Rocky Flats Environmental Technology Site

RADIOLOGICAL CHARACTERIZATION PACKAGE

GROUP 6 (280 AREA & T900D) CLOSURE PROJECT

REVISION 0

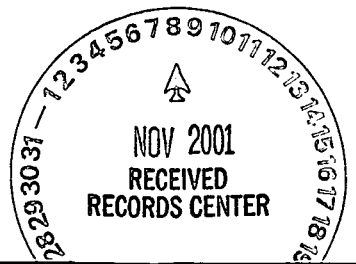
May 7, 2001

Prepared by: _____ 5/3/01
Jay Britten / Radiological Engineer — Date

Reviewed by: _____ 5/3/01
Duane Parsons / Facility Characterization Coordinator — Date

Reviewed by: _____ 5/3/01
Steve Luker / Quality Assurance — Date

Approved by: _____ 5/3/01
Vern Guthrie / Closure Project Facility Manager — Date



1/16

Radiological Characterization Package
Group 6 (B280, B281, S281, B282, 284 Tank Slab, & T900D)

* This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols(07/26/00), and MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities (02/14/01).
* PDSP Data Quality Objectives were used to develop this characterization package.

Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with JHA and facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.
7. Follow applicable characterization and sampling procedures.
8. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
9. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.
10. Collect and maintain all characterization paperwork in the Project File(s).
11. All radiological surveys shall be conducted in accordance with the sampling and instruction forms included in Group 6 (280 Area) Package Identification numbers 01-0019, 01-0020, and 01-0021. Sample locations are denoted on scaled maps attached to each survey package.

Class 1 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Class 1 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Class 1 Totals	0	0	0	0	0	0	

2

Radiological Characterization Package
Group 6 (B280, B281, S281, B282, 284 Tank Slab, & T900D)

Class 2 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Class 2 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Class 2 Totals	0	0	0	0	0	0	

3

Radiological Characterization Package
Group 6 (B280, B281, S281, B282, 284 Tank Slab, & T900D)

Class 3 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
A	GR6-A-001	3	Interiors of B280, B281, S281, B282, & associated exterior sidewalks and pads	3372	1187	338	**18-random 42-biased 3-QC**	**18-random 42-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination. Additional biased measurements have been prescibed and will be collected to ensure uniform coverage of all building surfaces. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP.
A	GR6-B-002	3	Exteriors of B280, B281, S281, B282, & 284 Tank Slab	1002	883	101	**15-random 25-biased 2-QC**	**15-random 25-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination. Additional biased measurements have been prescibed and will be collected to ensure uniform coverage of all building surfaces. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP.
B	GR6-C-003	3	Interior and Exterior of T900D	415	46	42	**15-random 15-biased 2-QC**	**15-random 15-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment of this unit provides a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination. Additional biased measurements have been prescibed and will be collected to ensure uniform coverage of all building surfaces. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP.
			Class 3 Totals	**4789**	**2116**	**481**	**130**	**130**	**0**	
All Class Areas			**All Class Totals**	**4789**	**2116**	**481**	**130**	**130**	**0**	

Radiological Characterization Package
Group 6 (B280, B281, S281, B282, 284 Tank Slab, & T900D)

Non-Impacted Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Non-Impacted Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Non-Impacted Totals	0	0	0	0	0	0	

5

Rocky Flats Environmental Technology Site

RADIOLOGICAL CHARACTERIZATION PACKAGE

GROUP 5 CLOSURE PROJECT

REVISION 0

March 6, 2001

Prepared by: Jay M. Britten / _____ 3/5/01.
Radiological Engineer

Reviewed by: Duane Parsons / _____ 3/5/01.
RISS Facility Characterization Coordinator

Reviewed by: Steve Luker / _____ 3/5/01.
Quality Assurance

Approved by: Vern Guthrie / _____ 3/7/01.
Closure Project Facility Manager

6

Radiological Characterization Package
Group 5 (442W, 442L, T551A)

Building:	442L&W, T551A	Last Updated:	Date:	3/5/01	Time:	900	Initials:	JMB

- This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols (07/26/00), and MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities (02/14/01).
- PDSP Data Quality Objectives were used to develop this characterization package.

Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with JHA and facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.
7. Follow applicable characterization and sampling procedures.
8. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
9. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.
10. Collect and maintain all characterization paperwork in the Project File(s).
11. All radiological surveys shall be conducted in accordance with the sampling and instruction forms included in Group 5 Package Identification numbers 01-0009, 01-0010, 01-0012, 01-0013, 01-0014, and 01-0015. Sample locations are denoted on scaled maps attached to each survey package.

Class 1 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Class 1 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Class 1 Totals	0	0	0	0	0	0	

7

Radiological Characterization Package
Group 5 (442W, 442L, T551A)

Class 2 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Class 2 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Class 2 Totals	0	0	0	0	0	0	

Radiological Characterization Package
Group 5 (442W, 442L, T551A)

Class 3 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
A	442-A-001	3	Interior of B442L (floor, walls, and ceiling)	948	259	95	**15-random 15-biased**	**15-random 15-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination (e.g., floors and lower walls). Also, two biased TSA and removable sample locations will be collected.
B	442-B-002	3	Exterior of 442L (walls and roof)	447	0	45	**15-random**	**15-random**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination.
A	442-A-003	3	Interior of 442W (floor, walls, and ceiling)	1875	571	188	**15-random 2-biased**	**15-random 2-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination (e.g., floors and lower walls). Also, two biased TSA and removable sample locations will be collected.
B	442-B-004	3	Exterior of 442W (walls and roof)	1066	0	107	**15-random**	**15-random**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination.

9

Radiological Characterization Package
Group 5 (442W, 442L, T551A)

Class 3 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
C	551-C-005	3	Interior of T551A (floor, walls, and ceiling)	1124	295	113	**15-random 2-biased**	**15-random 2-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination (e.g., floors and lower walls). Also, two biased TSA and removable sample locations will be collected.
D	551-D-006	3	Exterior of T551A (walls and roof)	586	12	59	**15-random**	**15-random**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination.
			Class 3 Totals	**6046**	**1137**	**607**	**96**	**96**	**0**	

All Class Areas			**All Class Totals**	**6046**	**1137**	**607**	**96**	**96**	**0**	

10

Radiological Characterization Package
Group 5 (442W, 442L, T551A)

Non-Impacted Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Non-Impacted Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Non-Impacted Totals	0	0	0	0	0	0	

Radiological Characterization Package
Group 5 (442W, 442L, T551A)

Class 3 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
A	442-A-001	3	Interior of B442L (floor, walls, and ceiling)	948	259	95	**15-random 2-biased**	**15-random 2-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination (e.g., floors and lower walls). Also, two biased TSA and removable sample locations will be collected.
B	442-B-002	3	Exterior of 442L (walls and roof)	447	0	45	**15-random**	**15-random**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination.
A	442-A-003	3	Interior of 442W (floor, walls, and ceiling)	1875	571	188	**15-random 2-biased**	**15-random 2-biased**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination (e.g., floors and lower walls). Also, two biased TSA and removable sample locations will be collected.
B	442-B-004	3	Exterior of 442W (walls and roof)	1066	0	107	**15-random**	**15-random**	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 10% scan will be biased towards areas of greater potential for contamination.

12 Superseded in order to add additional biased measurements to elevated surfaces in survey unit 442-A-001 JMB 6/7/01

Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION

RADIOLOGICAL CHARACTERIZATION PLAN (PACKAGE)

GROUP 8 CLOSURE PROJECT (T886B & T886C)

REVISION 0

May 31, 2001

Prepared by: _____ Date: 5/31/01
Jay Britten, Radiological Engineer

Reviewed by: _____ Date: 5/31/01
Duane Parsons, Facility Characterization Coordinator

Reviewed by: _____ Date: 5/31/01
Steve Luker, Quality Assurance

Approved by: _____ Date: 6/12/01
Kent Dorr, Closure Project Facility Manager

13

Radiological Characterization Package
Group 8 (T886B & T886C)

Notes and Assumptions:

- This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols (07/26/00), and MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities (02/14/01).
- PDSP Data Quality Objectives were used to develop this characterization package.

Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with JHA and facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.
7. Follow applicable characterization and sampling procedures.
8. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
9. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.
10. Collect and maintain all characterization paperwork in the Project File(s).
11. All radiological surveys shall be conducted in accordance with the sampling and instruction forms included in Group 8 (T886B & T886C) Survey Package numbers GR8-A-001 and GR8-B-002. Sample locations are denoted on scaled maps attached to each survey package.

14

Radiological Characterization Package
Group 8 (T886B & T886C)

Non-Impacted Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Non-Impacted Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Non-Impacted Totals	0	0	0	0	0	0	

Class 1 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Class 1 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Class 1 Totals	0	0	0	0	0	0	

Class 2 Areas

Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Class 2 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification.
			Class 2 Totals	0	0	0	0	0	0	

Radiological Characterization Package Group 8 (T886B & T886C) Class 3 Areas										
Survey Area	Survey Unit	Class	Description	Total m^2	Floor m^2	Scan m^2	TSA	Smears	Media	Class Justification
A	GR8-A-001	3	Interiors & Exterior of T886B	1072	164	54	15-random 15-biased 2-QC	15-random 15-biased	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination. A 5% scan in this survey unit is justified due to the historical process knowledge of the facility. Additional biased measurements have been prescribed and will be collected to ensure uniform coverage of all building surfaces. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP and will not be used in any statistical analysis (i.e., MARSSIM Sign Test).
B	GR8-B-002	3	Interior & Exterior of T886C	1928	366	97	15-random 15-biased 2-QC	15-random 15-biased	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan will be biased towards areas of greater potential for contamination. A 5% scan in this survey unit is justified due to the historical process knowledge of the facility. Additional biased measurements have been prescribed and will be collected to ensure uniform coverage of all building surfaces. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP and will not be used in any statistical analysis (i.e., MARSSIM Sign Test).
			Class 3 Totals	**3000**	**530**	**151**	**64**	**60**	**0**	
All Class Areas			**All Class Totals**	**3000**	**530**	**151**	**64**	**60**	**0**	

* Biased measurement locations include high traffic areas such as building entrances, exits, and hallways; HVAC intakes and exhaust ducts; storage areas; areas of frequent personnel contact such as doors and door frames; and horizontal surfaces.

16/16