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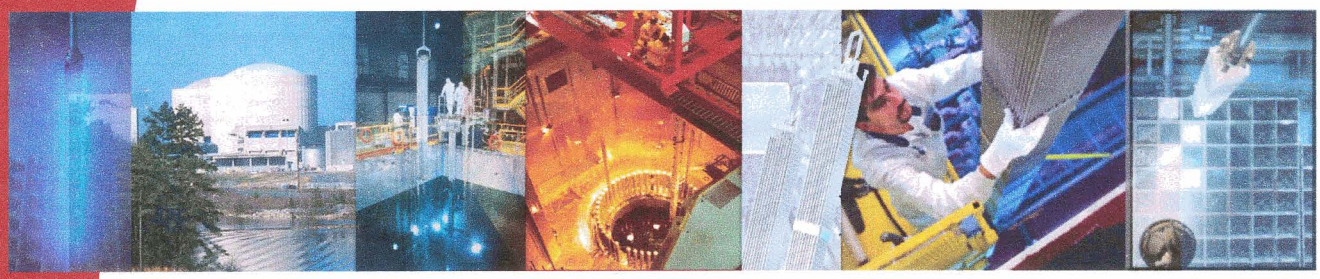

SURVEY PACKAGE

Survey Package ID: C4024 301C1

Survey Area Name: SETF, Building 4024

Survey Unit Name: High Bay and First Floor DM Areas

Version: Revision 1, April 14, 2007

Prepared IAW:
SETF Sample and Analysis Plan, Rev. 0, March 2007

Prepared For:
The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Rd
Canoga Park, CA 91304

Prepared By:
AREVA NP Inc.
Federal D&D Services
7207 IBM Drive
Charlotte, NC 28262

AREVA

Survey Package Cover Sheet

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Survey Package Preparation:

The survey package instructions are prepared and ready for implementation.

Prepared By: _____ Date 5/1/07
FSS/Characterization Design Engineer

Reviewed By: _____ Date 5/1/07
FSS/Characterization Manager (or designee)

Approved By: _____ Date 5/1/07
Project Manager

Survey Completion:

The survey package instructions were implemented and the survey measurements have been reviewed for completeness in accordance with the Sample and Analysis Plan. The data collected has been reviewed for completeness in accordance with the survey package instructions.

Reviewed By: _____ for J. McGehee Date: 11/30/07
FSS/Characterization Supervisor (or designee)

Reviewed By: N/A Date: _____
FSS/Characterization Data Anlysis Engineer

Reviewed By: _____ Date: 11/30/07
RP/FSS/Characterization Manager (or designee)

Approved By: _____ Date: 11/30/07
Project Manager

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Survey Unit Name:	High Bay and First Floor DM Areas		

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Survey Area History

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Survey Area Description:

Erected in 1960 and enlarged in 1962, 4 unshielded SNAP reactors were tested in the SETF. The reactor systems and radioactive test equipment were removed at the end of testing, additional D&D operations were performed in 1978 and again in 2005.

Survey Area History Information:

SETF Facility Description
As constructed, the SETF consisted of three basic areas: the high bay, general support and mechanical/electrical support areas. In addition to the building areas, a paved yard surrounds the main building. All of the building areas except for test cells B-102 and B-104 of the sub grade test cell complex (SGTCC) have been surveyed and confirmed to be DM by the DHS-RHB.

The test cells have an aluminum liner, contain activated concrete and metal rebar from former reactor testing. In the yard area, other above grade support structures and below grade components such as radioactive solid, liquid, and gas storage tanks were once buried. The tanks were removed, but surveys showing the radiological condition of the remaining vaults are not available.

Survey Unit Description and History

Survey Package Number: C4024 301C1 Package Type: Structure

LC1: C4024 Survey Area Name: SETF, Building 4024

LC2: 301C1 Survey Unit Name: High Bay and First Floor DM Areas

LC3 - Surface Category (P1-3) and Associated Area:

LC3_P1_3	Surface Description	Dimensions (Yes or No)	Total Area (m2)
BE1	Building Exterior Surfaces	No	0
BI1	Building Interior Surfaces	No	0
WU1	Upper Wall Surfaces	No	0

Work Breakdown Structure Information:

WBS ID: 10401 Characterization and Confirmatory Survey Activities

Survey Unit Description:

This survey unit includes first floor level interior surfaces of floor and lower walls, and exterior lower wall surface. All areas are radiologically clean structural DM portions of the SETF.

Survey Unit Historical Information: Operational History, etc.

This survey is being performed to confirm that residual radioactivity above natural background from former operations at Building 4024 is not present on structural surfaces in areas of High Bay already confirmed by DHS-RHB as decommissioned materials (DM).

High Bay Area
The high bay area is the section of the building built above the subsurface cell complex and operating gallery. The high bay area is enclosed by a structural steel, mill-framed building; see drawings, SETF High Bay. The panels forming the siding have asbestos containing material (ACM) in the sealant used on the panels and must be handled as ACM. Removal of ACM including the performance of a survey to determine the presence of asbestos containing material is the responsibility of the contractor. To handle the cell roof plugs in the high bay floor, a still operational 20-ton gantry crane moves on rails that extend through a high bay door to approximately 40 feet east of the structure where outside storage cavities were constructed and still remain.

Survey Unit Description and History

Survey Package Number: C4024 301C1 Package Type: Structure

LC1: C4024 Survey Area Name: SETF, Building 4024

LC2: 301C1 Survey Unit Name: High Bay and First Floor DM Areas

Identity of Potential Contaminants
Radioactivity induced by testing SNAP reactors in the sub grade test cell complex was detected as documented in SAP Reference 7.5, Team Product Document No: RS-00025, Building 4024 Concrete Sampling, performed under the Closure of ETEC (R21-RS) Program (RS-00025 report). The RS-00025 report provides the results for concrete sampling in the SETF, Building 4024 conducted in 2003. The activity of 1 inch depth cores ranged from no detectable activity to 105 pCi/g of Europium-152 (Eu-152) and 9.4 pCi/g of Cobalt-60 (Co-60), the primary contaminants of concern (COC). Other potential radionuclide COCs in addition to Co-60 and Eu-152 include: Am-241, Cs-134, Cs-137, Eu-154, Fe-55, Fe-59, H-3, K-40, Mn-54, Na-22, Ni-63, Pu-238, Pu-239, Pu-240, Pu-241, Sr-90, Th-228, Th-230, Th-232, U-234, U-235, and U-238. These additional COCs will also be tested for during the confirmatory survey.

Additional Information Regarding Survey Unit Classification:

Inside RCA? No

Coolant? No

Spills? No

Survey Package References

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

References:

1. Sample and Analysis Plan for the SETF D&D Surveys, Rev 0, March 2007, AREVA
2. Quality Assurance Project Plan for the SETF D&D Surveys, Rev 0, March 2007, AREVA
3. Health and Safety Plan for the SETF D&D Project, March 2007, AREVA
4. MARSSIM, Multi-Agency Radiation Survey and Site Investigation Manual, EPA402-R-97-016 (NUREG-1575), August 2000

Survey Safety Requirements

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Safety Requirement and Considerations:

1. This area contains or may contain physical slip, trip and fall hazards, and watch for poisonous snakes and insects.

Survey Support Requirements

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Survey Support Requirements and Considerations:

1. Review Job Hazard Analysis prepared for surveys of radiologically clean areas.

Survey Package Procedures

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Survey Package Procedures:

1. DD-CS-001 Sample Identification and Chain of Custody
2. DD-CS-011 Operation of Ludlum Model 2350 Data Logger
3. DD-CS-014 Bulk Material and Core Bore Sampling
4. DD-RP-010 Portable Instrument Procedure
5. DD-RP-039 Quality Control of Counting Systems and Portable Counters
6. DD-RP-049 Operation of the Ludlum Model 2929 Dual Channel Scaler

General Survey Package Instructions

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

1. The DQOs for Confirmatory Surveys is as follows:

   Perform measurements and collect samples of sufficient quantity to confirm that residual radioactivity above natural background from former operations at Building 4024 is not present in areas already confirmed by DHS-RHB as decommissioned materials (DM). Evaluate the measurements and sample results for comparability to previous survey results.

   Operate instruments for background study and survey direct measurements and sample analysis such that measurement and/or analysis sensitivities or minimum detectable concentrations (MDCs) are ALARA or, as a minimum less than the derived concentration guideline levels (DCGLs).

2. The survey is to aid in removal activities, waste management activities, and remediation planning.

   Upon completion of the initial survey specified in this survey package, the data will be analyzed and a determination will be made as to whether or not the structure has been adequately characterized. If contamination is found, investigation surveys will be conducted to define the extent of the contamination such that the areas of elevated activity can be encapsulated/remediated and the structure can be safely removed and properly segregated during demolition.

3. If materials that are potentially hazardous are encountered during the survey, note this in the item description under "material" and report the location of the material to the FSS/Characterization Manager and EH&S Manager.

4. The number of measurements and/or samples prescribed are minimum number required.

   Additional measurements may be required to bound the lateral/vertical extent of radiological contamination in the survey unit. Survey maps for each room contained in this survey unit are located in Appendix A. Note the location and boundaries of any radiological contamination identified during the survey.

5. Use the room number from drawings in the LC5 code of the M2350 to identify measurements by Room number for structural surface surveyed. Mark each measurement location with an appropriate label, including LC5 and LC6 code.

General Survey Package Instructions

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

6. The M2350 data logger(s) are to be downloaded into the Measure Database at completion of survey or at end of shift at a minimum.

7. All samples are to be logged into the Sample Database at completion of survey or at end of shift at a minimum.

8. Note any problems, comments, or other information pertinent to the data or sample collection under the "FIELD NOTES" section.

9. When all samples or measurements are collected, record the total quantity and initial and date the "Collected By" block on the Survey Package Location Code Sheet to indicate the measurements or samples were collected.

10. Place all data, measurement and sample analysis reports, drawings, etc. in the appropriate section of Appendix C, Survey Results, as they are generated, reviewed and approved for survey package closure.

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

1. **Beta Scan**

   Perform a beta scan survey of accessible surfaces of the interior and exterior surfaces of the building as described below. Scans should be biased toward areas of highest activity (e.g. pits, cracks, doorways, etc.)

   Use a Model 44-116 or equal detector. The scans shall be performed by moving at a maximum rate of one detector width per second while listening to the audible output of the instrument. For interior surfaces and/or exterior surfaces of the building, perform a scan survey of 9 m2 the accessible floor and lower 2 meters of wall surfaces at each SML. Note any areas of elevated activity on the appropriate survey drawing contained in Appendix A. No scan surveys will be required on the building exterior surfaces above 2 meters if the scan of the lower walls does not identify areas of elevated activity. Do not log scan results.

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

2. **Direct Beta**

Perform direct beta measurements at any locations of elevated activity identified during the scan. If no areas of elevated activity are identified, collect direct beta measurements as directed below.

Use a Model 44-116 or equal detector. A minimum of 30 direct beta measurements will be collected on the surfaces of the building and at locations with the most potential for contamination and where the measurement geometry is most appropriate. If no areas of elevated activity are identified during the scan survey, measurements will be distributed on the building surfaces as follows:

Interior surfaces:
Floor - 10
Walls below 2 meters - 4
Upper Walls above 2 meters - 12

Exterior surfaces:
Walls below 2 meters – 4

Note the location of each measurement on the appropriate survey drawing contained in Appendix A. Mark each measurement location with an appropriate label, including the LC5 and LC6 code.

With the background shield installed, perform a 60 second "C" count to determine the field background. Using the field MDA verification sheet, adjust the count time to ensure that the MDC is less than 900 dpm/100 square centimeters.

Collect three pre-survey and three post survey shielded background counts. If pre-survey background counts in the survey unit are within +/- 20% of mean, use LMI Model 44-116 detector with the M2350 in the scaler mode with a 60 second count time and code the measurement LC4_P4 as "G," for Field Background and LC4_P5 as "A" for Average Background application (per measurement). If otherwise, collect a single shielded background at each of the direct beta measurement locations, code the measurement LC4_P4 as "G," field background and LC4_P5 as "S" for Single Background (per measurement).

For the direct measurement, use LMI Model 44-116 detector with the M2350 in the

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

scaler mode with a 60 second count time and code the measurement LC4_P4 as "F," for Field Count and LC4_P5 as "A" for Average Background application or "S" for Single Background (per measurement) as appropriate.

3. **Direct Alpha**

   Perform direct alpha measurement at each of the direct beta measurement locations.

   Use a Model 43-90 or equal detector. With the background shield installed, perform a 2 minute "C" count to determine the field background. Using the field MDA verification sheet, adjust the count time to ensure that the MDA is less than 75 dpm/100 square centimeters.

   Use Model 43-90 detector with the same background protocol and codes as with the direct beta measurements.

4. **Contact Gamma**

   Perform contact gamma measurement at each of the direct beta measurement locations.

   Use Model 44-10, the M2350 in the scaler mode with a 12 second count time and code the measurement LC4_P4 as "F," for Field Count.

5. **Exposure Rate**

   Perform gamma exposure rate measurement at one (1) meter distance from each contact gamma measurement location.

   Use Model 44-10, the M2350 in the scaler mode with a 12 second count time and code the measurement LC4_P4 as "F," for Field Count.

6. **A/B Smear**

   Collect a smear for removable alpha and beta contamination at each of the direct beta measurement locations.

   Collect the smear sample by wiping approximately 100 cm2 area for the sample. Combine and analyze by gamma spectroscopy A/B smear samples collected at locations where removable alpha was > 100 dpm/100 cm^2 or removable beta was >1000 dpm/100 cm^2.

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	Package Type:	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

7. **G-Spec Sample**

If available, collect a sample from each location composed of loose materials, sediment or sludge to combine for one or two composite samples for gamma spectral analysis.

The samples in order of priority are as follows:
1 to 2 kg Soil/Sediment Samples for Gamma Spectroscopy, if an amount to produce >/= 125 g of dry sample cannot be obtained, collect materials for a composite sample for the survey unit.

The sample may include a bulk material sample for a petri dish and/or 250 ml marinelli beaker sample.

To achieve the analysis MDC desired, the laboratory requested sample sizes (an amount of soil) that will yield 500 grams of dried soil. The wet soil amount can vary significantly depending on its moisture content. If the desired sample size cannot be obtained, the minimum sample size to achieve an analysis MDC is an amount of wet soil (~1 kg) that will produce 125g of dried soil.

If an amount to produce 125g of dried soil cannot be obtained, combine and analyze by gamma spectroscopy smear sample results showing > 100 alpha or >1000 beta dpm/100cm^2.

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC3_P1-3 and Surface Category: BE1 Exterior Surfaces of Out Buildings

LC3_P45 Material Description

M1	Metal
G1	Miscellaneous Material
D2	Cinder Block (Painted)
C2	Concrete (Painted)
C1	Concrete (Bare)

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				4	4	N/A
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Beta Scan				4	4	
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			
Contact Gamma				4	4	
	G01	44-10	2"x2" NaI(Tl) Gamma Scintillator			
Direct Alpha				4	4	
	A04	43-89A	Alpha Scintillator			
	A03	43-90	Alpha Scintillator			
Direct Beta				4	4	
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
Exposure Rate				4	4	N/A
	G02	44-10	2"x2" NaI(Tl) Gamma Scintillator			
G-Spec Sample				1	N/A	
	L04	GS Material Analysis	Gamma Spectrometry			

LC3_P1-3 and Surface Category: BI1 interior Surfaces of Out Buildings

LC3_P45 Material Description

M1 Metal
G1 Miscellaneous Material
D2 Cinder Block (Painted)
C2 Concrete (Painted)
C1 Concrete (Bare)

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				14	14	N/A
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Beta Scan				14	14	
	B14	43-89B	Beta Scintillator			

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 *Survey Area Name:* *SETF, Building 4024*

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
	B02	44-116	Beta Scintillator			
Contact Gamma				14	14	N/A
	G01	44-10	2"x2" NaI(Tl) Gamma Scintillator			
Direct Alpha				14	14	
	A04	43-89A	Alpha Scintillator			
	A03	43-90	Alpha Scintillator			
Direct Beta				14	14	
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			
Exposure Rate				14	14	
	G02	44-10	2"x2" NaI(Tl) Gamma Scintillator			
G-Spec Sample				1	4	
	L04	GS Material Analysis	Gamma Spectrometry			

LC3_P1-3 and Surface Category: WU1 Upper Wall Surfaces

LC3_P45 Material Description

M1 Metal
G1 Miscellaneous Material
C2 Concrete (Painted)
C1 Concrete (Bare)

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				12	12	WA
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Direct Alpha				12	12	
	A04	43-89A	Alpha Scintillator			
	A03	43-90	Alpha Scintillator			
Direct Beta				12	12	
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			

Survey Package Location Codes

Survey Package Number C4024 301C1 Package Type: Structure

LC1: C4024 Survey Area Name: SETF, Building 4024

LC2: 301C1 Survey Unit Name: High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC4_P4 - Count Type	LC4_P5 - Background Mode Codes
A Pre-use Background Check	A Average Background
B Pre-use Source Check	N Background Not Required
C Post-use Background Check	S Single Background
D Post-use Source Check	
F Field Count	
G Field Background	
S Field Scan	

Survey Field Notes: **Additional information regarding the performance of the survey, measurements, sample collection, etc. Use additional pages as needed for field notes.**

Survey Package Cover Sheet

Survey Package Number: C4024 301C1 **Package Type:** Structure

Survey Area Name: SETF, Building 4024

Survey Unit Name: High Bay and First Floor DM Areas

Survey Package Preparation:

The survey package instructions are prepared and ready for implementation.

Prepared By: _____ Date 4/16/07
FSS/Characterization Design Engineer

Reviewed By: _____ Date 4/17/07
FSS/Characterization Manager (or designee)

Approved By: _____ Date 4/17/07
Project Manager

Survey Completion:

The survey package instructions were implemented and the survey measurements have been reviewed for completeness in accordance with the Sample and Analysis Plan. The data collected has been reviewed for completeness in accordance with the survey package instructions.

Reviewed By: _____ Date: _____
FSS/Characterization Supervisor (or designee)

Reviewed By: _____ Date: _____
FSS/Characterization Data Anlysis Engineer

Reviewed By: _____ Date: _____
RP/FSS/Characterization Manager (or designee)

Approved By: _____ Date: _____
Project Manager

N/A

Complete Package Revision
~~5/1/07~~ 5/1/07

Table of Contents

Survey Package Number	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
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8.0	Specific Survey Package Instruction	12
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12.0	Appendix C, Survey Results	

Survey Area History

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Survey Area Description:

Erected in 1960 and enlarged in 1962, 4 unshielded SNAP reactors were tested in the SETF. The reactor systems and radioactive test equipment were removed at the end of testing, additional D&D operations were performed in 1978 and again in 2005.

Survey Area History Information:

SETF Facility Description
As constructed, the SETF consisted of three basic areas: the high bay, general support and mechanical/electrical support areas. In addition to the building areas, a paved yard surrounds the main building. All of the building areas except for test cells B-102 and B-104 of the SGTCC have been surveyed and confirmed to be DM by the DHS-RHB.

The test cells contain activated concrete and medal rebar from former reactor testing. In the yard area, other above grade support structures and below grade components such as radioactive solid, liquid, and gas storage tanks were once buried. The tanks were removed, but surveys showing the radiological condition of the remaining vaults are not available.

Survey Unit Description and History

Survey Package Number: C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

LC3 - Surface Category (P1-3) and Associated Area:

LC3_P1_3	Surface Description	Dimensions (Yes or No)	Total Area (m2)
BE1	Building Exterior Surfaces	No	0
BI1	Building Interior Surfaces	No	0

Work Breakdown Structure Information:

WBS ID: 10401 Characterization and Confirmatory Survey Activities

Survey Unit Description:

This survey unit includes first floor level interior surfaces of floor and lower walls, and exterior lower wall surface. All areas are radiologically clean structural DM portions of the SETF.

Survey Unit Historical Information: Operational History, etc.

This survey is being performed to confirm that residual radioactivity above natural background from former operations at Building 4024 is not present on structural surfaces in areas of High Bay already confirmed by DHS-RHB as decommissioned materials (DM).

High Bay Area
The high bay area is the section of the building built above the subsurface cell complex and operating gallery. The high bay area is enclosed by a structural steel, mill-framed building; see drawings, SETF High Bay. The panels forming the siding have asbestos containing material (ACM) in the sealant used on the panels and must be handled as ACM. Removal of ACM including the performance of a survey to determine the presence of asbestos containing material is the responsibility of the contractor. To handle the cell roof plugs in the high bay floor, a still operational 20-ton gantry crane moves on rails that extend through a high bay door to approximately 40 feet east of the structure where outside storage cavities were constructed and still remain.

Identity of Potential Contaminants
Radioactivity induced by testing SNAP reactors in the sub grade test cell complex was detected

Survey Unit Description and History

Survey Package Number: C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

as documented in SAP Reference 7.5, Team Product Document No: RS-00025, Building 4024 Concrete Sampling, performed under the Closure of ETEC (R21-RS) Program (RS-00025 report). The RS-00025 report provides the results for concrete sampling in the SETF, Building 4024 conducted in 2003. The activity of 1 inch depth cores ranged from no detectable activity to 105 pCi/g of Europium-152 (Eu-152) and 9.4 pCi/g of Cobalt-60 (Co-60), the primary contaminants of concern (COC). Other potential radionuclide COCs in addition to Co-60 and Eu-152 include: Am-241, Cs-134, Cs-137, Eu-154, Fe-55, Fe-59, H-3, K-40, Mn-54, Na-22, Ni-63, Pu-238, Pu-239, Pu-240, Pu-241, Sr-90, Th-228, Th-230, Th-232, U-234, U-235, and U-238. These additional COCs will also be tested for during the confirmatory survey.

Additional Information Regarding Survey Unit Classification:

Inside RCA? No

Coolant? No

Spills? No

Survey Package References

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

References:

1. Sample and Analysis Plan for the SETF D&D Surveys, Rev 0, March 2007, AREVA
2. Quality Assurance Project Plan for the SETF D&D Surveys, Rev 0, March 2007, AREVA
3. Health and Safety Plan for the SETF D&D Project, March 2007, AREVA
4. MARSSIM, Multi-Agency Radiation Survey and Site Investigation Manual, EPA402-R-97-016 (NUREG-1575), August 2000

Survey Safety Requirements

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Safety Requirement and Considerations:

1. This area contains or may contain physical slip, trip and fall hazards, and watch for poisonous snakes and insects.

Survey Support Requirements

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Survey Support Requirements and Considerations:

1. Review Job Hazard Analysis prepared for surveys of radiologically clean areas.

Survey Package Procedures

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Survey Package Procedures:

1. DD-CS-001 Sample Identification and Chain of Custody
2. DD-CS-011 Operation of Ludlum Model 2350 Data Logger
3. DD-CS-014 Bulk Material and Core Bore Sampling
4. DD-RP-010 Portable Instrument Procedure
5. DD-RP-039 Quality Control of Counting Systems and Portable Counters
6. DD-RP-049 Operation of the Ludlum Model 2929 Dual Channel Scaler

General Survey Package Instructions

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

1. The DQOs for Confirmatory Surveys is as follows:

   Perform measurements and collect samples of sufficient quantity to confirm that residual radioactivity above natural background from former operations at Building 4024 is not present in areas already confirmed by DHS-RHB as decommissioned materials (DM). Evaluate the measurements and sample results for comparability to previous survey results.

   Operate instruments for background study and survey direct measurements and sample analysis such that measurement and/or analysis sensitivities or minimum detectable concentrations (MDCs) are ALARA or, as a minimum less than the derived concentration guideline levels (DCGLs).

2. The survey is to aid in removal activities, waste management activities, and remediation planning.

   Upon completion of the initial survey specified in this survey package, the data will be analyzed and a determination will be made as to whether or not the structure has been adequately characterized. If contamination is found, investigation surveys will be conducted to define the extent of the contamination such that the areas of elevated activity can be encapsulated/remediated and the structure can be safely removed and properly segregated during demolition.

3. If materials that are potentially hazardous are encountered during the survey, note this in the item description under "material" and report the location of the material to the FSS/Characterization Manager and EH&S Manager.

4. The number of measurements and/or samples prescribed are minimum number required.

   Additional measurements may be required to bound the lateral/vertical extent of radiological contamination in the survey unit. Survey maps for each room contained in this survey unit are located in Appendix A. Note the location and boundaries of any radiological contamination identified during the survey.

5. Use the room number from drawings in the LC5 code of the M2350 to identify measurements by Room number for structural surface surveyed. Mark each measurement location with an appropriate label, including LC5 and LC6 code.

General Survey Package Instructions

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

6. The M2350 data logger(s) are to be downloaded into the Measure Database at completion of survey or at end of shift at a minimum.

7. All samples are to be logged into the Sample Database at completion of survey or at end of shift at a minimum.

8. Note any problems, comments, or other information pertinent to the data or sample collection under the "FIELD NOTES" section.

9. When all samples or measurements are collected, record the total quantity and initial and date the "Collected By" block on the Survey Package Location Code Sheet to indicate the measurements or samples were collected.

10. Place all data, measurement and sample analysis reports, drawings, etc. in the appropriate section of Appendix C, Survey Results, as they are generated, reviewed and approved for survey package closure.

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

1. **Beta Scan**

   Perform a beta scan survey of accessible surfaces of the interior and exterior surfaces of the building as described below. Scans should be biased toward areas of highest activity (e.g. pits, cracks, doorways, etc.).

   Use a Model 44-116 or equal detector. The scans shall be performed by moving at a maximum rate of one detector width per second while listening to the audible output of the instrument. For interior surfaces and/or exterior surfaces of the building, perform a scan survey of 9 m2 the accessible floor and lower 2 meters of wall surfaces at each SML. Note any areas of elevated activity on the appropriate survey drawing contained in Appendix A. No scan surveys will be required on the building exterior surfaces above 2 meters if the scan of the lower walls does not identify areas of elevated activity. Do not log scan results.

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

2. **Direct Beta**

Perform direct beta measurements at any locations of elevated activity identified during the scan. If no areas of elevated activity are identified, collect direct beta measurements as directed below.

Use a Model 44-116 or equal detector. A minimum of 18 direct beta measurements will be collected on the surfaces of the building and at locations with the most potential for contamination and where the measurement geometry is most appropriate. If no areas of elevated activity are identified during the scan survey, measurements will be distributed on the building surfaces as follows:

Interior surfaces:
Floor - 10
Walls below 2 meters - 4
Exterior surfaces:
Walls below 2 meters – 4

Note the location of each measurement on the appropriate survey drawing contained in Appendix A. Mark each measurement location with an appropriate label, including the LC5 and LC6 code.

With the background shield installed, perform a 60 second "C" count to determine the field background. Using the field MDA verification sheet, adjust the count time to ensure that the MDC is less than 900 dpm/100 square centimeters.

Collect three pre-survey and three post survey shielded background counts. If pre-survey background counts in the survey unit are within +/- 20% of mean, use LMI Model 44-116 detector with the M2350 in the scaler mode with a 60 second count time and code the measurement LC4_P4 as "G," for Field Background and LC4_P5 as "A" for Average Background application (per measurement). If otherwise, collect a single shielded background at each of the direct beta measurement locations, code the measurement LC4_P4 as "G," field background and LC4_P5 as "S" for Single Background (per measurement).

For the direct measurement, use LMI Model 44-116 detector with the M2350 in the scaler mode with a 60 second count time and code the measurement LC4_P4 as "F," for Field Count and LC4_P5 as "A" for Average Background application or "S" for Single

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

Background (per measurement) as appropriate.

3. **Direct Alpha**

   Perform direct alpha measurement at each of the direct beta measurement locations.

   Use a Model 43-90 or equal detector. With the background shield installed, perform a 2 minute "C" count to determine the field background. Using the field MDA verification sheet, adjust the count time to ensure that the MDA is less than 75 dpm/100 square centimeters.

   Use Model 43-90 detector with the same background protocol and codes as with the direct beta measurements.

4. **Contact Gamma**

   Perform contact gamma measurement at each of the direct beta measurement locations.

   Use Model 44-10, the M2350 in the scaler mode with a 12 second count time and code the measurement LC4_P4 as "F," for Field Count.

5. **Exposure Rate**

   Perform gamma exposure rate measurement at one (1) meter distance from each contact gamma measurement location.

   Use Model 44-10, the M2350 in the scaler mode with a 12 second count time and code the measurement LC4_P4 as "F," for Field Count.

6. **A/B Smear**

   Collect a smear for removable alpha and beta contamination at each of the direct beta measurement locations.

   Collect the smear sample by wiping approximately 100 cm2 area for the sample. Combine and analyze by gamma spectroscopy A/B smear samples collected at locations where removable alpha was > 100 dpm/100 cm^2 or removable beta was >1000 dpm/100 cm^2.

Specific Survey Package Instructions

Survey Package Number:	C4024 301C1	**Package Type:**	Structure
Survey Area Name:	SETF, Building 4024		
Survey Unit Name:	High Bay and First Floor DM Areas		

7. **G-Spec Sample**

   If available, collect a sample from each location composed of loose materials, sediment or sludge to combine for one or two composite samples for gamma spectral analysis.

   The samples in order of priority are as follows:
   1 to 2 kg Soil/Sediment Samples for Gamma Spectroscopy, if an amount to produce >/= 125 g of dry sample cannot be obtained, collect materials for a composite sample for the survey unit.

   The sample may include a bulk material sample for a petri dish and/or 250 ml marinelli beaker sample.

   To achieve the analysis MDC desired, the laboratory requested sample sizes (an amount of soil) that will yield 500 grams of dried soil. The wet soil amount can vary significantly depending on its moisture content. If the desired sample size cannot be obtained, the minimum sample size to achieve an analysis MDC is an amount of wet soil (~1 kg) that will produce 125g of dried soil.

   If an amount to produce 125g of dried soil cannot be obtained, combine and analyze by gamma spectroscopy smear sample results showing > 100 alpha or >1000 beta dpm/100cm^2.

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas
Class Description: Impacted Class 3 Structure
Reason Description: C1 Characterization Survey

LC3_P1-3 and Surface Category: BE1 Exterior Surfaces of Out Buildings

LC3_P45 Material Description

M1	Metal
G1	Miscellaneous Material
D2	Cinder Block (Painted)
C2	Concrete (Painted)
C1	Concrete (Bare)

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				4	4	JW
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Beta Scan				4	4	JW
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			
Contact Gamma				4	4	JW
	G01	44-10	2"x2" NaI(Tl) Gamma Scintillator			
Direct Alpha				4	4	JW
	A04	43-89A	Alpha Scintillator			
	A03	43-90	Alpha Scintillator			
Direct Beta				4	4	JW
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
Exposure Rate				4	4	JW
	G02	44-10	2"x2" NaI(Tl) Gamma Scintillator			
G-Spec Sample				1	None	JW
	L04	GS Material Analysis	Gamma Spectrometry			

LC3_P1-3 and Surface Category: BI1 interior Surfaces of Out Buildings

LC3_P45 Material Description

M1 Metal
G1 Miscellaneous Material
D2 Cinder Block (Painted)
C2 Concrete (Painted)
C1 Concrete (Bare)

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
A/B Smear				14	14	JW
	L01	A/B Smear Analysis	Alpha/Beta Counter			
Beta Scan				14	14	W
	B14	43-89B	Beta Scintillator			

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC4_P13 - Detector Type, Analysis Codes, and Measurement/Samples Quantity

Measurement	LC4 P13 Code	Model	Description	Qty Prescribed	Qty Collected	Collected By (Initials)
	B02	44-116	Beta Scintillator			
Contact Gamma				14	14	DW
	G01	44-10	2"x2" NaI(Tl) Gamma Scintillator			
Direct Alpha				14	14	DW
	A04	43-89A	Alpha Scintillator			
	A03	43-90	Alpha Scintillator			
Direct Beta				14	14	DW
	B14	43-89B	Beta Scintillator			
	B02	44-116	Beta Scintillator			
Exposure Rate				14	14	DW
	G02	44-10	2"x2" NaI(Tl) Gamma Scintillator			
G-Spec Sample				1	None	DW
	L04	GS Material Analysis	Gamma Spectrometry			

Survey Package Location Codes

Survey Package Number C4024 301C1 **Package Type:** Structure

LC1: C4024 **Survey Area Name:** SETF, Building 4024

LC2: 301C1 **Survey Unit Name:** High Bay and First Floor DM Areas

Class Description: Impacted Class 3 Structure

Reason Description: C1 Characterization Survey

LC4_P4 - Count Type	LC4_P5 - Background Mode Codes
A Pre-use Background Check	A Average Background
B Pre-use Source Check	N Background Not Required
C Post-use Background Check	S Single Background
D Post-use Source Check	
F Field Count	
G Field Background	
S Field Scan	

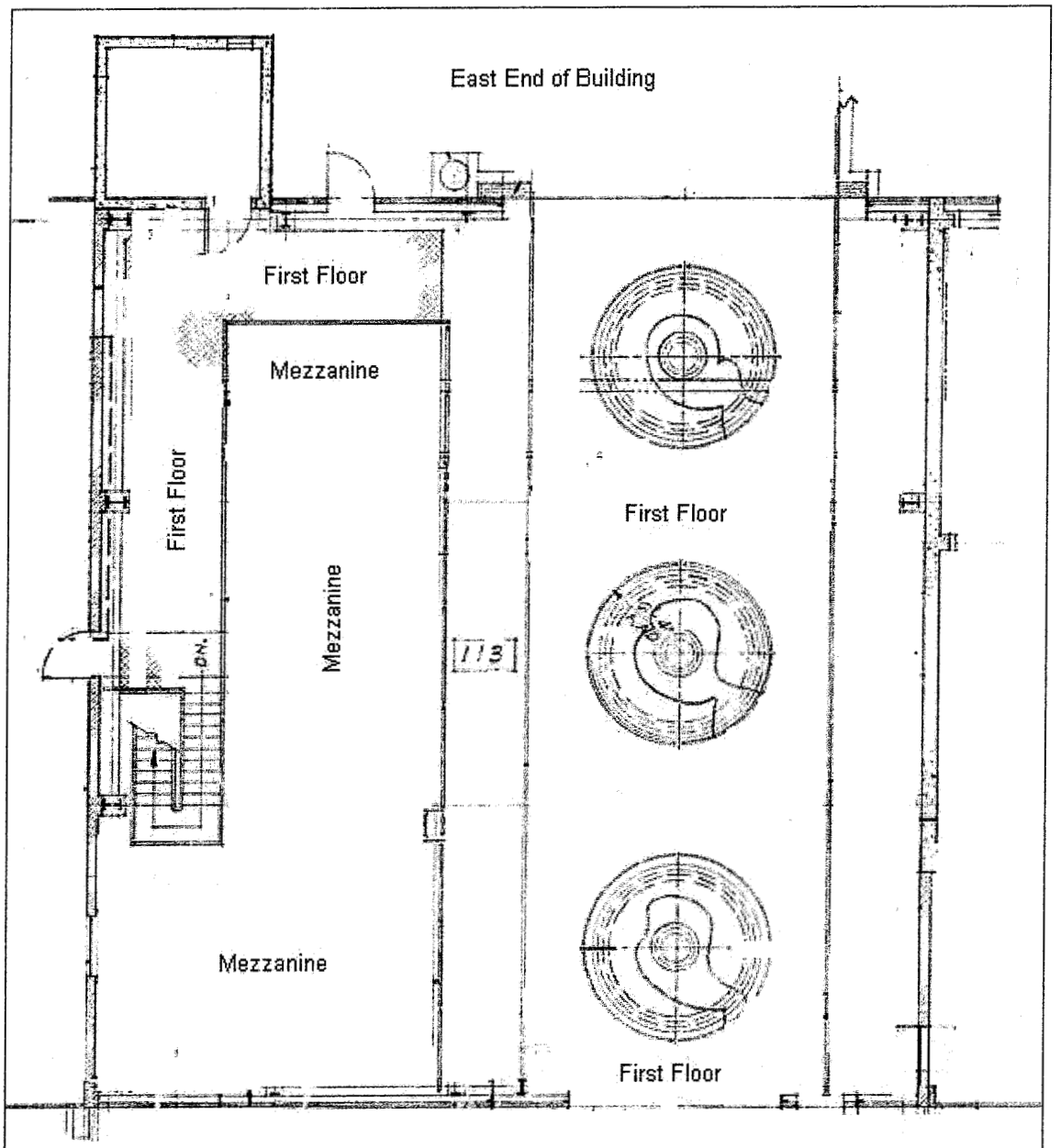
Survey Field Notes: **Additional information regarding the performance of the survey, measurements, sample collection, etc. Use additional pages as needed for field notes.**

Survey Package Appendix A – Drawings

Survey Package: C4024 301C1
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas
Package: Structure

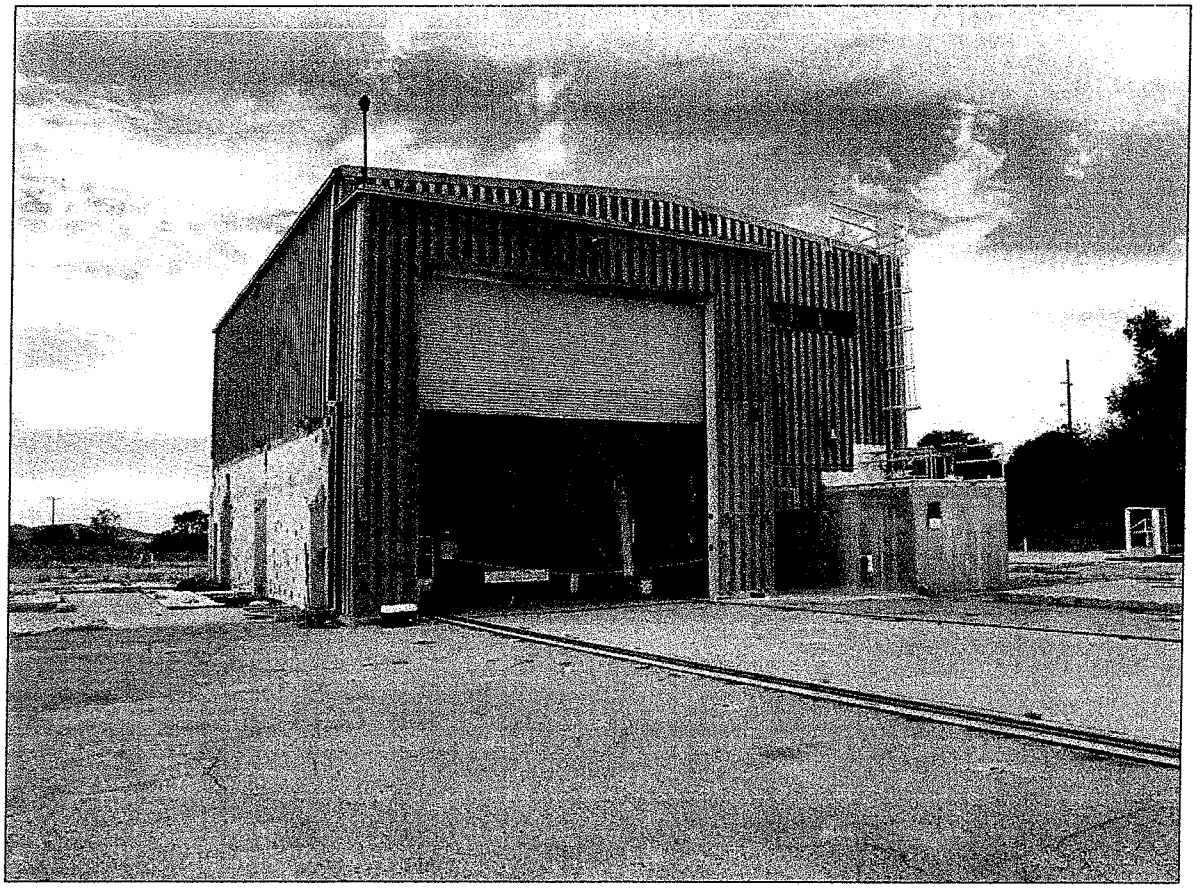
Survey Package Appendix A - Drawings

Survey Package Appendix A – Drawings



SETF, First Floor Plan

Survey Package Appendix B – Photographs



Survey Package Appendix C – Survey Results

Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

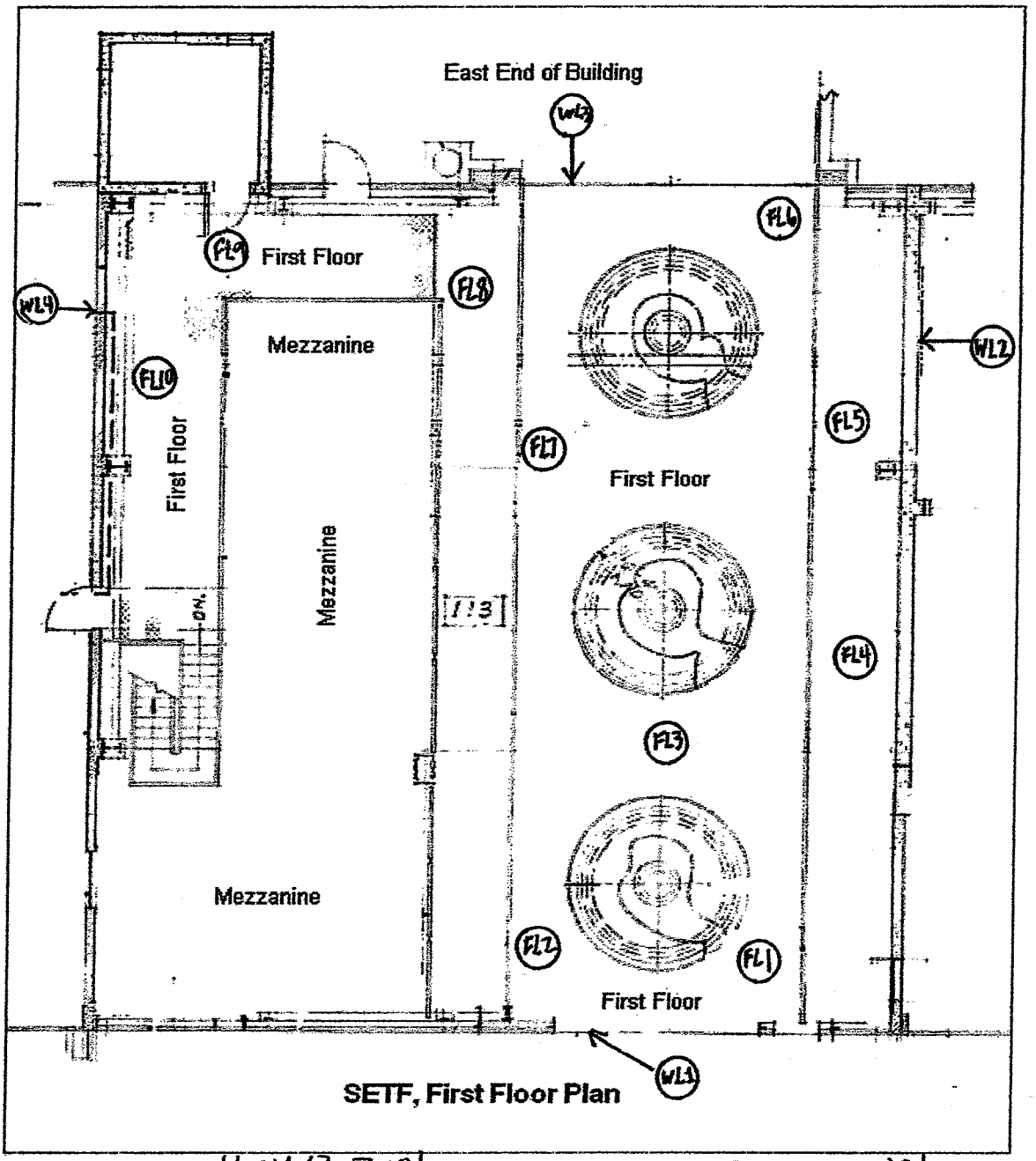
Section	Title	Total Pages
1.0	Annotated Drawings	~~2~~ 6
2.0	Measurement Results – Direct Beta Measurements	2
3.0	Measurement Results – Direct Alpha Measurements	4
4.0	Measurement Results – Exposure Rate Measurements	3
5.0	Sample Analysis Results -- Alpha/Beta Counter	6
6.0	Sample Analysis Results – Gamma Spectroscopy	~~0~~
7.0	Sample Analysis Results -- Alpha Spectroscopy	~~0~~

Survey Package Appendix C – Survey Results

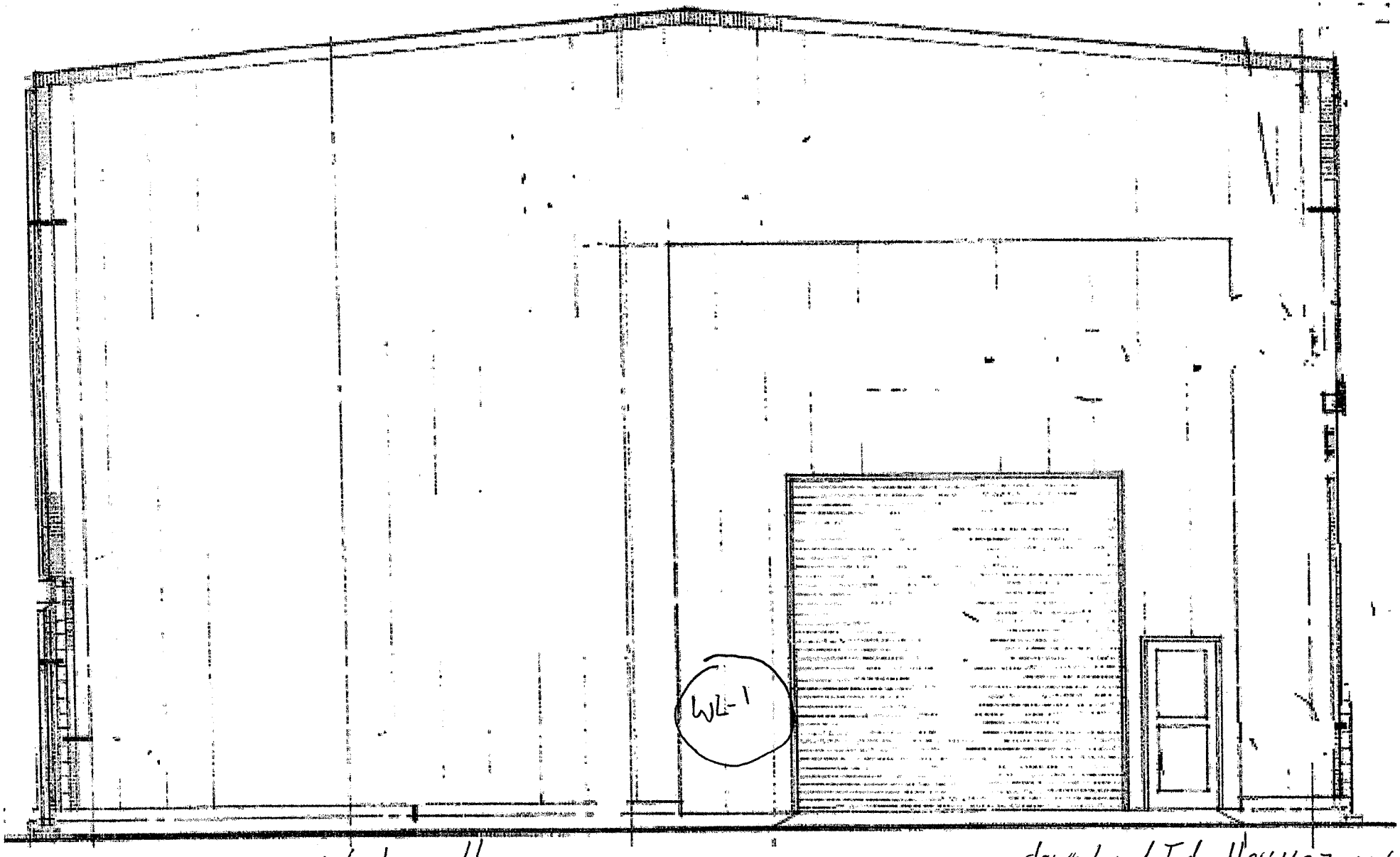
Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

Section 1.0
Annotated Drawings
6 Pages

Survey Package Appendix A – Drawings



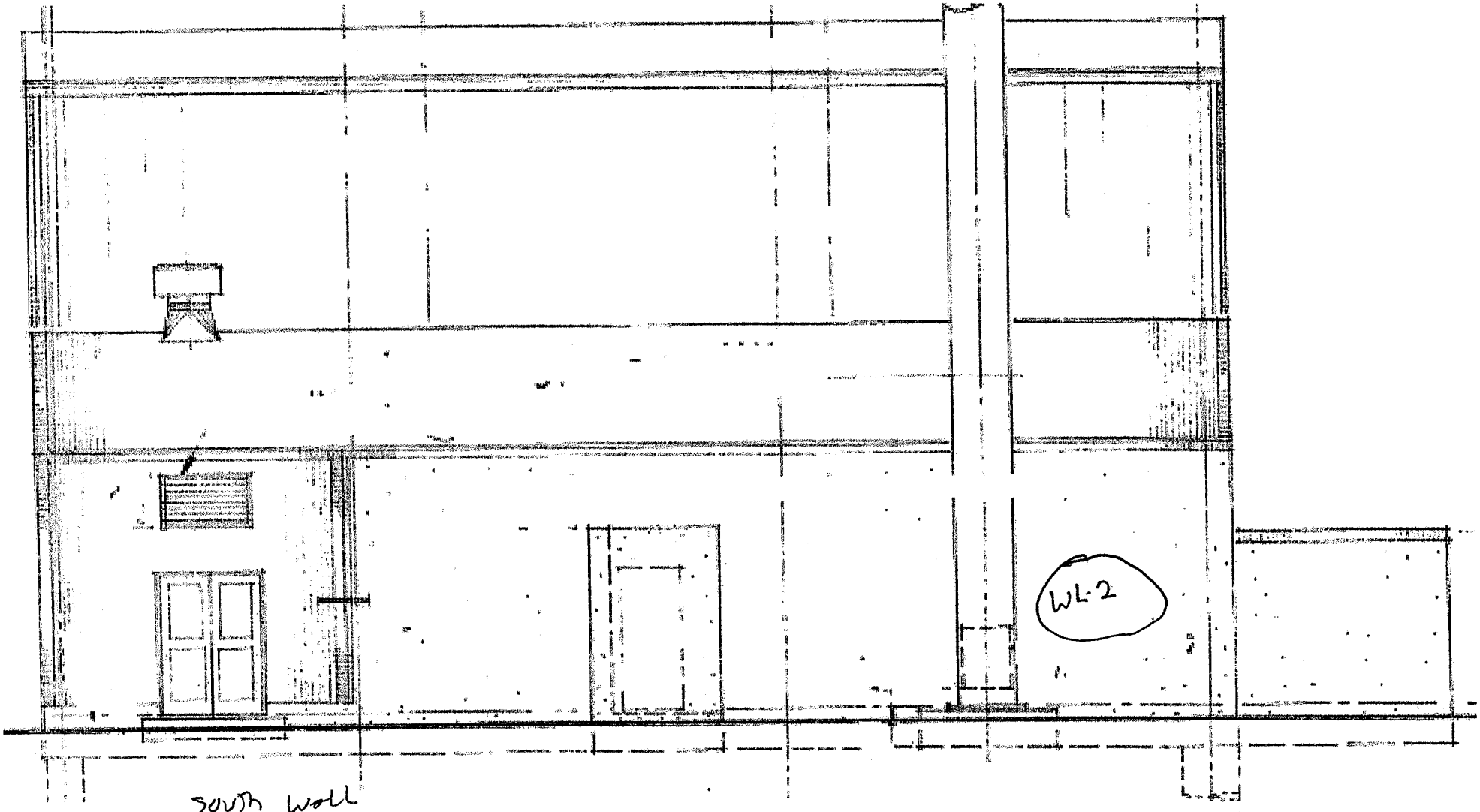
Reference dL04 1307001 Survey package C4024-361C1
dL04 1307002
dL04 1307003



W West wall

down Load Id d1041107-001

scan + direct readings on west wall
Beta scan, Beta direct, alpha direct, gamma contact + 1 meter
smears Beta Alpha



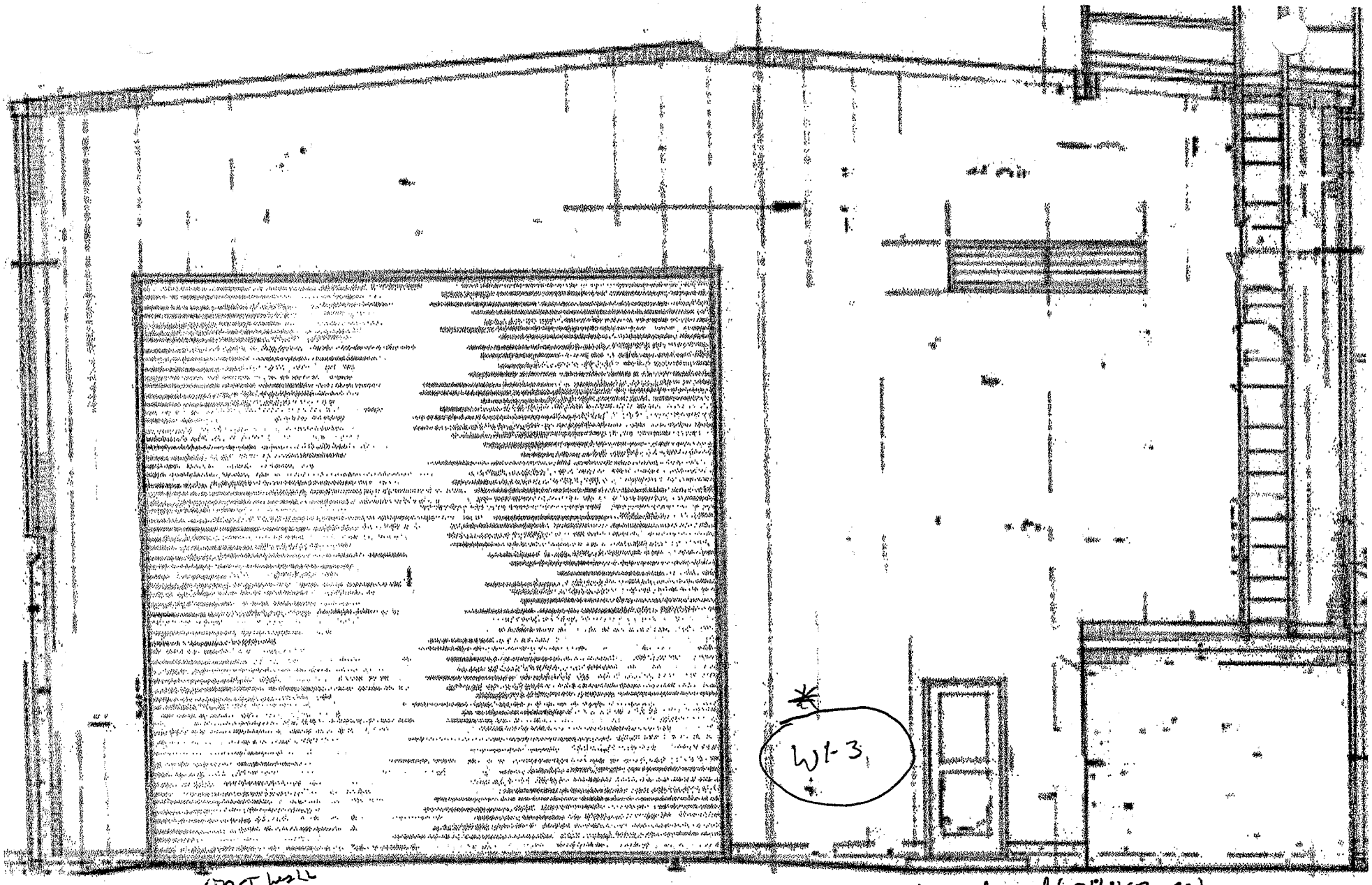
South Wall

S

Scan & direct Readings on South Wall download Id - dL041107-001

Beta scan, Beta direct, Alpha direct, Gamma contact and 1 meter

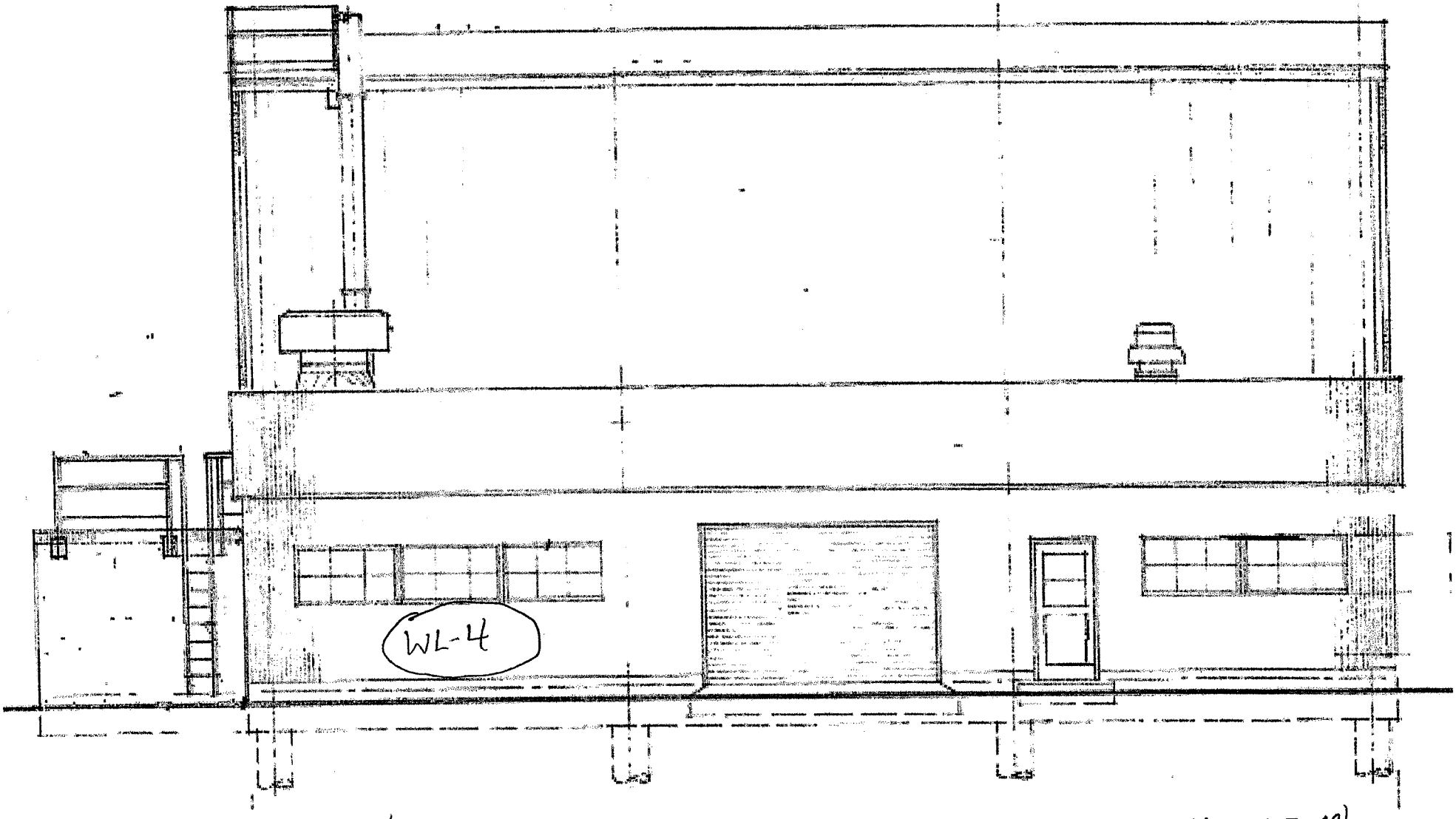
smear Beta & Alpha



EAST WALL

E Scan & direct Readings on east wall down load Id - d(041107-001)

Beta scan, Beta direct, Alpha direct, Gamma contact and 1 meter smear Beta & Alpha

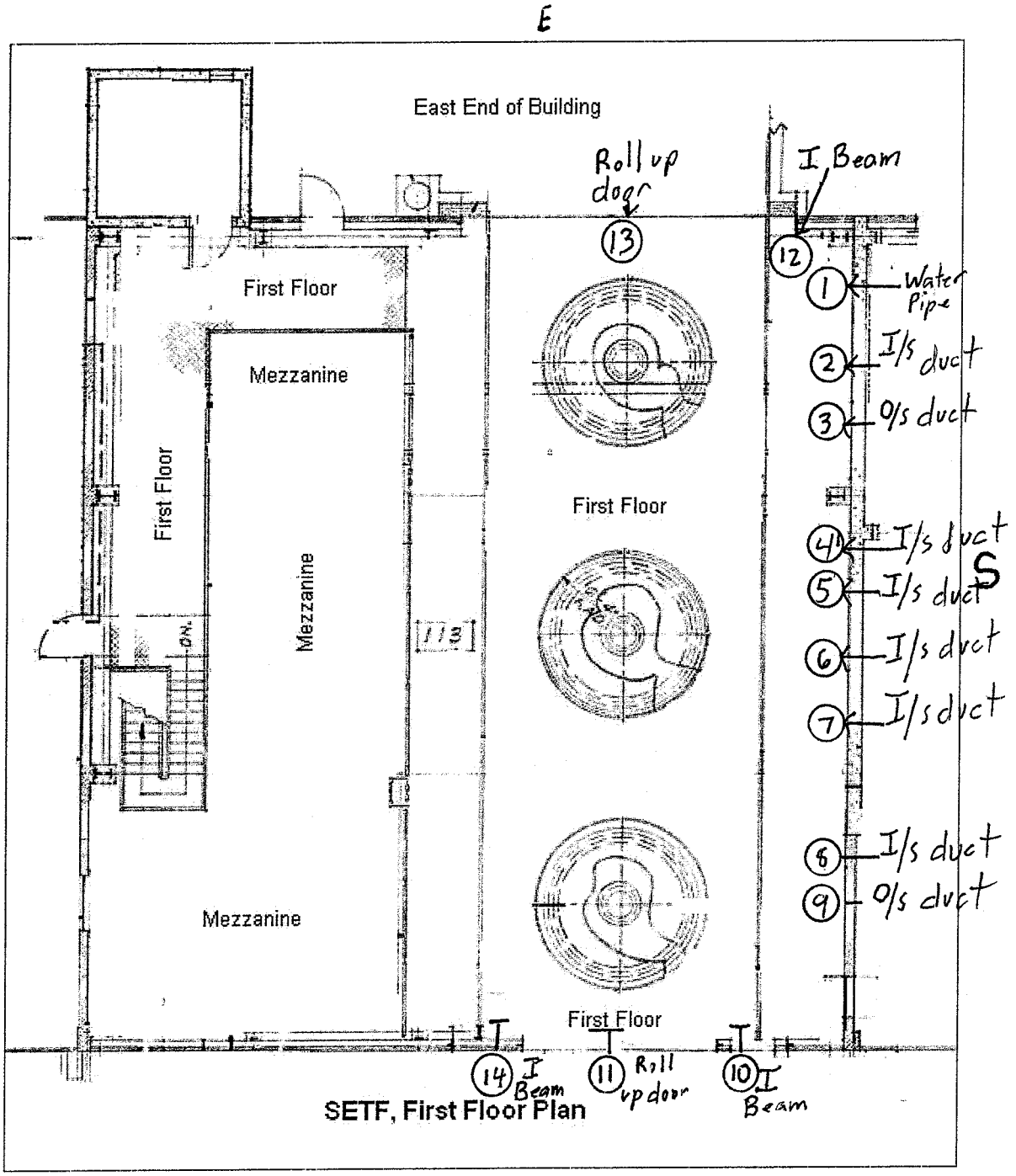


NORTH WALL

N

SCON 1 direct Readings on NORTH WALL download Id - dL04 1107-001
Beta scan, Beta direct, alpha direct, gamma contact & meter
Smears Beta & gamma

Survey Package Appendix A – Drawings



SETF, First Floor Plan

Survey Package Appendix C – Survey Results

Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

Section 2.0
Measurement Results – Direct Beta Measurements
6 Pages

Measurement Database Download Report

Direct Beta Measurements

5/21/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)
DL041107-001	1	JLW1061	4/11/2007	1:35 PM	C4024 301C1	44-116	222981	0.146	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/ 100cm2)
EZ259 DRT01	98648	JLW1061	222981	3	0	4/11/2007	8:28:16 AM	2.56E+03	600	1	0	7	EZ259	DRT01	BE1M1	B02AA	LAB01	1		0	1401
EZ259 DRT01	98648	JLW1061	222981	3	1	4/11/2007	8:49:22 AM	3.36E+03	60	1	0	7	EZ259	DRT01	BE1M1	B02BA	LAB01	1		0	18422
EZ259 DRT01	98648	JLW1061	222981	3	2	4/11/2007	8:51:02 AM	3.71E+03	60	1	0	7	EZ259	DRT01	BE1M1	B02BA	LAB01	2		0	20329
EZ259 DRT01	98648	JLW1061	222981	3	3	4/11/2007	8:53:22 AM	3.26E+03	60	1	0	7	EZ259	DRT01	BE1M1	B02BA	LAB01	3		0	17847
C4024 301C1	98648	JLW1061	222981	3	4	4/11/2007	10:38:22 AM	2.75E+02	60	1	0	7	C4024	301C1	BE1M1	B02GA	WL1	1		0	1507
C4024 301C1	98648	JLW1061	222981	3	5	4/11/2007	10:40:18 AM	2.67E+02	60	1	0	7	C4024	301C1	BE1M1	B02GA	WL2	2		0	1463
C4024 301C1	98648	JLW1061	222981	3	6	4/11/2007	10:42:04 AM	3.27E+02	60	1	0	7	C4024	301C1	BE1M1	B02GA	WL3	3		0	1792
C4024 301C1	98648	JLW1061	222981	3	10	4/11/2007	11:15:36 AM	2.42E+02	60	1	0	7	C4024	301C1	BE1M1	B02FA	WL1	1		0	1326
C4024 301C1	98648	JLW1061	222981	3	11	4/11/2007	11:17:52 AM	2.72E+02	60	1	0	7	C4024	301C1	BE1M1	B02FA	WL2	2		0	1490
C4024 301C1	98648	JLW1061	222981	3	12	4/11/2007	11:19:34 AM	2.73E+02	60	1	0	7	C4024	301C1	BE1M1	B02FA	WL3	3		0	1496
C4024 301C1	98648	JLW1061	222981	3	13	4/11/2007	11:21:18 AM	3.72E+02	60	1	0	7	C4024	301C1	BE1C1	B02FS	WL4	4		0	2038
C4024 301C1	98648	JLW1061	222981	3	14	4/11/2007	12:46:04 PM	2.93E+02	60	1	0	7	C4024	301C1	BE1M1	B02GS	WL4	4		0	1605
C4024 301C1	98648	JLW1061	222981	3	15	4/11/2007	12:48:58 PM	3.13E+02	60	1	2	7	C4024	301C1	BE1M1	B02GA	WL1	1		0	1715
C4024 301C1	98648	JLW1061	222981	3	16	4/11/2007	12:50:40 PM	3.29E+02	60	1	2	7	C4024	301C1	BE1M1	B02GA	WL2	2		0	1803
C4024 301C1	98648	JLW1061	222981	3	17	4/11/2007	12:53:08 PM	2.74E+02	60	1	2	7	C4024	301C1	BE1M1	B02GA	WL3	3		0	1501
EZ259 DRT02	98648	JLW1061	222981	3	21	4/11/2007	1:19:48 PM	2.83E+03	600	1	2	7	EZ259	DRT02	BE1M1	B02CA	LAB01	1		0	1552
EZ259 DRT02	98648	JLW1061	222981	3	22	4/11/2007	1:24:00 PM	3.28E+03	60	1	2	7	EZ259	DRT02	BE1M1	B02DA	LAB01	1		0	17995
EZ259 DRT02	98648	JLW1061	222981	3	23	4/11/2007	1:25:24 PM	3.47E+03	60	1	2	7	EZ259	DRT02	BE1M1	B02DA	LAB01	2		0	19008
EZ259 DRT02	98648	JLW1061	222981	3	24	4/11/2007	1:26:46 PM	3.25E+03	60	1	2	7	EZ259	DRT02	BE1M1	B02DA	LAB01	3		0	17797

Reviewed By: _____ Date: _____ Approved By: _____ Date: _____

Measurement Database Do[illegible]d Report

Direct Beta Measurements

4/13/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)
DL041307-001	1	JLW1061	4/13/2007	10:56 AM	C4024 301C1	44-116	222981	0.146	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/ 100cm2)
EZ259 DRT01	98648	JLW1061	222981	0	0	4/13/2007	8:04:54 AM	2.36E+03	600	1	0	11	EZ259	DRT01	BI1	B02AA	LAB01	1		0	1293
EZ259 DRT01	98648	JLW1061	222981	0	1	4/13/2007	8:07:54 AM	3.40E+03	60	1	0	11	EZ259	DRT01	BI1	B02BA	LAB01	1		0	18603
EZ259 DRT01	98648	JLW1061	222981	0	2	4/13/2007	8:10:48 AM	3.60E+03	60	1	0	11	EZ259	DRT01	BI1	B02BA	LAB01	2		0	19721
EZ259 DRT01	98648	JLW1061	222981	0	3	4/13/2007	8:12:40 AM	3.34E+03	60	1	0	11	EZ259	DRT01	BI1	B02BA	LAB01	3		0	18290
C4024 301C1	98648	JLW1061	222981	3	4	4/13/2007	8:42:16 AM	2.85E+02	60	1	0	11	C4024	301C1	BI1M1	B02GA	WL	1		0	1562
C4024 301C1	98648	JLW1061	222981	3	5	4/13/2007	8:44:20 AM	2.91E+02	60	1	0	11	C4024	301C1	BI1M1	B02GA	WL	2		0	1595
C4024 301C1	98648	JLW1061	222981	3	6	4/13/2007	8:45:38 AM	2.92E+02	60	1	0	11	C4024	301C1	BI1M1	B02GA	WL	3		0	1600
C4024 301C1	98648	JLW1061	222981	3	7	4/13/2007	9:00:16 AM	2.37E+02	60	1	0	11	C4024	301C1	BI1M1	B02FA	WL1	1		0	1299
C4024 301C1	98648	JLW1061	222981	3	8	4/13/2007	9:05:00 AM	3.10E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	WL2	1		0	1699
C4024 301C1	98648	JLW1061	222981	3	9	4/13/2007	9:08:40 AM	2.29E+02	60	1	0	11	C4024	301C1	BI1M1	B02FA	WL3	1		0	1255
C4024 301C1	98648	JLW1061	222981	3	10	4/13/2007	9:13:46 AM	3.67E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	WL4	1		0	2011
C4024 301C1	98648	JLW1061	222981	3	11	4/13/2007	9:19:40 AM	3.96E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	1		0	2170
C4024 301C1	98648	JLW1061	222981	3	12	4/13/2007	9:21:50 AM	3.97E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	2		0	2175
C4024 301C1	98648	JLW1061	222981	3	13	4/13/2007	9:24:34 AM	4.30E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	3		0	2356
C4024 301C1	98648	JLW1061	222981	3	14	4/13/2007	9:27:02 AM	3.93E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	4		0	2153
C4024 301C1	98648	JLW1061	222981	3	15	4/13/2007	9:30:18 AM	3.62E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	5		0	1984
C4024 301C1	98648	JLW1061	222981	3	16	4/13/2007	9:33:58 AM	3.85E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	6		0	2110
C4024 301C1	98648	JLW1061	222981	3	17	4/13/2007	9:36:12 AM	4.17E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	7		0	2285
C4024 301C1	98648	JLW1061	222981	3	18	4/13/2007	9:38:24 AM	4.05E+02	60	1	0	11	C4024	301C1	BI1C2	B02FA	FL	8		0	2219

Measurement Database Dov d Report

Direct Beta Measurements

4/13/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)
DL041307-001	1	JLW1061	4/13/2007	10:56 AM	C4024 301C1	44-116	222981	0.146	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/ 100cm2)
C4024 301C1	98648	JLW1061	222981	3	19	4/13/2007	9:42:58 AM	2.55E+02	60	1	0	11	C4024	301C1	BI1M1	B02FA	FL	9		0	1397
C4024 301C1	98648	JLW1061	222981	3	20	4/13/2007	9:45:04 AM	3.08E+02	60	1	0	11	C4024	301C1	BI1M1	B02FA	FL	10		0	1688
C4024 301C1	98648	JLW1061	222981	3	21	4/13/2007	9:50:52 AM	3.05E+02	60	1	0	11	C4024	301C1	BI1M1	B02GA	FL	1		0	1671
C4024 301C1	98648	JLW1061	222981	3	22	4/13/2007	9:52:40 AM	3.09E+02	60	1	0	11	C4024	301C1	BI1M1	B02GA	FL	2		0	1693
C4024 301C1	98648	JLW1061	222981	3	23	4/13/2007	9:54:10 AM	2.85E+02	60	1	0	11	C4024	301C1	BI1M1	B02GA	FL	3		0	1562
EZ259 DRT02	98648	JLW1061	222981	0	24	4/13/2007	10:23:46 AM	2.62E+03	600	1	0	11	EZ259	DRT02	BI1M1	B02CA	LAB01	1		0	1435
EZ259 DRT02	98648	JLW1061	222981	0	25	4/13/2007	10:29:38 AM	3.37E+03	60	1	0	11	EZ259	DRT02	BI1M1	B02DA	LAB01	1		0	18488
EZ259 DRT02	98648	JLW1061	222981	0	26	4/13/2007	10:31:02 AM	3.53E+03	60	1	0	11	EZ259	DRT02	BI1M1	B02DA	LAB01	2		0	19353
EZ259 DRT02	98648	JLW1061	222981	0	27	4/13/2007	10:32:38 AM	3.32E+03	60	1	0	11	EZ259	DRT02	BI1M1	B02DA	LAB01	3		0	18203

Reviewed By: _____ Date: 4-16-07 Approved By: _____ Date: 4/16/07

Measurement Database Download Report

Direct Beta Measurements

5/2/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)
DL050107-002	2	JLM3848	5/1/2007	3:56 PM	C4024 301C1	44-116	222981	0.146	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/ 100cm2)
EZ259 DRT01	98648	JEJ5742	222981	0	0	5/1/2007	7:13:52 AM	2.35E+03	600	1	0	37	EZ259	DRT01	WU1M1	B02AA	LAB01	1		0	1288
EZ259 DRT01	98648	JEJ5742	222981	0	2	5/1/2007	7:42:34 AM	3.33E+03	60	1	0	37	EZ259	DRT01	WU1M1	B02BA	LAB01	1		0	18236
EZ259 DRT01	98648	JEJ5742	222981	0	3	5/1/2007	7:45:58 AM	3.68E+03	60	1	0	37	EZ259	DRT01	WU1M1	B02BA	LAB01	2		0	20142
EZ259 DRT01	98648	JEJ5742	222981	0	4	5/1/2007	7:48:50 AM	3.29E+03	60	1	0	37	EZ259	DRT01	WU1M1	B02BA	LAB01	3		0	18005
C4024 301C1	98648	JEJ5742	222981	0	5	5/1/2007	8:22:20 AM	2.72E+02	60	1	0	37	C4024	301C1	WU1M1	B02GA	W	1		0	1490
C4024 301C1	98648	JEJ5742	222981	0	6	5/1/2007	8:23:30 AM	2.31E+02	60	1	0	37	C4024	301C1	WU1M1	B02GA	W	2		0	1266
C4024 301C1	98648	JEJ5742	222981	0	7	5/1/2007	8:24:46 AM	2.56E+02	60	1	0	37	C4024	301C1	WU1M1	B02GA	W	3		0	1403
C4024 301C1	98648	JEJ5742	222981	0	8	5/1/2007	9:00:04 AM	2.29E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	S	1		0	1255
C4024 301C1	98648	JEJ5742	222981	0	9	5/1/2007	9:05:56 AM	2.60E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	DUCT	1		0	1425
C4024 301C1	98648	JEJ5742	222981	0	10	5/1/2007	9:11:16 AM	2.37E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	S	2		0	1299
C4024 301C1	98648	JEJ5742	222981	0	11	5/1/2007	9:19:42 AM	2.61E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	DUCT	2		0	1430
C4024 301C1	98648	JEJ5742	222981	0	12	5/1/2007	9:25:04 AM	2.92E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	DUCT	3		0	1600
C4024 301C1	98648	JEJ5742	222981	0	13	5/1/2007	9:31:08 AM	2.50E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	S	3		0	1370
C4024 301C1	98648	JEJ5742	222981	0	14	5/1/2007	9:32:24 AM	2.99E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	S	4		0	1638
C4024 301C1	98648	JEJ5742	222981	0	15	5/1/2007	9:41:26 AM	2.83E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	DUCT	4		0	1551
C4024 301C1	98648	JEJ5742	222981	0	16	5/1/2007	9:43:36 AM	2.50E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	S	5		0	1370
C4024 301C1	98648	JEJ5742	222981	0	17	5/1/2007	9:50:40 AM	2.48E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	W	1		0	1359
C4024 301C1	98648	JEJ5742	222981	0	18	5/1/2007	9:52:14 AM	2.27E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	W	2		0	1244
C4024 301C1	98648	JEJ5742	222981	0	19	5/1/2007	10:03:42 AM	2.90E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	E	1		0	1589

Measurement Database Download Report

Direct Beta Measurements

5/2/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Beta Efficiency	ActiveArea (cm2)
DL050107-002	2	JLM3848	5/1/2007	3:56 PM	C4024 301C1	44-116	222981	0.146	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Beta (dpm/ 100cm2)
C4024 301C1	98648	JEJ5742	222981	0	20	5/1/2007	10:11:18 AM	2.34E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	E	2		0	1282
C4024 301C1	98648	JEJ5742	222981	0	21	5/1/2007	10:20:02 AM	2.34E+02	60	1	0	37	C4024	301C1	WU1M1	B02FA	W	3		0	1282
C4024 301C1	98648	JEJ5742	222981	0	22	5/1/2007	10:23:56 AM	2.75E+02	60	1	0	37	C4024	301C1	WU1M1	B02GA	WUL	1		0	1507
C4024 301C1	98648	JEJ5742	222981	0	23	5/1/2007	10:25:08 AM	2.72E+02	60	1	0	37	C4024	301C1	WU1M1	B02GA	WUL	2		0	1490
C4024 301C1	98648	JEJ5742	222981	0	24	5/1/2007	10:26:32 AM	2.72E+02	60	1	0	37	C4024	301C1	WU1M1	B02GA	WUL	3		0	1490
EZ259 DRT02	98648	JEJ5742	222981	0	25	5/1/2007	10:44:16 AM	2.51E+03	600	1	0	37	EZ259	DRT02	WU1M1	B02CA	LAB01	1		0	1377
EZ259 DRT02	98648	JEJ5742	222981	0	26	5/1/2007	10:59:24 AM	3.41E+03	60	1	0	37	EZ259	DRT02	WU1M1	B02DA	LAB01	1		0	18674
EZ259 DRT02	98648	JEJ5742	222981	0	27	5/1/2007	11:01:04 AM	3.43E+03	60	1	0	37	EZ259	DRT02	WU1M1	B02DA	LAB01	2		0	18784
EZ259 DRT02	98648	JEJ5742	222981	0	28	5/1/2007	11:03:12 AM	3.31E+03	60	1	0	37	EZ259	DRT02	WU1M1	B02DA	LAB01	3		0	18159

Reviewed By: Joe [signature] Date: 5-3-07 Approved By: [signature] Date: 5/3/07

Survey Package Appendix C – Survey Results

Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

Section 3.0
Measurement Results – Direct Alpha Measurements
6 ~~7~~ Pages

Measurement Database Dov d Report

Direct Alpha Measurements

4/12/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Alpha Efficiency	ActiveArea (cm2)
DL041207-002	1	JLW1061	4/12/2007	3:08 PM	C4024 301C1	43-90	249011	0.173	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Alpha (dpm/ 100cm2)
FS440 DRT01	126195	JLW1061	249011	0	0	4/12/2007	5:33:12 PM	3.00E+00	600	1	0	10	FS440	DRT01	BE1M1	A03AA	LAB01	1		0	1
FS440 DRT01	126195	JLW1061	249011	0	1	4/12/2007	5:36:44 PM	3.29E+03	60	1	0	10	FS440	DRT01	BE1M1	A03BA	LAB01	1		0	15209
FS440 DRT01	126195	JLW1061	249011	0	2	4/12/2007	5:38:00 PM	3.30E+03	60	1	0	10	FS440	DRT01	BE1M1	A03BA	LAB01	2		0	15237
FS440 DRT01	126195	JLW1061	249011	0	3	4/12/2007	5:39:18 PM	3.25E+03	60	1	0	10	FS440	DRT01	BE1M1	A03BA	LAB01	3		0	15047
C4024 301C1	126195	JLW1061	249011	0	4	4/12/2007	5:48:48 PM	5.00E+00	60	1	0	9	C4024	301C1	BE1M1	A03FA	WL1	1		0	23
C4024 301C1	126195	JLW1061	249011	3	5	4/12/2007	5:52:32 PM	2.00E+01	60	1	0	9	C4024	301C1	BE1M1	A03FS	WL2	2		0	92
C4024 301C1	126195	JLW1061	249011	3	6	4/12/2007	5:54:50 PM	3.00E+00	60	1	0	9	C4024	301C1	BE1M1	A03FA	WL3	3		0	14
C4024 301C1	126195	JLW1061	249011	3	7	4/12/2007	5:57:24 PM	2.00E+00	60	1	0	9	C4024	301C1	BE1C1	A03FA	WL4	1		0	9
FS440 DRT02	126195	JLW1061	249011	0	8	4/12/2007	6:13:56 PM	6.00E+00	600	1	0	10	FS440	DRT02	BE1C1	A03CA	LAB01	1		0	3
FS440 DRT02	126195	JLW1061	249011	0	9	4/12/2007	6:17:20 PM	3.38E+03	60	1	0	10	FS440	DRT02	BE1C1	A03DA	LAB01	1		0	15625
FS440 DRT02	126195	JLW1061	249011	0	10	4/12/2007	6:18:50 PM	3.35E+03	60	1	0	10	FS440	DRT02	BE1C1	A03DA	LAB01	2		0	15482
FS440 DRT02	126195	JLW1061	249011	0	11	4/12/2007	6:20:40 PM	3.21E+03	60	1	0	10	FS440	DRT02	BE1C1	A03DA	LAB01	3		0	14835
C4024 301C1	126195	JLW1061	249011	3	12	4/12/2007	6:54:56 PM	0.00E+00	60	1	0	10	C4024	301C1	BE1M1	A03GA	WL1	1		0	0
C4024 301C1	126195	JLW1061	249011	3	13	4/12/2007	6:56:28 PM	0.00E+00	60	1	0	10	C4024	301C1	BE1M1	A03GA	WL1	2		0	0
C4024 301C1	126195	JLW1061	249011	3	14	4/12/2007	6:59:28 PM	2.00E+00	60	1	0	10	C4024	301C1	BE1M1	A03GA	WL3	1		0	9
C4024 301C1	126195	JLW1061	249011	3	15	4/12/2007	7:00:54 PM	1.00E+00	60	1	0	10	C4024	301C1	BE1M1	A03GA	WL3	2		0	5
C4024 301C1	126195	JLW1061	249011	3	16	4/12/2007	7:02:58 PM	1.00E+00	60	1	0	10	C4024	301C1	BE1C1	A03GA	WL4	1		0	5
C4024 301C1	126195	JLW1061	249011	3	17	4/12/2007	7:04:12 PM	1.00E+00	60	1	0	10	C4024	301C1	BE1C1	A03GA	WL4	2		0	5
C4024 301C1	126195	JLW1061	249011	3	18	4/12/2007	7:10:22 PM	0.00E+00	120	1	0	10	C4024	301C1	BE1M1	A03GS	WL2	2		0	0

Reviewed By: _____ Date: 4-12-07 Approved By: _____ Date: 5/21/07

Measurement Database Dov d Report

Direct Alpha Measurements

4/13/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Alpha Efficiency	ActiveArea (cm2)
DL041307-002	1	JEJ5742	4/13/2007	11:50 AM	C4024 301C1	43-90	249011	0.173	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Alpha (dpm/ 100cm2)
FS440 DRT01	126195	JEJ5742	249011	0	0	4/13/2007	11:21:28 AM	3.00E+00	600	1	0	12	FS440	DRT01	BI1M1	A03AA	LAB01	1		0	1
FS440 DRT01	126195	JEJ5742	249011	0	1	4/13/2007	11:24:36 AM	3.35E+03	60	1	0	12	FS440	DRT01	BI1M1	A03BA	LAB01	1		0	15487
FS440 DRT01	126195	JEJ5742	249011	0	2	4/13/2007	11:26:20 AM	3.25E+03	60	1	0	12	FS440	DRT01	BI1M1	A03BA	LAB01	2		0	15020
FS440 DRT01	126195	JEJ5742	249011	0	3	4/13/2007	11:28:10 AM	3.20E+03	60	1	0	12	FS440	DRT01	BI1M1	A03BA	LAB01	3		0	14779
C4024 301C1	126195	JEJ5742	249011	3	4	4/13/2007	11:56:32 AM	1.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03GA	WL	1		0	5
C4024 301C1	126195	JEJ5742	249011	3	6	4/13/2007	11:59:58 AM	0.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03GA	WL	3		0	0
C4024 301C1	126195	JEJ5742	249011	3	7	4/13/2007	12:01:38 PM	1.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03GA	WL	4		0	5
C4024 301C1	126195	JEJ5742	249011	3	8	4/13/2007	12:15:04 PM	1.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03FA	WL1	1		0	5
C4024 301C1	126195	JEJ5742	249011	3	9	4/13/2007	12:19:26 PM	2.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	WL2	1		0	9
C4024 301C1	126195	JEJ5742	249011	3	10	4/13/2007	12:23:54 PM	0.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03FA	WL3	1		0	0
C4024 301C1	126195	JEJ5742	249011	3	11	4/13/2007	12:28:08 PM	2.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	WL4	1		0	9
C4024 301C1	126195	JEJ5742	249011	3	12	4/13/2007	12:34:18 PM	2.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	1		0	9
C4024 301C1	126195	JEJ5742	249011	3	13	4/13/2007	12:36:16 PM	4.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	2		0	18
C4024 301C1	126195	JEJ5742	249011	3	14	4/13/2007	12:39:00 PM	3.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	3		0	14
C4024 301C1	126195	JEJ5742	249011	3	15	4/13/2007	12:41:44 PM	3.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	3		0	14
C4024 301C1	126195	JEJ5742	249011	3	16	4/13/2007	12:44:22 PM	2.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	5		0	9
C4024 301C1	126195	JEJ5742	249011	3	17	4/13/2007	12:48:24 PM	2.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	6		0	9
C4024 301C1	126195	JEJ5742	249011	3	18	4/13/2007	12:50:22 PM	3.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	7		0	14

Measurement Database Dov d Report

Direct Alpha Measurements

4/13/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Alpha Efficiency	ActiveArea (cm2)
DL041307-002	1	JEJ5742	4/13/2007	11:50 AM	C4024 301C1	43-90	249011	0.173	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Alpha (dpm/ 100cm2)
C4024 301C1	126195	JEJ5742	249011	3	19	4/13/2007	12:52:30 PM	5.00E+00	60	1	0	12	C4024	301C1	BI1C2	A03FA	FL	8		0	23
C4024 301C1	126195	JEJ5742	249011	3	20	4/13/2007	12:56:54 PM	4.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03FA	FL	9		0	18
C4024 301C1	126195	JEJ5742	249011	3	21	4/13/2007	12:59:16 PM	1.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03FA	FL	10		0	5
C4024 301C1	126195	JEJ5742	249011	3	22	4/13/2007	1:07:14 PM	3.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03GA	FL	1		0	14
C4024 301C1	126195	JEJ5742	249011	3	23	4/13/2007	1:08:48 PM	1.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03GA	FL	2		0	5
C4024 301C1	126195	JEJ5742	249011	3	24	4/13/2007	1:10:44 PM	3.00E+00	60	1	0	12	C4024	301C1	BI1M1	A03GA	FL	3		0	14
C4024 301C1	126195	JEJ5742	249011	3	25	4/13/2007	1:16:32 PM	1.00E+00	120	1	0	12	C4024	301C1	BE1MI	A03GS	WL2	1		0	2
C4024 301C1	126195	JEJ5742	249011	3	26	4/13/2007	1:18:48 PM	9.00E+00	60	1	0	12	C4024	301C1	BE1MI	A03FS	WL2	1		0	42
FS440 DRT02	126195	JEJ5742	249011	0	27	4/13/2007	1:40:46 PM	1.80E+01	600	1	0	12	FS440	DRT02	BE1MI	A03CA	LAB01	1		0	8
FS440 DRT02	126195	JEJ5742	249011	0	28	4/13/2007	2:04:32 PM	3.26E+03	60	1	0	12	FS440	DRT02	BE1MI	A03DA	LAB01	1		0	15084
FS440 DRT02	126195	JEJ5742	249011	0	29	4/13/2007	2:05:54 PM	3.36E+03	60	1	0	12	FS440	DRT02	BE1MI	A03DA	LAB01	2		0	15533
FS440 DRT02	126195	JEJ5742	249011	0	30	4/13/2007	2:07:22 PM	3.05E+03	60	1	0	12	FS440	DRT02	BE1MI	A03DA	LAB01	3		0	14123

Reviewed By: J Johnson Date: 4/16/07 Approved By: [signature] Date: 4/16/07

Measurement Database Download Report

Direct Alpha Measurements

5/2/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Alpha Efficiency	ActiveArea (cm2)
DL050107-001	2	JLM3848	5/1/2007	3:40 PM	C4024 301C1	43-90	249011	0.173	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Alpha (dpm/ 100cm2)
FS440 DRT01	126195	JLW1061	249011	0	0	5/1/2007	10:29:58 AM	6.00E+00	600	1	0	36	FS440	DRT01	WU1M1	A03AA	LAB01	1		0	3
FS440 DRT01	126195	JLW1061	249011	0	1	5/1/2007	11:09:08 AM	3.29E+03	60	1	0	36	FS440	DRT01	WU1M1	A03BA	LAB01	1		0	15191
FS440 DRT01	126195	JLW1061	249011	0	2	5/1/2007	11:10:44 AM	3.29E+03	60	1	0	36	FS440	DRT01	WU1M1	A03BA	LAB01	2		0	15195
FS440 DRT01	126195	JLW1061	249011	0	3	5/1/2007	11:12:18 AM	3.06E+03	60	1	0	36	FS440	DRT01	WU1M1	A03BA	LAB01	3		0	14150
C4024 301C1	126195	JLW1061	249011	0	4	5/1/2007	11:31:28 AM	1.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03GA	LAB01	1		0	5
C4024 301C1	126195	JLW1061	249011	0	5	5/1/2007	11:32:46 AM	0.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03GA	LAB01	2		0	0
C4024 301C1	126195	JLW1061	249011	0	6	5/1/2007	11:34:02 AM	1.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03GA	LAB01	3		0	5
C4024 301C1	126195	JLW1061	249011	0	7	5/1/2007	12:12:32 PM	0.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	S	1		0	0
C4024 301C1	126195	JLW1061	249011	0	8	5/1/2007	12:21:52 PM	2.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	DUCT	1		0	9
C4024 301C1	126195	JLW1061	249011	0	9	5/1/2007	12:27:44 PM	4.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	S	2		0	18
C4024 301C1	126195	JLW1061	249011	0	10	5/1/2007	12:36:00 PM	2.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	DUCT	2		0	9
C4024 301C1	126195	JLW1061	249011	0	11	5/1/2007	12:41:28 PM	2.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	DUCT	3		0	9
C4024 301C1	126195	JLW1061	249011	0	12	5/1/2007	12:49:14 PM	2.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	S	3		0	9
C4024 301C1	126195	JLW1061	249011	0	13	5/1/2007	12:50:42 PM	5.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	S	4		0	23
C4024 301C1	126195	JLW1061	249011	0	14	5/1/2007	12:59:26 PM	2.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	DUCT	4		0	9
C4024 301C1	126195	JLW1061	249011	0	15	5/1/2007	1:00:50 PM	0.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	S	5		0	0
C4024 301C1	126195	JLW1061	249011	0	16	5/1/2007	1:08:34 PM	3.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	W	1		0	14
C4024 301C1	126195	JLW1061	249011	0	17	5/1/2007	1:10:22 PM	3.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	W	2		0	14

Measurement Database Download Report

Direct Alpha Measurements

5/2/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	4 pi Alpha Efficiency	ActiveArea (cm2)
DL050107-001	2	JLM3848	5/1/2007	3:40 PM	C4024 301C1	43-90	249011	0.173	125

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Gross Alpha (dpm/ 100cm2)
C4024 301C1	126195	JLW1061	249011	0	18	5/1/2007	1:20:32 PM	2.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	E	1		0	9
C4024 301C1	126195	JLW1061	249011	0	19	5/1/2007	1:27:20 PM	0.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	E	2		0	0
C4024 301C1	126195	JLW1061	249011	0	20	5/1/2007	1:34:38 PM	0.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03FA	W	3		0	0
C4024 301C1	126195	JLW1061	249011	0	21	5/1/2007	1:37:22 PM	0.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03GA	W	1		0	0
C4024 301C1	126195	JLW1061	249011	0	22	5/1/2007	1:38:44 PM	2.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03GA	W	2		0	9
C4024 301C1	126195	JLW1061	249011	0	23	5/1/2007	1:40:10 PM	0.00E+00	60	1	0	36	C4024	301C1	WU1M1	A03GA	W	3		0	0
FS440 DRT02	126195	JLW1061	249011	0	24	5/1/2007	1:55:34 PM	1.10E+01	600	1	0	36	FS440	DRT02	WU1M1	A03CA	LAB01	1		0	5
FS440 DRT02	126195	JLW1061	249011	0	26	5/1/2007	2:13:16 PM	3.21E+03	60	1	0	36	FS440	DRT02	WU1M1	A03BA	LAB01	1		0	14825
FS440 DRT02	126195	JLW1061	249011	0	27	5/1/2007	2:15:08 PM	3.16E+03	60	1	0	36	FS440	DRT02	WU1M1	A03BA	LAB01	2		0	14622
FS440 DRT02	126195	JLW1061	249011	0	28	5/1/2007	2:17:12 PM	3.27E+03	60	1	0	36	FS440	DRT02	WU1M1	A03BA	LAB01	3		0	15103

Reviewed By: _____ Date: 5-3-07 Approved By: _____ Date: 5/3/07

Survey Package Appendix C – Survey Results

Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

Section 4.0
Measurement Results – Exposure Rate Measurements
3 Pages

Measurement Database Download Report
Exposure Rate Measurements

4/12/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor
DL041207-001	1	JLW1061	4/12/2007	11:32 AM	C4024 301C1	44-10	162404	5.36E+10

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
CS313 DRT01	98638	JLW1061	162404	0	0	4/12/2007	10:16:38 AM	1.19E+05	600	1	0	8	CS313	DRT01	BE1M1	G01AA	LAB01	1		0	1.33E+01
CS313 DRT01	98638	JLW1061	162404	0	1	4/12/2007	10:21:30 AM	6.01E+05	30	1	0	8	CS313	DRT01	BE1M1	G01BA	LAB01	1		0	1.34E+03
CS313 DRT01	98638	JLW1061	162404	0	2	4/12/2007	10:24:32 AM	3.23E+04	30	1	0	8	CS313	DRT01	BE1M1	G01BA	LAB01	2		0	7.23E+01
CS313 DRT01	98638	JLW1061	162404	0	3	4/12/2007	10:26:20 AM	1.06E+04	30	1	0	8	CS313	DRT01	BE1M1	G01BA	LAB01	3		0	2.38E+01
C4024 301C1	98638	JLW1061	162404	3	4	4/12/2007	10:46:04 AM	1.75E+03	12	1	0	8	C4024	301C1	BE1M1	G01FA	WL1	1		0	9.81E+00
C4024 301C1	98638	JLW1061	162404	3	5	4/12/2007	10:50:26 AM	1.84E+03	12	1	0	8	C4024	301C1	BE1M1	G02FA	WL1	1		0	1.03E+01
C4024 301C1	98638	JLW1061	162404	3	6	4/12/2007	10:53:48 AM	1.73E+03	12	1	0	8	C4024	301C1	BE1M1	G01FA	WL2	2		0	9.65E+00
C4024 301C1	98638	JLW1061	162404	3	7	4/12/2007	10:55:18 AM	2.28E+03	12	1	0	8	C4024	301C1	BE1M1	G02FA	WL2	2		0	1.27E+01
C4024 301C1	98638	JLW1061	162404	3	8	4/12/2007	10:58:36 AM	1.53E+03	12	1	0	8	C4024	301C1	BE1M1	G01FA	WL3	3		0	8.54E+00
C4024 301C1	98638	JLW1061	162404	3	9	4/12/2007	10:59:42 AM	2.00E+03	12	1	0	8	C4024	301C1	BE1M1	G02FA	WL3	3		0	1.12E+01
C4024 301C1	98638	JLW1061	162404	3	10	4/12/2007	11:02:28 AM	2.76E+03	12	1	0	8	C4024	301C1	BE1C1	G01FA	WL4	4		0	1.54E+01
C4024 301C1	98638	JLW1061	162404	3	11	4/12/2007	11:04:00 AM	2.68E+03	12	1	0	8	C4024	301C1	BE1C1	G02FA	WL4	4		0	1.50E+01
CS313 DRT02	98638	JLW1061	162404	0	12	4/12/2007	11:20:48 AM	1.20E+05	600	1	0	8	CS313	DRT02	BE1C1	G01CA	LAB01	1		0	1.35E+01
CS313 DRT02	98638	JLW1061	162404	0	13	4/12/2007	11:24:20 AM	5.78E+05	30	1	0	8	CS313	DRT02	BE1C1	G01DA	LAB01	1		0	1.29E+03
CS313 DRT02	98638	JLW1061	162404	0	14	4/12/2007	11:26:00 AM	2.79E+04	30	1	0	8	CS313	DRT02	BE1C1	G01DA	LAB01	2		0	6.24E+01
CS313 DRT02	98638	JLW1061	162404	0	15	4/12/2007	11:27:50 AM	1.01E+04	30	1	0	8	CS313	DRT02	BE1C1	G01DA	LAB01	3		0	2.26E+01

Reviewed By: [signature] Date: 4-12-07 Approved By: [signature] Date: 4/12/07

Measurement Database Do[illegible]d Report
Exposure Rate Measurements

4/13/2007

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor
DL041307-003	1	JLW1061	4/13/2007	2:05 PM	C4024 301C1	44-10	162404	5.36E+10

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
CS313 DRT01	98638	JLW1061	162404	0	0	4/13/2007	12:30:40 PM	1.04E+05	600	1	0	13	CS313	DRT01	BI1C1	G01AA	LAB01	1		0	1.16E+01
CS313 DRT01	98638	JLW1061	162404	0	2	4/13/2007	12:35:34 PM	5.95E+05	30	1	0	13	CS313	DRT01	BI1C1	G01BA	LAB01	1		0	1.33E+03
CS313 DRT01	98638	JLW1061	162404	0	3	4/13/2007	12:37:44 PM	2.79E+04	30	1	0	13	CS313	DRT01	BI1C1	G01BA	LAB01	2		0	6.25E+01
C4024 301C1	98638	JLW1061	162404	3	6	4/13/2007	12:50:26 PM	1.54E+03	12	1	0	13	C4024	301C1	BI1M1	G01FA	WL1	1		0	8.60E+00
C4024 301C1	98638	JLW1061	162404	3	7	4/13/2007	12:51:52 PM	1.86E+03	12	1	0	13	C4024	301C1	BI1M1	G02FA	WL1	1		0	1.04E+01
C4024 301C1	98638	JLW1061	162404	3	8	4/13/2007	12:54:16 PM	2.49E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	WL2	1		0	1.39E+01
C4024 301C1	98638	JLW1061	162404	3	9	4/13/2007	12:55:34 PM	2.08E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	WL2	1		0	1.16E+01
C4024 301C1	98638	JLW1061	162404	3	10	4/13/2007	12:57:34 PM	1.35E+03	12	1	0	13	C4024	301C1	BI1M1	G01FA	WL3	1		0	7.56E+00
C4024 301C1	98638	JLW1061	162404	3	11	4/13/2007	12:58:32 PM	1.58E+03	12	1	0	13	C4024	301C1	BI1M1	G02FA	WL3	1		0	8.86E+00
C4024 301C1	98638	JLW1061	162404	3	12	4/13/2007	1:00:10 PM	2.04E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	WL4	1		0	1.14E+01
C4024 301C1	98638	JLW1061	162404	3	13	4/13/2007	1:01:02 PM	1.69E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	WL4	1		0	9.48E+00
C4024 301C1	98638	JLW1061	162404	3	14	4/13/2007	1:03:30 PM	2.18E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	1		0	1.22E+01
C4024 301C1	98638	JLW1061	162404	3	15	4/13/2007	1:04:34 PM	1.97E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	1		0	1.10E+01
C4024 301C1	98638	JLW1061	162404	3	16	4/13/2007	1:06:14 PM	2.22E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	2		0	1.24E+01
C4024 301C1	98638	JLW1061	162404	3	17	4/13/2007	1:07:04 PM	2.18E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	2		0	1.22E+01
C4024 301C1	98638	JLW1061	162404	3	18	4/13/2007	1:07:58 PM	2.42E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	3		0	1.35E+01
C4024 301C1	98638	JLW1061	162404	3	19	4/13/2007	1:08:52 PM	2.04E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	3		0	1.14E+01
C4024 301C1	98638	JLW1061	162404	3	20	4/13/2007	1:10:56 PM	1.87E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	4		0	1.04E+01
C4024 301C1	98638	JLW1061	162404	3	21	4/13/2007	1:11:42 PM	1.99E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	4		0	1.11E+01
C4024 301C1	98638	JLW1061	162404	3	22	4/13/2007	1:12:34 PM	2.00E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	5		0	1.12E+01
C4024 301C1	98638	JLW1061	162404	3	23	4/13/2007	1:13:14 PM	2.00E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	5		0	1.12E+01
C4024 301C1	98638	JLW1061	162404	3	24	4/13/2007	1:14:12 PM	2.13E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	6		0	1.19E+01
C4024 301C1	98638	JLW1061	162404	3	25	4/13/2007	1:15:00 PM	2.03E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	6		0	1.14E+01
C4024 301C1	98638	JLW1061	162404	3	26	4/13/2007	1:16:18 PM	2.30E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	7		0	1.29E+01
C4024 301C1	98638	JLW1061	162404	3	27	4/13/2007	1:17:06 PM	2.16E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	7		0	1.21E+01
C4024 301C1	98638	JLW1061	162404	3	28	4/13/2007	1:18:04 PM	2.16E+03	12	1	0	13	C4024	301C1	BI1C2	G01FA	FL	8		0	1.21E+01

Measurement Database Dov d Report
Exposure Rate Measurements

Download ID	Station Number	User ID	Download Date	Download Time	Survey Package ID	Detector Model Number	Detector Serial Number	Gamma Cal Factor
DL041307-003	1	JLW1061	4/13/2007	2:05 PM	C4024 301C1	44-10	162404	5.36E+10

Package ID	M2350 Serial Number	User ID	Detector Serial Number	Detector Setup Number	Sample No	Date	Time	Logged Count	Count Time (secs)	Logging Mode	Window OnOroff	Scaler Alarm	LC1	LC2	LC3	LC4	LC5	LC6	L7	Measurement Location Number	Exposure Rate uR/hr
C4024 301C1	98638	JLW1061	162404	3	29	4/13/2007	1:18:56 PM	2.12E+03	12	1	0	13	C4024	301C1	BI1C2	G02FA	FL	8		0	1.19E+01
C4024 301C1	98638	JLW1061	162404	3	30	4/13/2007	1:20:10 PM	1.45E+03	12	1	0	13	C4024	301C1	BI1M1	G01FA	FL	9		0	8.12E+00
C4024 301C1	98638	JLW1061	162404	3	31	4/13/2007	1:21:14 PM	1.49E+03	12	1	0	13	C4024	301C1	BI1M1	G02FA	FL	9		0	8.34E+00
C4024 301C1	98638	JLW1061	162404	3	32	4/13/2007	1:22:48 PM	1.51E+03	12	1	0	13	C4024	301C1	BI1M1	G01FA	FL	10		0	8.45E+00
C4024 301C1	98638	JLW1061	162404	3	33	4/13/2007	1:23:42 PM	1.76E+03	12	1	0	13	C4024	301C1	BI1M1	G02FA	FL	10		0	9.83E+00
CS313 DRT02	98638	JLW1061	162404	0	34	4/13/2007	1:45:52 PM	1.08E+05	600	1	0	13	CS313	DRT02	BI1M1	G01CA	LAB01	1		0	1.21E+01
CS313 DRT02	98638	JLW1061	162404	0	35	4/13/2007	1:56:10 PM	6.28E+05	30	1	0	13	CS313	DRT02	BI1M1	G01DA	LAB01	1		0	1.41E+03
CS313 DRT02	98638	JLW1061	162404	0	38	4/13/2007	2:02:18 PM	2.76E+04	30	1	0	13	CS313	DRT02	BI1M1	G01DA	LAB01	2		0	6.17E+01
CS313 DRT02	98638	JLW1061	162404	0	40	4/13/2007	2:05:30 PM	1.69E+04	30	1	0	13	CS313	DRT02	BI1M1	G01DA	LAB01	3		0	3.78E+01

Reviewed By: _____ Date: 4-16-07 Approved By: _____ Date: 4/16/07

Survey Package Appendix C – Survey Results

Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

Section 5.0
Sample Analysis Results – Alpha/Beta Counter
6 Pages

DATA M2929 SN 118419

SN	PROGRAM_NAME	SAMPLE_ID	DATE	TIME	BG Count Time (min)	Sample (min) Count Time	Alpha gross cts	Alpha BKG CPM	Alpha EFF	Alpha DPM	Alpha MDC	Beta gross cts	Beta BKG CPM	Beta EFF	Beta DPM	Beta MDC
1	ALPHA/BETA SMEARS	WL1-1	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	39	37	0.24	-45.64	77.79
2	ALPHA/BETA SMEARS	WL2-2	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	38	37	0.24	-48.41	77.79
3	ALPHA/BETA SMEARS	WL3-3	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	45	37	0.24	-29.05	77.79
4	ALPHA/BETA SMEARS	WL4-4	4/13/2007	10:00:00 AM	20	1.5	1	0.2	0.29	1.59	10.38	39	37	0.24	-45.64	77.79
5	ALPHA/BETA SMEARS	FL-1	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	45	37	0.24	-29.05	77.79
6	ALPHA/BETA SMEARS	FL-2	4/13/2007	10:00:00 AM	20	1.5	1	0.2	0.29	1.59	10.38	40	37	0.24	-42.88	77.79
7	ALPHA/BETA SMEARS	FL-3	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	54	37	0.24	-4.15	77.79
8	ALPHA/BETA SMEARS	FL-4	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	55	37	0.24	-1.38	77.79
9	ALPHA/BETA SMEARS	FL-5	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	58	37	0.24	6.92	77.79
10	ALPHA/BETA SMEARS	FL-6	4/13/2007	10:00:00 AM	20	1.5	2	0.2	0.29	3.85	10.38	53	37	0.24	-6.92	77.79
11	ALPHA/BETA SMEARS	FL-7	4/13/2007	10:00:00 AM	20	1.5	1	0.2	0.29	1.59	10.38	46	37	0.24	-26.28	77.79
12	ALPHA/BETA SMEARS	FL-8	4/13/2007	10:00:00 AM	20	1.5	1	0.2	0.29	1.59	10.38	39	37	0.24	-45.64	77.79
13	ALPHA/BETA SMEARS	FL-9	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	34	37	0.24	-59.47	77.79
14	ALPHA/BETA SMEARS	FL-10	4/13/2007	10:00:00 AM	20	1.5	0	0.2	0.29	-0.68	10.38	48	37	0.24	-20.75	77.79

Removable Contamination Results

Survey Package ID: C4024 301C **Collection Date:** 4/13/07 **Time:** 1000

L3 Code: BI1 **Technician:** J Johnson

Instrument Model No: Ludlum Model 2929 **Serial No:** 118419

beta

bkg count time (min) = 20 bkg cpm= 37

sample count time (min) = 1.5 eff. beta= 0.241

alpha

bkg count time (min) = 20 bkg cpm= .2

sample count time (min) = 1.5 eff. alpha= 0.294

SAMPLE_ID (L5 - L6 Code)	B (counts)	BDPM (calculated)	BMDC (calculated)	A (counts)	ADPM (calculated)	AMDC (calculated)
WL1 - 1	39	-45.6	77.8	0	-0.7	10.4
WL2 - 2	38	-48.4		0	-0.7	
WL3 - 3	45	-29.0		0	-0.7	
WL4 - 4	39	-45.6		1	1.6	
FL - 1	45	-29.0		0	-0.7	
FL - 2	40	-42.9		1	1.6	
FL - 3	54	-4.2		0	-0.7	
FL - 4	55	-1.4		0	~~-8.4~~ -0.7	
FL - 5	58	6.9		0	~~8.4~~ -0.7	
FL - 6	53	-6.9		2	~~-2.9~~ 3.9	
FL - 7	46	-26.3		1	1.6	
FL - 8	39	-45.6		1	1.6	
FL - 9	34	-59.5		0	-0.7	
FL - 10	48	-20.7	77.8	0	-0.7	10.4

Upload Filename C4024 301C1 BI1 **Upload Date:** 4/13/07 **Time:** 1550

Sample Database ID: CS041307-001 **Technician:** J McKee

Hi bay wall + Floor

DATA M2929 SN 118419

SN	PROGRAM_NAME	SAMPLE_ID	DATE	TIME	BG Count Time (min)	Sample (min) Count Time	Alpha gross cts	Alpha BKG CPM	Alpha EFF	Alpha DPM	Alpha MDC	Beta gross cts	Beta BKG CPM	Beta EFF	Beta DPM	Beta MDC
1	ALPHA/BETA SMEARS	WL1-1	4/12/2007	8:30:00 AM	20	1.5	0	0.25	0.29	-0.85	10.88	43	35	0.24	-26.28	75.87
2	ALPHA/BETA SMEARS	WL2-2	4/12/2007	8:35:00 AM	20	1.5	0	0.25	0.29	-0.85	10.88	60	35	0.24	20.75	75.87
3	ALPHA/BETA SMEARS	WL3-3	4/12/2007	8:40:00 AM	20	1.5	1	0.25	0.29	1.42	10.88	60	35	0.24	20.75	75.87
4	ALPHA/BETA SMEARS	WL4-4	4/12/2007	8:45:00 AM	20	1.5	1	0.25	0.29	1.42	10.88	52	35	0.24	-1.38	75.87

Removable Contamination Results

Survey Package ID: C4024301C1 **Collection Date:** 4/12/07 **Time:** 0830

L3 Code: BE1 **Technician:** J. Johnson

Instrument Model No: Ludlum Model 2929 **Serial No:** 118419

beta

bkg count time (min) = 20 bkg cpm= 35

sample count time (min) = 1.5 eff. beta= 0.241

alpha

bkg count time (min) = 20 bkg cpm= 1.25

sample count time (min) = 1.5 eff. alpha= 0.294

SAMPLE_ID (L5 - L6 Code)	B (counts)	BDPM (calculated)	BMDC (calculated)	A (counts)	ADPM (calculated)	AMDC (calculated)
WL1-1	43	-26.3	75.9	0	-0.9	10.9
WL2-2	60	20.7	75.9	0	-0.9	10.9
WL3-3	60	20.7	75.9	1	1.4	10.9
WL4-4	52	-1.4	75.9	1	1.4	10.9

Upload Filename C4024301C1BE1 **Upload Date:** 4/12/07 **Time:** 1120

Sample Database ID: CS041207-001 **Technician:** JMichael

DATA M2929 SN 118419

SN	PROGRAM_NAME	SAMPLE_ID	DATE	TIME	BG Count Time (min)	Sample (min) Count Time	Alpha gross cts	Alpha BKG CPM	Alpha EFF	Alpha DPM	Alpha MDC	Beta gross cts	Beta BKG CPM	Beta EFF	Beta DPM	Beta MDC
1	ALPHA/BETA SMEARS	1	5/1/2007	10:30:00 AM	20	1.5	2	0.3	0.29	3.51	11.33	54	34	0.24	8.30	74.88
2	ALPHA/BETA SMEARS	2	5/1/2007	10:30:00 AM	20	1.5	1	0.3	0.29	1.25	11.33	49	34	0.24	-5.53	74.88
3	ALPHA/BETA SMEARS	3	5/1/2007	10:30:00 AM	20	1.5	1	0.3	0.29	1.25	11.33	61	34	0.24	27.66	74.88
4	ALPHA/BETA SMEARS	4	5/1/2007	10:30:00 AM	20	1.5	2	0.3	0.29	3.51	11.33	50	34	0.24	-2.77	74.88
5	ALPHA/BETA SMEARS	5	5/1/2007	10:30:00 AM	20	1.5	0	0.3	0.29	-1.02	11.33	44	34	0.24	-19.36	74.88
6	ALPHA/BETA SMEARS	6	5/1/2007	10:30:00 AM	20	1.5	3	0.3	0.29	5.78	11.33	47	34	0.24	-11.07	74.88
7	ALPHA/BETA SMEARS	7	5/1/2007	10:30:00 AM	20	1.5	1	0.3	0.29	1.25	11.33	53	34	0.24	5.53	74.88
8	ALPHA/BETA SMEARS	8	5/1/2007	10:30:00 AM	20	1.5	1	0.3	0.29	1.25	11.33	55	34	0.24	11.07	74.88
9	ALPHA/BETA SMEARS	9	5/1/2007	10:30:00 AM	20	1.5	1	0.3	0.29	1.25	11.33	48	34	0.24	-8.30	74.88
10	ALPHA/BETA SMEARS	10	5/1/2007	10:30:00 AM	20	1.5	2	0.3	0.29	3.51	11.33	56	34	0.24	13.83	74.88
11	ALPHA/BETA SMEARS	11	5/1/2007	10:30:00 AM	20	1.5	0	0.3	0.29	-1.02	11.33	51	34	0.24	0.00	74.88
12	ALPHA/BETA SMEARS	12	5/1/2007	10:30:00 AM	20	1.5	0	0.3	0.29	-1.02	11.33	48	34	0.24	-8.30	74.88
13	ALPHA/BETA SMEARS	13	5/1/2007	10:30:00 AM	20	1.5	1	0.3	0.29	1.25	11.33	49	34	0.24	-5.53	74.88
14	ALPHA/BETA SMEARS	14	5/1/2007	10:30:00 AM	20	1.5	2	0.3	0.29	3.51	11.33	52	34	0.24	2.77	74.88

Removable Contamination Results

Survey Package ID: 4024 -301 C1 **Collection Date:** 5-1-07 **Time:** 1030

L3 Code: WU1M1 **Technician:** J Worley

Instrument Model No: Ludlum Model 2929 **Serial No:** 118419

beta

bkg count time (min) = 20 bkg cpm= 34

sample count time (min) = 1.5 eff. beta= 0.241

alpha

bkg count time (min) = 20 bkg cpm= 0.3

sample count time (min) = 1.5 eff. alpha= 0.294

SAMPLE_ID (L5 - L6 Code)	B (counts)	BDPM (calculated)	BMDC (calculated)	A (counts)	ADPM (calculated)	AMDC (calculated)
1	54			2		
2	49			1		
3	61			1		
4	50			2		
5	44			0		
6	47			3		
7	53			1		
8	55			1		
9	48			1		
10	56			2		
11	51			0		
12	48			0		
13	49			1		
14	52			2		

See report

See report

J McKelvey 5/1/07

Upload Filename C4024 301WU1-1.XLS **Upload Date:** 5/1/07 **Time:** 1645

Sample Database ID: C5050107-001 **Technician:** J McKelvey

Survey Package Appendix C – Survey Results

Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

Section 6.0
Sample Analysis Results – Gamma Spectroscopy
9 Pages

Survey Package Appendix C – Survey Results

Survey Package: C4024 301C1 **Package:** Structure
Survey Area Name: SETF, Building 4024
Survey Unit Name: High Bay and First Floor DM Areas

Section 7.0
Sample Analysis Results – Alpha Spectroscopy
4 Pages