Initial Survey User: TJP0445/98617  
 M2350 S/N: 98617 Det. SN: PR095081 Detector Area: 125.0 cm<sup>2</sup>  
 Detector Type: 125cm<sup>2</sup> Gas-Flow Proportional Detector (Beta)  
 Background: 0 cpm Efficiency: .206

Survey Performed By: *[Signature]*

Date: 8.2.95

Survey Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Station: 1  
 File: 421  
 Page: 1  
 Survey Date: 8/02/95 Survey Start Time: 10:02  
 Date/Time Report Printed: 8/02/95 14:18:20

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm <sup>2</sup>	H
	1		SC1TC879	0	60	1534	1534	5957	*
	5		SC1TC879	0	60	1551	1551	6023	*
	114		SC1TC879	0	60	1477	1477	5736	*
	115		SC1TC879	0	60	1616	1616	6276	*

Number of Measurements at this Survey Location: 4

	2		SC2TC879	0	60	1663	1663	6458	*
	6		SC2TC879	0	60	1570	1570	6097	*

Number of Measurements at this Survey Location: 2

	3		SC3TC879	0	60	1477	1477	5736	*
	7		SC3TC879	0	60	1512	1512	5872	*
	116		SC3TC879	0	60	1510	1510	5864	*

Number of Measurements at this Survey Location: 3

	113		SCBKGPST	0	60	513	513	1992	
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Number of Measurements at this Survey Location: 1

**COPY**  
**SUPERSEDED**

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

Survey Date: 8/02/95 Survey Start Time: 09:59  
 Date/Time Report Printed: 8/02/95 14:18:20

Station: 1  
 File: 421  
 Page: 2

Comments

Loc No	Emp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H
	0		SCBKGPPE	0	600	5189	519	2015	
	4		SCBKGPPE	0	600	4991	499	1938	

Number of Measurements at this Survey Location: 2

~~0342B0CE02 1 15 132 528 2050~~

DELETE SAMPLE AT #8 USED WRONG LOCATION CODE RECOUNTED AS SAMPLE AT #9 7P 8-2-95

Number of Measurements at this Survey Location: 1

9			0342B0CLAB	1	15	132	528	2050	
10			0342B0CLAB	1	15	101	404	1569	
11			0342B0CLAB	1	15	132	528	2050	
12			0342B0CLAB	1	15	123	492	1911	
13			0342B0CLAB	1	15	131	524	2035	
14			0342B0CLAB	1	15	128	512	1988	
15			0342B0CLAB	1	15	109	436	1693	
16			0342B0CLAB	1	15	132	528	2050	
17			0342B0CLAB	1	15	112	448	1740	
18			0342B0CLAB	1	15	117	468	1817	
19			0342B0CLAB	1	15	114	456	1771	
20			0342B0CLAB	1	15	114	456	1771	

Number of Measurements at this Survey Location: 12

71			0342B0KLAB	1	15	78	312	1212	
72			0342B0KLAB	1	15	91	364	1414	
73			0342B0KLAB	1	15	89	356	1383	
74			0342B0KLAB	1	15	82	328	1274	
75			0342B0KLAB	1	15	81	324	1258	
76			0342B0KLAB	1	15	84	336	1305	
77			0342B0KLAB	1	15	81	324	1258	
78			0342B0KLAB	1	15	89	356	1383	
79			0342B0KLAB	1	15	91	364	1414	
80			0342B0KLAB	1	15	93	372	1445	
81			0342B0KLAB	1	15	90	360	1398	
82			0342B0KLAB	1	15	103	412	1600	

COPY

SUPERSEDED

Survey Date: 8/02/95 Survey Start Time: 13:16  
Date/Time Report Printed: 8/02/95 14:18:20

Station: 1  
File: 421  
Page: 3

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 12

581	21	A	0342B0CF01	2	15	132	528	2050	
582	22	A	0342B0CF01	2	15	137	548	2128	
583	23	A	0342B0CF01	2	15	149	596	2315	
584	24	A	0342B0CF01	2	15	126	504	1957	
585	25	A	0342B0CF01	2	15	140	560	2175	
586	26	A	0342B0CF01	2	15	140	560	2175	
587	27	A	0342B0CF01	2	15	142	568	2206	
588	28	A	0342B0CF01	2	15	133	532	2066	
589	29	A	0342B0CF01	2	15	162	648	2517	
590	30	A	0342B0CF01	2	15	143	572	2221	
591	31	A	0342B0CF01	2	15	128	512	1988	
592	32	A	0342B0CF01	2	15	151	604	2346	
593	33	A	0342B0CF01	2	15	147	588	2283	
594	34	A	0342B0CF01	2	15	161	644	2501	
595	35	A	0342B0CF01	2	15	147	588	2283	
596	36	A	0342B0CF01	2	15	185	740	2874	
597	37	A	0342B0CF01	2	15	130	520	2019	
598	38	A	0342B0CF01	2	15	128	512	1988	
599	39	A	0342B0CF01	2	15	140	560	2175	
600	40	A	0342B0CF01	2	15	152	608	2361	
601	41	A	0342B0CF01	2	15	121	484	1880	
602	42	A	0342B0CF01	2	15	142	568	2206	
603	43	A	0342B0CF01	2	15	132	528	2050	
604	44	A	0342B0CF01	2	15	158	632	2454	
605	45	A	0342B0CF01	2	15	130	520	2019	
606	46	A	0342B0CF01	2	15	158	632	2454	
607	47	A	0342B0CF01	2	15	139	556	2159	
608	48	A	0342B0CF01	2	15	154	616	2392	
609	49	A	0342B0CF01	2	15	139	556	2159	
610	50	A	0342B0CF01	2	15	143	572	2221	
611	51	A	0342B0CF01	2	15	159	636	2470	
612	52	A	0342B0CF01	2	15	150	600	2310	
613	53	A	0342B0CF01	2	15	143	572	2221	
614	54	A	0342B0CF01	2	15	148	592	2299	
615	55	A	0342B0CF01	2	15	156	624	2423	
616	56	A	0342B0CF01	2	15	136	544	2113	
617	57	A	0342B0CF01	2	15	164	656	2548	
618	58	A	0342B0CF01	2	15	151	604	2346	
619	59	A	0342B0CF01	2	15	126	504	1957	

COPY

SUPERSEDED



Survey Date: 8/02/95 Survey Start Time: 12:57  
Date/Time Report Printed: 8/02/95 14:18:20

Station: 1  
File: 421  
Page: 4

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Count Time (sec)	Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
620	60	A	0342B0CF01	2	15	145	580	2252	
621	61	A	0342B0CF01	2	15	135	540	2097	
622	62	A	0342B0CF01	2	15	138	552	2144	
623	63	A	0342B0CF01	2	15	159	636	2470	
624	64	A	0342B0CF01	2	15	123	492	1911	
625	65	A	0342B0CF01	2	15	124	496	1926	
626	66	A	0342B0CF01	2	15	114	456	1771	
627	67	A	0342B0CF01	2	15	102	408	1584	
628	68	A	0342B0CF01	2	15	129	516	2004	
629	69	A	0342B0CF01	2	15	132	528	2050	
630	70	A	0342B0CF01	2	15	111	444	1724	

Number of Measurements at this Survey Location: 50

1	83	A	0342B0KS01	2	15	89	356	1383	
2	84	A	0342B0KS01	2	15	103	412	1600	
3	85	A	0342B0KS01	2	15	106	424	1647	
4	86	A	0342B0KS01	2	15	101	404	1569	
5	87	A	0342B0KS01	2	15	95	380	1476	
6	88	A	0342B0KS01	2	15	88	352	1367	
7	89	A	0342B0KS01	2	15	91	364	1414	
8	90	A	0342B0KS01	2	15	90	360	1398	
9	91	A	0342B0KS01	2	15	84	336	1305	
10	92	A	0342B0KS01	2	15	79	316	1227	
11	93	A	0342B0KS01	2	15	97	388	1507	
12	94	A	0342B0KS01	2	15	104	416	1616	
13	95	A	0342B0KS01	2	15	86	344	1336	
14	96	A	0342B0KS01	2	15	103	412	1600	
15	97	A	0342B0KS01	2	15	75	300	1165	
16	98	A	0342B0KS01	2	15	99	396	1538	
17	99	A	0342B0KS01	2	15	79	316	1227	
18	100	A	0342B0KS01	2	15	115	460	1786	
19	101	A	0342B0KS01	2	15	70	280	1087	
20	102	A	0342B0KS01	2	15	103	412	1600	
21	103	A	0342B0KS01	2	15	99	396	1538	
22	104	A	0342B0KS01	2	15	98	392	1522	
23	105	A	0342B0KS01	2	15	91	364	1414	
24	106	A	0342B0KS01	2	15	99	396	1538	
25	107	A	0342B0KS01	2	15	107	428	1662	
26	108	A	0342B0KS01	2	15	106	424	1647	
27	109	A	0342B0KS01	2	15	91	364	1414	
28	110	A	0342B0KS01	2	15	115	460	1786	
29	111	A	0342B0KS01	2	15	92	368	1429	
30	112	A	0342B0KS01	2	15	94	376	1460	

\* Flag is set at 3000 dpm/100 sq. cm. for beta contamination.

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Survey Date: 8/02/95 Survey Start Time: 13:39  
Date/Time Report Printed: 8/02/95 14:18:20

Station: 1  
File: 421  
Page: 5

Comments

Loc No	Smp No	NG Loc Code	Survey Loc Code	Det No	Time (sec)	Count Gross Counts	Gross CPM per DetArea	Net beta DPM per 100 cm2	H i
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Number of Measurements at this Survey Location: 30

Total Number of Measurements on this Report: 117

End of Report

01559:C:\PDOX35\M2350\TLOGREVU:R3 4-23-93 JPA  
7-25-95 MRM

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :8/3/95      Report Date: 8/22/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Date :12/23/95      Efficiency : 43.2 %

Location Code: 0342B0CF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.01067	581	9.2	24.6	-2.1	
26.01068	582	9.2	24.6	4.9	
26.01069	583	9.2	24.6	.2	
26.01070	584	9.2	24.6	2.5	
26.01071	585	9.2	24.6	-2.1	
26.01072	586	9.2	24.6	-6.7	
26.01073	587	9.2	24.6	-2.1	
26.01074	588	9.2	24.6	-4.4	
26.01075	589	9.2	24.6	-2.1	
26.01076	590	9.2	24.6	11.8	
26.01077	591	9.2	24.6	2.5	
26.01078	592	9.2	24.6	-4.4	
26.01079	593	9.2	24.6	7.2	
26.01080	594	9.2	24.6	-4.4	
26.01081	595	9.2	24.6	4.9	
26.01082	596	9.2	24.6	-2.1	
26.01083	597	9.2	24.6	-4.4	
26.01084	598	9.2	24.6	.2	
26.01085	599	9.2	24.6	.2	
26.01086	600	9.2	24.6	4.9	
26.01087	601	9.2	24.6	2.5	
26.01088	602	9.2	24.6	.2	
26.01089	603	9.2	24.6	-4.4	
26.01090	604	9.2	24.6	-2.1	
26.01091	605	9.2	24.6	-2.1	
26.01092	606	9.2	24.6	-6.7	
26.01093	607	9.2	24.6	.2	
26.01094	608	9.2	24.6	-6.7	
26.01095	609	9.2	24.6	.2	
26.01096	610	9.2	24.6	4.9	

Analysis Date : 8/3/95  
Instrument : LB-5100W

Report Date: 8/22/95  
Serial Number : SN5100W

SCN : 236.00  
Cal Due Date : 12/23/95

Activity (dpm) : 2.41e+4  
Efficiency : 43.2 %

Location Code: 0342B0CF01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.01097	611	9.2	24.6	4.9	
26.01098	612	9.2	24.6	-2.1	
26.01099	613	9.2	24.6	.2	
26.01100	614	9.2	24.6	7.2	
26.01101	615	9.2	24.6	.2	
26.01102	616	9.2	24.6	2.5	
26.01103	617	9.2	24.6	-2.1	
26.01104	618	9.2	24.6	9.5	
26.01105	619	9.2	24.6	-4.4	
26.01106	620	9.2	24.6	2.5	
26.01107	621	9.2	24.6	-2.1	
26.01108	622	9.2	24.6	-2.1	
26.01109	623	9.2	24.6	.2	
26.01110	624	9.2	24.6	-2.1	
26.01111	625	9.2	24.6	-2.1	
26.01112	626	9.2	24.6	2.5	
26.01113	627	9.2	24.6	-2.1	
26.01114	628	9.2	24.6	-4.4	
26.01115	629	9.2	24.6	-4.4	
26.01116	630	9.2	24.6	-4.4	

Flag Values: 1. Unaffected Individual > 500 dpm/100cm2  
2. Non-suspect Affected Individual > 562 dpm/100cm2  
3. Suspected Affected Individual > 750 dpm/100cm2

Radiochemistry Review: *MG*

Date: 8/23/95

Final Survey Technician Review: *JR*

Date: 8/24/95

Field Operation Coordinator Review: *MEM*

Date: 8-5-95

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :8/3/95      Report Date: 8/23/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0342B0MW02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.00991	1	9.2	24.6	-2.1	
26.00992	2	9.2	24.6	-2.1	
26.00993	3	9.2	24.6	-4.4	
26.00994	4	9.2	24.6	.2	
26.00995	5	9.2	24.6	-4.4	
26.00996	6	9.2	24.6	.2	
26.00997	7	9.2	24.6	-2.1	
26.00998	8	9.2	24.6	.2	
26.00999	9	9.2	24.6	2.5	
26.01000	10	9.2	24.6	-4.4	
26.01001	11	9.2	24.6	.2	
26.01002	12	9.2	24.6	-4.4	
26.01003	13	9.2	24.6	-2.1	
26.01004	14	9.2	24.6	-4.4	
26.01005	15	9.2	24.6	2.5	
26.01006	16	9.2	24.6	.2	
26.01007	17	9.2	24.6	-2.1	
26.01008	18	9.2	24.6	-6.7	
26.01009	19	9.2	24.6	-6.7	
26.01010	20	9.2	24.6	-4.4	
26.01011	21	9.2	24.6	-6.7	
26.01012	22	9.2	24.6	2.5	
26.01013	23	9.2	24.6	-4.4	
26.01014	24	9.2	24.6	.2	
26.01015	25	9.2	24.6	2.5	
26.01016	26	9.2	24.6	-2.1	
26.01017	27	9.2	24.6	.2	
26.01018	28	9.2	24.6	-6.7	
26.01019	29	9.2	24.6	2.5	
26.01020	30	9.2	24.6	.2	

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Analysis Date :8/3/95  
Instrument :LB-5100W

Report Date: 8/23/95  
Serial Number : SN5100W

SCN :236.00  
Cal Due Date :12/23/95

Activity (dpm) : 2.41e+4  
Efficiency : 43.2 %

Location Code: 0342B0MW02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.01021	31	9.2	24.6	-2.1	
26.01022	32	9.2	24.6	4.9	
26.01023	33	9.2	24.6	2.5	
26.01024	34	9.2	24.6	.2	
26.01025	35	9.2	24.6	.2	
26.01026	36	9.2	24.6	2.5	
26.01027	37	9.2	24.6	-2.1	
26.01028	38	9.2	24.6	2.5	
26.01029	39	9.2	24.6	.2	
26.01030	40	9.2	24.6	2.5	
26.01031	41	9.2	24.6	4.9	
26.01032	42	9.2	24.6	2.5	
26.01033	43	9.2	24.6	-4.4	
26.01034	44	9.2	24.6	-2.1	
26.01035	45	9.2	24.6	4.9	
26.01036	46	9.2	24.6	.2	
26.01037	47	9.2	24.6	.2	
26.01038	48	9.2	24.6	-2.1	
26.01039	49	9.2	24.6	4.9	
26.01040	50	9.2	24.6	.2	
26.01041	51	9.2	24.6	4.9	
26.01042	52	9.2	24.6	4.9	
26.01043	53	9.2	24.6	-4.4	
26.01044	54	9.2	24.6	-2.1	
26.01045	55	9.2	24.6	7.2	
26.01046	56	9.2	24.6	.2	
26.01047	57	9.2	24.6	-6.7	
26.01048	58	9.2	24.6	-4.4	
26.01049	59	9.2	24.6	.2	
26.01050	60	9.2	24.6	-4.4	
26.01051	61	9.2	24.6	2.5	
26.01052	62	9.2	24.6	2.5	
26.01053	63	9.2	24.6	4.9	

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Analysis Date :8/3/95

Report Date: 8/23/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0342B0MW02

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.01054	64	9.2	24.6	.2	
26.01055	65	9.2	24.6	7.2	
26.01056	66	9.2	24.6	-2.1	
26.01057	67	9.2	24.6	-4.4	
26.01058	68	9.2	24.6	-2.1	
26.01059	69	9.2	24.6	-4.4	
26.01060	70	9.2	24.6	2.5	
26.01061	71	9.2	24.6	-2.1	
26.01062	72	9.2	24.6	-2.1	
26.01063	73	9.2	24.6	-2.1	
26.01064	74	9.2	24.6	-4.4	
26.01065	75	9.2	24.6	-4.4	
26.01066	76	9.2	24.6	.2	

Flag Values:

1. Unaffected

2. Non-suspect Affected

3. Suspected Affected

Individual > 500 dpm/100cm2

Individual > 562 dpm/100cm2

Individual > 750 dpm/100cm2

Radiochemistry Review:

*MG*

Date: 8/23/95

Final Survey Technician Review:

*JF*

Date: 8/24/95

Field Operation Coordinator Review:

*MCN*

Date: 9-5-95

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date :8/3/95      Report Date: 8/23/95      SCN :236.00      Activity (dpm) :      2.41e+4  
 Instrument :LB-5100W      Serial Number : SN5100W      Cal Due Date :12/23/95      Efficiency : 43.2 %

Location Code: 0342B0CW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.00957	1	9.2	24.6	7.2	
26.00958	2	9.2	24.6	-2.1	
26.00959	3	9.2	24.6	4.9	
26.00960	4	9.2	24.6	-4.4	
26.00961	5	9.2	24.6	-2.1	
26.00962	6	9.2	24.6	-2.1	
26.00963	7	9.2	24.6	-2.1	
26.00964	8	9.2	24.6	-4.4	
26.00965	9	9.2	24.6	-2.1	
26.00966	10	9.2	24.6	-4.4	
26.00967	11	9.2	24.6	.2	
26.00968	12	9.2	24.6	.2	
26.00969	13	9.2	24.6	.2	
26.00970	14	9.2	24.6	.2	
26.00971	15	9.2	24.6	.2	
26.00972	16	9.2	24.6	-4.4	
26.00973	17	9.2	24.6	.2	
26.00974	18	9.2	24.6	-2.1	
26.00975	19	9.2	24.6	-4.4	
26.00976	20	9.2	24.6	.2	
26.00977	21	9.2	24.6	-2.1	
26.00978	22	9.2	24.6	-2.1	
26.00979	23	9.2	24.6	-4.4	
26.00980	24	9.2	24.6	-6.7	
26.00981	25	9.2	24.6	-4.4	
26.00982	26	9.2	24.6	-2.1	
26.00983	27	9.2	24.6	-4.4	
26.00984	28	9.2	24.6	.2	
26.00985	29	9.2	24.6	4.9	
26.00986	30	9.2	24.6	-2.1	

Analysis Date :8/3/95

Report Date: 8/23/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Location Code: 0342B0CW01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.00987	31	9.2	24.6	.2	
26.00988	32	9.2	24.6	-2.1	
26.00989	33	9.2	24.6	2.5	
26.00990	34	9.2	24.6	-4.4	

Flag Values:

1. Unaffected
2. Non-suspect Affected
3. Suspected Affected

Individual > 500 dpm/100cm2  
 Individual > 562 dpm/100cm2  
 Individual > 750 dpm/100cm2

Radiochemistry Review: *MG*

Date: *8/23/95*

Final Survey Technician Review: *ZP*

Date: *8/24/95*

Field Operation Coordinator Review: *mcn*

Date: *9-5-95*

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**Scientific Ecology Group, Inc - SEG**  
 Radiological Engineering & Decommissioning  
 Fort St. Vrain - Decommissioning Survey Report  
 Radiochemistry Laboratory Analysis Results

Analysis Date : 8/3/95      Report Date: 8/22/95      SCN : 236.00      Activity (dpm) : 2.41e+4  
 Instrument : LB-5100W      Serial Number : SN5100W      Cal Due Date : 12/23/95      Efficiency : 43.2 %

Location Code: 0342B0KS01

Analysis Type : Beta

Sample Number	Location Number	Critical Level	MDA Value	Activity (dpm)	High Flag
26.00927	1	9.2	24.6	2.5	
26.00928	2	9.2	24.6	2.5	
26.00929	3	9.2	24.6	-2.1	
26.00930	4	9.2	24.6	-4.4	
26.00931	5	9.2	24.6	-6.7	
26.00932	6	9.2	24.6	-4.4	
26.00933	7	9.2	24.6	-4.4	
26.00934	8	9.2	24.6	.2	
26.00935	9	9.2	24.6	-2.1	
26.00936	10	9.2	24.6	2.5	
26.00937	11	9.2	24.6	-2.1	
26.00938	12	9.2	24.6	2.5	
26.00939	13	9.2	24.6	-2.1	
26.00940	14	9.2	24.6	-6.7	
26.00941	15	9.2	24.6	.2	
26.00942	16	9.2	24.6	-4.4	
26.00943	17	9.2	24.6	-2.1	
26.00944	18	9.2	24.6	-2.1	
26.00945	19	9.2	24.6	.2	
26.00946	20	9.2	24.6	-2.1	
26.00947	21	9.2	24.6	-4.4	
26.00948	22	9.2	24.6	-2.1	
26.00949	23	9.2	24.6	-2.1	
26.00950	24	9.2	24.6	-2.1	
26.00951	25	9.2	24.6	7.2	
26.00952	26	9.2	24.6	.2	
26.00953	27	9.2	24.6	-2.1	
26.00954	28	9.2	24.6	-6.7	
26.00955	29	9.2	24.6	-4.4	
26.00956	30	9.2	24.6	.2	



Analysis Date :8/3/95

Report Date: 8/22/95

SCN :236.00

Activity (dpm) :

2.41e+4

Instrument :LB-5100W

Serial Number : SN5100W

Cal Due Date :12/23/95

Efficiency : 43.2 %

Flag Values:	1. Unaffected	Individual > 500 dpm/100cm2
	2. Non-suspect Affected	Individual > 562 dpm/100cm2
	3. Suspected Affected	Individual > 750 dpm/100cm2

Radiochemistry Review: *MB*

Date: *8/23/95*

Final Survey Technician Review: *J.P.*

Date: *8/24/95*

Field Operation Coordinator Review: *A.G.*

Date: *9-5-95*

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