3006-020701 0001

MOUND

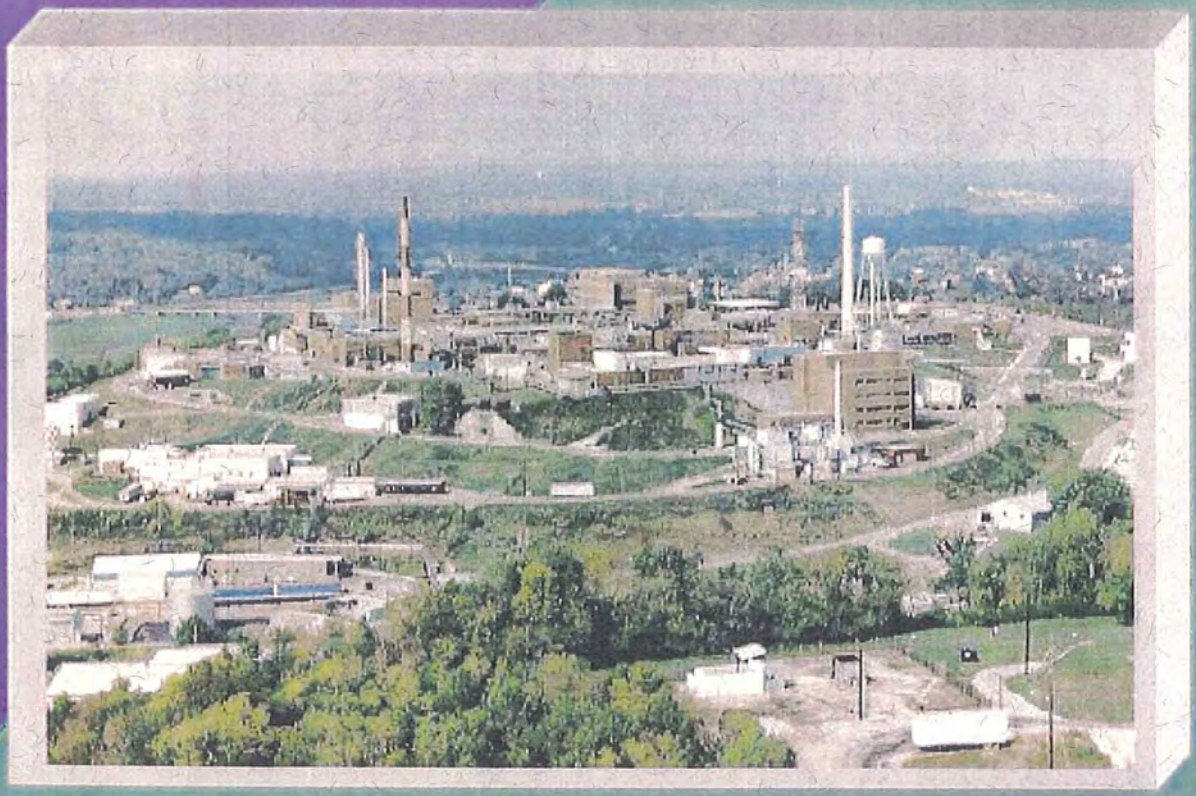
Environmental Restoration Program

Mound Site
CERCLA
Reading Room Copy

OhioEPA

MOUND PLANT
Closeout Report
Building 51

Final
July 2002



3006-0207010001

Mound Site
CERCLA
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Closeout Report

Building 51

DOE Mound Plant
Miamisburg, Ohio 45343

Prepared for:

United States Department of Energy
Miamisburg Environmental Management Project
P.O. Box 3020
Miamisburg, Ohio 45343-3020

Prepared by:

BWXT of Ohio, Inc.

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1.0 PURPOSE

This is the final report documenting completion of the demolition of Building 51 located at the DOE Mound Site, as shown in Figures 1 and 2 (Appendix A). The building's structural steel superstructure and upper-level concrete floor slab were demolished per the Work Package for Building 51 Demolition (April 2002), which is included in Appendix B. The scope of work relating to this building demolition is considered complete. The lower-level slab, retaining wall, and associated soil will be handled as part of the Potential Release Site (PRS) 66 Removal Action.

2.0 BACKGROUND

Building 51 was a 3,541 square-foot, structural steel frame building with a high bay area and a metal roof. The building was constructed into the hillside such that the front street access was level with the upper floor of the building and the lower floor was a basement that walks out to the rear dock (Figure 3). On the rear dock, there was an ash bin that is believed to have previously been connected to the incinerator waste stream.

Building 51 was located in the central portion of the Test Fire Valley between the Main Hill and the Special Metallurgical Plutonium Processing (SM/PP) Hill. The building was serviced with central steam and chilled water. Potable water and sanitary services were provided by the Mound Plant facility. Electric service was 480 volts. The building was constructed in 1970 to provide waste incineration for the Mound Plant.

3.0 ACTIONS TAKEN

The Building 51 Building Data Package and Work Plan were submitted for simultaneous Core Team and public review on April 23, 2002. The 30-day review period concluded on May 22, 2002; however, BWXTO received permission from the regulators to commence work prior to the end of the review period. This Closeout Report documents the completion of this demolition project.

All preparation and demolition activities were performed in accordance with a detailed Work Plan (Appendix B) to perform safe shutdown of utilities, maintain site access control, and perform demolition and debris removal. Building 51's lower slab, loading dock, and retaining wall were left in place and will be included in the PRS 66 Removal Action. PRSs 38, 39, 40, 398, and 399 will also be included in the PRS 66 Removal Action.

Building 51 was radiologically surveyed prior to demolition. Survey results revealed areas of elevated radiological activity in the lower rear portion of the building's superstructure. Per the Work Package, the entire lower rear section of the superstructure was demolished and disposed of as low-level radiological waste. The upper front portion of the building was demolished and radiological surveys of the debris piles were conducted. Radiological Survey Data Sheets (before and after demolition) are provided in Appendix C.

Building structural steel and interior wall demolition commenced on April 29, 2002, and the upper concrete floor slab removal on May 21, 2002. The demolition was accomplished as a non-CERCLA project, per the Building Data Package, and was completed on June 5, 2002. Photographs taken before, during, and after demolition are provided in Figure 3.

Demolition material was dispositioned as noted in Table 1.

Table 1 - Materials Disposition

Material	Quantity	Method	Location
Low-Level Radiological Waste Construction Debris (concrete/metal)	240 cubic yards	Rail Transport	Envirocare
Construction Debris (concrete/metal)	630 cubic yards	Landfill	Stoney Hill
Clean Hard Fill Debris (concrete)	67 cubic yards	Reused	Spoils Area/ Concrete Crusher

4.0 PROBLEMS ENCOUNTERED

Building 51 was successfully demolished per the Work Package, with no variances reported.

5.0 RESOURCES COMMITTED

Table 2 lists the personnel organization for the demolition. Table 3 provides a summary of the total cost.

Table 2 - Personnel Organization for the Demolition

Agencies or Parties Involved	Contact	Description of Participation
US EPA HSRM-6J 77 W. Jackson Chicago, IL 60604 312-886-5787	Tim Fischer	Federal agency responsible for Mound Plant oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for Mound Plant oversight.

Table 2 - Personnel Organization for the Demolition

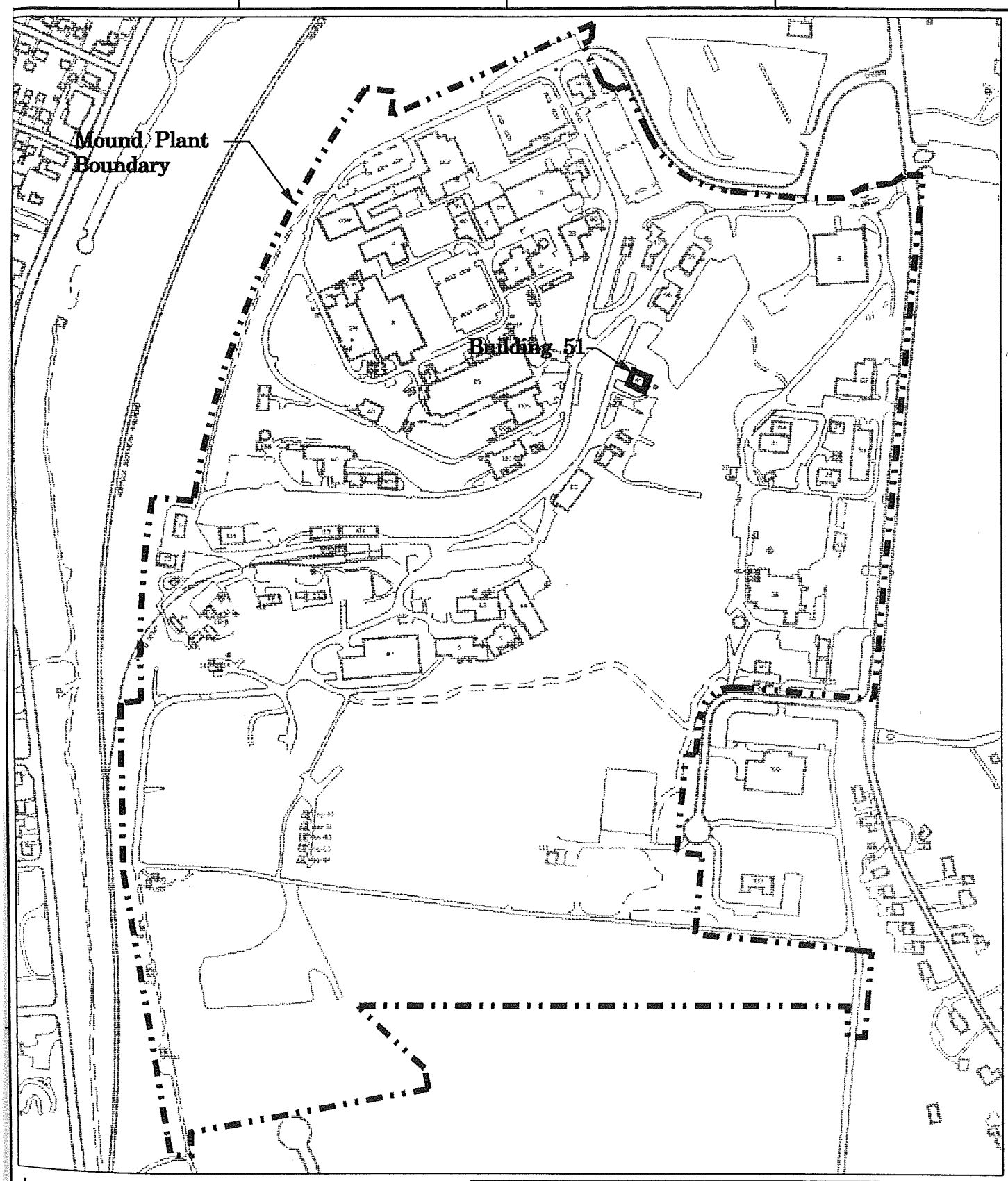
Agencies or Parties Involved	Contact	Description of Participation
DOE/MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-3620	Ronald Church / Frank Schmaltz	DOE/MEMP Project Manager responsible for project oversight and success.
BWXT of Ohio, Inc. Main Hill Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4071	Budd Thompson	Provided the DOE/MEMP Project Manager with technical assistance, administrative support, sampling, decontamination, photo and site documentation, site safety, and report preparation.
BWXT of Ohio, Inc. General Superintendent and Equipment Manager P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4071	Budd Thompson	Provided the personnel and equipment necessary for the demolition.

Table 3 - Total Cost

Summary Activity	Cost
Work Planning	$43,800
Safe Shutdown	120,160
Characterization	51,600
Decontamination and Demolition	24,710
Hauling and Disposal	71,730
Total Cost	**$312,000**

Appendix A

Figures



Legend

Structures
Paved roadway
Unpaved roadway
Mound Plant boundary
Railroad

0 100 200 400 600 800 1000
Scale In Feet

MOUND
Environmental Restoration Geographic Information System

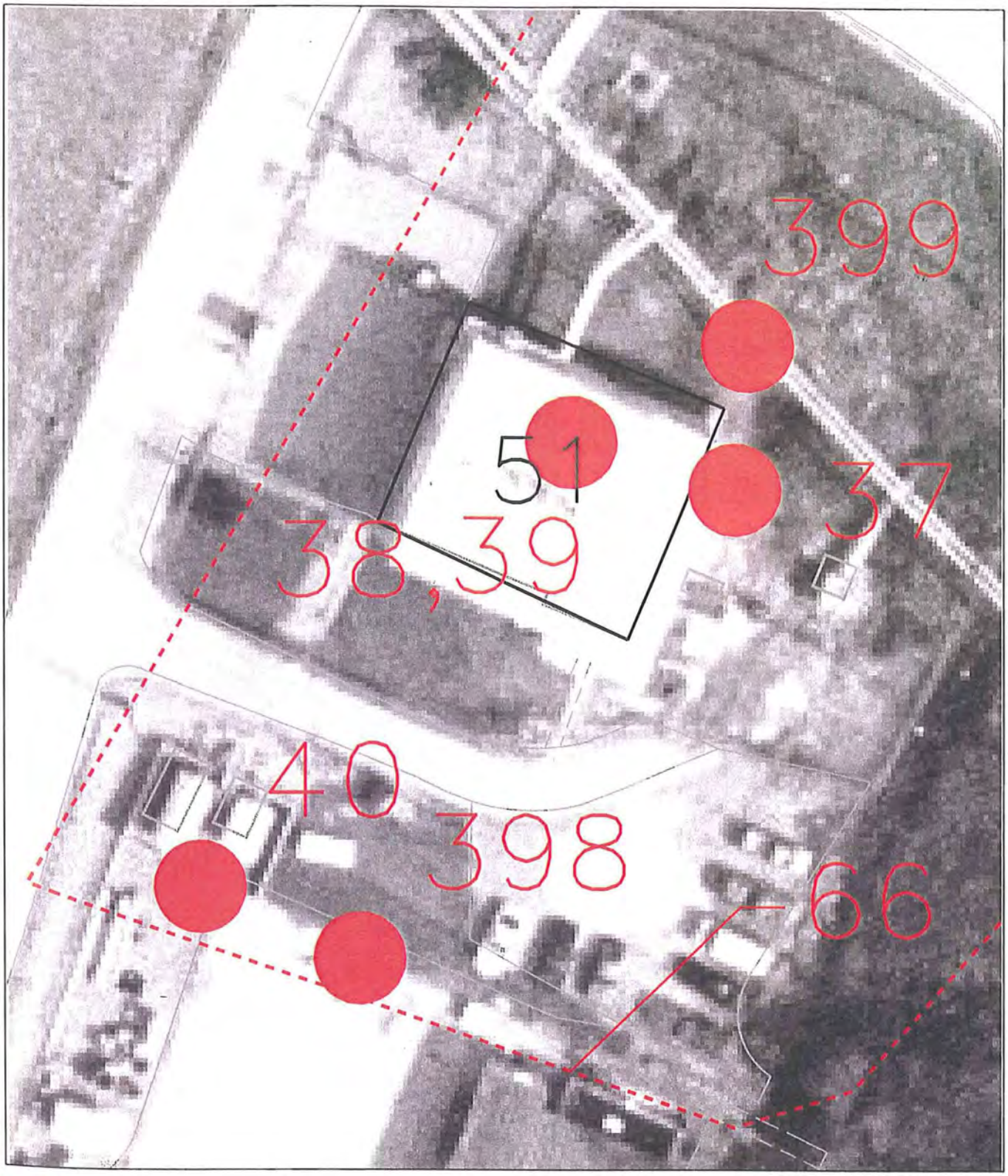
Figure 1
Location of Building 51

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					

PART CLASSIFICATION

DRAWING CLASSIFICATION: UNCLASSIFIED
SIZE
DRAWING NUMBER: gen_site_plan.dgn
JOB NUMBER
DWG TYPE: STE
PRMG: ER-GIS
CAGEC
SCALE
SHEET 1 OF
STATUS: MD-REL-**/**/**
ORIGIN: MSTATION / J

ISS	DATE	REVISION	BY	CHKR	ENG	UPDEC	APVD	R
	06/03/02	*	SSP					



PRS Point

PRS Area

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE	*																				

PART CLASSIFICATION

Figure 2
Building 51
and Vicinity

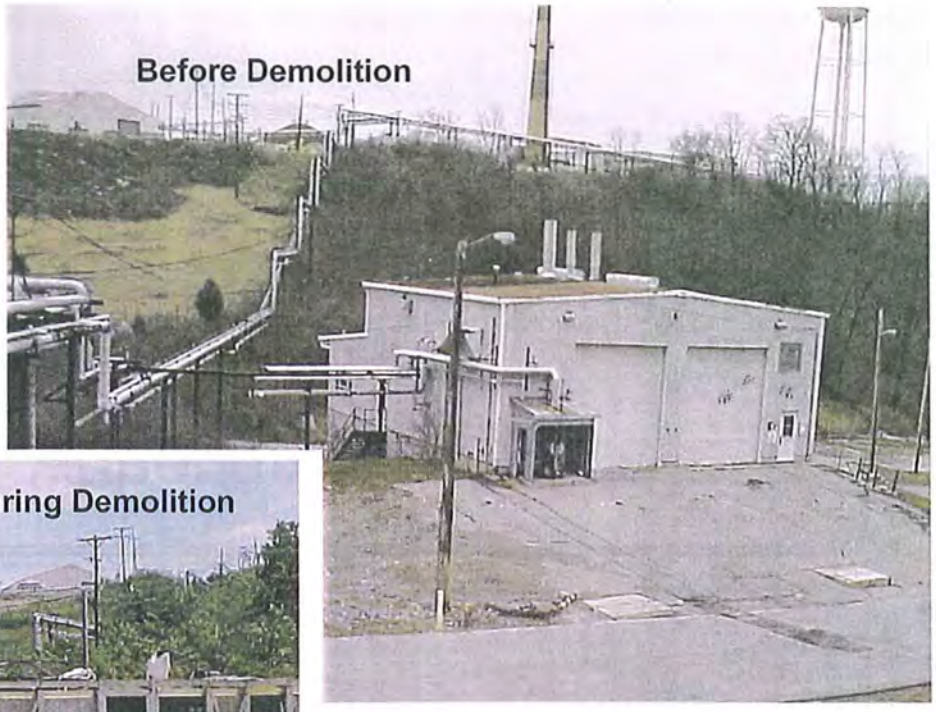
DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE | DRAWING NUMBER: vicinity.dgn | JOB NUMBER

DOC TYPE: STE | FMAC: ER-GIS | CADCC | SCALE | SHEET 1 OF

STATUS: MD-REL-**/**/** | ORIGIN: MSTATION / J

ISS	DATE	REVISION	BY	CHKR	ENG	UPDCC	APVD	U
	01/30/02		SSF					



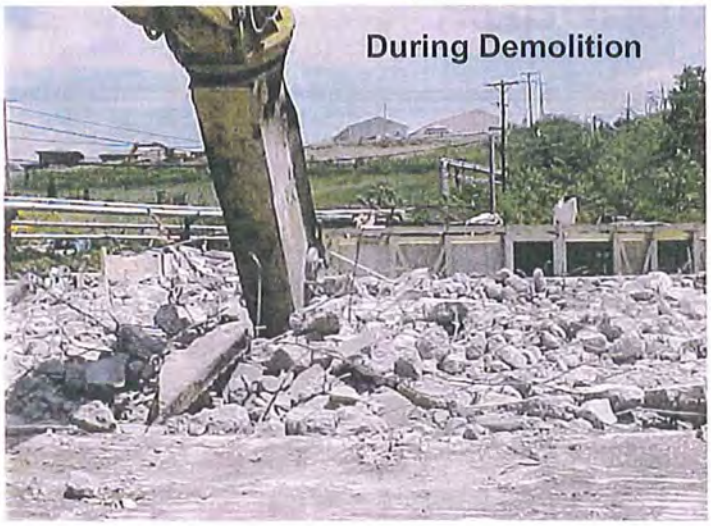
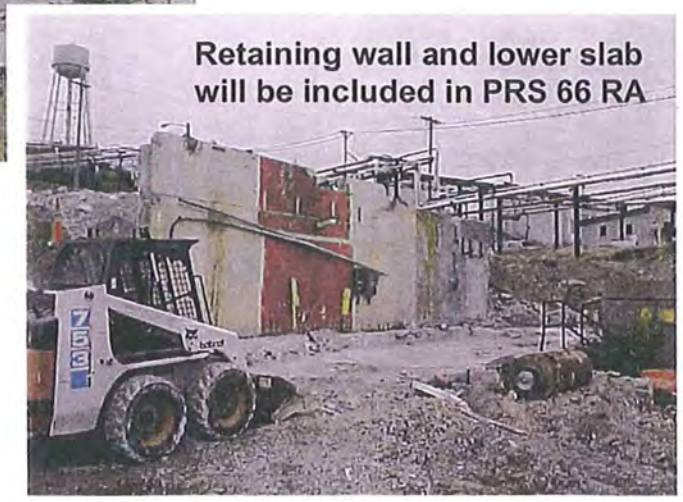


Figure 3:
Building 51

Before, During, and After Demolition



Appendix B

Work Package

COPY

WORK PACKAGE / PRELIMINARY HAZARD ANALYSIS

☒ **Office Master Copy (Original Approval Signatures)** ☐ ~ **Field Working Copy (Original Field Sign -Offs)** ☐ ~ **Review Copy** ☐ ~ **Other Copy [Note: Mark this section in color]**

The Project Engineer is responsible for completing Sections 1 through 10. On subcontractor projects, the subcontractor shall complete sections 6, 9, and 10.

1. WORK PACKAGE TITLE: Building 51 Demolition

2. WORK PACKAGE NUMBER. SMPP/TFV - *29953 -0*

3. WORK PACKAGE SCOPE:

The purpose of this work package is for demolition of Building 51, which has already been safely shutdown. Demolition includes sizing, disposition of and removal of building debris, followed by temporary restoration of the building area, which has been disturbed. This will be accomplished by establishing a construction zone, confirming that all utilities have been isolated, removing miscellaneous equipment, and using heavy duty equipment to demolish the building. Final demolition of Lower Back Section concrete will be included in the PRS 66 removal action.

4. WORK PACKAGE PHASES:

1.Establish Work Zone
2.Front Upper Section Superstructure Demolition
3.Front Upper Section Concrete Demolition
4.Lower Back Section Superstructure Demolition
5.Lower Back Section Concrete Disposition
6.Temporary Area Restoration

5. WORK LOCATION:

Building #: 51

Room #: N/A

Other: Spoils area

6. SPECIAL MATERIALS AND EQUIPMENT:

1.Tracked excavator with shear, grapple, hoe ram, concrete cracker/pulverizer, or bucket attachment.

2. Rubber tired and tracked front-end loaders.

3. Rock crusher.

4. Transport equipment as required.

7. DETAILED WORK STEPS:

1. See attached Job Specific Work Plan (JSWP)

Insert the activities to be performed during the job. Describe the specific methods of accomplishing these activities. Activities listed must be grouped under the Work Package phases listed in item 4.

8. *Note: Comments, to identify activities/hazards that are common to multiple phases of the project. Identification of these items will facilitate the option of addressing the items once in the pre-job briefing, as opposed to redundantly listing them in the JSHAs for different phases.* **COMMENTS:**

Enter any review comment or issues in this section and or information generated as a result of completing detailed work steps.

9. REVIEW SIGNATURES:

Project Superintendent: _____ Date: 04/2/02 Phone: X-3866

Project Foreman: _____ Date: 4/16/02 Phone: X-3663

Industrial Safety & Hygiene: _____ Date: 4/17/02 Phone: X-4096

Rad. Controls: _____ Date: 4/17/02 Phone: X-3178

ES&C: _____ Date: 4/18/02 Phone: x 4080

Waste Mgmt: _____ Date: 4/18/02 Phone: x 3822

Bldg. Mgmt: _____ Date: 4/22/02 Phone: 3241

Trades: _____ Date: 4/23/02 Phone: 3246

Trades: _____ Date: 4/23/02 Phone:

Trades: _____ Date: / / Phone:

10. USQ SCREEN / DETERMINATION REQUIRED? ☐YES ☒NO

Brief Explaination NOT AN A/B BUILDING, GENERAL INDUSTRY HAZARDS

USQ Trained Person: _____ Date: 04/24/02 Phone: x 4285

10. AUTHORIZATION SIGNATURE:

Project Manager: _____ Date: 04/24/02 Phone: X-4071

11. WORK PACKAGE CLOSURE:

Job Supervisor: _____ Date: / / Phone:

Project Manager: _____ Date: / / Phone:

RETURN PHA TO IS&H AT JOB COMPLETION.

APPROVAL CONTINUATION SHEET

Reviews:

Name	Signature	Date	Department

Reference Drawings	Rev.	Reference Procedures	Rev.

PRELIMINARY HAZARD ANALYSIS (PHA)
FOR WORK PACKAGE ACTIVITIES

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE INDUSTRIAL SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Hazard Analyses. Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards, that require protective measures be designed inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Blockage of exits or means of egress	NO		[EGRESS]
Blockages/obstructions (Identify)	NO		
Burning, welding, hot-work (Fire Watch)	YES	2	Possible use of cutting torch during demolition. Test for lead prior to cutting painted materials.[BURN]
Chemical compatibility of corrosives/flammables	NO		
Chemical process safety	NO		
Compressed gas cylinders	NO		
Confined space entry	NO		[CONFINE]
Crane operations, overhead or mobile	NO		
Critical lifts (heavy or high value loads)	NO		[CLIFT]
Electrical hazards	NO		[LIVEL]
Elevated work/fall protection	YES	ALL	[ELEV] Use barricades and warning tape to delineate the fall hazard between upper level and lower level. Use fall protection harnesses when working from manlifts.
Emergency eyewash/shower available	YES	ALL	[EWASH] Use portable eye wash system.
Emergency alarms or evacuation plans required	YES	ALL	[EMERG] Use radios if alarm system is disabled.
Explosive/flammable atmosphere	NO		
Explosives	NO		
Fire protection system/equipment outage	NO		[FIRE/EFIRE]
Fire Hazards Analysis Required of Demolition	NO		[FHA/ADJA]
Flammable liquids/gases	NO		[FLAM]
Forklifts, aerial lifts or material handling equipment	NO		
Grounding of electrical equipment	YES	ALL	Use GFCI on corded hand tools and lights.
Hazards due to condition of facility or terrain (Identify)	YES	ALL	Upper slab work is 13' above lower incinerator floor area. Use barricades and warning tape.
Hoisting and rigging	NO		[HOIST]
Lighting/illumination/adequacy	YES	2	[MLITE] Portable lighting maybe needed.

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Lockout/tagout of hazardous sources:	NO		[LOTO ISO]
Electrical	YES	ALL	Building to be "safe shutdown", prior to demolition. LOTO streetlights.
Mechanical (steam, hydraulic, pneumatic)	NO		Building to be "safe shutdown", prior to demolition.
Interlocks	NO		[ILOCK]
Chemical	NO		
Radiological	NO		
Machine guards	NO		
Modification to Fire Wall/Door	NO		[FIREWAL]
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	NO		
Off-shift work	NO		
Outages of the plant public announcement (PA) system or the emergency notification system	NO		[OUTAGE]
Overhead or underground utilities (Identify)	YES	2&3	[UITL] The site's street light circuit may need to be LOTO.
Penetrations into walls, floors, etc.	NO		[PENETR]
Plastic sheeting or wood framing enclosures	NO		
Powder-actuated tools	NO		
Public utilities (Identify)	NO		[WATER]
Repetitive work	NO		[ERGO]
Structural Modification	NO		[STRUCT]
Special Fire Protection Equipment Required	NO		[FIREQU]
Trenching/Shoring	NO		[DIG]
Temporary heating facilities	NO		
Temporary/portable buildings or structures	NO		[FACIL]
Temporary service hook-ups (Identify)	NO		
Traffic control/flagman	NO		[TRAFIC]
Work in attics, ceilings, chases, or crawlspaces	NO		
Work impacting adjacent normally occupied areas	NO		[ADJAC/BMAPP/SIGNS/NOTIF]
Work Requiring Scaffolding, construction and inspection	NO		[SCAFF]
Other (Specify)	NO		

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Abrasive blast (☐ MSDS available)*	NO		
Asbestos	NO		[ASBEST] Trace amount in vermiculite block filler, normal demolition dust control will mitigate risk.
Beryllium	NO		
Blood-borne pathogens*	NO		
Cadmium	NO		
Carcinogens (☐ MSDS available)*	NO		[CARC]
Chemicals/solvents (☐ MSDS available)*	NO		[CHEM/MSDS]
Chlorofluorcarbon (CFC)	NO		[CFC]
Coal, tar or asphalt products	NO		
Coating/painting (☐ MSDS available)*	NO		
Corrosives/acids/caustics (☐ MSDS available)*	NO		
Dusty operations	YES	ALL	Keep debris moist during demolition and loading. Wear respirator as required by I.H. [POWDER].
Hazardous Waste Operations (HAZWOPER)*	NO		
High Pressure systems	NO		[HIPRES]
Insulation/man-made mineral fibers (☐ MSDS available)*	NO		Keep debris moist during demolition and loading.
Lasers	NO		
Lead	YES	2	Possible lead paint, analyze for prior to torch cutting, if present, strip prior to cutting.
Foam in Place Operations	NO		
Mercury	NO		
Noise in excess of 85 dBA	YES	ALL	[NOISE] Use hearing protection.
Polychlorinated biphenyl's (PCBs)	NO		
Removal of ceiling tiles*	NO		
Spraying/generation of mists*	NO		
Temperature extremes (heat or cold stress)	NO		[CRYRO/COLD/HEAT]
Ventilation or Air Monitoring requirements	YES	2	[VENTIL/IH]
Welding, brazing, or thermal cutting operations	YES	2	[BURN] If cutting Torches are used.
Other (specify)	NO		

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

SECTION C, RADIOLOGICAL PROTECTION - TO BE COMPLETED BY RADIOLOGICAL CONTROLS REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. RWP, ALARA Plan, etc.). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Location:	Controlled Area	YES	2	Lower Back Section of bldg. has fixed contamination area, minimize contact with afflicted area. Will have RWP.
	Contamination Area	YES	2	[STP]
	High Contamination Area	NO		[STP]
	Radioactive Materials Storage Area	NO		
	Airborne Radioactivity Area (STP or OBT)	NO		
	Radiation Area	NO		
	High Radiation Area	NO		
	Very High Radiation Area	NO		
	Other (Specify)	NO		
Activities:	Criticality Safety Concerns	NO		
	Digging/Soil Removal	YES	All	[DIG] Foundation and Footer removal
	Surface destruction of radioactively contaminated materials or equipment?	NO		[SURFAC]
	Welding, burning, or grinding?	YES	2	[SURFAC] Possible use of cutting torch, keep fire extinguisher near by.
	Hammering, chipping or scraping?	YES	2	[SURFAC] Dust control with water misting.
	Abrasive blasting?	NO		[SURFAC]
	Dust-collecting equipment or systems?	NO		
	Decontamination and clean-up?	NO		
	Rad Waste Storage and Disposal Required	NO		[RWSTOR/WASTE/CHAR]
	Other (Specify)	NO		
Sources:	X-Ray machine/generator	NO		[XRAY]
	Sealed radioactive sources	NO		
	Unsealed radioactive sources	NO		
Controls:	Radiological Work Permit	YES		[RWP/RWP=JS/RWP=N/R/RPGEN] Lower Back Section Demo.
	ALARA Plan	NO		[ALARA]
	Air Flow Studies	NO		[AIRFLOW/CAM]
	Urinalysis program	NO		
	Preliminary or in-process characterization	NO		[SURVPS/SURVIP]
	Anti-contamination clothing	NO		
	Respiratory protection	NO		[RESP]
	Needs Analysis Evaluation	NO		
	Hazards Analysis	NO		
	Engineering Controls	YES	ALL	Use warning tape for fall prevention, water misting for dust control, proper PPE for safe demolition.
	Administrative Controls	NO		
	Supplemental dosimetry	NO		
	Shielding	NO		
	Personnel monitoring (frisking)	NO		

SECTION D - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C

Identify Assembly Points: Assemble at building 98.

Job Specific Work Plan
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Job Specific Work Plan

1. WORK SCOPE

1.1. Introduction

This Job Specific Work Package (JSWP) follows the outline of PP-1059A, Integrated Work Control Program at the Mound Site, Miamisburg, Ohio. Included are a Preliminary Hazard Analysis (PHA) and a Job Safety & Hazard Analysis (JSHA). A Pre-Job Briefing Form (ML-9657) and the Project Manager's Authorization to Commence Work signature will be completed to document that the workers were briefed on the activities covered in this JSWP before work begins.

1.2. Workpackage scope

1.2.1 The purpose of this effort is to demolish Building 51, remove the debris, and restore the area. This will be accomplished by confirming that all utilities have been isolated by safe shut down activities, establishing a construction zone, and demolition of the building using heavy duty equipment, radiological survey and removal of debris as directed by waste management.

1.2.2 The demolition of the Building 51 structure has been divided into four separate categories for waste handling purposes and the structure has been divided into to two sections as defined as:

- **Front upper section** – From the northwestern front of the building southeast 39'-71/2" to the expansion joint between the concrete slab and the vertical retaining wall.

- **Lower Back Section** – From and including the retaining wall southeast 14'-1" to the back wall of the structure and the outside lower loading dock structure. This demolition will be controlled under a radiological work permit (RWP).

Building waste demolition/survey/disposal guidance-

- Front upper section's structural steel, equipment, block interior partitions and siding – these wastes require radiological survey using the "debris pile/roll off survey" method to allow for free release.

- Front upper section's slab, asphalt apron and footings – require radiological surveys top and bottom prior to being disposed of or sent to the spoils area/crusher, thus requiring each piece to be turned over use heavy equipment to provide access for the radiological control technicians performing the surveys.

- Lower Back Section's structural steel, siding and equipment –will be performed as a Radiological Work Permit (RWP) area and demolished, handled, containerized and disposed of as Low Level Waste.

- Lower Back Section's concrete retaining wall, wing wall, floor slab, loading dock slab, and stem walls-remain in place and will not disturbed. These pieces are to be removed by the Environmental Restoration (ER) project under PRS 66.

1.2.3 Demolish the metal siding, equipment, block walls and structural steel from the Front Upper Section of the building down to grade level, using heavy equipment. Providing the least possible disturbance to the debris and positioned in order for radiation control technicians can thoroughly survey it.

1.2.4 Following the Front Upper Section's superstructure demolition the Front Upper Section's concrete slabs, asphalt apron, grade beams, foundations, and footers will be demolished/removed down to 3-feet below grade with excluding the Lower Back Section of the structure.

HOLD POINT: Lower Back Section of the structure is a Radiological Work Permit area, this requires the area to be posted, an approved RWP in place and the workers briefed and signed in on the RWP. Workers to follow the requirements stated on the RWP.

_____ _____
Project Foreman Date

1.2.5 Lower Back Section portion of the building's structural steel, equipment and siding will be demolished as Low Level Waste and needs to be handled, containerized and disposed of as LLW.

1.2.6 Lower Back Section retaining wall between the upper and lower levels of the building and including the lower level slab, wing wall, loading dock slab, stem wall and foundation are to be left in place. These concrete components have been identified as having fixed contamination above release limits and will be removed as part of PRS 66 removal action.

1.2.7 The last step will be to temporarily restore by grading and seeding the area. Restoration will be temporary in scope since the area is scheduled to be disturbed in the near future by the efforts of PRS 66 removal actions.

1.3. Site Information

1.3.1 Building 51 was constructed in 1972, [1 2 3] and is located in the plant valley area, just off the flank of the SM/PP Hill. Building 51 contains 3,541 square feet. [4 5]

[1] Tonne, William R., et. al., *Mound Facility Physical Characterization*, MLM-3791 December 1, 1993.
[2] The construction date in EG&G Mound Applied Technologies, Volume 9 *Environmental Appraisal of the Mound Plant* (March 1996) is listed as 1970; the as-build drawings note a date of December 1971 for the issuance date on the "as-built" drawings.
[3] BWXT of Ohio, MD-10391, *Asbestos Program Manual*, Issue 6, June 9, 1999.

[6] There have been two additions to Building 51; both located completely within the shell of the building. The exterior of Building 51 has remained much like it was, when constructed. Each of the additions consisted of the construction of a single room constructed as a free-standing building, within the shell of the Building 51 high bay area. The two-room addition is roofed, and has its own utility system. [7] [8] The addition rooms were constructed in 1979 (Room 106)[9], and in 1986 (Room 107)[10].

1.3.2 Building 51 previously housed an incinerator that was designed to burn nearly all of the plant's non-radioactive refuse including some liquids such as paints, oils, and solvents. The operation was plagued with problems and never performed at its designed capacity. The incinerator operated at various loading capacities from 1971 until February 15, 1974, when it was completely shutdown *(OU 9 Site Scoping Report: Vol. 7 - Waste Management).* The incinerator was disassembled, and removed from Mound on May 22, 1979. The associated waste oil tank, which stored waste oils and waste solvents slated for incineration, was removed in November of 1990 *(OU 9 Site Scoping Report: Vol. 7 - Waste Management).*

Building 51 was most recently used in support of thermite (energetic material) production and the production of carbon for a lithium battery capacitor research project. All support operations in the facility have ceased and the facility is currently undergoing preparations for demolition.

Even though historical documentation does not indicate that radioactive wastes were ever in the building, the presence of radioactive contamination (see Section 2.4), on the floor and wall below and next to where the incinerator had been located, suggests that radioactive wastes were processed in the building at one time.

1.3.3 Incinerator (PRS 38) and scrubber (PRS 39) associated with Building 51 were removed. Potentially contaminated soil resulting from emissions will be addressed as part of the PRS 66 cleanup effort. PRS 38 and 39 will be closed out separately from Building 51.

2. DRAWINGS AND REFERENCES

PP-1059A, Issue 7, "Integrated Work Control Program"
MD-50000, Issue 10, "Maintenance Work Order and Material Processing"

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[4] EG&G Mound Applied Technologies, Volume 9 *Environmental Appraisal of the Mound Plant*, March 1996.
[5] Tonne, William R., et. al., *Mound Facility Physical Characterization*, MLM-3791 December 1, 1993.
[6] BWXT of Ohio, MD-10391, *Asbestos Program Manual*, Issue 6, June 9, 1999.
[7] Hertweck, F., *Site Related Activities--November 10, 1997*, November 11, 1997.
[8] Hertweck, F., *Waste Management Visit to Building 51 Site*, February 11, 1998.
[9] Mound Drawing FSD18670, Process Control Floor Building Modifications, Original Issue, July 13, 1979.
[10] Mound Engineering Drawing Number FSD851829, Building 51 Equipment Installation Plan View and Demolition, Original Issue September 30, 1985.

3. INITIAL CONDITIONS AND PREREQUISITES

3.1. Lessons Learned

A search of the Lessons Learned Database found the following relevant item:

Catastrophic Failure of 15,000-Pound Demolition Shear

See Appendix F for the full report. The result of the Lessons Learned is that the shear should not be used as a hammer and the shear should be inspected periodically for cracks and signs of failure.

3.2. Industrial Safety and Health Requirements

3.2.1 A Job Specific Hazards Analysis (JSHA) is required. The construction zone, as defined in Appendix A and E, identifies construction boundaries, evacuation routes, the take shelter area, and the assembly area. Debris will be cleared from the immediate demolition zone as required to promote safe equipment activity.

3.2.2 Underground electrical utilities will be identified and field located by scanning the area prior to any activities beginning. Lock-out-tag-out procedures will be followed and electrical energy detection will be performed prior to any electrical demolition activities.

3.2.3 An excavation/soil disturbance permit will be required prior to demolition activities.

3.2.4 Monitoring for crystalline silica (concrete dust) will be performed periodically as determined by previous monitoring results and site Safety and Health. Site Safety and Health will be notified before the demolition of concrete begins.

3.2.5 Whole body vibration will be administratively controlled and by reviewing topic at Pre-job meeting.

3.2.6 A Hot Work Permit will be required if a torch is used for cutting and possibly for generator operation. Coordinate with site Safety and Health.

3.2.7 Monitoring of noise levels will be performed as determined by previous monitoring results and site Safety and Health. Ear plugs will be worn, as appropriate.

3.2.8 Due to the many high weeds in the area to the north of Building 51 and the likely presence of chiggers and ticks, the area will be mowed prior to work beginning. If necessary the area will be sprayed with insecticide and insect repellant will be made available to the workers.

4. RADIATION PROTECTION REQUIREMENTS

Survey data indicates no elevated radiological readings in the Front Upper Section of the building, however it was agreed to do a thorough debris pile/roll off survey. The lower, rear portion of the building affected by incinerator operations, was determined to be radiologically contaminated and has been determined to require a RWP.

5. ENVIRONMENTAL COMPLIANCE REQUIREMENTS

5.1. CERCLA

The demolishing of the upper front section and rear section of the superstructure of building 51 will be accomplished as non-CERCLA project. Incinerator (PRS 38) and scrubber (PRS 39) associated with Building 51 were removed. Potentially contaminated soil resulting from emissions will be addressed as part of the PRS 66 RA. PRSs 38 and 39 will be closed out separately from Building 51.

5.2. National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

The offsite estimated effective dose equivalent (EDE) for the structure demolition of Building 51 was calculated to be 4.2E-05 mrem/year. Therefore, USEPA approval is not required for this project, as the dose does not exceed the 0.1 mrem/year threshold.

5.3. Notification

A Notification of Demolition and Renovation form must be filed with the Regional Air Pollution Control Agency (RAPCA) at least 10 business days before planned building demolition.

5.4. Restriction of emission of fugitive dust (OAC 3745-17-08)

Reasonably available control measures must be employed to prevent fugitive dust from becoming airborne. Visual particulate emissions from any fugitive dust source shall not exceed 20% opacity as a three-minute average. Appropriate activities would include:

5.4.1 Water misting or other suitable dust suppression will be used to minimize fugitive dust from demolition activities.

5.4.2 Periodic application of water or other suitable dust suppression to adjacent roadways and parking lots will be used to prevent dust from becoming airborne.

5.4.3 Trucks hauling debris to the onsite spoils area should be covered while in transit.

5.4.4 Segregate any lead pipe conduits if present from concrete debris going to the spoils area in order to avoid producing lead dust and particulate.

5.5. Clean Water Act & Storm Water Pollution Prevention

5.5.1 All inlets to the sanitary and storm systems will be plugged to prevent accidental discharges to the wastewater treatment plant or the environment.

5.5.2 The site's National Pollutant Discharge Elimination System (NPDES) Permit No. 1IO00005*HD requires the use of control measures to ensure the quality of storm water leaving the site. These control measures and practices are outlined in the site's Storm Water Pollution Prevention Plan OPA980099. Appropriate activities would include:

5.5.3 Redirect flow patterns around the project site to prevent storm water run-on.

5.5.4 Provide inlet protection to the storm sewer system by covering catch basins immediately adjacent to the project site and plugging roof drains at ground level until which time the underground pipes can be appropriately abandoned.

5.5.5 Exercise good housekeeping techniques by segregating materials in a timely manner, including the prompt disposal of wastes, and sweeping debris from the streets to prevent storm water pollution.

5.5.6 Water that has collected in an open excavation or in sumps, must be monitored prior to discharging to the sanitary or storm sewer systems. Contact Environmental Monitoring at extension 4188 for monitoring and review of these non-routine discharges.

5.6. National Historic Preservation Act (NHPA)

5.6.1 Building 51 is not listed as a historic structure with the Ohio Historic Preservation Office (OHPO).No mitigative documentation package is required. However, if any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified at extension 3691. Work will be suspended until which time the items or artifacts have been recovered.

5.7. Safe Drinking Water Act

The potable water supply to Building 51 was turned off and capped to protect the integrity of the water supply to that portion of the plant site.

5.8. Emergency Spill Response

Building 51 has been disconnected from all utility services and the lines drained. There should be no regulated component that will be encountered. In the event of a major spill of any regulated substances, or the rupture of a non-isolated utility line (fire, domestic water, ethylene glycol) call 911 if using an onsite phone or 937-865-4040 if using a cell or other outside phone to report it. All spills must be contained onsite and should be prevented from entering the storm drains if possible. If spills enter the storm drains, all effluent must be retained onsite at the overflow pond.

6. CHEMICAL AND WASTE MANAGEMENT REQUIREMENTS

All waste will be managed in accordance with the Waste Management Plan for the Mound Exit Project, MD-10499. The Waste Coordinator will ensure that this is accomplished and summarize in a Job Specific Waste Management Plan, which is included below.

Fluorescent tubes and non-PCB containing ballasts will be left in place, and will be demolished with the building. However, if PCB containing ballasts are encountered, they will be removed and disposed of through Waste Management. Note: If fluorescent tube breakage would present a safety hazard while workers are in the building, the tubes may be removed separately. It has been determined that the seals on the explosion-proof lights are not asbestos containing. Therefore, they will not be removed, but will be demolished with the building. Note: If a suspect seal is encountered, contact site Safety and Health for guidance.

7. EMERGENCY PREPAREDNESS

7.1. Site Notification Procedures

7.1.1. Use **911** for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **865-4040**. This number will ring into the plant 911 system.

7.1.2. Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

7.1.3. Employees working will be notified of emergency or abnormal conditions by the plant paging system or project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.

7.2. Evacuation Route/Assembly Areas

The assembly area is northeast of Building 51 at the west side of Building 98. See map per Appendix E.

7.3. Take Shelter Area

The take shelter area is in the basement of Building 98 in Rooms 002, 003, and 004. See map per Appendix E.

8. PRE-DEMOLITION SEQUENCE OF WORK

8.1. Site Characterization

8.1.1 Physical Characterization

A structural engineering survey was performed and documented for Building 51 to meet the requirements of OSHA 29 CFR 1926.850(a). A walkdown of the structure was used to identify potential hazards as listed in 29 CFR 1926.850(e) through (i). It has been determined the building does not meet the criteria that cause the structure to be historically significant.

8.1.2 Radiological Characterization

An assessment of Building 51 was performed reviewing operational history and radiological survey information. Operational history indicates that the building contained an incinerator for non-radiological use, and may have contained a Uranium enrichment process. It is unclear if the enrichment process was ever started. The building super-structure and equipment housed within were determined to be uncontaminated.

Some years ago, a radiological survey found a location on the basement floor with fixed contamination. The area was determined to be Pu-238 and was approximately 600 to 700 dpm/100cm^2. The area has been remediated and resurveyed. Subsequently, a 100% scan survey was conducted of the basement floors and adjacent walls using a Ludlum model 2350 gas flow proportional counter with data logging capabilities. During the course of the 100% floor survey, one additional location of fixed contamination was discovered with a maximum reading of 700 dpm/100cm^2 direct alpha. The contamination was acid-etched and isotopic identification has determined the isotope to be predominately Plutonium 238. The building was then reclassified in accordance with the MARSSIM Manual to perform more in-depth surveys. During the course of the random sampling in the lower section of the building (Class 2 Area), another spot of contamination was discovered on the inside of the south sheet metal wall (~200-300 dpm/100cm^2 direct alpha). That spot was also acid-etched and identified as Plutonium 238. The contaminated surfaces seem to be directly related to the old incinerator conveyor system. The conveyor system transported the incinerator ash from the bottom of the water "catch basin" then outside to be collected and disposed of. The conveyor then traveled up and over the top of the incinerator, down the North wall of the lower building section and back under the incinerator in a continuous loop. The identified areas of contamination fall in the vicinity of the path of travel of the conveyor. At this point, further surveys of the lower section of the building were determined to be economically impracticable. And the decision was made to dispose of the entire back section of the building as Low Level Radiological Waste. The contaminated concrete lower slab and retaining wall will be segregated and disposed of as radiological waste as part of PRS 66 removal action.

8.1.3 Chemical and Metals Characterization

Building 51 housed an incinerator that was designed to burn nearly all of the plant's non-radioactive refuse including some liquids such as paints, waste oils, and solvents. Most recently, Building 51 housed processes that used energetic materials and photographic processing chemicals. The building underwent Safe Shutdown in 1996 at which time these materials were removed from the building. The annual chemical inventory report found no chemicals located in the building.

8.1.4 Asbestos Characterization

Asbestos-containing material were identified and remediated in connection with Building 51, no further action is required.

8.2. Site Preparation

8.2.1. Site Access Control

The demolition area will be identified utilizing the existing fence around the building, or at the discretion of the project construction manager/foreman, marked off with barricade tape/fencing.

8.2.2. Clearing and Grubbing

The area around the building will be mowed and insecticide will be sprayed if appropriate. Coordinate with site Safety and Health and Environmental Compliance.

HAZARD	MITIGATION
Insect bites Exposure to insecticide	Mow area around building. If appropriate, wear long pants and long sleeve shirt. Tape arm and leg opening, if desired . Follow requirements of MD-10286 D2. Use licensed personnel. Follow label directions and MSDS.

8.2.3. Temporary Utilities

The only temporary utility that may be required is electrical. A portable generator would be utilized. A Hot Work Permit may be required to operate the generator. Coordinate with site Safety and Health.

HAZARD	MITIGATION
Carbon monoxide.	Place generator outside the structure.

8.2.4. Temporary Facilities

This project may use the existing Building 44 and Building 38 shower/restroom area or utilize SMPP/TVF project new trailer complex to be located in Mound exiting "C" parking lot. Also, a portable toilet has been located at the job site.

8.2.5. Temporary Communications

Temporary communications are required (cell phone, radios) due to the difficulty of hearing plant announcements and emergency notifications. At the job site, plant announcements and emergency notifications can be heard on the Plant radio channel.

8.2.6. Staging Areas

The project site is of sufficient size to also be used as a staging area.

8.3. Preliminary Activities

8.3.1 Domestic water, fire water, electrical, fire alarm system and communications lines have been disconnected under separate safe shutdown MSR. 30024.An excavation/soil disturbance permit will be required prior to excavation activities.

8.3.2 Verify equipment with printed circuit boards have been removed. If found dispose through Waste Management as lead-containing waste.

8.3.3 Verify all mercury containing switches have been removed. If found, dispose through Waste Management.

8.3.4 Confirm all Freon has been previously removed and recycled from HVAC units inside and outside of the building.

8.3.5 Fluorescent tubes, ballasts, and explosion proof lights will remain in place. If PCB-containing ballasts are encountered, remove and dispose through Waste Management. Note: Contact site Safety and Health with any concerns about fluorescent tubes, ballast, or explosion proof fixture seals.

HAZARD	MITIGATION
Fall hazard	Follow requirements of MD-10286 M-14

9. BUILDING DEMOLITION SEQUENCE OF WORK

9.1. Establish Work Zone

Establish work zone boundary using the existing fence and/or with barricade tape as directed by the Project Foreman. Proper signage will be placed at all access points to the

site. This zone is not to be entered by anyone not directly involved with the demolition unless they have contacted the Project Manager/Foreman first.

Do not begin any demolition activities until the following items are completed.

All new workers assigned to this project have received a pre-job briefing prior to performing work and a walkdown of the project area. The following must be completed prior to starting work.

Review of the *Preliminary Hazard Analysis* for work package activities must be complete.

9.1.1. The *Pre-Job Briefing Record* must be complete and signed.

9.1.2. The *Job Specific Hazards Analysis (JSHA) must be reviewed.*

NOTE: All workers have Stop Work Authority. Situations where stop work authority is to be exercised are:

- **To stop unsafe work.**
- **To stop unauthorized work, for example, work outside the scope of this work package.**

9.1.3. Confirm electric/communication has been disconnected to Building 51.

9.1.4. Confirm all utilities have been isolated and blanked-off.

9.1.5. All pre-demolition notifications have been made.

9.1.6. Install sediment/storm water control fence around designated construction area as necessary.

9.1.7. Prepare water distribution system for the control of dust.

HAZARD	MITIGATION
Contact overhead power lines with heavy duty equipment.	If heavy duty equipment will be operating within 10' of overhead powers, perform LOTO.
Struck by flying debris Struck by moving equipment Noise Hazard	Establish construction boundary Wear Hard Hat Safety Glasses, Safety Shoes, Reflective Vest inside construction area Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2
Heat/Cold Stress	Follow the requirements of MD-10286 D13/D16

Exact sequence of demolition will be left up to the skill of the craft.

9.2. Front Upper Section Superstructure Demolition

Demolish the Front Upper Section of the building's rollup doors, siding, interior concrete block room partition walls and structural steel using heavy equipment and layout for radiological survey. Following survey and release, place into appropriate hauling containers or trucks.

9.3. Front Upper Section Concrete Demolition

HAZARD	MITIGATION
Strike underground utilities	Obtain Excavation permit and follow its requirements per MD-10286 O5

Using heavy equipment break apart the Front Upper Section's concrete slab, asphalt apron, foundation, and footers to 3' below grade, torch cut the rebar as required (Hot Work Permit is required if used) to support demolition and downsizing. During the concrete demolition operation using heavy equipment to assist radiological control personnel to perform radiological screening of all concrete surfaces. Based on radiological screening results, transport to Mound's spoils area, offsite disposal or rail spur as directed by Waste Management.

Note: The progressions of the building demolition will ultimately be determined in the field.

9.4. Lower Back Section Superstructure Demolition

HOLD POINT: Lower Back Section of the structure is a Radiological Work Permit area, this requires the area to be posted, an approved RWP in place and the workers briefed and signed in on the RWP. Workers to follow the requirements stated on the RWP.

_____ _____

Project Foreman Date

Demolish the Lower Back Section's structural steel, siding and equipment using heavy equipment as needed to demolish, size, containerize and disposed of as LLW.

9.5. Lower Back Section Concrete Disposition

Lower Back Section's retaining wall, floor slab, loading dock slab, and stem walls - remain in place and not disturbed , and will be removed by the Environmental Restoration (ER) project

9.6. Temporary Area Restoration

The last step will be to temporarily restore area by grading and seeding. Remove any unnecessary remaining sediment/storm water control fences. Remove dust control water distribution system, fencing and any traffic control. Restoration will be temporary in scope

since the area is scheduled to be disturbed in the near future by the efforts of PRS 66 removal actions.

Appendix A
JSHA/HASP

Project/Activity: Building 51 Demolition
Name: Lee Koehmstedt

10. JSHA CRITERIA CHECKLIST	YES	NO	N/A
1. Work performed with a 6 ft. or greater fall hazard, excluding portable ladders. See Item 14 for further requirements.	X		
2. Roof work requiring the use of fall protection (within 6 ft of an unprotected edge) or special fall protection procedures.		X	
3. Potential hazardous chemical exposure above action levels or permissible exposure limits (PELs), or ACGIH Threshold Limit Values (TLVs).		X	
4. Work activity in an immediately dangerous to life or health (IDLH) breathing hazard environment.		X	
5. Fire or explosion hazards. Are fire hazards beyond a Hot Work Permit? (Reference O2, MD-10286)		X	
6. Work within close proximity of live electrical than 50 volts, conductors, and/or work that requires multiple locks, multiple hazard sources, or complicated lockout/tagout circumstances. (Reference MD-10444, *Lockout/Tagout Procedure Manual*, for multiple energy lockout/tagout.)		X	
7. Any maintenance or repair of equipment under pressure where the pressure cannot be shut off and de-energized.		X	
8. Work with high or extreme exposure to ionizing or nonionizing radiation (reference MD-80036, Op 10002), noise, or heat or cold stress (reference D9, D13 & D16, MD-10286).		X	
9. Determined by an appropriate core team, building manager, member of general or executive management, or the IS&H manager to require a JSHA.	X		
10. Any onsite construction or service project directed to have JSHAs based on this procedure and/or instruction from project personnel or IS&H staff.	X		
11. Near-miss event with the potential for loss of life or limb or disabling injury/illness if repeated.		X	
12. Excessive trauma/motion/vibration work situations or manual lifting involving heavy, large, and/or awkward-to-handle objects (reference MD-10407, *Ergonomics Program.*		X	
13. Unguarded, unmarked close clearance, pinch point, exposed moving machinery parts.		X	
14. Known potential falling object hazards (e.g., employees working above other employees, potential for dropping tools, falling equipment or material) or working in areas with the potential for flying objects (flying chips, sandblasting, etc.), exposure to sharp or protruding objects (e.g., working inside plenums, air mover ducts, etc.).		X	

MANDATORY JSHA REQUIRED TO ADDRESS ANY/ALL (YES) RESPONSES

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
SMPP/TFV – 29953-0

DATE: ~~7/31/01~~ 4/12/02	_X_ NEW __ REV	**BUILDING:** 51	**JOB:** Demolish Building 51
DEPARTMENT/COMPANY: SMPP/TFV			**SECTION:** N/A
OCCUPATIONS: Heavy Duty, Demo Tech, Construction Craft, Pipefitter/Welder, Electrical Control, Fab Mechanic, RCT, III			

SIGNATURES

ORIGINATOR: Lee Koehmstedt
REVIEW/REV: Jared Willis
REVIEW/REV: Bill Wahler
REVIEW/REV: Gary Weidenbach 4/22/02
APPROVED: C.D. Thompson 4/24/02

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:
Hard Hat, Safety Glasses with side shields, safety shoes, safety vest

MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:
Insecticide

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
Break the job down into basic steps that tell what is done first, what is done next, and so on. Record the job steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually, three or four words are sufficient to describe each job step. For example, the job of "replacing a light bulb" may break down into basic steps as follows. 1. Bring and set up ladder 2. Ascend ladder 3. Remove light globe & bulb 4. Replace light bulb 5. Replace light globe 6. Descend ladder 7. Remove and store ladder	Ask yourself for each job what accidents/illnesses could occur to the employee doing the job. Record potential accidents/illnesses by combining one of the abbreviations below with the agent of contact. For example, "struck by a crane hook" is recorded "SB-crane hook." Number each potential accident. SB - Struck by CB - Contacted by SA - Struck against CW - Contact with CI - Caught in CO - Caught on IB - Caught between F - Fall SO - Strain-overexertion* E - Exposure (occ. illness) *Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)	For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness. Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements, e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment. Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)
General Safety Note	A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	1) Be cognizant of your own safe work practices as well as those of your co-workers 2) Review any related safety procedures of which you are unsure 3) Utilize STOP WORK Authority as necessary
Pre-job meeting with involved personnel to discuss the work plan and safety requirements.	NA	This project engages in Enhanced Work Planning(EWP), a ISM process that evaluates and improves the approach by which work is identified, planned, approved, controlled, and executed.
Removing equipment using ladders or manlifts, such as lighting, fluorescent tubes and ballasts	Fall hazard	Follow requirements of MD-10286 M-14

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
Demolish building and slab using excavator mounted shear, hoe ram, grapple, loader, and bobcat	Struck by flying debris Struck by moving equipment Noise Hazard	Establish construction boundary Wear Hard Hat Safety Glasses. Safety Shoes, Reflective Vest inside construction area Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
Torch cut rebar or to weaken structural members	Burns	Obtain and follow Hot Work permit per MD-10286 O2
Working in excessive heat/cold	Heat Stress/Cold Stress	Follow the requirements of MD-10286 D13/D16
Slab removal	Strike underground utilities	Obtain Excavation permit and follow its requirements per MD-10286 O5
Possible use of a gas powered generator for temporary power	Carbon monoxide.	Place generator outside the structure.
All job phases	In case of emergency or weather warnings the assembly area and take shelter location.	The assembly area is northeast of Building 51 at the west side of Building 98. The take shelter area is in the basement of Building 98 in Rooms 002, 003, and 004.
Electric overhead lines	Electrocution	LOTO all electrical overhead lines.

SIGN-OFF SHEET

I have read and understand the attached Job Specific Work Plan and JSHA:

SIGNATURE	Date	Department

Appendix C
PRE-JOB BRIEFING

PRE-JOB BRIEFING RECORD

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A. Time, Date and Location of PJB: _____

B. Applicable Procedure Number: _____

C. Job Description: _____

D. Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

BRIEFING CHECK OFF LIST

JOB SUPERVISOR

Check When Completed*

1. Scope of work reviewed:
   a. The assignments and responsibilities of each individual were specifically identified. _____
   b. The current facility conditions, tagouts, valve lineups, and work permits relating to this job have been discussed _____
   c. The precautions, limitations, initial conditions, and prerequisites were adequately reviewed. _____
   d. Potential hazards associated with the job have been discussed (JSHA) _____
   e. Specific work covered by RWP (any limitations) _____
2. All necessary safety equipment and PPE is available. _____
3. All required personnel have satisfied initial and continuing training requirements to perform The job including training specified on the RWP. _____
4. All required personnel have reviewed the applicable documentation listed in B. above As it applied to their part of the job. _____
5. Reliable and adequate communications are available. _____
6. The required tools and equipment are available. _____
7. Appropriate log sheets, material transfer, and data recording forms are available. _____
8. All required documents available at the PJB are approved and current. _____

**For items not applicable, write in N/A.*

JOB SPECIFIC WORK PLAN
PRE-JOB BRIEFING RECORD (Page 2)

9. Related past problems, unusual events, and occurrences were discussed _____
10. All personnel understand egress procedures and egress areas. _____
11. RWP requirements:

    a. Radiological conditions of the workplace. This should include a review of the most recent Survey of the area. It is important to ensure that the survey is specific to the work area. In cases where a system of unquantified activity will be bereted, discuss the "anticipated activity" to be expected after the breech. _____
    b. Dosimetry requirements. _____
    c. Protective clothing and respiratory protection requirements (cite location of doffing instructions). _____
    d. Job coverage requirements (continuous vs. intermittent). Explain that continuous means "within line of sight and field of control of RCT at all times." _____
    e. Stop Work Levels (SWLs) and other applicable limitations. _____
    f. POCs/RCTs must discuss the type of radiological monitoring to be employed at the job site during and subsequent to the work. Personnel assigned to do the work MUST EXPRESS THEIR FULL UNDERSTANDING of the monitoring to be employed and of the alarm signals if applicable. Workers MUST CONCUR in the type and scope of monitoring planned at the job site before work can begin. _____
    g. Dose reduction/contamination control techniques (e.g., use of; shielding, capture velocity, containment devices).
    h. Personnel and equipment monitoring requirement (including control point locations). _____
    i. Bioassay requirements. Discuss: isotopes to be encountered, proper use of the bioassay information form, use of nosewipes as appropriate (and disposition of nosewipe results), and bioassay frequency if this will be a long term task. _____
    j. Effective date and expiration date of RWP reviewed. _____
    k. Briefly cover WORKER RESPONSIBILITIES (Article 123 of DOE RADCON MANUAL) _____
12. Necessary instrumentation is adequately tested and calibrated. _____
13. Key task steps in which radiological conditions may change and where the RCT will perform in-process surveys to assess radiological conditions. _____
14. If an ALARA Job Review was required, then this would be an appropriate time for a review. _____
15. Radiological hold points, if any. _____
16. Discuss any appropriate response actions to emergencies, such as CAM, alarms, criticality alarms, or increasing radiation levels. _____
17. When radiological health monitoring (e.g. asbestos) is to be employed at the job site during and subsequent to the work, the personnel assigned to do the work MUST EXPRESS THEIR FULL UNDERSTANDING of the monitoring to be employed and of the alarm signals if applicable. Workers MUST CONCUR in the type and scope of the monitoring planned at the job site before work can begin. _____
18. Communications and coordination with other groups. _____
19. Provisions for waste management and job cleanup. _____
20. Open floor to questions. _____

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to ensure safe conduct of the job.

_____

Job Supervisor/Foreman Date

NOTE: *Completed pre-job briefing sheet must be retained with the work package or maintained in your record file.*

JOB SPECIFIC WORK PLAN
PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A.	Time, Date and Location of PJB:
B.	Applicable Procedure Number:
C.	Job Description:
D.	Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

JOB SUPERVISOR – This is a reminder checklist for the update. The supervisor need only discuss and note changes from the previous day's briefing or update. (Use NC for No Change).

1.	Any changes/revisions to safety envelop for work: a. New/added assignments and responsibilities of any individual b. Changes in facility conditions, tagouts, valve lineups c. New or changed precautions/hazards d. Valid RWP or other required work permits still in effect
2.	Adequate supply of PPE
3.	New training, any training coming up on expiration
4.	New changes to relevant Category "A" or Category "B" procedures.
5.	Equipment and tools calibrations in effect
6.	Relevant lessons learned, critique reports
7.	RWP revisions: a. Changes to radiological conditions of the workplace, particularly with respect to postings. b. Change in scope, especially if it is a reduction in scope or Stop Work Levels.
8.	Changes to radiological and/or health monitoring.
9.	Open the floor to questions.

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to maximize continued safe conduct of the job, and all personnel have been through a previous Pre-Job Brief.

_____

Job Supervisor/Foreman Date

Appendix E
DRAWINGS/SKETCHES

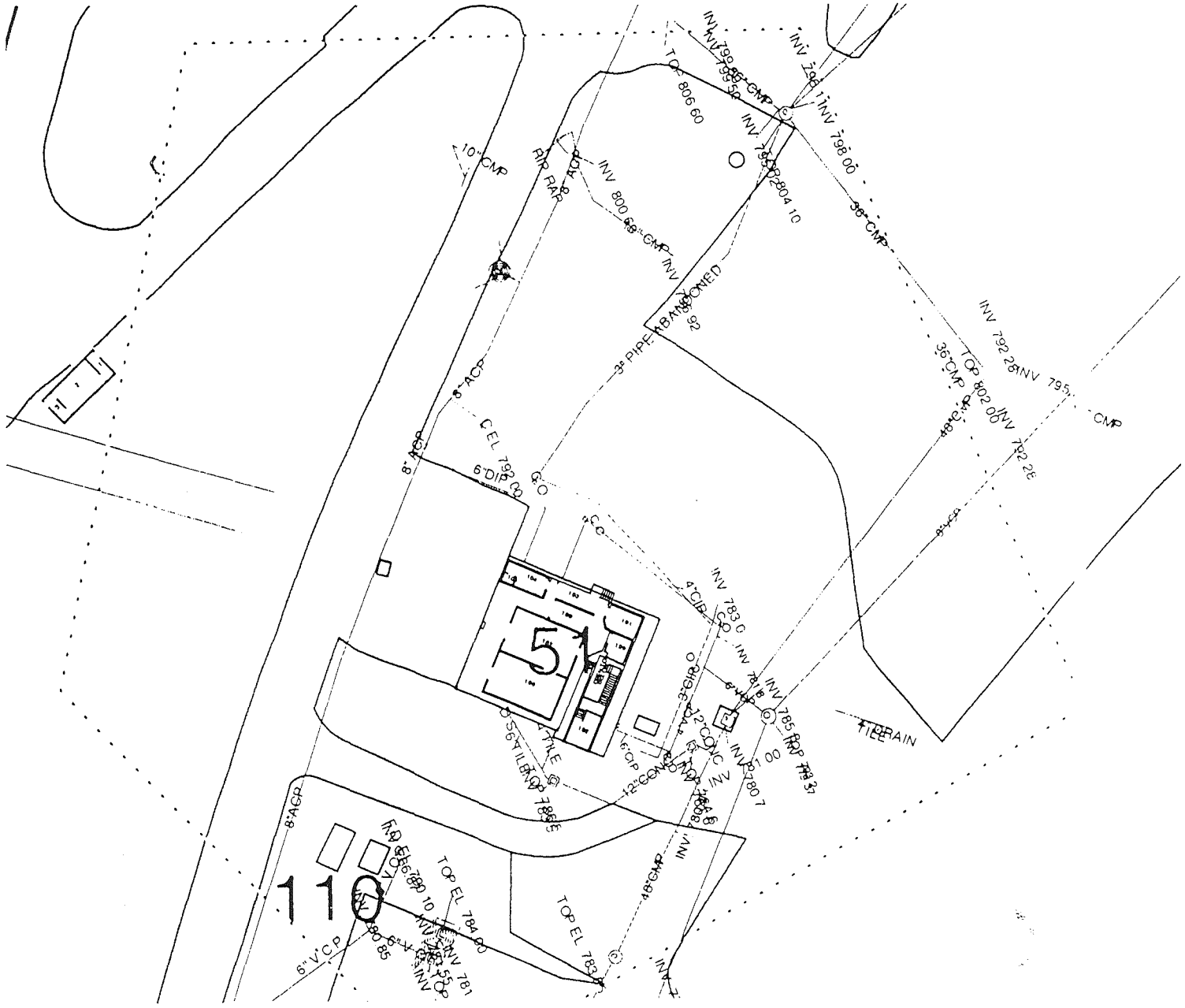


Figure 9.0. Building 51 Utilities

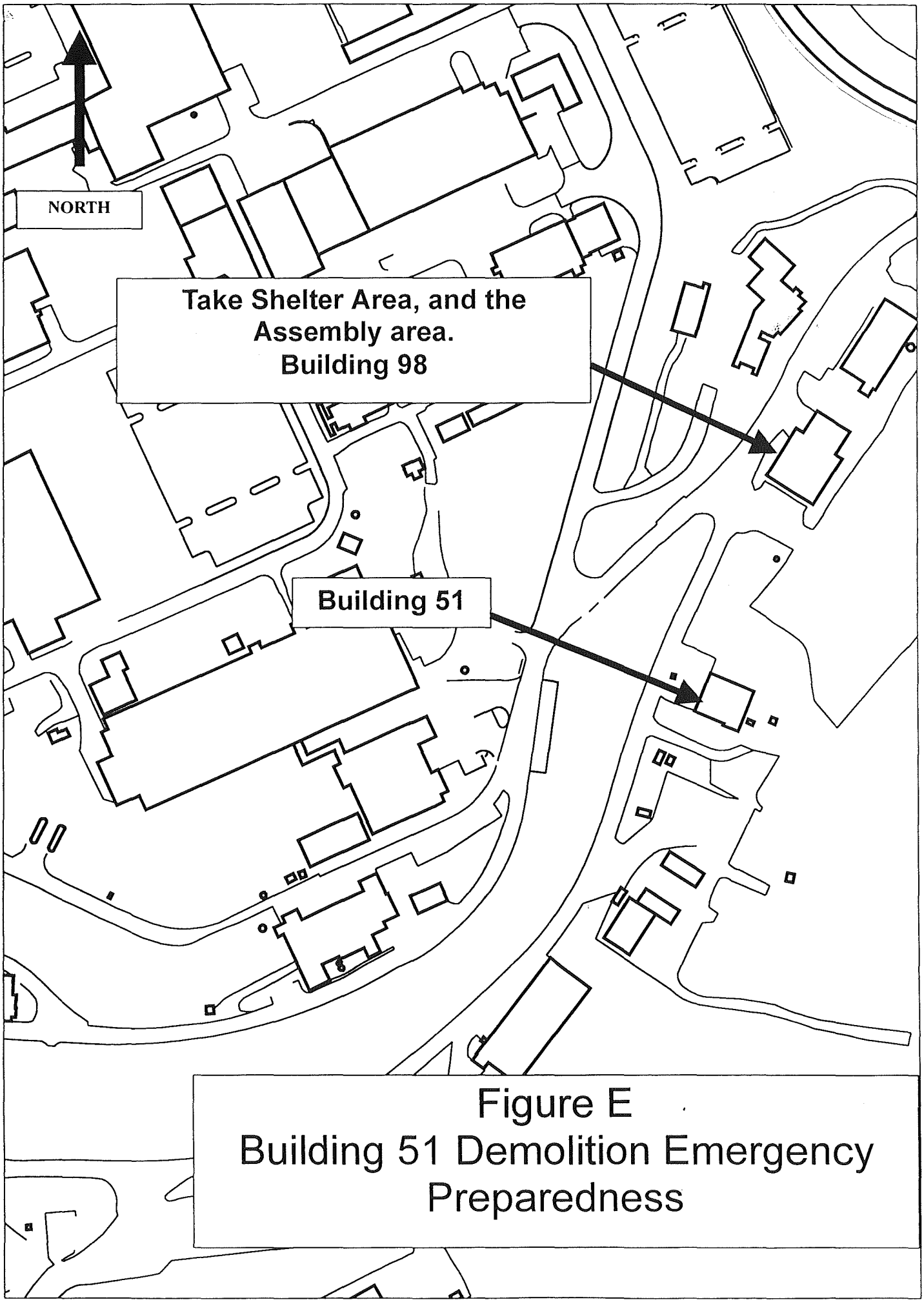


Figure E
Building 51 Demolition Emergency Preparedness

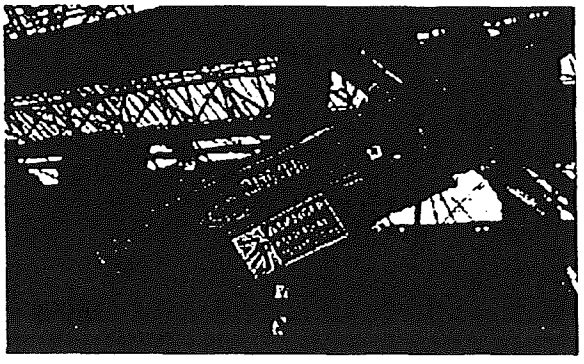
Appendix F
REFERENCES/ LESSONS LEARNED

LESSON DATABASE

Title: **Catastrophic Failure of 15,000 Pound Demolition Shear**
Identifier: **FN-FF-2000-001**
Date: **2000-02-28**

Lesson Learned Statement:

Rotating demolition shears must be used in accordance with the manufacturer's operating manual to prevent damaging the shear head. Unexpected failure of the rotating shear may occur if the operating manual is not followed.



Discussion:

Fernald recently experienced a catastrophic failure of a rotating shear head assembly during demolition of a concrete tank. The 15,000 lb. shear head broke loose from the boom and fell to the ground. No personnel were injured. Rotating shears used for demolition of steel and concrete have a bearing assembly between the shear head and the boom connector to provide rotation of the shear head. In this incident, the shear head assembly broke apart at the junction of the inner and outer bearing race assembly. .

Analysis:

Investigation revealed that the outer race of the bearing assembly had been cracked prior to this use, as shown by rust on part of the crack surface with clean crack and torn metal over the rest of the failed area. The original (rusty) portion of the crack ran across the outer race aligned with the shear head's "straight ahead" position, not rotated.

The cause of this failure is unknown, but a crack like this one could be caused by a sharp blow to the side of the shear head assembly from using it to "hammer" something. All shear head manufacturers warn against such use of shears with rotating heads. The size of the bearing assembly is small in relation to the mass of the shear head. Operators used to operating non-rotating shear heads can be deceived into thinking the rotating device has the same bending strength as a non-rotating head. If the bearing assembly and its limitations are not understood, and the operator's manual is not followed, failure may occur without warning.

Recommended Actions:

A rotating shear head should be considered limited in its capability to withstand external forces when compared with a shear head without a rotating bearing. Following is a quote from the operator's manual: "On rotating shears, the operator must avoid slamming, hitting, or striking inanimate objects with the rotating end of the shear to avoid damaging the slew ring bearing on which

the shear rotates."

During evaluation of the event, it was concluded that all rotating bearing assemblies are very similar in design regardless of manufacturer. Organizations should consider inspecting rotating shear heads that may have been used in a manner that inconsistent with the operator's manual warnings to find any defects before a catastrophic failure.

It is important to enforce strict observance of a safety zone of at least 75 feet during all shearing operations.

Originator:

Fluor Fernald

Validator:

N/A

Contact:

Craig Daniels (513) 648-6422

Name Of Authorized Derivative Classifier:

Joe Neyer

Name Of Reviewing Official:

Jeff Wagner

Priority Descriptor:

Yellow / Caution

Keywords:

demolition; shears

References:

occurrence report OH-FN-FDF-FEMP-2000-0003

Information in this report is accurate to the best of our knowledge. As means of measuring the effectiveness of this report please use the "Comment" link at the bottom of this page notify the Lessons Learned Web Site Administrator of any action taken as a result of this report or of any technical inaccuracies you find. Your feedback is important and appreciated.

DOE Function / Work Categories:

Conduct of Operations - Procedure Adherance
Construction
Decontamination & Decommissioning
Demolition
Maintenance - Heavy Equipment
Operations - Heavy Equipment

ISM Category:

Analyze Hazards

Hazard:

Personal Injury / Exposure - Mechanical Injury (Striking / Crushing)

End of Lesson!

|| Home | Lessons Learned | SELLS | Listserv | Submit Lesson ||
|| Documents and Information | Links | Contacts | Security Notice | Comments ||

Appendix G
MISCELLANDOUS
(USQ, RWP, Permits, etc.)

INTER OFFICE MEMO B W XT.

Date: April 9, 2002 cc. L. Koehmstedt

From: W. L. Johanan – OSW-430

Subject: Structural Survey of Building 51, RE: 29 CFR 1926.850 (a)

To: Bud Thompson – Project Manager

Please be advised that we have performed a structural review and walk down and found them to be satisfactory based on the demolition process and the work plan.

Please call me if you have any further questions.

W. L. Johanan P.E.
Site Structural Engineer

STATE OF OHIO
WILLIAM
L.
JOHANAN
E-44883
REGISTERED
PROFESSIONAL ENGINEER

Pending RWP for Lower Back Section Superstructure Demolition.

No USQs are required at this time. An excavation permit will be required for the slab removal and a burn permit will be required for torch cutting rebar.

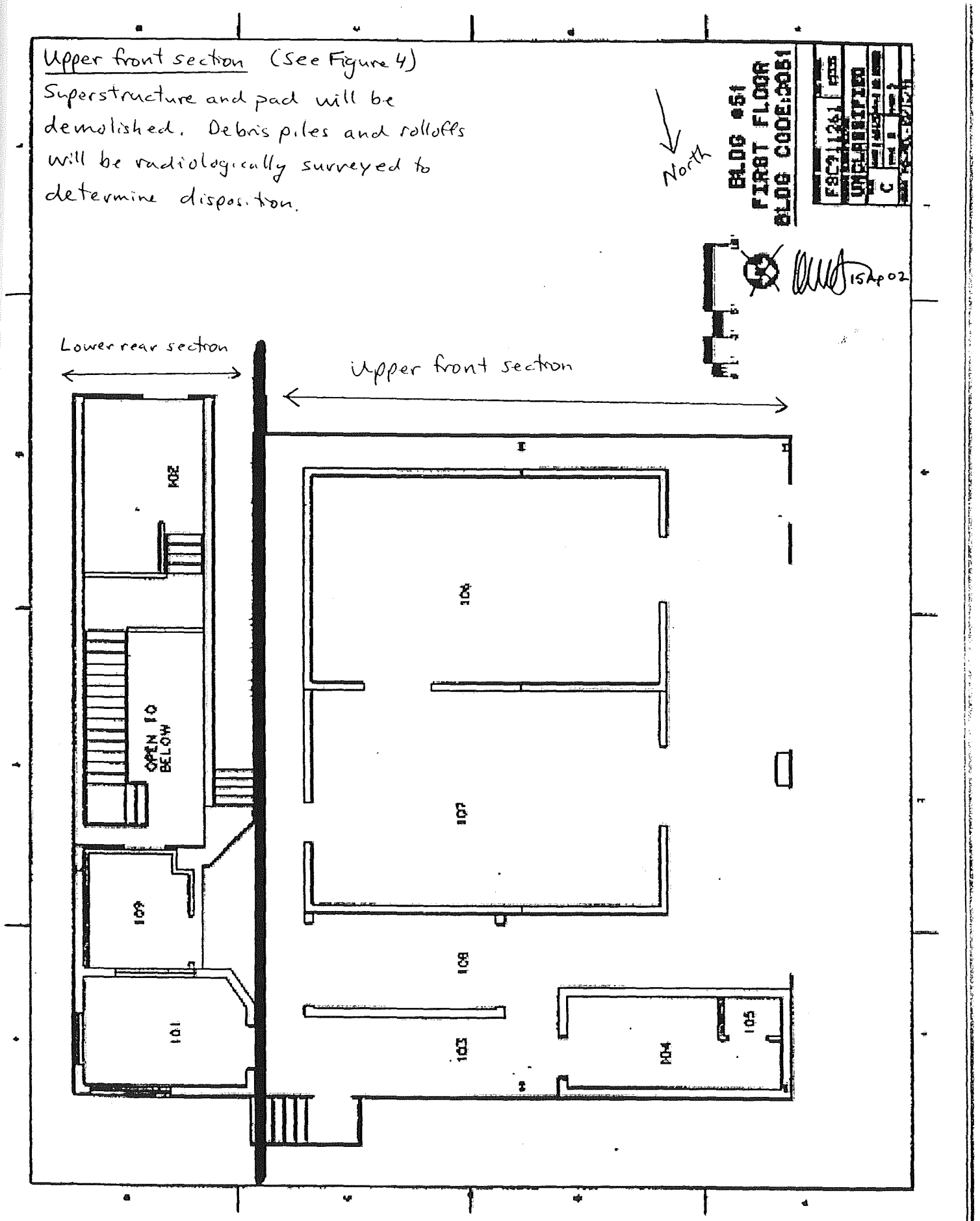
Appendix C

Radiological Summary

RSDSs Prior to Demolition

Upper front section (See Figure 4)

Superstructure and pad will be demolished. Debris piles and rolloffs will be radiologically surveyed to determine disposition.

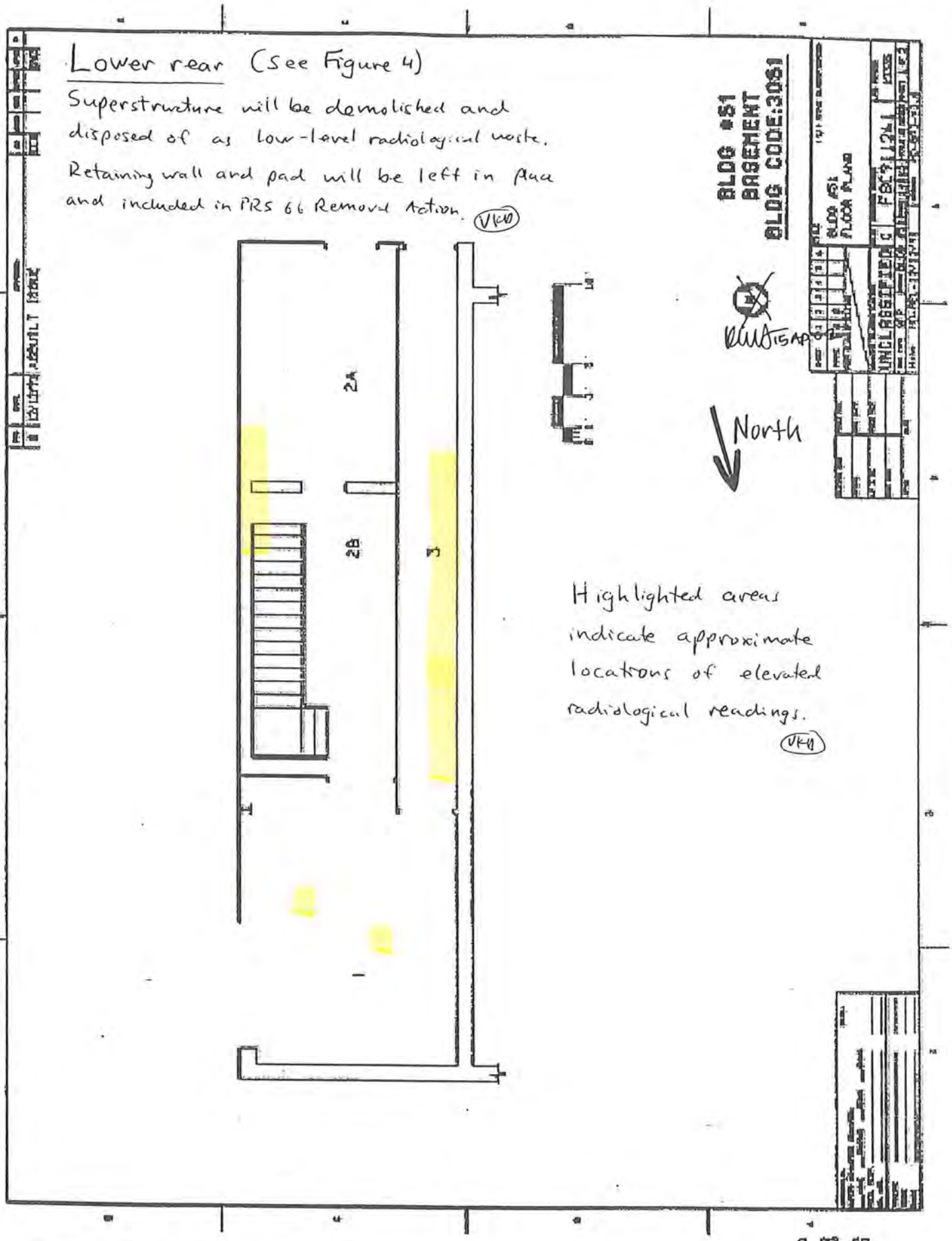


All radiological drawings based on incorrect north arrow.

9.73-59

Lower rear (See Figure 4)

Superstructure will be demolished and disposed of as low-level radiological waste. Retaining wall and pad will be left in place and included in PRS 66 Removal Action. (VKH)



9.73-57

All radiological drawings based on incorrect north arrow. (VKH)

Building 51 – RSDS Results and Debris Disposition*

Note 1 - The upper front section (superstructure and pad) will be demolished and all rolloffs and debris piles will be radiologically surveyed to determine debris disposition.

Note 2 - The superstructure of the lower rear section will be demolished and disposed of as low-level radiological waste.

Note 3 - The pad, foundation, and basement retaining (west) wall of the lower rear section will be left in place and included as part of the PRS 66 Removal Action.

**All material not meeting applicable surface release criteria will be disposed of as radiologically-contaminated waste.*

RSDS #	Building Section	Sample Location	All Samples Meet Surface Release Criteria	Disposition
01-OSA-081	Lower rear	Top of incinerator housing	Yes	Note 2
01-OSA-080	Lower rear and Upper front	Upper front section floor; top surface of grating above lower rear section	Yes	Notes 1 and 2
02-TF-0073	Lower rear	Basement retaining wall (west)	No	Note 3
02-TF-0092	Upper front	Room 104	Yes	Note 1
02-TF-0150	Lower rear	Floor of lower rear section	No	Note 3
02-TF-0153	Lower rear	Floor of lower rear section	Yes	Note 3
02-TF-0157	Lower rear	Basement retaining wall (west)	No	Note 3
02-TF-0159	Lower rear	Basement retaining wall (west)	No	Note 3
02-TF-0183	Lower rear	Floor in Room 1, top of incinerator housing, ducts	Yes	Note 2
02-TF-0211	Lower rear	Basement retaining wall (west)	No	Note 3
02-TF-0301	Lower rear	Isostatic press, Room 2A	Yes	Note 2
02-TF-0411	Lower rear	Room 3, post	No	Note 2
02-TF-0453	Lower rear and Upper front	Various (selected by random number generator)	No	Notes 1, 2, and 3
02-TF-0454	Lower rear and Upper front	Various (selected by field judgment)	Yes	Notes 1, 2, and 3
02-TF-0458	Lower rear and Upper front	Various (selected by field judgment)	Yes	Notes 1, 2, and 3
02-TF-0524	Lower rear	Isostatic press, Room 2A	Yes	Note 2
02-TF-0534	Lower rear	Crawlspace east wall	No	Notes 2 and 3
02-TF-0526	Lower rear	Crawlspace east wall	No	Notes 2 and 3

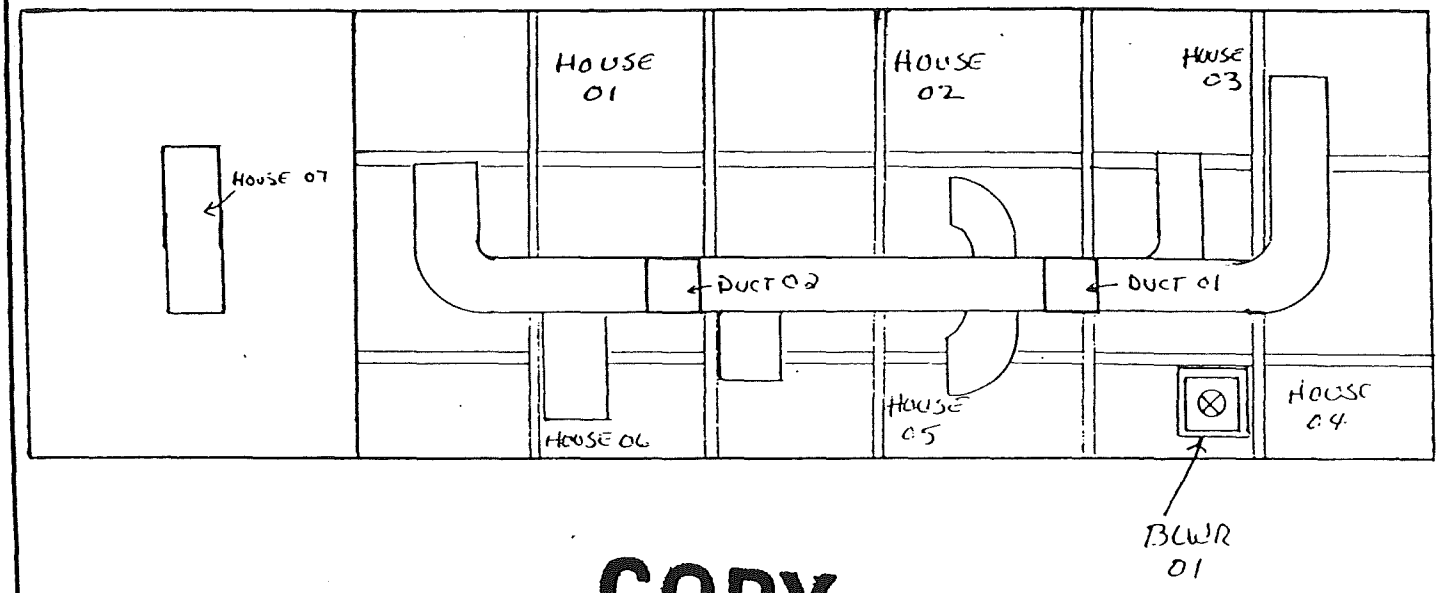
RADIOLOGICAL SURVEY DATA SHEET

1000

LOCATION: (BLDG./AREA/ROOM) 51 MEZZANINE	SURVEY NO. 01-OSA-081
PURPOSE: SCOPING SURVEY	RWP NO. N/A
	DATE: 12-5-01
	TIME: 1630

MAP/DRAWING

TOP OF INCINERATOR HOUSING



COPY

* LARGE AREA WIPES TAKEN ON HORIZONAL SURFACES
RESULTS:
<100 dpm/100cm² α
<5K dpm/100cm² β-

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
LUDLOM 2350	5673/5143	8-21-02
ELECTRA	5603/5604	1-31-02
	N/A	

Completed by: (Signature) [signature]	[redacted]	Date: 12-18-01
Completed by: (Print Name) DANIEL J. HARVEY		
Counted by: (Signature) SEE ATTACHED	HP #	Date:
Counted by: (Print Name) ↓		
Reviewed/Approved by: (Signature) RMCohlentz	[redacted]	Date: 01/09/02
Reviewed/Approved by: (Print Name) RMCohlentz		

ML-9620 (2-98)

Log 0

Survey No. 01-OSA-081

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-5	SEE ATTACHED			LANDING PAGE 3
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COPY

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

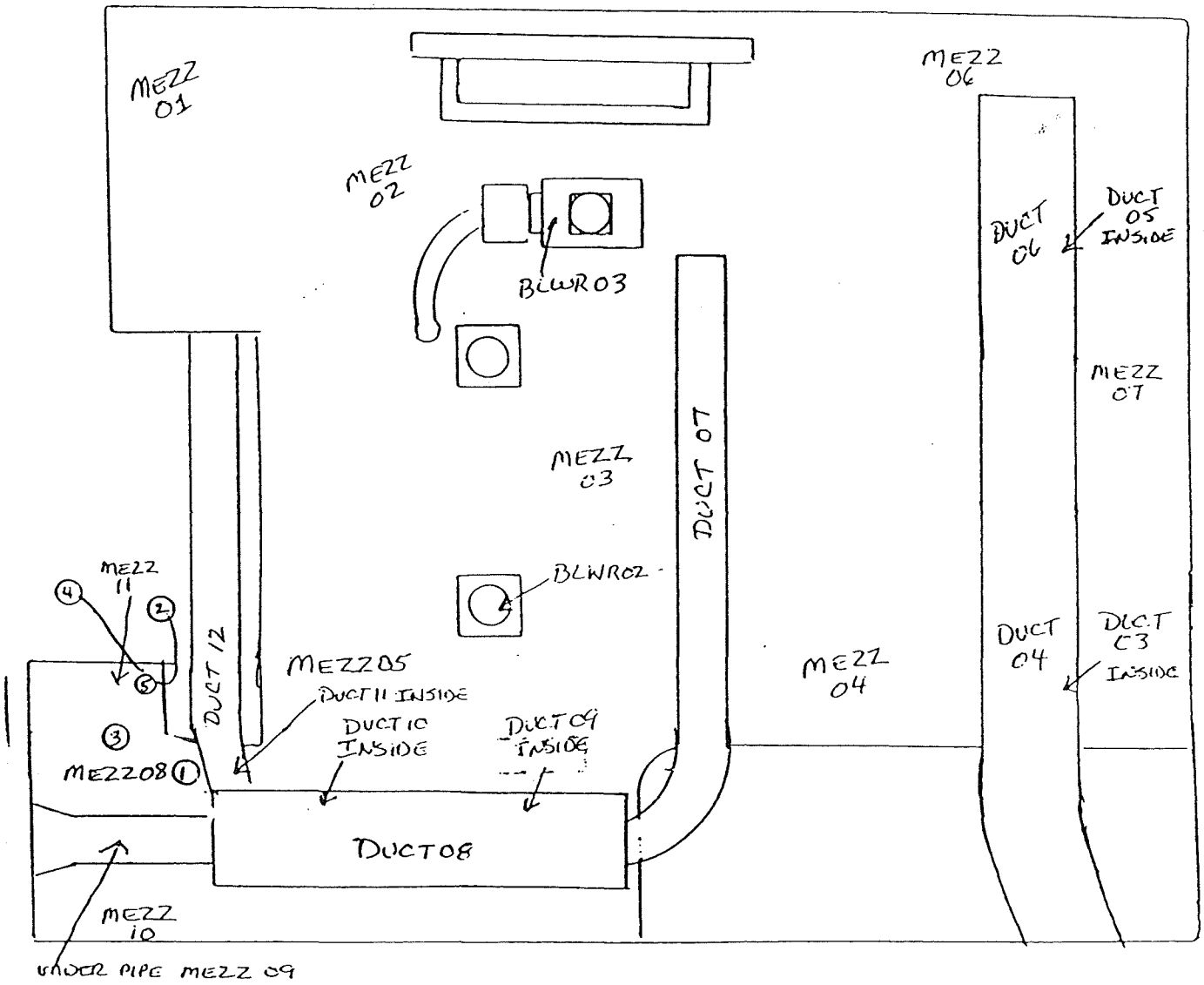
ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

3 of 8

LOCATION: (BLDG./AREA/ROOM) 51 MEZZANINE	SURVEY NO. 01-OSA-081
PURPOSE: SCOPING SURVEY	RWP NO. N/A
	DATE: 12-5-01
	TIME: 1630

MAP/DRAWING



LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

△# = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

N A

ML-9620 (2-98)

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Survey No. 01-OSA-081

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

NA

COMMENTS:

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

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BLDG 51 M-2350 SURVEY

5 of 8

RSDS# 01-05A-081 RCT: D9A RCT: _____

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:	0.5	
43-37 BKG:		EFF:		PROBE AREA:		cm	Surface Eff:		

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5673	[redacted]	5143	2	0	12/5/01	8:19	27	300	31
SRCCHECK	5673	[redacted]	5143	2	1	12/5/01	8:23	2207	60	12636
SRCCHECK	5673	[redacted]	5143	2	2	12/5/01	8:25	2312	60	13237
SRCCHECK	5673	[redacted]	5143	2	3	12/5/01	8:26	2239	60	12819
SRCCHECK	5673	[redacted]	5143	2	4	12/5/01	8:28	2234	60	12790
HOUSE01	5673	[redacted]	5143	2	5	12/5/01	10:40	6	90	23
HOUSE02	5673	[redacted]	5143	2	6	12/5/01	10:42	15	90	57
HOUSE03	5673	[redacted]	5143	2	7	12/5/01	10:44	8	90	31
HOUSE04	5673	[redacted]	5143	2	8	12/5/01	10:46	9	90	34
BLWR01	5673	[redacted]	5143	2	9	12/5/01	10:48	9	90	34
DUCT01	5673	[redacted]	5143	2	10	12/5/01	10:50	8	90	31
HOUSE05	5673	[redacted]	5143	2	11	12/5/01	10:53	12	90	46
DUCT02	5673	[redacted]	5143	2	12	12/5/01	10:55	6	90	23
HOUSE06	5673	[redacted]	5143	2	13	12/5/01	10:57	8	90	31
HOUSE07	5673	[redacted]	5143	2	14	12/5/01	11:02	11	90	42
MEZZ01	5673	[redacted]	5143	2	15	12/5/01	15:03	15	90	57
MEZZ02	5673	[redacted]	5143	2	16	12/5/01	15:06	13	90	50
MEZZ03	5673	[redacted]	5143	2	17	12/5/01	15:09	13	90	50
MEZZ04	5673	[redacted]	5143	2	18	12/5/01	15:12	10	90	38
MEZZ05	5673	[redacted]	5143	2	19	12/5/01	15:14	10	90	38
MEZZ06	5673	[redacted]	5143	2	20	12/5/01	15:18	10	90	38
MEZZ07	5673	[redacted]	5143	2	21	12/5/01	15:21	11	90	42
DUCT03	5673	[redacted]	5143	2	22	12/5/01	15:23	6	90	23
DUCT04	5673	[redacted]	5143	2	23	12/5/01	15:25	9	90	34
DUCT05	5673	[redacted]	5143	2	24	12/5/01	15:28	9	90	34
DUCT06	5673	[redacted]	5143	2	25	12/5/01	15:30	8	90	31
DUCT07	5673	[redacted]	5143	2	26	12/5/01	15:36	9	90	34
DUCT08	5673	[redacted]	5143	2	27	12/5/01	15:39	4	90	15
DUCT09	5673	[redacted]	5143	2	28	12/5/01	15:42	12	90	46
DUCT10	5673	[redacted]	5143	2	29	12/5/01	15:45	8	90	31
DUCT11	5673	[redacted]	5143	2	30	12/5/01	15:51	6	90	23
DUCT12	5673	[redacted]	5143	2	31	12/5/01	15:53	9	90	34
MEZZ08	5673	[redacted]	5143	2	32	12/5/01	15:55	22	90	84
MEZZ09	5673	[redacted]	5143	2	33	12/5/01	16:03	17	90	65

BLDG 51 M-2350 SURVEY

RSDS# 01-05A-081 RCT: [illegible] RCT: _____

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
MEZZ10	5673	[redacted]	5143	2	34	12/5/01	16:06	18	90	69
MEZZ11	5673	[redacted]	5143	2	35	12/5/01	16:09	45	90	172
BLWR02	5673	[redacted]	5143	2	36	12/5/01	16:13	9	90	34
BLWR03	5673	[redacted]	5143	2	37	12/5/01	16:16	8	90	31
106D01	5673	[redacted]	5143	2	38	12/5/01	16:24	17	90	65
106D02	5673	[redacted]	5143	2	39	12/5/01	16:26	14	90	53
BLD51BKG	5673	[redacted]	5143	2	40	12/5/01	16:32	31	300	35

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR023
Batch Ended: 12/17/01 15:14

Crosstalk correction performed.

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: 01-OSA-081 HARVEY (5) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	3.75	3.06		0.00	2.09	
A2	2	1.69	2.27		3.64	2.74	
A3	3	0.00	2.06		0.95	2.25	
A4	4	3.44	2.84		5.68	3.67	
B1	5	0.00	2.04		0.35	1.68	

DJH DJH Albert Rebson

Time: 2.00
Data Mode: DPM Nuclide: SMGL2 Quench Set: SM_GLASS
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5 -	18.6	0	0.0	7.60
Region B:	2.0 -	18.6	0	0.0	7.23
Region C:	40.0 -	2000	0	0.0	5.60

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
HARVEY 01-OSA-081 (J1-J5) CYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA7.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.60	3	B	652.48		0.00	5.60
0	2.00	656.50	0		491.22	1456.53	119.12	0.90
1	2.00	0.00	0		398.82	0.00	0.00	1.90
2	2.00	0.00	0		363.14	0.00	0.00	1.40
3	2.00	0.00	0		388.13	0.00	0.00	0.00
4	2.00	0.00	0		380.92	0.00	0.00	2.40
5	2.00	0.00	50		333.64	0.00	0.00	0.90

DJA Albert Nilson

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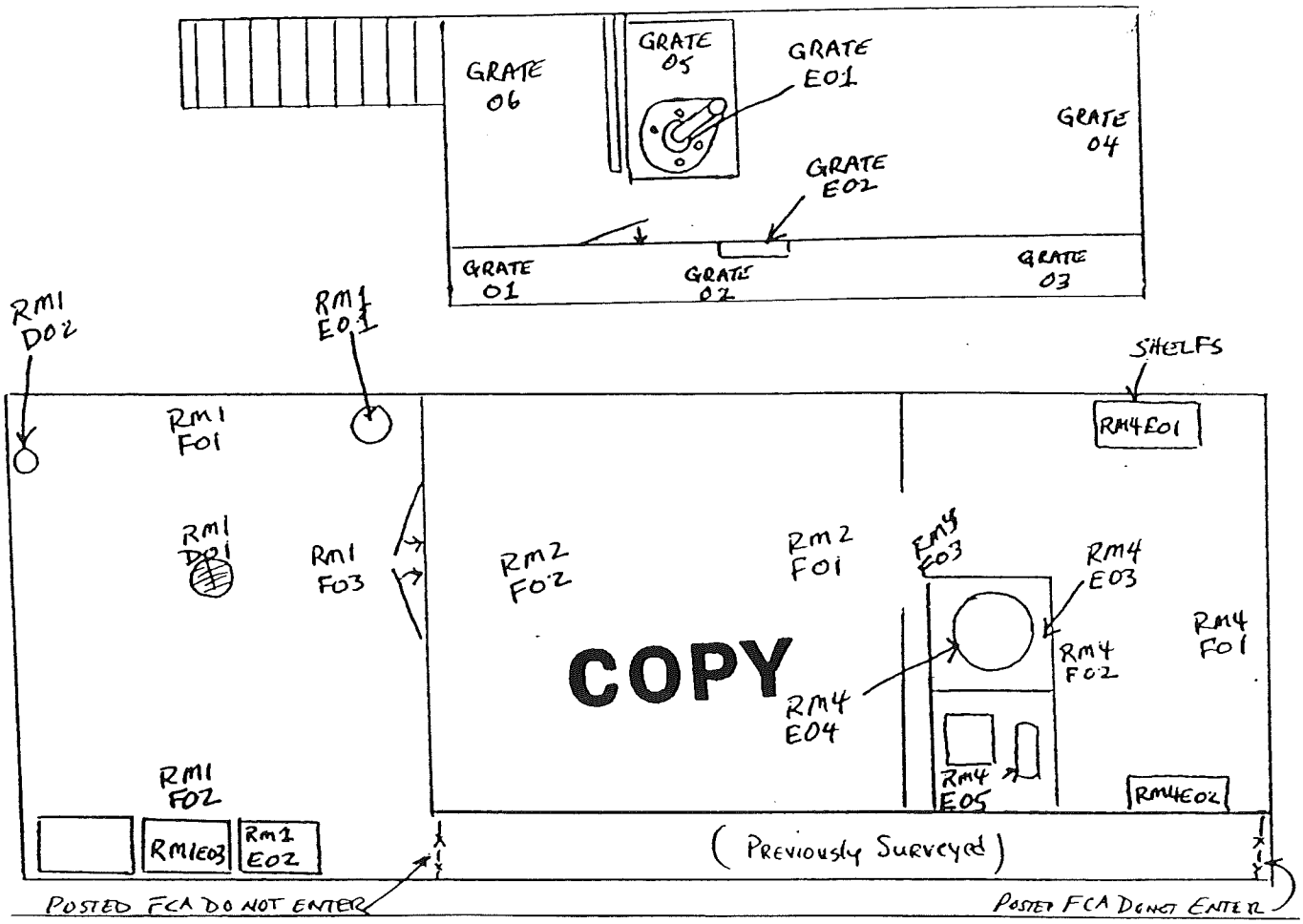
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BUILDING 51 MAIN FLOOR	SURVEY NO. 01-OSA-080
PURPOSE: SCOPING SURVEY	RWP NO. N/A
	DATE: 12-3-01
	TIME: 1530

MAP/DRAWING



*NOTE: LARGE AREA WIPES TAKEN THROUGHOUT BUILDING RESULTS. <100dpm/100cm² α & <5Kdpm/100cm² β⁻

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
LUDLUM 2350	5671/5675/5148	9-21-02
ELECTRA	5603/5604	1-31-02
	N/A	

Completed by: (Signature) [signature]	[redacted]	Date: 12-17-01
Completed by: (Print Name) DANIEL J. HARVEY		
Counted by: (Signature) N/A	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature) [signature]	[redacted]	Date: 12-17-01
Reviewed/Approved by: (Print Name) RM Coblentz		

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Survey No. 01-OSA-080

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N A

Y90

COMMENTS:

NOTES:

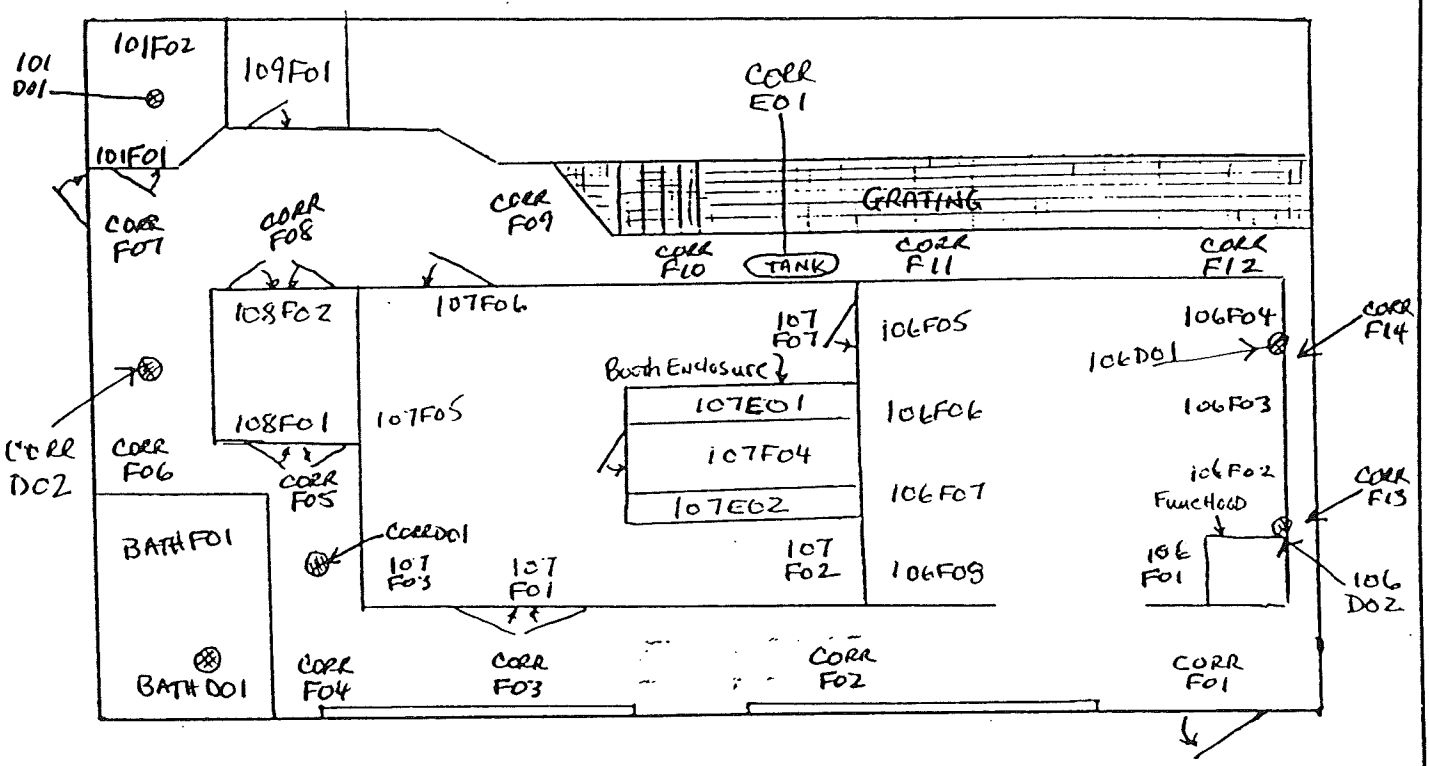
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) GRATING LEVEL & LOWER LEVEL	SURVEY NO. 01-OSA-080
PURPOSE: SCOPING SURVEY	RWP NO. N/A
	DATE: 12-3-01
	TIME: 1530

MAP/DRAWING



LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SEE PAGE 1		
	N/A	

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

N/A

ML-9620 (2-98)

4 of 9

Survey No. 01-OSA-080

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N A

COMMENTS:

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

BLDG 51 M-2350 SURVEY

RSDS# 01-05A-080 RCT: DJH RCT: _____

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:	0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:	0.6	

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5671	[redacted]	5675	4	0	12/3/01	8:37	40	300	15
SRCCHECK	5671	[redacted]	5675	4	1	12/3/01	8:39	2246	60	4203
SRCCHECK	5671	[redacted]	5675	4	2	12/3/01	8:42	2309	60	4321
SRCCHECK	5671	[redacted]	5675	4	3	12/3/01	8:44	2198	60	4113
SRCCHECK	5671	[redacted]	5675	4	4	12/3/01	8:46	2150	60	4024
SRCCHECK	5671	[redacted]	5675	4	5	12/3/01	8:47	2030	60	3799
SRCCHECK	5671	[redacted]	5675	4	6	12/3/01	8:49	2113	60	3954
SRCBKG	5671	[redacted]	5148	3	7	12/3/01	8:55	14	300	16
SRCCHECK	5671	[redacted]	5148	3	8	12/3/01	8:58	2120	60	12138
SRCCHECK	5671	[redacted]	5148	3	9	12/3/01	8:59	2106	60	12057
SRCCHECK	5671	[redacted]	5148	3	10	12/3/01	9:01	1969	60	11273
SRCCHECK	5671	[redacted]	5148	3	11	12/3/01	9:02	2072	60	11863
101-D01	5671	[redacted]	5675	4	46	12/3/01	14:07	1	19	6
101-F01	5671	[redacted]	5675	4	45	12/3/01	14:02	3	19	18
106-E01	5671	[redacted]	5148	3	50	12/3/01	14:21	0	64	0
106-F01	5671	[redacted]	5675	4	12	12/3/01	11:18	3	19	18
106-F02	5671	[redacted]	5675	4	13	12/3/01	11:19	5	19	30
106-F03	5671	[redacted]	5675	4	14	12/3/01	11:20	1	19	6
106-F04	5671	[redacted]	5675	4	15	12/3/01	11:21	4	19	24
106-F05	5671	[redacted]	5675	4	16	12/3/01	11:22	4	19	24
106-F06	5671	[redacted]	5675	4	17	12/3/01	11:22	3	19	18
106-F07	5671	[redacted]	5675	4	18	12/3/01	11:23	3	19	18
106-F08	5671	[redacted]	5675	4	19	12/3/01	11:24	0	19	0
107-E01	5671	[redacted]	5148	3	54	12/3/01	14:35	5	64	27
107-E02	5671	[redacted]	5148	3	55	12/3/01	14:37	1	64	5
107-F01	5671	[redacted]	5675	4	36	12/3/01	13:52	2	19	12
107-F02	5671	[redacted]	5675	4	37	12/3/01	13:53	1	19	6
107-F03	5671	[redacted]	5675	4	38	12/3/01	13:54	1	19	6
107-F04	5671	[redacted]	5675	4	39	12/3/01	13:55	5	19	30
107-F05	5671	[redacted]	5675	4	40	12/3/01	13:56	3	19	18
107-F06	5671	[redacted]	5675	4	41	12/3/01	13:57	0	19	0
107-F07	5671	[redacted]	5675	4	42	12/3/01	13:58	2	19	12
108-F01	5671	[redacted]	5675	4	43	12/3/01	13:59	2	19	12
108-F02	5671	[redacted]	5675	4	44	12/3/01	14:01	0	19	0

BLDG 01 M-2000 SURVEY

RSDS# 01-OSA-080 RCT: 2974 RCT: _____

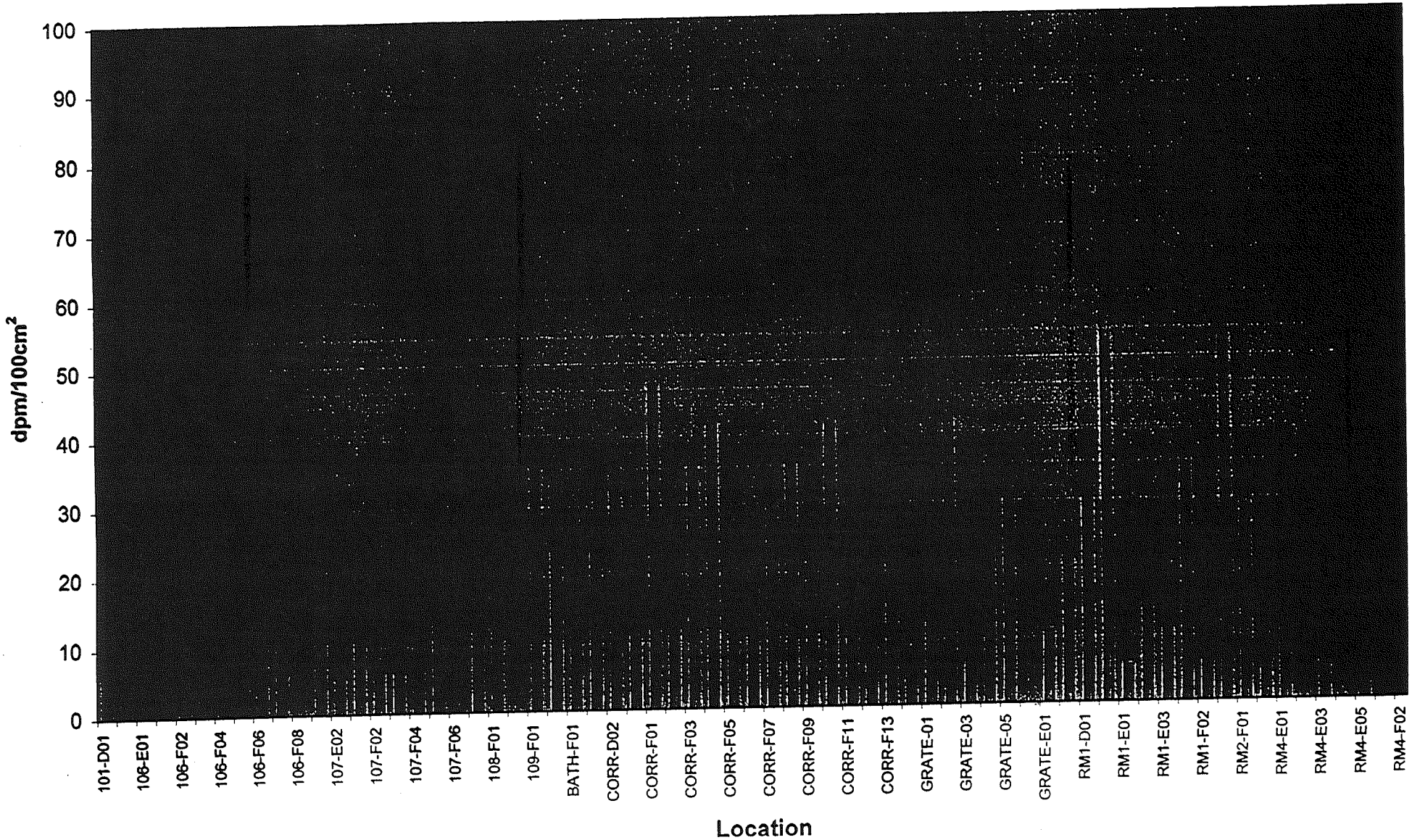
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
109-F01	5671	[redacted]	5675	4	47	12/3/01	14:08	6	19	35
BATH-D01	5671	[redacted]	5675	4	49	12/3/01	14:17	4	19	24
BATH-F01	5671	[redacted]	5675	4	48	12/3/01	14:14	3	19	18
CORR-D01	5671	[redacted]	5675	4	24	12/3/01	11:31	4	19	24
CORR-D02	5671	[redacted]	5675	4	27	12/3/01	11:34	6	19	35
CORR-E01	5671	[redacted]	5148	3	56	12/3/01	14:40	2	64	11
CORR-F01	5671	[redacted]	5675	4	20	12/3/01	11:27	8	19	47
CORR-F02	5671	[redacted]	5675	4	21	12/3/01	11:28	2	19	12
CORR-F03	5671	[redacted]	5675	4	22	12/3/01	11:30	6	19	35
CORR-F04	5671	[redacted]	5675	4	23	12/3/01	11:30	7	19	41
CORR-F05	5671	[redacted]	5675	4	25	12/3/01	11:32	2	19	12
CORR-F06	5671	[redacted]	5675	4	26	12/3/01	11:33	3	19	18
CORR-F07	5671	[redacted]	5675	4	28	12/3/01	11:35	5	19	30
CORR-F08	5671	[redacted]	5675	4	29	12/3/01	11:36	6	19	35
CORR-F09	5671	[redacted]	5675	4	30	12/3/01	11:37	4	19	24
CORR-F10	5671	[redacted]	5675	4	31	12/3/01	11:38	7	19	41
CORR-F11	5671	[redacted]	5148	3	32	12/3/01	11:44	3	64	16
CORR-F12	5671	[redacted]	5148	3	33	12/3/01	11:46	2	64	11
CORR-F13	5671	[redacted]	5148	3	34	12/3/01	11:49	4	64	21
CORR-F14	5671	[redacted]	5148	3	35	12/3/01	11:51	1	64	5
GRATE-01	5671	[redacted]	5675	4	57	12/3/01	14:44	2	19	12
GRATE-02	5671	[redacted]	5675	4	58	12/3/01	14:45	7	19	41
GRATE-03	5671	[redacted]	5675	4	59	12/3/01	14:46	1	19	6
GRATE-04	5671	[redacted]	5675	4	60	12/3/01	14:51	4	19	24
GRATE-05	5671	[redacted]	5675	4	61	12/3/01	14:52	5	19	30
GRATE-06	5671	[redacted]	5675	4	62	12/3/01	14:59	0	19	0
GRATE-E01	5671	[redacted]	5148	3	63	12/3/01	15:02	2	64	11
GRATE-E02	5671	[redacted]	5148	3	64	12/3/01	15:06	4	64	21
RM1-D01	5671	[redacted]	5675	4	77	12/3/01	15:29	5	19	30
RM1-D02	5671	[redacted]	5148	3	82	12/3/01	15:37	10	64	54
RM1-E01	5671	[redacted]	5148	3	79	12/3/01	15:33	1	64	5
RM1-E02	5671	[redacted]	5148	3	80	12/3/01	15:35	3	64	16
RM1-E03	5671	[redacted]	5148	3	81	12/3/01	15:36	2	64	11
RM1-F01	5671	[redacted]	5675	4	75	12/3/01	15:27	6	19	35
RM1-F02	5671	[redacted]	5675	4	76	12/3/01	15:29	1	19	6
RM1-F03	5671	[redacted]	5675	4	78	12/3/01	15:30	9	19	53
RM2-F01	5671	[redacted]	5675	4	73	12/3/01	15:23	5	19	30
RM2-F02	5671	[redacted]	5675	4	74	12/3/01	15:24	1	19	6
RM4-E01	5671	[redacted]	5148	3	65	12/3/01	15:10	2	64	11

BLDG 51 M-2350 SURVEY

RSDS# 01-0SA-050 RCT: 29H RCT: _____

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
RM4-E02	5671	[redacted]	5148	3	66	12/3/01	15:12	0	64	0
RM4-E03	5671	[redacted]	5148	3	67	12/3/01	15:13	5	64	27
RM4-E04	5671	[redacted]	5148	3	68	12/3/01	15:15	0	64	0
RM4-E05	5671	[redacted]	5148	3	69	12/3/01	15:17	1	64	5
RM4-F01	5671	[redacted]	5675	4	70	12/3/01	15:20	4	19	24
RM4-F02	5671	[redacted]	5675	4	71	12/3/01	15:20	0	19	0
RM4-F03	5671	[redacted]	5675	4	72	12/3/01	15:22	6	19	35

Building 51 M2350 Survey



RSDS#: 01-05A-080

RCT: [illegible]

CONTAMINATION PROBE INTEGRATED COUNT MDA

<SELECT> Probe Type		181	Model 43-20 cm2	Active Probe Area
<ENTER> Isotopic Efficiency Listed on Probe	Ei	0.93	c/d	Instrument Efficiency (c/d-on Probe)
<SELECT> Contamination Type (Alpha Or Beta)	Es		0.5	Surface Efficiency (1 for beta/0.5 for alpha)
	E	0.0965		Total Efficiency (CALCULATED =Ei * Es)
<ENTER> Background Count Rate	Rb	28	CPM	Background Count Rate
<ENTER> Background Count Time (minutes)	Tb	5	min.	

Enter the above information in the 'gray areas'. Then adjust sample intergrated count time to obtain desired MDA.

Sample Integrated Count Time (sec.)		64	sec.
Sample Count Time (minutes) (Tsb)		1.07	min.
*	MDA	50	dpm/100 cm2

Minimum Activity Detected Per Probe Area (dpm/Probe)

90

Performed by: RJ Cobeny HP#: [redacted] Date: 12-3-01

* MDA Equation Source: NUREG 1507, Eq. 3-11 (Strom & Stansbury 1992), where K = E*A/100

01-OSA-080

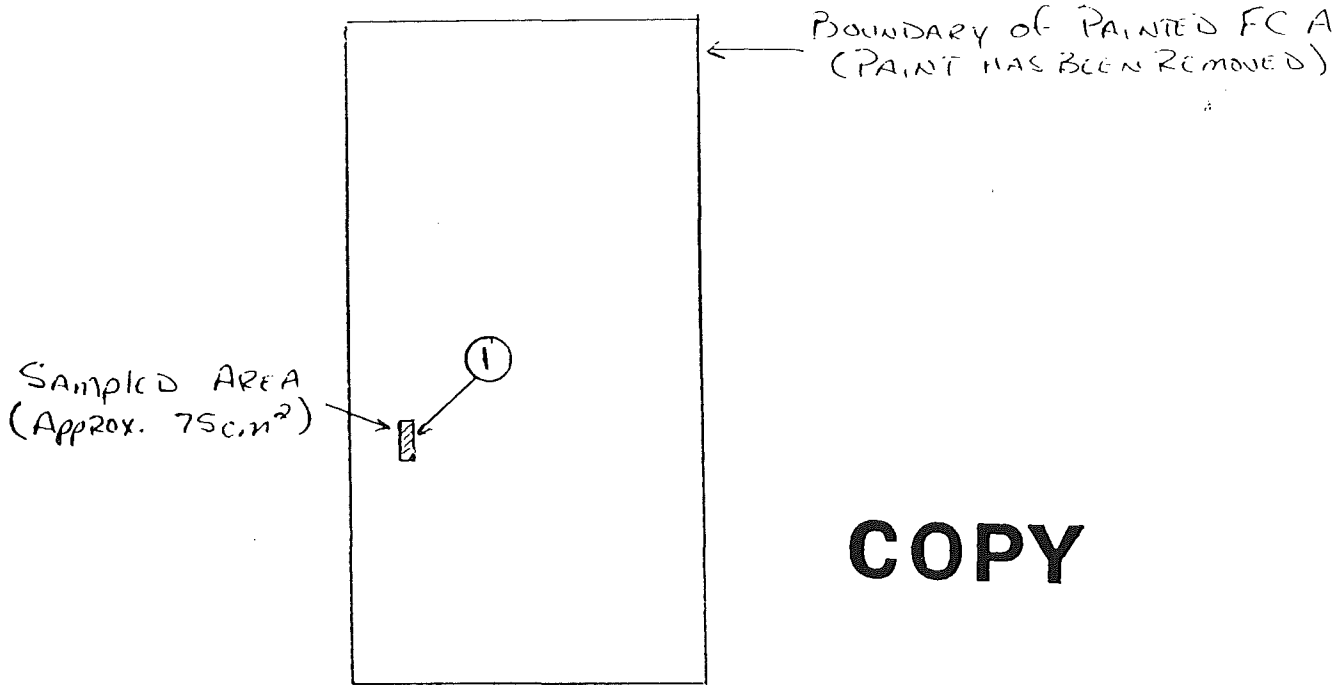
19 gross counts = 100 dpm/100cm2

DgH

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 FCA	SURVEY NO. 02-TF-0073
PURPOSE: ACID ETCH FOR ISOTOPIC IDENTIFICATION	RWP NO. N/A
	DATE: 1-9-02
	TIME: 0900

MAP/DRAWING



COPY

DIRECT MEASUREMENTS AFTER ETCHING INDICATED:

α < 100 dpm/100 cm² β⁻ 25000 dpm/100 cm²

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5003/5004	1-31-02
SAC-4	5247/5114	10-19-02

ML-9620 (2-98)

Completed by: (Signature) MICHAEL J RUIBADE	HP # [redacted]	Date: 1-14-02
Completed by: (Print Name) M J Ruibade		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 01/16/02
Reviewed/Approved by: (Print Name) RMCoblentz		

Survey No.
00-TF-0073

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	<5k	<20	N/A	SAMPLED AREA
	1K MDL 1-14-02			

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: N/A
N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
01-09-02	Leach	Hopkins	1

PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:	MAIL STOP:
	Mike Rubadue 5558	

CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
J01128			

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☒ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U_____ Th____ Am____ Other_____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0200472	Bldg. 51	Basement	

COMMENTS:

ANALYZED BY:	DATE:
Farrell C. Hopkins	01-14-02

MIL-5222 (1-01)

Laboratory ID#: 0200422
Project/function: Bldg 51
Submitted: 1/9/02
Submitted by: L.C. Hopkins
Point of Contact: Mike Rubadue
RSDS#: N/A
Date: 1/14/02

0200422

Isotope	Sample Location	dpm/sample	Uncertainty +/-	LDL (dpm/sample)
Pu-238	Bldg 51 Basement	351.73	74.99	16.70
Pu-239/240	Bldg 51 Basement	<LDL		16.70
Th-232	Bldg 51 Basement	<LDL		16.70
Th-230	Bldg 51 Basement	<LDL		16.70
Th-227	Bldg 51 Basement	<LDL		16.70
U-238	Bldg 51 Basement	<LDL		16.70
U-235	Bldg 51 Basement	<LDL		16.70
U-233/234	Bldg 51 Basement	<LDL		26.60

Analyzed in accordance with Operation 10015.

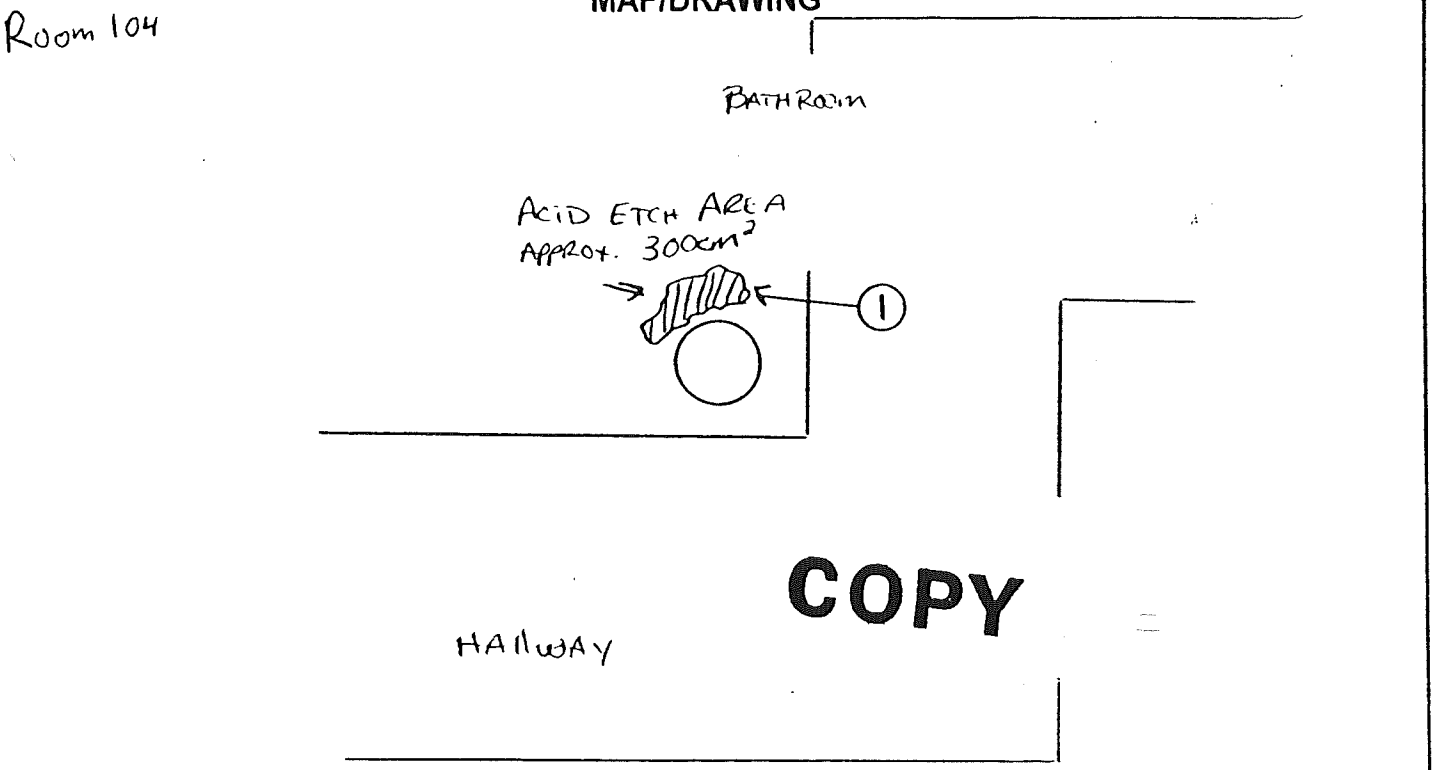
L.C. Hopkins [redacted] 1-14-02
Analyst HP # Date

Bradley P Gates [redacted] 1/14/02
Data Verification HP # Date

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0092
PURPOSE: ACID ETCH AREA NORTHWEST MEZZANINE POST JOB SURVEY	RWP NO. N/A
	DATE: 1-16-02
	TIME: 1500

MAP/DRAWING



COPY

DIRECT MEASUREMENTS TAKE ON ETCHED PORTION AND SURROUNDING AREA: $\alpha < 100 dpm/100cm^2$

$\beta^- < 5000 dpm/100cm^2$

(INITIAL MEASUREMENTS: $\alpha \rightarrow 130 \frac{dpm}{100cm^2}$)

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5603/5604	1-31-02
SAC-4	5247/5114	10-19-02

Completed by: (Signature) [signature]	HP # [redacted]	Date: 1-22-02
Completed by: (Print Name) MICHAEL J RUBADUE		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) [signature]	HP # [redacted]	Date: 01/22/02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

Survey No. 02-TF-0092

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	<1K	<20	N/A	ETCHED AREA

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS:

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
1-15-02	Leach	HOP	1
PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.: Mike Rubadue 5558		MAIL STOP:
CHARGE NUMBER: M00404	DATE(S) COLLECTED: 1-15-02	RSDS# (if applicable):	ATTACHMENTS (list):

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☒ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U_____ Th____ Am____ Other_____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0200542	Bldg. 51	1	

COMMENTS:

L. C. Hopkins 01-17-02

ANALYZED BY: DATE:

ML-5222 (1-01)

Laboratory ID#:	0200542
Project/function:	Bldg 51
Submitted:	1/15/2002
Submitted by:	Mike Rubadue
Point of Contact:	Mike Rubadue
RSDS#:	N/A
Date:	1/17/2002

0200542

Isotope	Sample Location	dpm/sample	Uncertainty +/-	LDL (dpm/sample)
Pu-238	Bldg 51 #1	0.63	0.10	0.08
Pu-239/240	Bldg 51 #1	<LDL		0.08
Po-210	Bldg 51 #1	42.72	4.61	0.95
Th-232	Bldg 51 #1	0.48	0.07	0.08
Th-230	Bldg 51 #1	1.77	0.18	0.09
Th-228	Bldg 51 #1	0.88	0.11	0.08
Th-227	Bldg 51 #1	0.12	0.03	0.02

Analyzed in accordance with Operation 10015.

F.C. Hopkins [redacted] 1-17-02

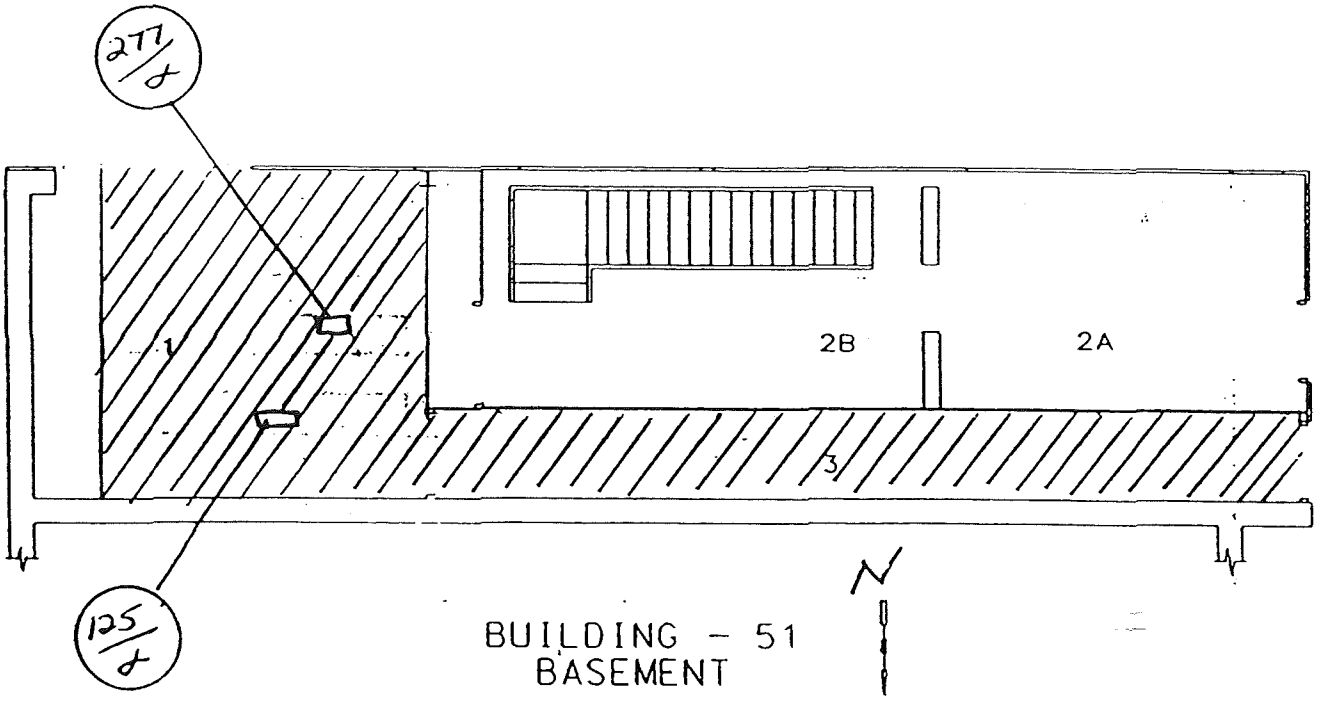
Analyst HP # Date

Bradley O. Yates [redacted] 1/17/02

Data Verification HP # Date

LOCATION: (BLDG./AREA/ROOM) 51-BASEMENT	SURVEY NO. 02-TF-0150
PURPOSE: CHARACTERIZATION	RWP NO. N/A
	DATE: 1-23-02
	TIME: 1715

MAP/DRAWING



ALL SHADED AREAS SURVEYED WITH RESULTS OF <100dpm/100cm² α direct. EXCEPT WHERE NOTED
REFERENCE SURVEY PLAN BLDG 51

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5671/5675	9-21-02
	N/A	

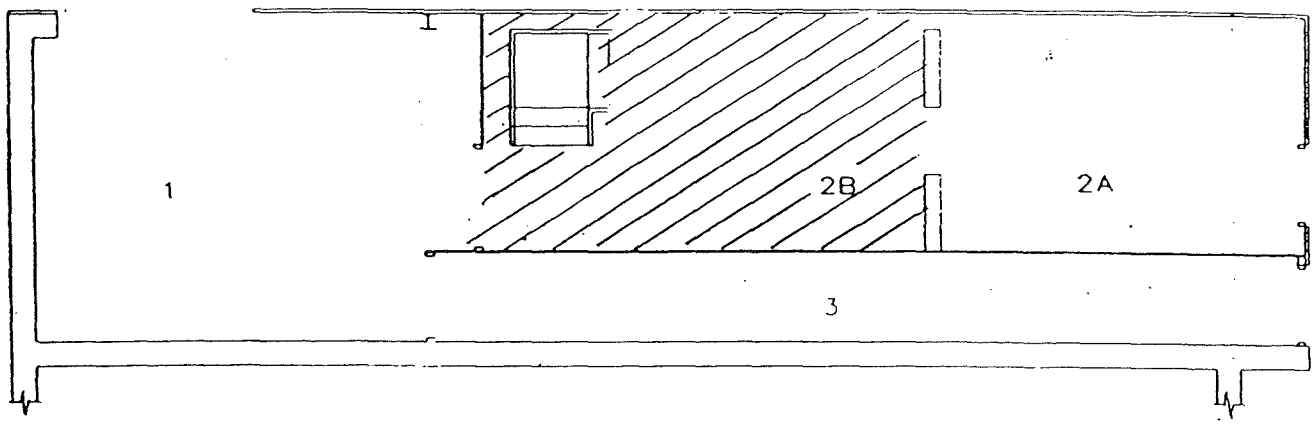
Completed by: (Signature)	HP # [redacted]	Date: 1-31-02
Completed by: (Print Name) DANIEL J. HARVEY MICHAEL J RUBADUE		
Counted by: (Signature) N/A	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51-BASEMENT-RM2	SURVEY NO. 02-TF-0153
PURPOSE: CHARTACTERIZATION	RWP NO. N/A
	DATE: 1-24-02
	TIME: 1620

MAP/DRAWING



BUILDING - 51
BASEMENT

SHADED AREA SURVEYED WITH RESULTS OF < 100dpm/100cm2 α DIRECT.

REFERENCE SURVEY PLAN BLDG 51

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) = or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5671/5675	9-21-02
	N/A	

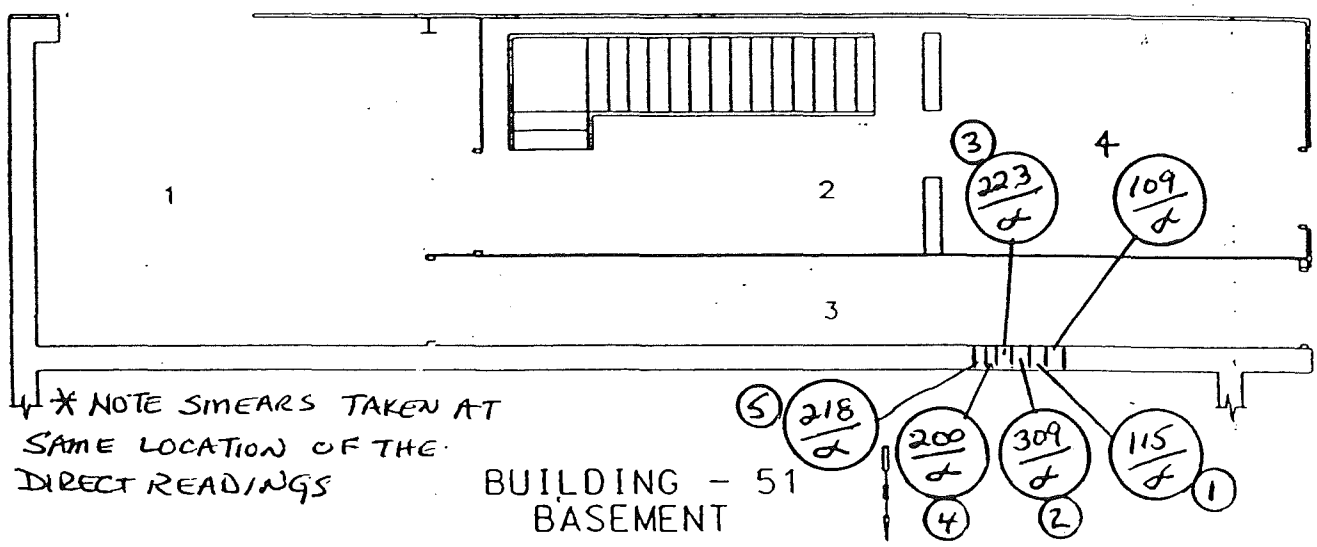
Completed by: (Signature)	HP # [redacted]	Date: 1-31-0
Completed by: (Print Name) DANIEL J. HARVEY MICHAEL J RUBAD		
Counted by: (Signature) N/A	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP # [redacted]	Date: 02/13/02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51-BASEMENT	SURVEY NO. 02-TF-D157
PURPOSE: CHARTACTERIZATION	RWP NO. N/A
	DATE: 1-28-02
	TIME: 1600

MAP/DRAWING



* NOTE SMEARS TAKEN AT SAME LOCATION OF THE DIRECT READINGS

BUILDING - 51
BASEMENT

ALL WALLS IN ROOMS 3 AN 4 WERE SURVEYED FROM FLOOR TO 6 INCHES UP. WITH RESULTS OF <100dpm /100cm² α DIRECT, EXCEPT AS NOTED REFERENCE SURVEY PLAN BLDG 51.

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5671/5675/5148	9-21-02
	N/A	

Completed by: (Signature)	HP [redacted]	Date: 2-14-02
Completed by: (Print Name) MICHAEL J RUBADUE DANIEL J. HARVEY		
Counted by: (Signature) N/A	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP # [redacted]	Date: 02/18/02
Reviewed/Approved by: (Print Name) RMCobkentz		

ML-9620 (2-98)

2 of 6 | 02-TT-0157 | Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments
1-5	SEE	ATTACHED		WALL
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

Y900

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of res are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR010
Batch Ended: 1/30/02 9:06

Crosstalk correction performed.

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: RUBADUE 02-TF-0157 (5) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
C1	1	0.00	2.28		4.44	5.10	
C2	2	1.81	2.12		0.00	2.26	
C3	3	0.00	2.00		1.19	2.72	
C4	4	1.66	1.94		1.25	2.32	
D1	5	0.00	2.20		0.00	1.51	

Rhonda Strunk 1-30-02

3 of 6

1/30/02 1:04:09 PM QuantaSmart (TM) - 1.31 - Serial# 423022 Page # 1

Protocol# 5 - Smears.lsa User: [redacted]

RUBADUE SUR #02-TF-0157 (L1-L5)/BKS

T.413

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES
-1	10.00	6	5	4	0	663.98	0	26.2	B
0	2.00	1111	1006	0	0	587.72	2013	4.3	
1	2.00	0	0	1	0	589.53	0	0.0	
2	2.00	20	18	0	0	544.78	38	36.6	
3	2.00	0	0	0	0	506.30	0	0.0	
4	2.00	0	0	3	0	554.87	0	0.0	
5	2.00	3	3	1	0	574.61	5	169.9	

DPH

4 of 6

Brenda Strong 1-30-02

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
2-11-02	Leach	Hop John	2

PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:	MAIL STOP:
	M. Rubadue 5558	

CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
M00407	2-11-02	02-TF-0157	

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☒ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0201626	Bldg. 51 inside	1	
0201628	" " outside	2	

COMMENTS:

5 of 6
02-TF-0157

ANALYZED BY: L. C. Hopkins

DATE: 2-14-02

ML-5222 (1-01)

Laboratory ID#: 0201626 & 0201628
Project/function: BD 51
Submitted: Feb 11, 2002
Submitted by: M. Rubadue
Point of Contact: M. Rubadue x5558
RSDS#: N/A

Lab ID 0201626
Sample Location BD 51 Inside

Isotope	dpm/smear	Uncertainty +/-	LDL
Pu-238	314.785	37.748	0.288
Pu-239/240	1.065	0.360	0.288
Th-232	0.943	0.333	0.283
Th-230	4.084	0.810	0.283
Th-227	<LDL	<LDL	0.283
Th-228	1.210	0.391	0.540
U-238	1.527	0.229	0.069
U-235	0.127	0.058	0.069
U-233/234	2.801	0.344	0.182

Lab ID 0201628
Sample Location BD 51 Outside

Isotope	dpm/smear	Uncertainty +/-	LDL
Pu-238	372.295	62.926	1.415
Pu-239/240	0.740	0.445	0.668
Th-232	0.772	0.317	0.509
Th-230	1.369	0.428	0.309
Th-227	<LDL	<LDL	0.591
Th-228	0.798	0.317	0.310
U-238	0.647	0.150	0.083
U-235	0.401	0.116	0.083
U-233/234	4.164	0.491	0.277

L. C. Hopkins [redacted] 2-14-02
Analyst HP # Date

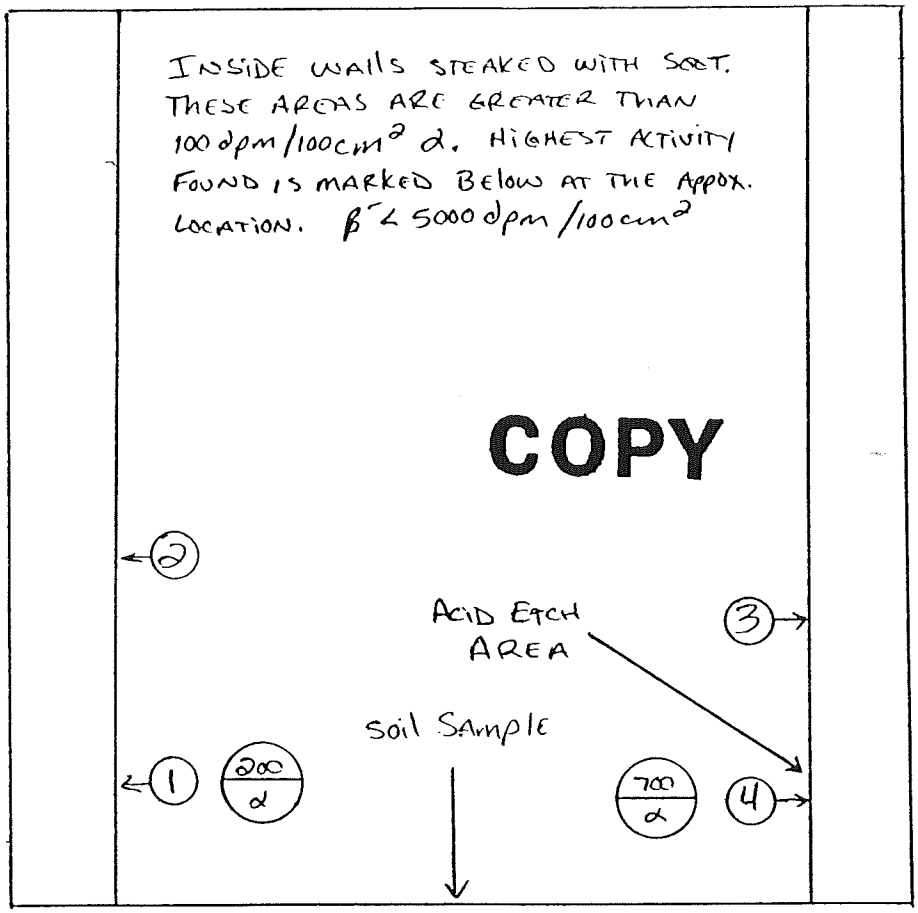
[redacted] 2-14-02
Data Verification HP # Date

DJH

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 CONVEYOR	SURVEY NO. 02-TF-0159
PURPOSE: INVESTIGATIVE SURVEY AND SOIL SAMPLE	RWP NO. N/A
	DATE: 1-30-02
	TIME: 1600

MAP/DRAWING



LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5267/5440	1-15-03

Completed by: (Signature) [signature]	HP # [redacted]	Date: 2-19-02
Completed by: (Print Name) MICHAEL J RUBADUE		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) [signature]	HP # [redacted]	Date: 02/20/02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-0159

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		EAST SIDE
2	↓	↓	↓	↓
3	↓	↓	↓	WEST SIDE
4	SEE	ATTACHED		↓
				2-14-02

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: SMEARS FIELD SCREENED 21000 dpm/100cm²

N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of resul are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR011
Batch Ended: 1/30/02 9:06

Crosstalk correction performed.

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: RUBADUE 02-TF-0159 (4) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	36.07	8.69		0.00	1.68	
B2	2	13.93	5.45		1.35	2.43	
B3	3	2.87	2.70		0.69	2.05	
B4	4	20.17	6.25		0.00	1.59	

MOR MOR

Brenda Stringer 1-30-02

PAGE 1 OF 1

User: [redacted]

Protocol# 6 - Smears.lsa

RUBADUE SUR #02-TF-0159 (M2-M3)/BKS

T-413

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES
-1	10.00	8	7	5	0	660.99	0	22.3	B
0	2.00	1223	1109	1	0	558.40	2267	4.1	
Missing vial 3.									
2	2.00	0	0	7	0	356.68	0	0.0	
3	2.00	0	0	4	0	445.86	0	0.0	

4 Sample pulled for RCT. BKS 1-30-02

Brenda Strong 1-30-02

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: ML12731
File ID: F0000422.s0
Priority: Yes

Description\Location
Bldg. #51 Conveyor

Collector: [redacted]
Date Received: 1/30/02
Date Collected: 1/29/02

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60		0.01	0.01	45,000
Cs-137		0.04	0.01	45,000
Pb-210		2.17	0.23	45,000
Ra-226		0.64	0.26	800
Ac-227 (D)	*	0	0.1	40
Th-230	*	0.37	2.14	800
Th-232 (D)		0.17	0.02	130
Pu-238		9.42	7.25	500
Am-241		0.03	0.02	500

Other Nuclides

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ_{DOT} 0.01 nCi/g $\Sigma_{Respirator}$ 0.03

$\Sigma_{Respirator}$ <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ_{DOT} 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is Assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation

Instrument type: High Purity Germanium

Comments:

Date: 2/12/02 Counted By: [redacted] Analyzed By: [redacted] Initials GW

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
2-11-02	Leach	Hop John	2
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
	M. Rubadue 5558		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
M00407	2-11-02		

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☒ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0201626	Bldg. 51 inside	1	
0201628	" " outside	2	

COMMENTS:

ANALYZED BY:	DATE:
L. C. Hopkins	2-14-02

ML-5222 (1-01)

Laboratory ID#: 0201626 & 0201628
Project/function: BD 51
Submitted: Feb 11, 2002
Submitted by: M. Rubadue
Point of Contact: M. Rubadue x5558
RSDS#: N/A

Lab ID 0201626
Sample Location BD 51 Inside

Isotope	dpm/smear	Uncertainty +/-	LDL
Pu-238	314.785	37.748	0.288
Pu-239/240	1.065	0.360	0.288
Th-232	0.943	0.333	0.283
Th-230	4.084	0.810	0.283
Th-227	<LDL	<LDL	0.283
Th-228	1.210	0.391	0.540
U-238	1.527	0.229	0.069
U-235	0.127	0.058	0.069
U-233/234	2.801	0.344	0.182

Lab ID 0201628
Sample Location BD 51 Outside

Isotope	dpm/smear	Uncertainty +/-	LDL
Pu-238	372.295	62.926	1.415
Pu-239/240	0.740	0.445	0.668
Th-232	0.772	0.317	0.509
Th-230	1.369	0.428	0.309
Th-227	<LDL	<LDL	0.591
Th-228	0.798	0.317	0.310
U-238	0.647	0.150	0.083
U-235	0.401	0.116	0.083
U-233/234	4.164	0.491	0.277

ACID ETCH OF CONVEYOR

L. C. Hopkins — [redacted] — 2-14-02
Analyst — HP # — Date

Bradley D Justice — [redacted] — 2-14-02
Data Verification — HP # — Date

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
2-12-02	SMEAR	MICHAEL J RUBADUE	2

PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:	MAIL STOP:
TFV/SMPP	MIKE RUBADUE 3104	OSW-4

CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
500489	1-30-02	02-TF-0159	GROSS αβ RESULTS

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☒ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U_____ Th____ Am____ Other_____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
02010066	S1 CONVEYOR	1	
02010067	S1 CONVEYOR	4	

COMMENTS:

ANALYZED BY:	DATE:
L. C. Hopkins	2-13-02

ML-5222 (1-01)

Laboratory ID#: 0201666-0201667
Project/function: TFV/SMPP
Submitted: Feb 12, 2002
Submitted by: M. Rubadue
Point of Contact: M. Rubadue x3104
RSDS#: 02-TF-0159

Lab ID 0201666
Sample Location 51 Conveyor #1

Isotope	dpm/smear	Uncertainty +/-	LDL
Pu-238	38.38	5.24	0.52
Pu-239/240	<LDL	<LDL	0.33
Am-241	0.84	0.44	0.57
Th-232	<LDL	<LDL	0.33
Th-230	1.09	0.39	0.33
Th-227	<LDL	<LDL	0.33
U-238	<LDL	<LDL	0.60
U-235	<LDL	<LDL	0.33
U-233/234	1.81	0.52	0.33

Lab ID 0201667
Sample Location 51 Conveyor #4

Isotope	dpm/smear	Uncertainty +/-	LDL
Pu-238	9.13	1.48	0.30
Pu-239/240	<LDL	<LDL	0.30
Am-241	<LDL	<LDL	0.98
Th-232	<LDL	<LDL	0.30
Th-230	<LDL	<LDL	0.30
Th-227	<LDL	<LDL	0.47
U-238	<LDL	<LDL	0.30
U-235	<LDL	<LDL	0.30
U-233/234	0.33	0.19	0.30

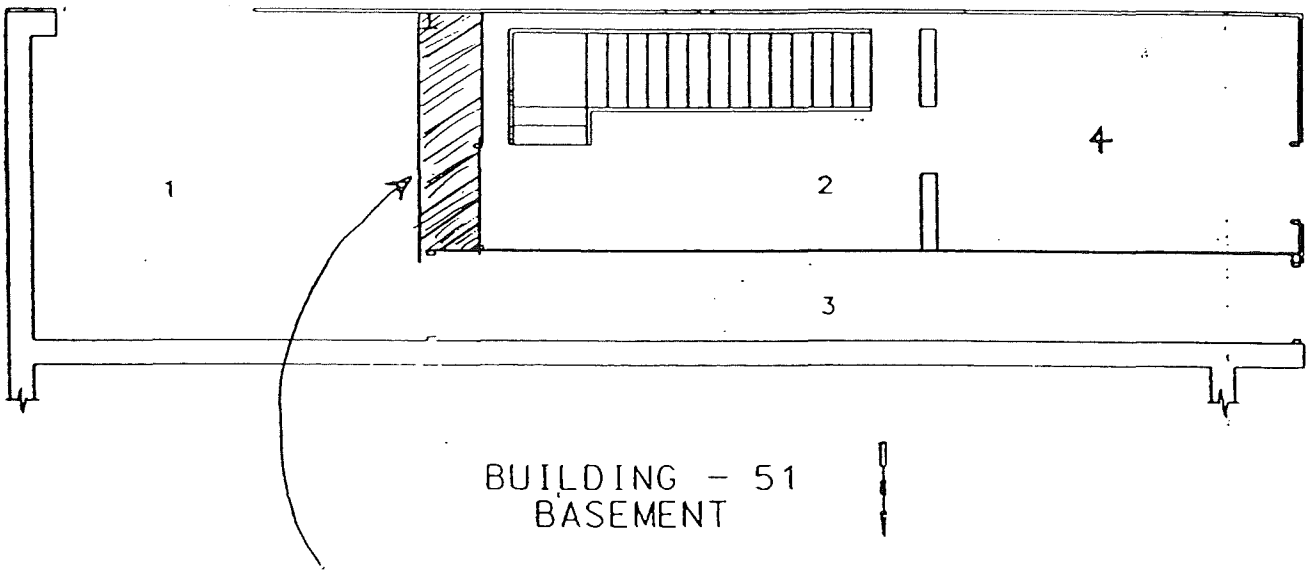
Analyst [redacted] HP # 2-19-02 Date

Data Verification [redacted] HP # 2/19/02 Date

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 - BASEMENT	SURVEY NO. 02-TF-0183
PURPOSE: CHARTACTERIZATION	RWP NO. N/A
	DATE: 1-31-02
	TIME: 1500

MAP/DRAWING



SHADED AREA SURVEYED WITH RESULTS OF <100 dpm/100cm² α DIRECT.

REFERENCE SURVEY PLAN BLDG 51

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5671/5148	9-21-02
	N/A	

Completed by: (Signature) [signature]	HP # [redacted]	Date: 2-13-02
Completed by: (Print Name) DANIEL J. HARVEY MICHAEL J RUBADUE		
Counted by: (Signature) N/A	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 02/13/02
Reviewed/Approved by: (Print Name) RMCoblentz		

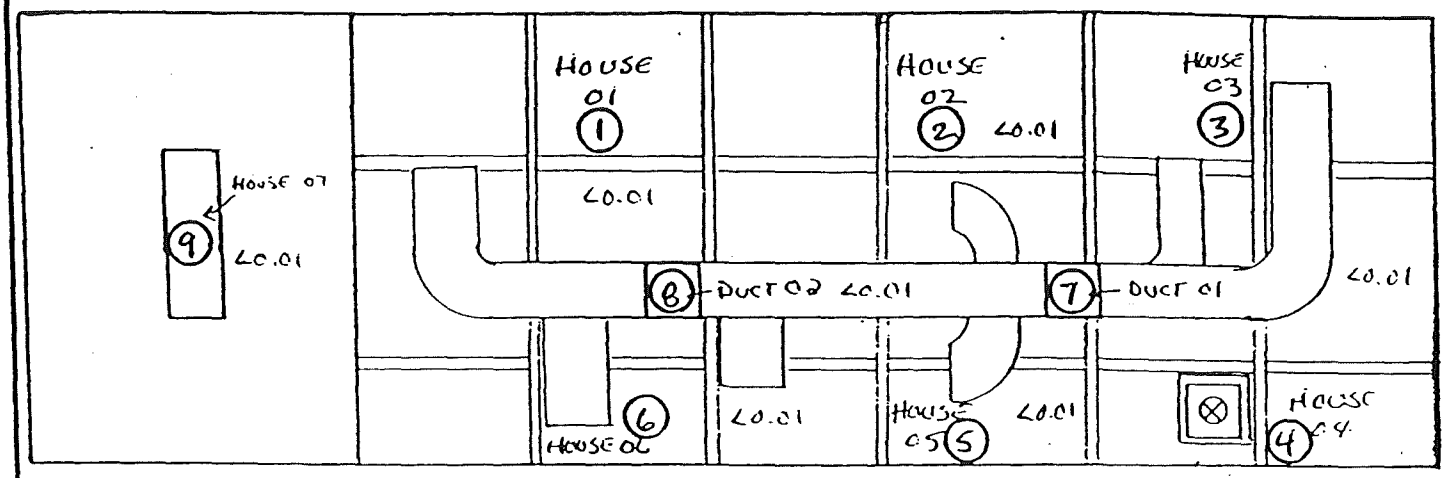
ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0210
PURPOSE: SMEAR AND DOSE RATES	RWP NO. N/A
	DATE: 2-18-2002
	TIME: 1600

MAP/DRAWING

TOP OF INCINERATOR HOUSING



COPY

γ BACKGROUND APPROX 5μRem

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
□# = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5439/5298	12-10-02
BICRON	3930	8-6-02
	N/A	

Completed by: (Signature)	HP # [redacted]	Date: 2-20-02
Completed by: (Print Name) DANIEL J. HARVEY MICHAEL J RUBADUE		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 02/26/02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

2 of 13

Survey No. 02-TF-0210

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-9	SEE	ATTACHED		SEE MAP PAGE 1
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

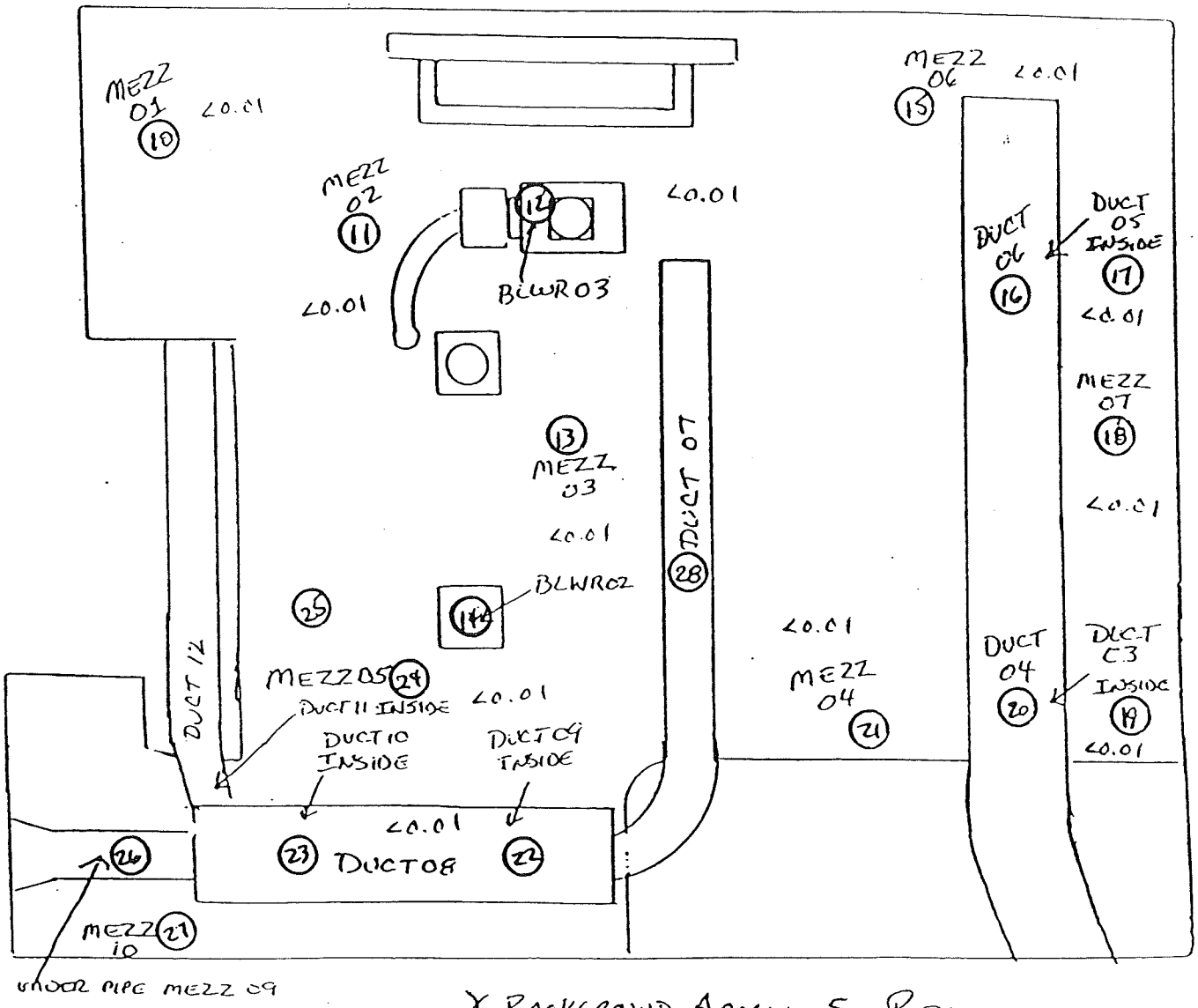
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0210
PURPOSE: SMEAR AND DOSE RATES	RWP NO. N/A
	DATE: 2-18-2002
	TIME: 1600

MAP/DRAWING



γ BACKGROUND APPROX. 5 μRem

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date

SEE PAGE 1

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

SEE PAGE 1

ML-9620 (2-98)

Survey No. 02-TF-0210

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
10-28	SEE	ATTACHED		MAP PAGE 3
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

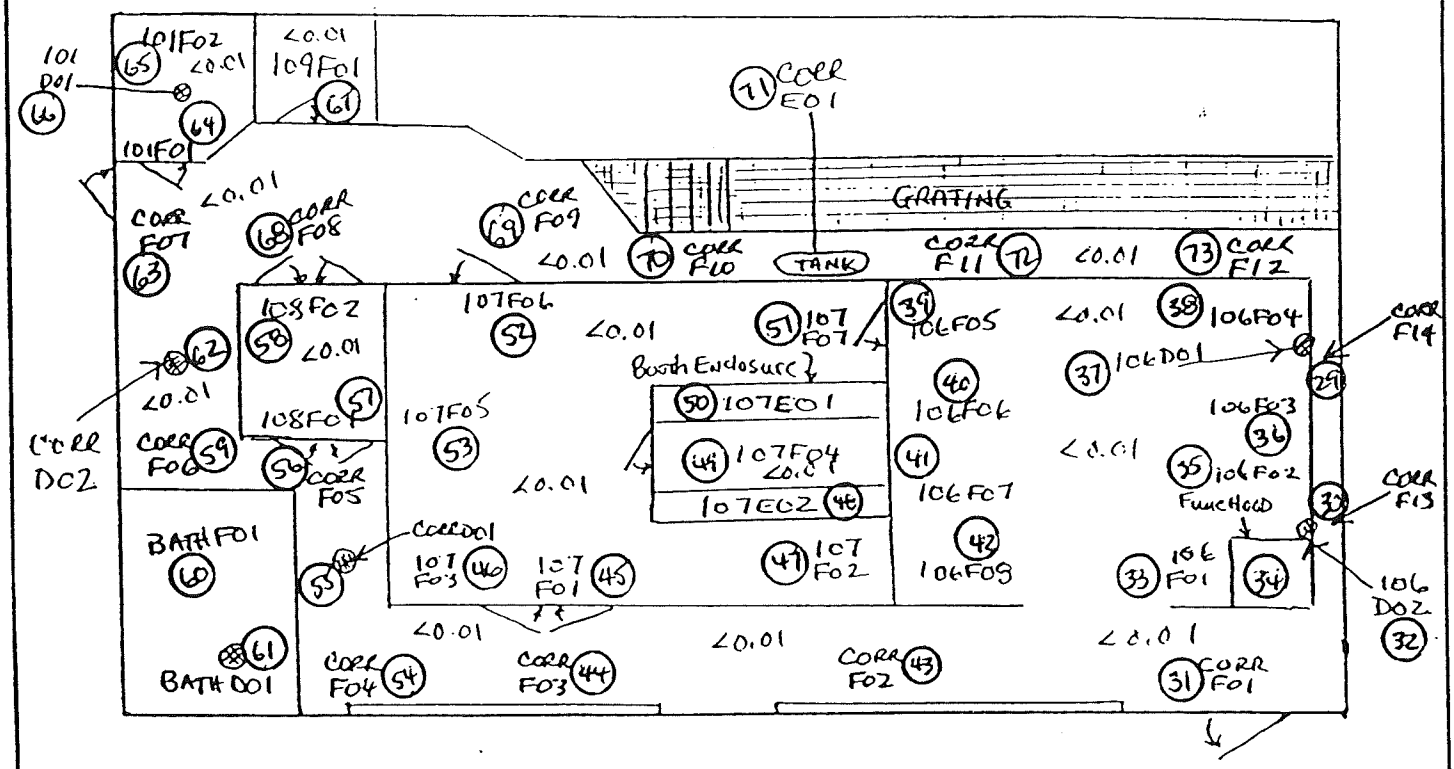
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 57	SURVEY NO. 02-TF-0210
PURPOSE: SMEAR AND DOSE RATES	RWP NO. N/A
	DATE: 2-18-2002
	TIME: 1600

MAP/DRAWING



γ BACKGROUND APPROX 5 μR/hr

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
	SEE PAGE 1	

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name) SEE PAGE 1		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

ML-9620 (2-98)

Survey No. 02-TF-0210

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
29-73	SEE	ATTACHED		MAP PAGES
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

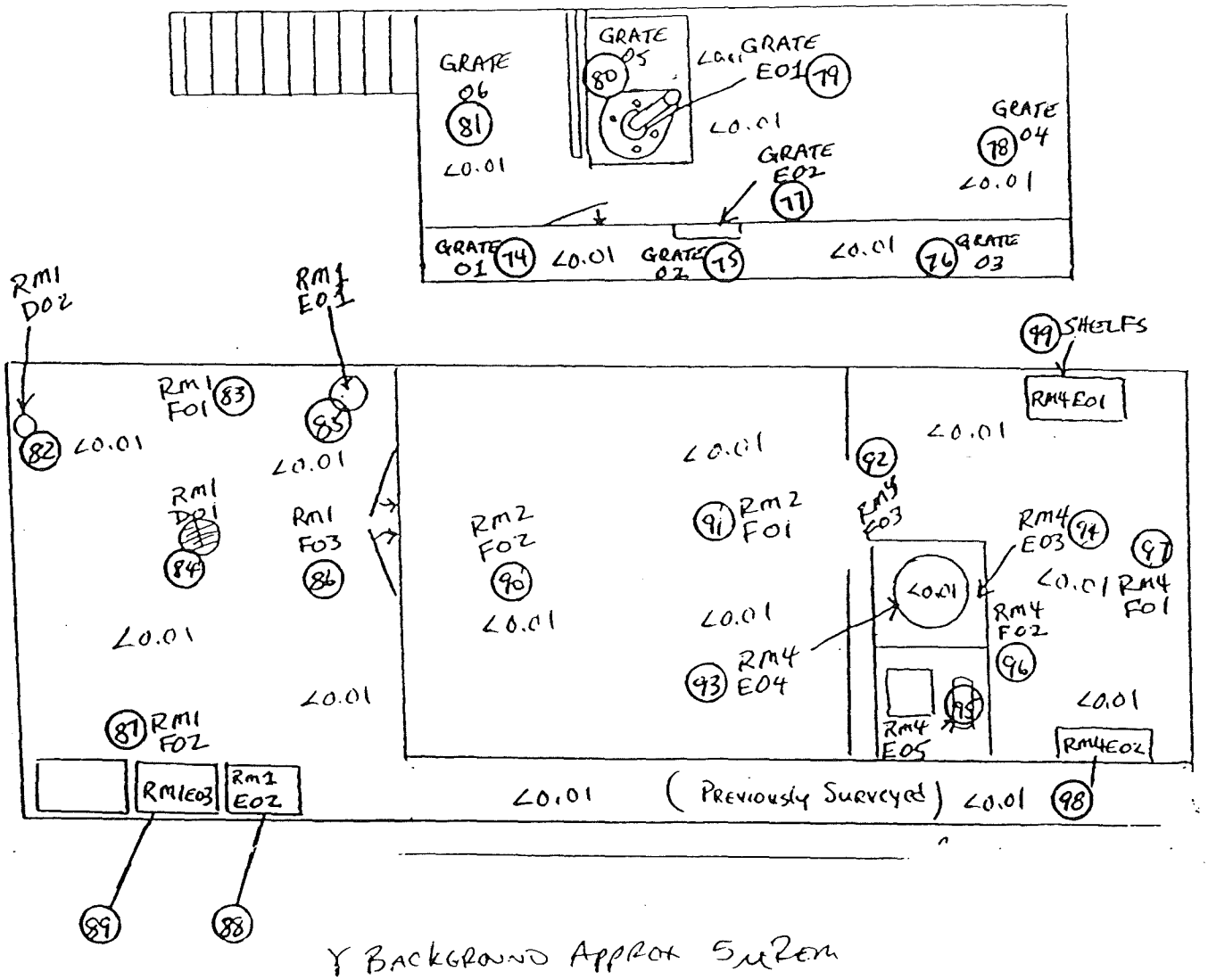
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) 51	SURVEY NO. 02-TF-0210
PURPOSE: SMEAR AND DOSE RATES	RWP NO. N/A
	DATE: 2-18-2002
	TIME: 1600

MAP/DRAWING



γ BACKGROUND APPROX 5μREM

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
	SEE PAGE 1	

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

SEE PAGE 1

ML-9620 (2-98)

Survey No. 02-TF-0210

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
74-99	SEE	ATTACHED		MAP PAGE 7
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of resul are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 2/19/02 8:02

Crosstalk correction performed

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: RUBADUE SUR #02-TF-0210 (99)/BKS

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	1.62	2.20		0.00	2.09	
A2	2	1.69	2.26		2.31	2.39	
A3	3	0.00	2.04		0.00	1.41	
A4	4	0.00	2.00		0.00	2.01	
B1	5	1.85	2.05		1.40	2.06	
B2	6	0.00	2.09		1.48	2.10	
B3	7	0.98	1.90		0.00	1.19	
B4	8	0.00	1.88		0.00	1.12	
C1	9	0.00	2.24		0.00	4.12	
C2	10	0.00	2.12		0.00	1.77	
C3	11	0.00	1.99		0.00	2.41	
C4	12	0.00	1.94		1.37	2.32	
D1	13	0.00	2.20		0.00	1.51	
D2	14	0.00	2.17		1.05	1.97	
D3	15	1.05	2.07		1.43	2.34	
A1	16	0.00	2.19		0.00	1.63	
A2	17	1.69	2.25		0.98	1.99	
A3	18	0.00	2.04		0.00	1.41	
A4	19	0.00	1.99		0.00	1.57	
B1	20	0.00	2.04		0.35	1.68	
B2	21	0.00	2.07		0.27	1.72	
B3	22	0.00	1.91		0.00	1.68	
B4	23	0.00	1.90		1.90	1.94	
C1	24	0.00	2.23		0.00	3.89	
C2	25	0.00	2.15		2.28	3.60	
C3	26	0.00	1.98		0.00	1.60	
C4	27	0.00	1.94		1.37	2.32	
D1	28	0.00	2.20		0.00	1.51	
D2	29	0.00	2.15		0.00	1.42	
D3	30	0.00	2.06		0.27	1.94	
A1	31	0.00	2.20		0.00	2.09	
A2	32	0.00	2.24		0.00	1.49	

DJH ~~Page 1 of 3~~ DJH

9 of 13

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 2/19/02 8:02

Crosstalk correction performed

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: RUBADUE SUR #02-TF-0210 (99)/BKS

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A3	33	1.58	2.05		0.00	1.88	
A4	34	0.00	2.04		3.44	3.21	
B1	35	0.00	2.03		0.00	1.19	
B2	36	0.00	2.06		0.00	1.22	
B3	37	0.00	1.94		2.17	2.37	
B4	38	0.00	1.90		1.90	1.94	
C1	39	0.00	2.25		0.00	4.33	
C2	40	0.00	2.13		0.00	2.66	
C3	41	0.00	1.98		0.00	1.60	
C4	42	0.00	1.93		0.00	1.43	
D1	43	2.01	2.21		0.95	2.02	
D2	44	0.00	2.15		0.00	1.42	
D3	45	0.00	2.06		0.00	1.44	
A1	46	0.00	2.20		0.00	2.09	
A2	47	0.00	2.24		0.00	1.49	
A3	48	0.00	2.05		0.00	1.88	
A4	49	1.49	2.01		0.00	2.37	
B1	50	0.00	2.03		0.00	1.19	
B2	51	0.00	2.06		0.00	1.22	
B3	52	0.00	1.90		0.00	1.19	
B4	53	0.00	1.88		0.00	1.12	
C1	54	0.00	2.24		0.00	4.12	
C2	55	0.00	2.14		0.00	3.00	
C3	56	1.53	1.98		0.00	1.60	
C4	57	0.00	1.94		0.08	1.93	
D1	58	0.00	2.23		2.48	2.43	
D2	59	0.00	2.17		1.05	1.97	
D3	60	0.00	2.06		0.27	1.94	
A1	61	0.00	2.19		0.00	1.63	
A2	62	0.00	2.24		0.00	1.49	
A3	63	0.00	2.06		0.95	2.25	
A4	64	0.00	2.03		2.19	2.96	
B1	65	0.00	2.06		2.73	2.38	
B2	66	1.72	2.09		1.29	2.10	

DJH ~~Page 2 of 3~~ DJH

10 of 13

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 2/19/02 8:02

Crosstalk correction performed.

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: RUBADUE SUR #02-TF-0210 (99)/BKS

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
B3	67	0.00	1.96		4.54	2.91	
B4	68	1.52	1.90		1.76	1.94	
C1	69	0.00	2.26		1.76	4.73	
C2	70	0.00	2.14		0.00	3.00	
C3	71	0.00	1.99		0.00	2.04	
C4	72	0.00	1.94		1.37	2.32	
D1	73	0.00	2.20		0.00	1.51	
D2	74	0.00	2.17		1.05	1.97	
D3	75	0.00	2.08		2.86	2.67	
A1	76	0.00	2.19		0.00	1.63	
A2	77	0.00	2.24		0.00	1.49	
A3	78	1.58	2.04		0.00	1.41	
A4	79	0.00	2.01		0.00	2.37	
B1	80	0.00	2.03		0.00	1.19	
B2	81	0.00	2.15		5.12	2.98	
B3	82	0.98	1.94		2.02	2.37	
B4	83	0.00	1.88		0.00	1.12	
C1	84	1.72	2.21		0.00	3.12	
C2	85	1.84	2.12		0.00	1.77	
C3	86	0.00	1.99		0.00	2.04	
C4	87	3.56	2.71		0.00	1.93	
D1	88	0.00	2.21		1.13	2.02	
D2	89	0.00	2.17		1.05	1.97	
D3	90	0.00	2.06		0.00	1.44	
A1	91	0.00	2.21		0.00	2.47	
A2	92	0.00	2.24		0.00	1.49	
A3	93	0.00	2.06		0.95	2.25	
A4	94	0.00	2.02		0.94	2.68	
B1	95	0.00	2.03		0.00	1.19	
B2	96	0.00	2.09		1.48	2.10	
B3	97	0.98	1.94		2.02	2.37	
B4	98	1.51	1.91		2.89	2.25	
C1	99	0.00	2.29		7.13	5.44	

SGH SGH

Carol G. Robinson

Protocol #: 1 Name:Pw-H3 #401387 19-Feb-2002 09:16
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
RUBADUE 02-TF-0210 (1-99) CYR
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	8.56	8.45	5.10	B	5	667.		21.62
0	2.00	830.42	792.48	0.00	L	1	539.	1690.60	4.99
1	2.00	0.00	0.00	0.90	L	0	591.	0.00	0.00
2	2.00	0.00	0.00	1.40		8	530.	0.00	0.00
3	2.00	0.00	0.00	0.00		0	510.	0.00	0.00
4	2.00	0.00	0.00	0.90		14	474.	0.00	0.00
5	2.00	0.00	0.00	0.40		0	553.	0.00	0.00
6	2.00	0.00	0.00	0.00		13	535.	0.00	0.00
7	2.00	0.00	0.00	1.40		12	490.	0.00	0.00
8	2.00	0.00	0.00	0.00		0	536.	0.00	0.00
9	2.00	0.00	0.00	0.40		14	508.	0.00	0.00
10	2.00	0.00	0.00	0.90		0	435.	0.00	0.00
11	2.00	0.00	0.00	1.90		0	510.	0.00	0.00
12	2.00	0.00	0.00	0.90		0	489.	0.00	0.00
13	2.00	0.00	0.00	1.40		0	536.	0.00	0.00
14	2.00	0.00	0.00	0.00		15	557.	0.00	0.00
15	2.00	0.00	0.00	0.00		0	491.	0.00	0.00
16	2.00	0.00	0.00	0.00		10	526.	0.00	0.00
17	2.00	0.00	0.00	0.00		0	571.	0.00	0.00
18	2.00	0.00	0.00	0.00		0	531.	0.00	0.00
19	2.00	0.00	0.00	0.00		0	618.	0.00	0.00
20	2.00	0.00	0.00	1.90		0	463.	0.00	0.00
21	2.00	0.00	0.00	0.00		0	467.	0.00	0.00
22	2.00	0.00	0.00	0.00		0	586.	0.00	0.00
23	2.00	0.00	0.00	1.90		0	472.	0.00	0.00
24	2.00	0.00	0.00	0.00		0	526.	0.00	0.00
25	2.00	0.00	0.00	0.00		0	471.	0.00	0.00
26	2.00	0.00	0.00	0.00		0	472.	0.00	0.00
27	2.00	0.00	0.00	0.00		0	455.	0.00	0.00
28	2.00	0.00	0.00	0.00		0	479.	0.00	0.00
29	2.00	0.00	0.00	0.40		0	438.	0.00	0.00
30	2.00	0.00	0.00	0.00		0	509.	0.00	0.00
31	2.00	0.00	0.00	0.00		0	560.	0.00	0.00
32	2.00	0.00	0.00	0.40		16	361.	0.00	0.00
33	2.00	0.00	0.00	0.00		27	480.	0.00	0.00
34	2.00	0.00	0.00	0.00		0	578.	0.00	0.00
35	2.00	0.00	0.00	0.00		0	526.	0.00	0.00
36	2.00	0.00	0.00	3.90		0	515.	0.00	0.00
37	2.00	0.00	0.00	0.40		0	469.	0.00	0.00
38	2.00	0.00	0.00	0.00		0	450.	0.00	0.00
39	2.00	0.00	0.00	5.40		0	465.	0.00	0.00
40	2.00	0.00	0.00	0.90		0	549.	0.00	0.00
41	2.00	0.00	0.00	1.90		16	404.	0.00	0.00
42	2.00	0.00	0.00	0.40		9	488.	0.00	0.00
43	2.00	0.00	0.00	0.00		0	559.	0.00	0.00

DJA

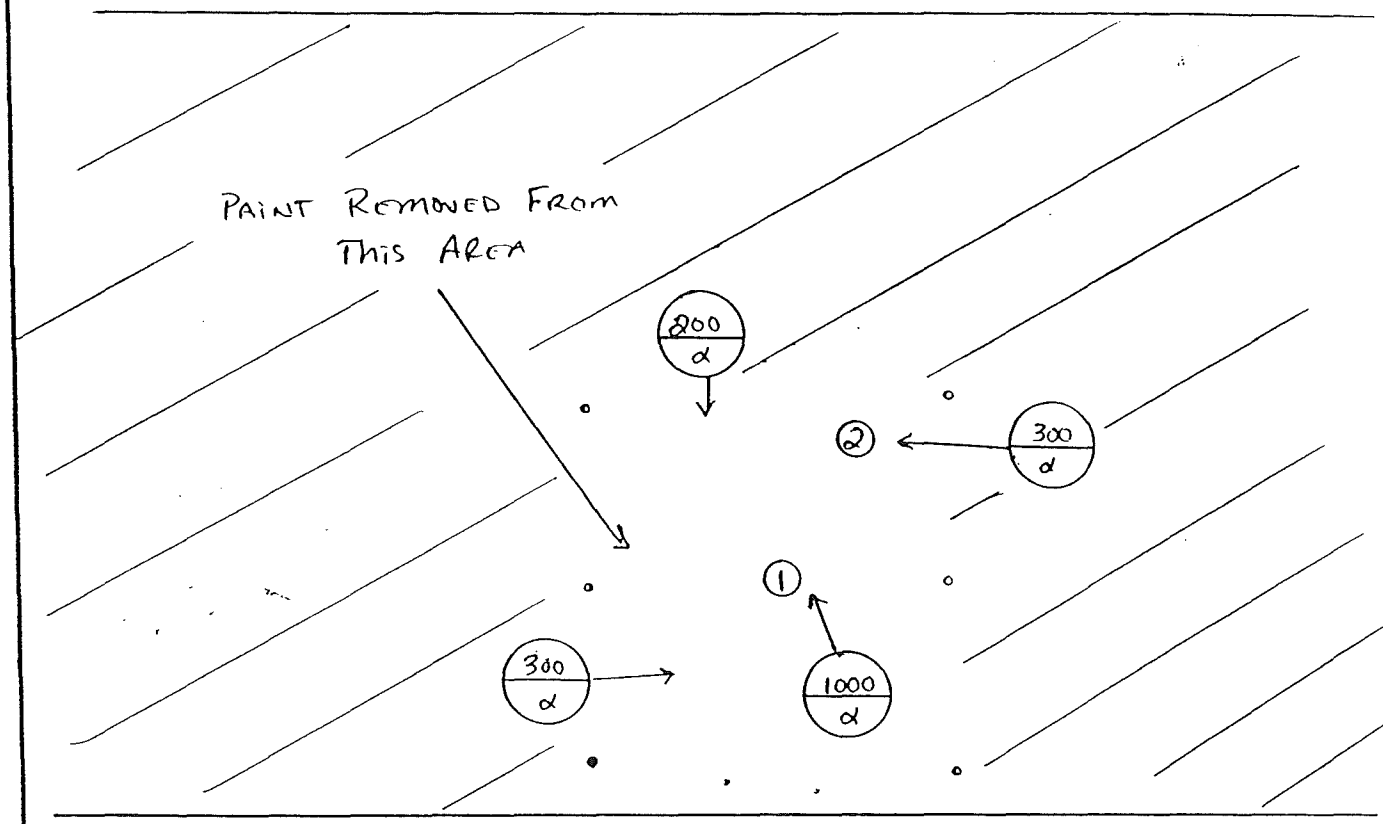
SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
44	2.00	0.00	0.00	0.00		6	581.	0.00	0.00
45	2.00	0.00	0.00	0.00		23	531.	0.00	0.00
46	2.00	0.00	0.00	1.40		0	556.	0.00	0.00
47	2.00	0.00	0.00	0.00		0	534.	0.00	0.00
48	2.00	0.00	0.00	0.00		11	529.	0.00	0.00
49	2.00	0.00	0.00	0.00		0	372.	0.00	0.00
50	2.00	0.00	0.00	1.40		0	395.	0.00	0.00
51	2.00	0.00	0.00	0.40		12	566.	0.00	0.00
52	2.00	0.00	0.00	0.00		0	504.	0.00	0.00
53	2.00	0.00	0.00	0.00		0	559.	0.00	0.00
54	2.00	0.00	0.00	0.00		0	488.	0.00	0.00
55	2.00	0.00	0.00	0.00		0	512.	0.00	0.00
56	2.00	0.00	0.00	0.00		12	522.	0.00	0.00
57	2.00	0.00	0.00	0.00		0	513.	0.00	0.00
58	2.00	0.00	0.00	0.00		0	478.	0.00	0.00
59	2.00	0.00	0.00	0.00		0	574.	0.00	0.00
60	2.00	0.00	0.00	0.00		0	528.	0.00	0.00
61	2.00	0.00	0.00	2.92		0	526.	0.00	0.00
62	2.00	0.00	0.00	0.00		0	436.	0.00	0.00
63	2.00	0.00	0.00	0.40		0	565.	0.00	0.00
64	2.00	0.00	0.00	0.90		0	543.	0.00	0.00
65	2.00	0.00	0.00	0.00		0	488.	0.00	0.00
66	2.00	0.00	0.00	1.40		0	469.	0.00	0.00
67	2.00	0.00	0.00	0.00		0	485.	0.00	0.00
68	2.00	0.00	0.00	0.00		0	491.	0.00	0.00
69	2.00	0.00	0.00	0.56		0	510.	0.00	0.00
70	2.00	0.00	0.00	0.00		0	516.	0.00	0.00
71	2.00	0.00	0.00	0.90		18	493.	0.00	0.00
72	2.00	0.00	0.00	0.00		0	454.	0.00	0.00
73	2.00	0.00	0.00	0.00		12	474.	0.00	0.00
74	2.00	0.00	0.00	0.00		0	478.	0.00	0.00
75	2.00	0.00	0.00	0.00		0	490.	0.00	0.00
76	2.00	0.00	0.00	0.00		0	470.	0.00	0.00
77	2.00	0.00	0.00	1.40		0	533.	0.00	0.00
78	2.00	0.00	0.00	0.90		0	539.	0.00	0.00
79	2.00	0.00	0.00	0.00		47	563.	0.00	0.00
80	2.00	0.00	0.00	0.00		37	467.	0.00	0.00
81	2.00	0.00	0.00	0.00		0	617.	0.00	0.00
82	2.00	0.00	0.00	0.00		0	182.	0.00	0.00
83	2.00	0.00	0.00	0.40		27	547.	0.00	0.00
84	2.00	0.00	0.00	1.90		27	470.	0.00	0.00
85	2.00	0.00	0.00	2.40		0	531.	0.00	0.00
86	2.00	0.00	0.00	0.00		0	565.	0.00	0.00
87	2.00	0.00	0.00	0.00		0	549.	0.00	0.00
88	2.00	0.00	0.00	0.00		14	399.	0.00	0.00
89	2.00	0.00	0.00	0.00		0	479.	0.00	0.00
90	2.00	0.00	0.00	2.40		0	526.	0.00	0.00
91	2.00	0.00	0.00	0.00		0	579.	0.00	0.00
92	2.00	0.00	0.00	0.00		0	524.	0.00	0.00
93	2.00	0.00	0.00	0.90		0	340.	0.00	0.00
94	2.00	0.00	0.00	0.00		0	454.	0.00	0.00
95	2.00	0.00	0.00	0.00		0	374.	0.00	0.00
96	2.00	0.00	0.00	0.00		0	547.	0.00	0.00
97	2.00	0.00	0.00	1.40		27	591.	0.00	0.00
98	2.00	0.00	0.00	0.40		0	528.	0.00	0.00
99	2.00	0.00	0.00	0.00		0	466.	0.00	0.00

Carol G. Robinson #413
DGH

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BID 51 Rm 3	SURVEY NO. 02-TF-0211
PURPOSE: INVESTIGATIVE SURVEY AFTER PAINT REMOVAL	RWP NO. 1100
	DATE: 2-19-02
	TIME: 1400

MAP/DRAWING



COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	52607	1-15-03

Completed by: (Signature)	HP# [redacted]	Date: 2-20-02
Completed by: (Print Name) MICHAEL J RUBADUE		
Counted by: (Signature) SEE	HP#	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP# [redacted]	Date: 02/20/02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-0211

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE			WALL
2		ATTACHED		WALL

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: SMEARS FIELD SCREENED < 1000 dpm/100cm2
N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR018
Batch Ended: 2/19/02 15:46

Crosstalk correction performed.

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: RUBADUE SUR #02-TF-0211 (2)/BKS

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.21		0.83	2.80	
A2	2	0.00	2.24		0.00	1.49	

MA MA

Carol Y. Robinson

19 Feb 2002 16:03
Protocol #: 7

ALPHA/BETA - 1.09
PW H3 403728

User : [redacted]

Time: 2.00
Data Mode: DPM
Nuclide: SMGL2
Quench Set: SM_GLASS
Background Subtract: 1st Vial

	LL	UL	LCR	2SY	BKG
Region A:	0.5 -	18.6	0	0.0	7.83
Region B:	2.0 -	18.6	0	0.0	7.27
Region C:	40.0 -	2000	0	0.0	5.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
RUBADUE 02-TF-0211 (Z1-Z2) CYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA7.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.83	4	B	679.21		0.00	5.00
0	2.00	918.52	0		559.37	1912.01	145.61	1.50
1	2.00	0.00	0		636.20	0.00	0.00	1.00
2	2.00	0.00	17		664.45	0.00	0.00	0.00

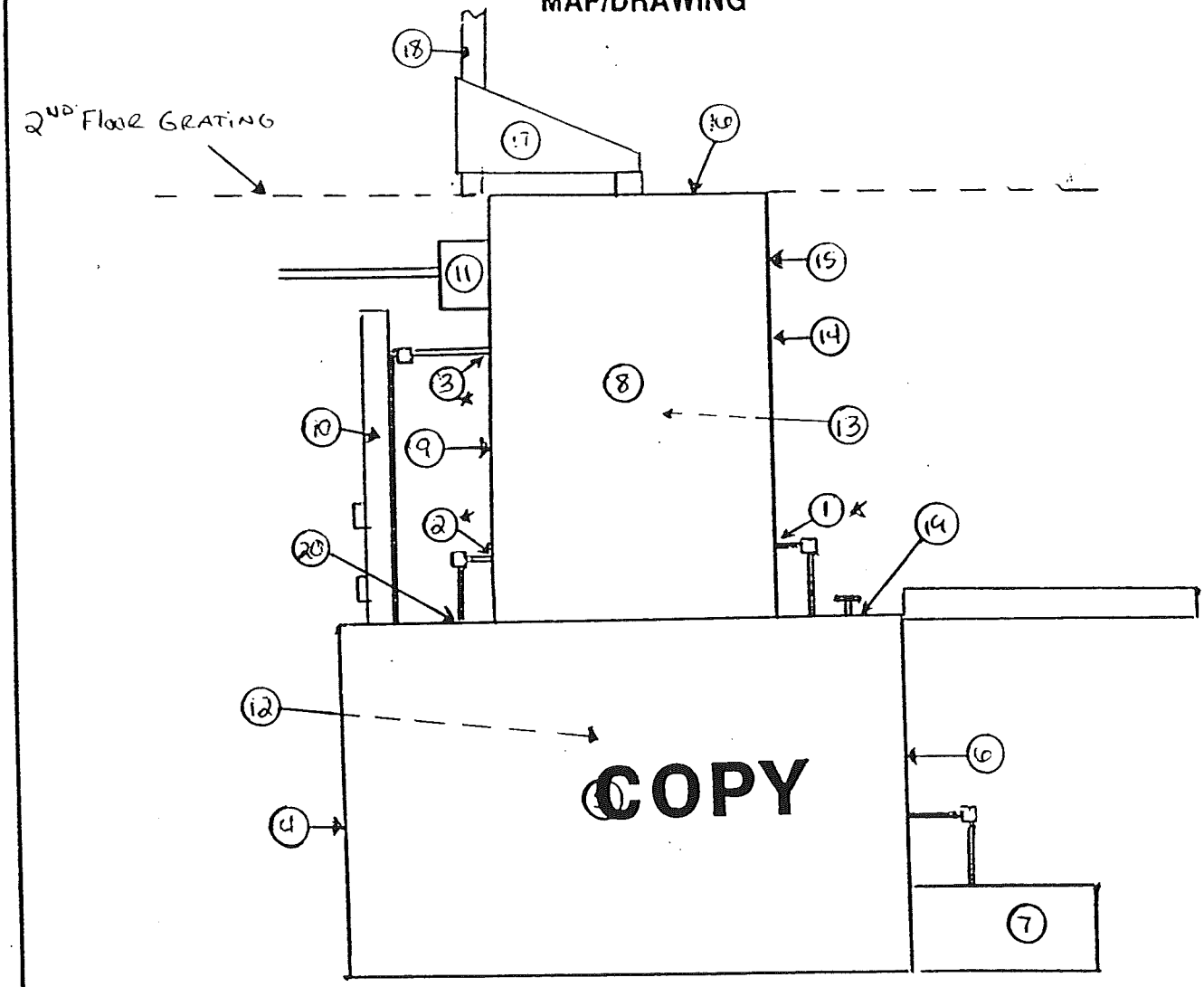
MOK MOK
Carol J. Robinson

#413

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) S1	SURVEY NO. 02-TF-0301
PURPOSE: ISOSTATIC PRESS	RWP NO. N/A
	DATE: 2-22-02
	TIME: 1500

MAP/DRAWING



DIRECT MEASUREMENTS TAKEN ON ALL ACCESSIBLE LOCATIONS: α < 100 dpm/100cm² β < 5000 dpm/100cm²

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

*: COTTEN SWABS

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	52167/5440	1-15-03

Completed by: (Signature)	HP# [redacted]	Date: 2-28-02
Completed by: (Print Name) MICHAEL J RUBADUE		
Counted by: (Signature) SEE	HP#	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP# [redacted]	Date: 03/04/02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No.
02-TF-0301

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-20	SEE	ATTACHED		SEE MAP

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: SMEARS FIELD SCREENED <1000 dpm/100cm²

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR014
Batch Ended: 2/25/02 10:54

Crosstalk correction performed.

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: RUBADUE 02-TF-0301 (20) CYR

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A2	4	0.00	2.24		0.00	1.49	
A3	5	0.00	2.04		0.00	1.41	
A4	6	0.00	2.00		0.00	2.01	
B1	7	0.00	2.03		0.00	1.19	
B2	8	0.00	2.06		0.00	1.22	
B3	9	0.00	1.92		0.99	2.05	
B4	10	1.52	1.88		0.00	1.12	
C1	11	0.00	2.19		0.00	2.47	
C2	12	0.00	2.14		0.00	3.00	
C3	13	0.00	1.99		0.00	2.41	
C4	14	0.00	1.95		2.65	2.65	
D1	15	0.00	2.20		0.00	1.51	
D2	16	0.00	2.15		0.00	1.42	
D3	17	0.00	2.06		0.27	1.94	
A1	18	1.62	2.21		0.70	2.80	
A2	19	0.00	2.24		0.00	1.49	
A3	20	0.00	2.06		0.95	2.25	
A1	1-3 Q-TIPS	1.63	2.19		0.00	1.63	

MGR MGR

Carol Robinson

Time: 2.00
Data Mode: DPM Nuclide: SMGL2 Quench Set: SM_GLASS
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5 -	18.6	0	0.0	6.31
Region B:	2.0 -	18.6	0	0.0	5.89
Region C:	40.0 -	2000	0	0.0	5.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
RUBADUE SUR #02-TF-0301 (T1-T20)/BKS
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA6.DAT
Spectrum Data Drive & Path: c:\data

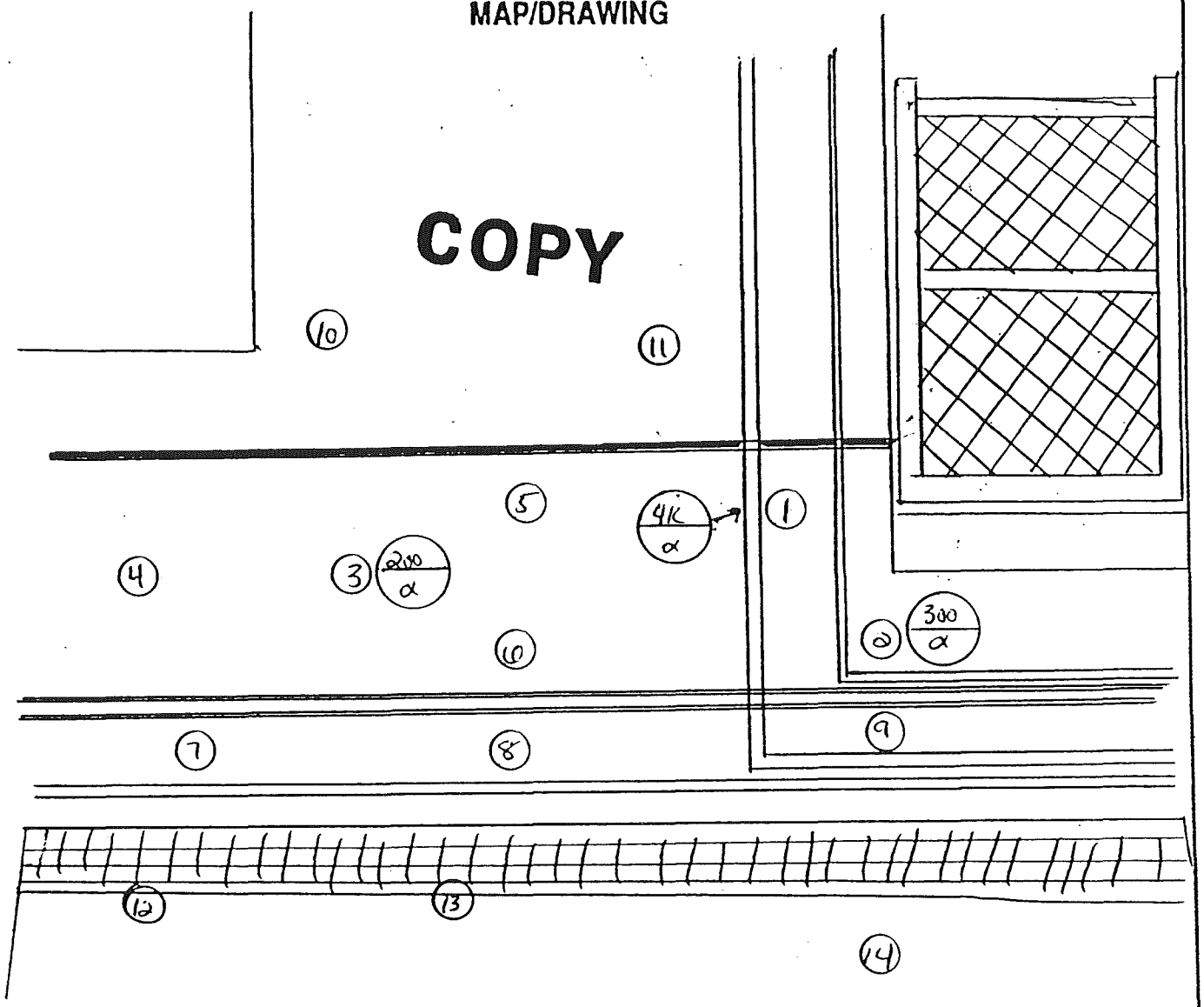
S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.31	2	B	672.04		0.00	5.50
0	2.00	609.79	1		492.86	1350.02	112.66	3.00
1	2.00	7.19	0		645.85	13.92	10.55	0.00
2	2.00	0.00	0		623.93	0.00	0.00	0.00
3	2.00	2.19	0		616.49	4.34	8.77	1.50
4	2.00	0.69	0		485.76	1.53	9.08	1.00
5	2.00	0.19	0		501.62	0.41	8.63	1.50
6	2.00	0.00	0		455.40	0.00	0.00	0.00
7	2.00	0.00	0		444.66	0.00	0.00	0.00
8	2.00	0.00	0		336.67	0.00	0.00	0.00
9	2.00	0.00	0		411.16	0.00	0.00	0.00
10	2.00	2.69	0		446.23	6.33	10.68	1.00
11	2.00	0.00	0		366.90	0.00	0.00	1.96
12	2.00	0.00	0		476.23	0.00	0.00	0.00
13	2.00	0.00	0		494.52	0.00	0.00	0.50
14	2.00	0.00	0		435.43	0.00	0.00	0.00
15	2.00	0.00	0		263.57	0.00	0.00	0.00
16	2.00	0.00	0		473.29	0.00	0.00	0.00
17	2.00	0.00	0		459.15	0.00	0.00	0.00
18	2.00	0.00	0		390.38	0.00	0.00	0.00
19	2.00	0.00	0		383.69	0.00	0.00	0.00
20	2.00	0.00	0		466.72	0.00	0.00	0.00

MJR Carol G. Robinson
#413

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 Room 3	SURVEY NO. 02-TF-0411
PURPOSE: Down Post CA	RWP NO. N/A
	DATE: 3-6-02
	TIME: 1400

MAP/DRAWING



LEGEND:
= mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5267	1-15-03
SAC-4	5247/5114	10-19-02

Completed by: (Signature)	HP# [redacted]	Date: 4-2-02
Completed by: (Print Name) MICHAEL J RUBADUE		
Counted by: (Signature)	HP# [redacted]	Date: 3-6-02
Counted by: (Print Name) MICHAEL J RUBADUE		
Reviewed/Approved by: (Signature) RM Cobleniz	HP# [redacted]	Date: 04-03-02
Reviewed/Approved by: (Print Name) RM Cobleniz		

ML-9620 (2-98)

Survey No. 02-TF-0411

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	<1000	<20	N/A	WALL
2	<1000	<20		
3	<1000	<20		
4	<1000	<20		
5	<1000	<20		
6	<1000	<20		
7	<1000	<20		
8	<1000	<20		
9	<1000	<20		
10	<1000	<20		
11	<1000	<20		WALL
12	<1000	<20		GRATING
13	<1000	<20		
14	<1000	<20		GRATING

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COPY

COMMENTS: N/A

N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 SURVEY UNIT 3	SURVEY NO. 02-TF-0453
PURPOSE: MARSSIM SURVEY	RWP NO. N/A
	DATE: 3-14-02
	TIME: 1830

MAP/DRAWING

DIRECT MEASUREMENTS AND SMEARS TAKEN IN THE [illegible] OF EACH GRID

GRIDS SELECTED USING "MIRCOSOFT EXCEL" RANDOM NUMBER GENERATOR

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5673/5143	8-21-02

Completed by: (Signature)	HP# [redacted]	Date: 4-2-02
Completed by: (Print Name) MICHAEL J RUBADUE		
Counted by: (Signature) SEE	HP#	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCobletz	HP# [redacted]	Date: 4-5-02
Reviewed/Approved by: (Print Name) RMCobletz		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				GRID
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			761
2				414
3				728
4				691
5				675
6				488
7				528
8				621
9				605
10				598
11				220
12				903
13				844
14				471
15				112
16				130
17				118
18				98
19	SEE ATTACHED			562

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS:

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of result are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-TF-0453 RCT: MJR RCT: DGH

43-20 BKG:	0	EFF:	0.166	PROBE AREA:	181	cm	Surface Eff:		1	Sheet metal SURFACES
~~43-07 BKG:~~	~~0~~	~~EFF:~~	~~0.183~~	~~PROBE AREA:~~	~~684~~	~~cm~~	~~Surface Eff:~~		~~0.5~~	~~DMC 4-16-02~~ NOT USED
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5673	[redacted]	5143	2		3/14/02	14:40	31	300	21
SRCCHECK	5673	[redacted]	5143	2		3/14/02	15:13	2464	60	8201
SRCCHECK	5673	[redacted]	5143	2		3/14/02	15:14	2202	60	7328
SRCCHECK	5673	[redacted]	5143	2		3/14/02	15:16	2266	60	7542
SRCCHECK	5673	[redacted]	5143	2		3/14/02	15:17	2434	60	8101
BLD51 761	5673	[redacted]	5143	2	1	3/14/02	17:16	6	60	20
BLD51 414	5673	[redacted]	5143	2	2	3/14/02	17:17	15	60	50
BLD51 728	5673	[redacted]	5143	2	3	3/14/02	17:21	6	60	20
BLD51 691	5673	[redacted]	5143	2	4	3/14/02	17:24	3	60	10
BLD51 675	5673	[redacted]	5143	2	5	3/14/02	17:26	6	60	20
BLD51 488	5673	[redacted]	5143	2	6	3/14/02	17:29	9	60	30
BLD51 528	5673	[redacted]	5143	2	7	3/14/02	17:32	9	60	30
BLD51 621	5673	[redacted]	5143	2	8	3/14/02	17:35	4	60	13
BLD51 605	5673	[redacted]	5143	2	9	3/14/02	17:36	7	60	23
BLD51 598	5673	[redacted]	5143	2	10	3/14/02	17:42	8	60	27
BLD51 220	5673	[redacted]	5143	2	11	3/14/02	17:44	9	60	30
BLD51 903	5673	[redacted]	5143	2	12	3/14/02	17:51	4	60	13
BLD51 844	5673	[redacted]	5143	2	13	3/14/02	17:56	4	60	13
BLD51 474	5673	[redacted]	5143	2	14	3/14/02	17:58	2	60	7
BLD51 112	5673	[redacted]	5143	2	15	3/14/02	18:00	4	60	13
BLD51 136	5673	[redacted]	5143	2	16	3/14/02	18:10	3	60	10
BLD51 118	5673	[redacted]	5143	2	17	3/14/02	18:12	1	60	3
BLD51 198	5673	[redacted]	5143	2	18	3/14/02	18:14	0	60	0
BLD51 562	5673	[redacted]	5143	2	19	3/14/02	18:16	7	60	23

Alpha/Beta Analysis

Batch ID: 02-TF-0453 HARVEY(19) BSB

Batch File: Smear Unit 1 - 200203180911
Group: B
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 3/18/2002
Count Time (min): 1.5
Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	37	1.62	4.03	0.51	3.40
2	29	1.62	4.03	0.51	3.40
3	60	1.62	4.03	0.51	3.40
4	18	3.60	5.66	3.91	5.21
5	14	3.61	5.66	2.77	4.68
6	93	5.59	6.91	0.49	3.41
7	100	0.00	0.66	1.65	4.09
8	5	0.00	0.67	10.75	7.63
9	150	1.62	4.03	2.78	4.68
10	72	1.62	4.03	2.78	4.68
11	4	0.00	0.66	1.65	4.09
12	89	0.00	0.66	0.51	3.40
13	110	3.61	5.66	0.50	3.40
14	4	1.62	4.03	3.92	5.21
15	99	0.00	0.66	1.65	4.09
16	127	0.00	0.66	2.79	4.68
17	85	1.62	4.03	1.64	4.09
18	79	0.00	0.66	0.00	2.53
19	31	1.62	4.03	0.00	2.53

18 Mar 2002 11:42 ALPHA/BETA - 1.09 Page #1
Protocol #: 2 PW H3 #403727 User : [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	3.77
Region B:	2.0 -	18.6	0	0.0	6.69
Region C:	40.0 -	2000	0	0.0	11.92

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0453 HARVEY(19) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT2.DAT
Count Data Filename: C:\DATA\SDATA2.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.77	6.69	11.92	556.21	8	B		0.00
0	2.00	396.11	384.70	1.36	509.38	1		823.63	24.67
1	2.00	4.47	4.55	0.00	652.54	0		8.24	9.30
2	2.00	0.73	0.19	0.00	512.83	0		1.51	8.76
3	2.00	0.00	0.00	0.00	535.97	0		0.00	0.00
4	2.00	2.73	2.81	0.00	637.83	0		5.10	8.73
5	2.00	10.80	10.06	0.00	523.64	0		22.17	12.76
6	2.00	2.58	2.49	0.00	540.30	0		5.22	8.40
7	2.00	2.94	2.52	0.00	585.51	0		5.73	8.20
8	2.00	2.23	1.86	4.58	572.81	0		4.39	8.00
9	2.00	0.00	0.00	0.00	581.77	0		0.00	0.00
10	2.00	0.00	0.00	0.00	550.80	0		0.00	0.00
11	2.00	0.00	0.00	0.00	560.97	0		0.00	0.00
12	2.00	0.84	0.57	0.00	641.77	6		1.56	7.91
13	2.00	3.46	3.12	0.00	681.85	0		6.25	8.73
14	2.00	0.00	0.00	1.58	526.87	0		0.00	0.00
15	2.00	0.00	0.00	0.00	575.58	0		0.00	0.00
16	2.00	1.03	1.10	0.00	498.45	0		2.16	8.06
17	2.00	0.00	0.00	0.58	492.26	0		0.00	0.00
18	2.00	0.00	0.00	3.08	464.14	0		0.00	0.00
19	2.00	0.73	0.12	0.00	548.21	0		1.46	8.48

SYSTEM NORMALIZED

C14 IPA DATA PROCESSED - 18-Mar-2002 12:51
C14 Eff (0-156 keV) = 96.33 %
H3 IPA DATA PROCESSED - 18-Mar-2002 12:53
H3 Eff (0-18.6 keV) = 62.32 %

North

Building 51 Upper FLOOR

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
3	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
4	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
5	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
6	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
7	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
8	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
9	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
10	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
11	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176
12	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192
13	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208

- DIRECT MEASUREMENT LOCATION

6 of 22

	Facing North															
Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224
2	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
3	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256
4	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272
5	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288
6	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304
7	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
8																
9																
10																
11																
12																
13																

Building 51 Upper NORTH WALL

- DIRECT MEASUREMENT LOCATION

7 of 22

Facing South

Building 51 Upper SOUTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	321	322	323	324	325	326	327	328	329	330						
2	331	332	333	334	335	336	337	338	339	340						
3	341	342	343	344	345	346	347	348	349	350						
4	351	352	353	354	355	356	357	358	359	360						
5	361	362	363	364	365	366	367	368	369	370						
6	371	372	373	374	375	376	377	378	379	380						
7	381	382	383	384	385	386	387	388	389	390						
8																
9																
10																
11																
12																
13																

8 of 22

← North

Building 51 Upper EAST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	391	392	393	394	395	396	397	398	399	400	401	402	403			
2	404	405	406	407	408	409	410	411	412	413	414	415	416			
3	417	418	419	420	421	422	423	424	425	426	427	428	429			
4	430	431	432	433	434	435	436	437	438	439	440	441	442			
5	443	444	445	446	447	448	449	450	451	452	453	454	455			
6	456	457	458	459	460	461	462	463	464	465	466	467	468			
7	469	470	471	472	473	474	475	476	477	478	479	480	481			
8																
9																
10																
11																
12																
13																

- DIRECT MEASUREMENT LOCATION

9 of 22

North

Building 51 Upper WEST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	482	483	484	485	486	487	488	489	490	491	492	493	494			
2	495	496	497	498	499	500	501	502	503	504	505	506	507			
3	508	509	510	511	512	513	514	515	516	517	518	519	520			
4	521	522	523	524	525	526	527	528	529	530	531	532	533			
5	534	535	536	537	538	539	540	541	542	543	544	545	546			
6	547	548	549	550	551	552	553	554	555	556	557	558	559			
7	560	561	562	563	564	565	566	567	568	569	570	571	572			
8																
9																
10																
11																
12																
13																

- DIRCET MEASUREMENT LOCATION

North

Building 51 Upper CEILING/ROOF

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588
2	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604
3	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
4	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636
5	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652
6	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668
7	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684
8	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
9	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716
10	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732
11	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748
12	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764
13	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780

→ DIRECT MEASUREMENT LOCATION

North

Building 51-101 FLOOR

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	781	782	783													
2	784	785	786													
3	787	788	789													
4	790	791	792													
5	793	794	795													
6																
7																
8																
9																
10																
11																
12																
13																

Facing North

Building 51-101 NORTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	796	797	798													
2	799	800	801													
3	802	803	804													
4	805	806	807													
5	808	809	810													
6																
7																
8																
9																
10																
11																
12																
13																

Facing South

Building 51-101 SOUTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	811	812	813													
2	814	815	816													
3	817	818	819													
4	820	821	822													
5																
6																
7																
8																
9																
10																
11																
12																
13																

← North

Building 51-101 EAST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	823	824	825	826	827											
2	828	829	830	831	832											
3	833	834	835	836	837											
4	838	839	840	841	842											
5																
6																
7																
8																
9																
10																
11																
12																
13																

15 of 22

North →

Building 51-101 WEST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	843	844	845	846	847											
2	848	849	850	851	852											
3	853	854	855	856	857											
4	858	859	860	861	862											
5																
6																
7																
8																
9																
10																
11																
12																
13																

- DIRECT MEASUREMENT LOCATION

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North

Building 51-109 FLOOR Map

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	878	879	880													
2	881	882	883													
3	884	885	886													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

Facing North

Building 51-109 NORTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	887	888	889													
2	890	891	892													
3	893	894	895													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

18 of 22

Facing South

Building 51-109 SOUTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	896	897	898													
2	899	900	901													
3	902	903	904													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

– DIRECT MEASUREMENT LOCATION

← North

Building 51-109 EAST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	905	906	907													
2	908	909	910													
3	911	912	913													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

North →

Building 51-109 WEST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	914	915	916													
2	917	918	919													
3	920	921	922													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

North

Building 51-109 CEILING Map

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	923	924	925													
2	926	927	928													
3	929	930	931													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 Survey Unit 1 & 2	SURVEY NO. 02-TF-0454
PURPOSE: MARSSIM Survey	RWP NO. N/A
	DATE: 3-16-02
	TIME: 1330

MAP/DRAWING

DESCRIPTION:	PAGE
SMEAR LOCATIONS	1
SMEAR RESULTS	7-10
DIRECT MEASUREMENT LOCATIONS (MAPS)	5, 6
DIRECT MEASUREMENTS	3, 4

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5073/5143	8-21-02

Completed by: (Signature)	HP# [redacted]	Date: 4-2-02
Completed by: (Print Name) MICHAEL J RUBADUE		
Counted by: (Signature) SEE	HP#	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature)	HP# [redacted]	Date: 04-10-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			SU1 J11
2				J7
3				J3
4				J16
5				F30
6				F5
7				F18
8				F9
9				F26
10				F1
11				F22
12				F13
13				A3
14				A12
15				A7
16				A16
17				A20
18				N1
19				N5
20				SU1 N9
21				SU2 R6
22				N5
23				R10
24				R3
25				C6
26				G8
27				C10
28				G12
29				C14
30				G15
31				J17
32				J14
33				J10
34				N12
35	SEE ATTACHED			SU2 N16

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE ATTACHED			SU2 J6

A

COMMENTS: SMEAR FIELD SCREENED <1000 dpm /100cm²

N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-TF-0454 RCT: DJH RCT: MJR

43-20 BKG:	0	EFF:	0.166	PROBE AREA:	181	cm	Surface Eff:		1	Sheet metal Surfaces
~~43-37 BKG:~~	~~0~~	~~EFF:~~	~~0.183~~	~~PROBE AREA:~~	~~584~~	~~cm~~	~~Surface Eff:~~		~~0.5~~	~~Not used~~ 4-10-02

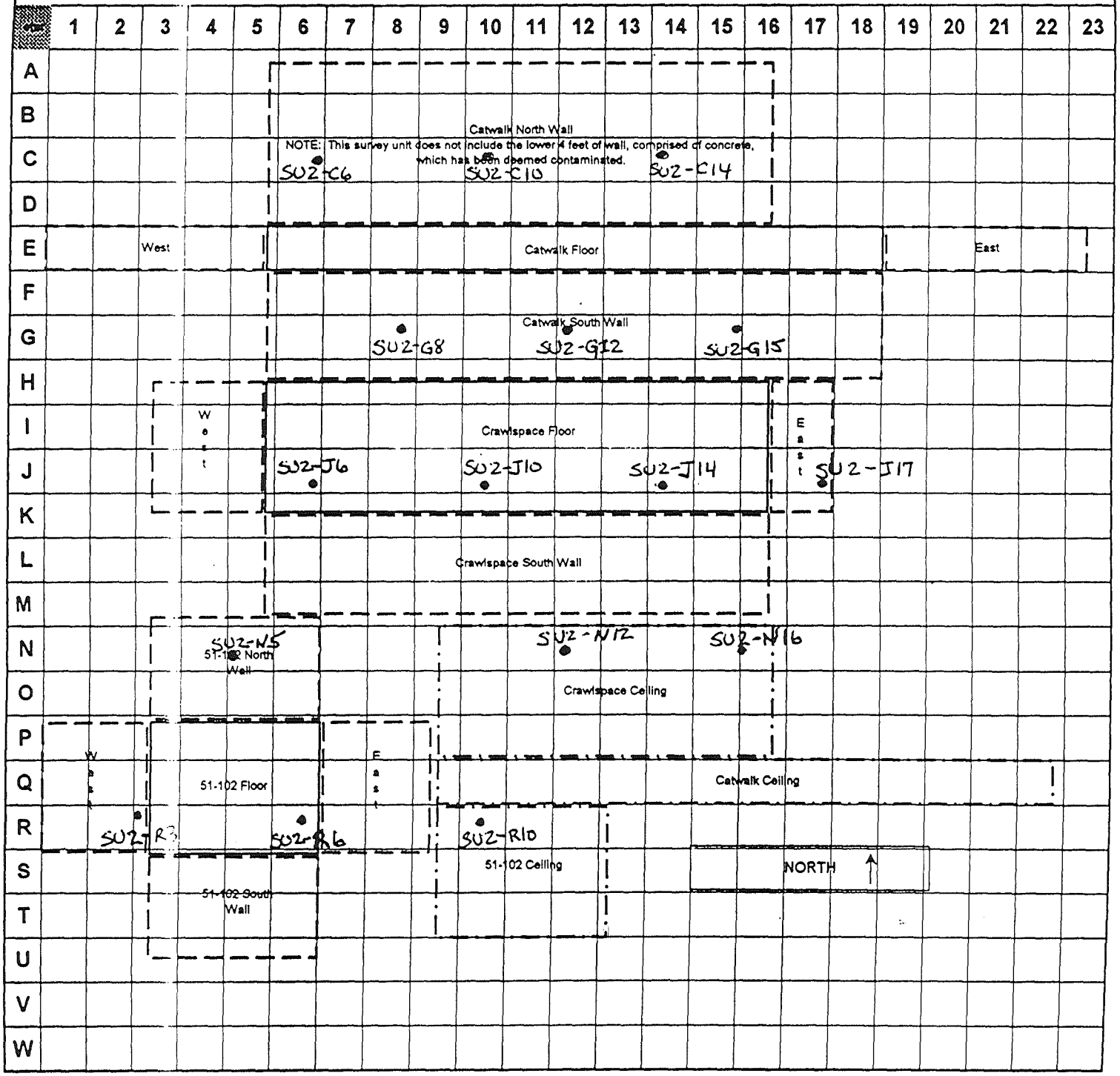
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5673	[redacted]	5143	2		3/16/02	8:19	32	300	21
SRCCHECK	5673	[redacted]	5143	2		3/16/02	8:22	2211	60	7359
SRCCHECK	5673	[redacted]	5143	2		3/16/02	8:25	2354	60	7835
SRCCHECK	5673	[redacted]	5143	2		3/16/02	8:26	2237	60	7445
SRCCHECK	5673	[redacted]	5143	2		3/16/02	8:28	2140	60	7122
51SU1 J 11	5673	[redacted]	5143	2	1	3/16/02	11:53	3	60	10
51SU1 J 7	5673	[redacted]	5143	2	2	3/16/02	11:54	8	60	27
51SU1 J 3	5673	[redacted]	5143	2	3	3/16/02	11:55	4	60	13
51SU1 J 16	5673	[redacted]	5143	2	4	3/16/02	11:57	2	60	7
51SU1 F 30	5673	[redacted]	5143	2	5	3/16/02	11:59	2	60	7
51SU1 F 5	5673	[redacted]	5143	2	6	3/16/02	12:01	10	60	33
51SU1 F 18	5673	[redacted]	5143	2	7	3/16/02	12:03	4	60	13
51SU1 F 9	5673	[redacted]	5143	2	8	3/16/02	12:04	7	60	23
51SU1 F 26	5673	[redacted]	5143	2	9	3/16/02	12:06	4	60	13
51SU1 F 1	5673	[redacted]	5143	2	10	3/16/02	12:07	7	60	23
51SU1 F 22	5673	[redacted]	5143	2	11	3/16/02	12:09	4	60	13
51SU1 F 13	5673	[redacted]	5143	2	12	3/16/02	12:10	4	60	13
51SU1 A 3	5673	[redacted]	5143	2	13	3/16/02	12:12	8	60	27
51SU1 A 12	5673	[redacted]	5143	2	14	3/16/02	12:14	6	60	20
51SU1 A 7	5673	[redacted]	5143	2	15	3/16/02	12:16	5	60	17
51SU1 A 16	5673	[redacted]	5143	2	16	3/16/02	12:17	4	60	13
51SU1 A 20	5673	[redacted]	5143	2	17	3/16/02	12:19	4	60	13
51SU1 N 1	5673	[redacted]	5143	2	18	3/16/02	12:21	2	60	7
51SU1 N 5	5673	[redacted]	5143	2	19	3/16/02	12:23	4	60	13
51SU1 N 9	5673	[redacted]	5143	2	20	3/16/02	12:25	7	60	23
51SU2 R 6	5673	[redacted]	5143	2	21	3/16/02	12:41	1	60	3
51SU2 N 5	5673	[redacted]	5143	2	22	3/16/02	12:43	2	60	7
51SU2 R 10	5673	[redacted]	5143	2	23	3/16/02	12:45	6	60	20
51SU2 R 3	5673	[redacted]	5143	2	24	3/16/02	12:46	3	60	10
51SU2 C 6	5673	[redacted]	5143	2	25	3/16/02	12:48	7	60	23
51SU2 G 8	5673	[redacted]	5143	2	26	3/16/02	12:50	1	60	3
51SU2 C 10	5673	[redacted]	5143	2	27	3/16/02	12:52	1	60	3
51SU2 G 12	5673	[redacted]	5143	2	28	3/16/02	12:54	3	60	10
51SU2 C 14	5673	[redacted]	5143	2	29	3/16/02	12:55	1	60	3
51SU2 G 15	5673	[redacted]	5143	2	30	3/16/02	12:57	5	60	17
51SU2 J 17	5673	[redacted]	5143	2	31	3/16/02	12:59	3	60	10
51SU2 J 14	5673	[redacted]	5143	2	32	3/16/02	13:01	5	60	17

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-TF-0454 RCT: [illegible] RCT: MJK

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
51SU2 J 10	5673	[redacted]	5143	2	33	3/16/02	13:03	4	60	13
51SU2 N 12	5673	[redacted]	5143	2	34	3/16/02	13:04	2	60	7
51SU2 N 16	5673	[redacted]	5143	2	35	3/16/02	13:06	5	60	17
51SU2 J 6	5673	[redacted]	5143	2	36	3/16/02	13:08	5	60	17

Bldg 51 SURVEY UNIT 2



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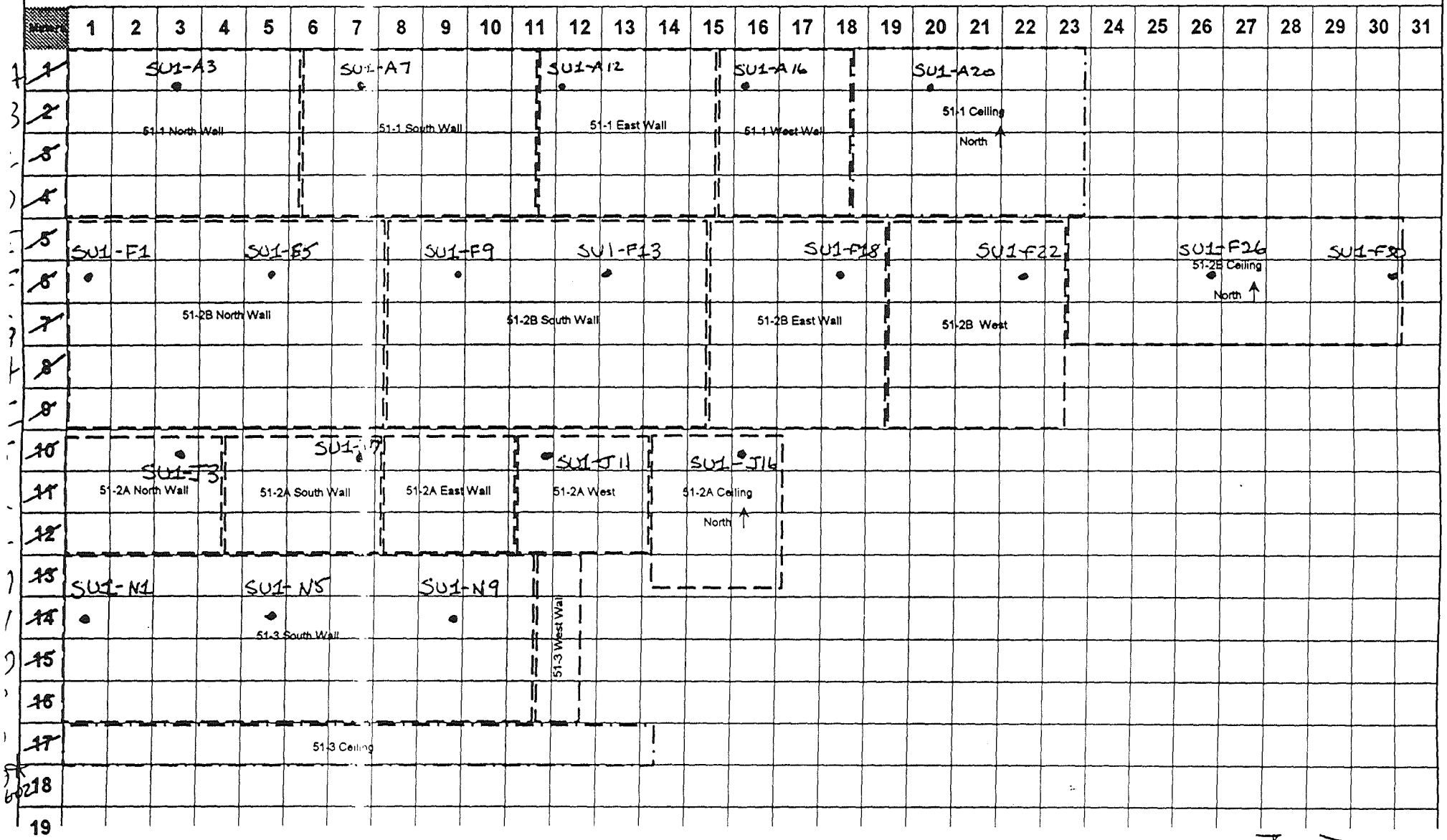
02-TF-0454 Rev A

Bldg 51 - SURVEY UNIT 1



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A9A

02-F-0454

Alpha/Beta Analysis

Batch ID: 02-TF-0454 HARVEY(36) BSB

Batch File: Smear Unit 3 - 200203180825
Group: D
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 59123

Acquisition Date: 3/18/2002
Count Time (min): 1.5
Recalibration Date: 5/24/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	24	0.00	0.90	0.00	4.85
2	17	0.00	0.90	0.00	4.10
3	5	0.00	0.90	0.00	4.85
4	33	0.00	0.90	0.00	4.85
5	100	0.00	0.90	0.00	4.85
6	111	0.00	0.90	0.79	5.50
7	95	0.00	0.90	0.79	5.50
8	89	0.00	0.90	0.00	4.85
9	9	1.19	3.89	0.00	3.18
10	62	0.00	0.90	0.00	4.85
11	143	0.00	0.90	0.00	4.10
12	83	1.19	3.89	0.00	4.85
13	93	0.00	0.90	0.00	4.85
14	21	1.19	3.89	0.00	3.18
15	8	3.08	5.43	0.00	4.10
16	39	0.00	0.90	0.00	4.85
17	14	4.98	6.63	0.00	4.86
18	58	1.19	3.89	0.00	4.85
19	83	0.00	0.90	0.79	5.50
20	114	1.19	3.89	0.78	5.50
		MDC		MDC	

B Smith Brown

ountLab Results - 02-TF-04.pdf

019of

nLab Results - 02-TF-04.pdf

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
21	148	0.00	0.90	0.79	5.50
22	68	0.00	0.90	0.00	3.18
23	128	0.00	0.90	0.00	4.10
24	56	0.00	0.90	0.00	3.18
25	131	0.00	0.90	3.38	6.60
26	108	0.00	0.90	0.79	5.50
27	146	0.00	0.90	0.79	5.50
28	89	3.08	5.43	2.06	6.08
29	133	0.00	0.90	0.00	4.10
30	5	0.00	0.90	0.00	4.85
31	8	1.19	3.89	0.00	4.85
32	124	0.00	0.90	0.00	4.10
33	26	1.19	3.89	0.78	5.50
34	55	0.00	0.90	0.00	4.85
35	133	4.98	6.63	2.05	6.08
36	139	1.19	3.89	0.78	5.50

MDA MDA

02-TF-0454 HARVEY(36) BSB

PASS

18 Mar 2002 09:38 ALPHA/BETA - 1.09 Page #1
Protocol #: 1 PW H3 #403727 User : [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	10.60
Region B:	2.0 -	18.6	0	0.0	10.09
Region C:	40.0 -	2000	0	0.0	10.94

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0454 HARVEY(36) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT1.DAT
Count Data Filename: C:\DATA\SDATA1.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	10.60	10.09	10.94	608.46	5	B		0.00
0	2.00	753.03	732.07	0.06	535.71	0		1531.50	137.58
1	2.00	0.00	0.00	2.06	575.54	0		0.00	0.00
2	2.00	0.49	0.25	1.50	584.36	0		0.95	10.04
3	2.00	0.00	0.00	2.56	541.58	0		0.00	0.00
4	2.00	0.00	0.00	0.00	620.11	0		0.00	0.00
5	2.00	0.63	0.26	1.56	651.68	0		1.16	9.36
6	2.00	0.00	0.00	2.06	637.09	0		0.00	0.00
7	2.00	0.00	0.00	0.00	631.99	0		0.00	0.00
8	2.00	0.00	0.00	5.06	653.35	0		0.00	0.00
9	2.00	0.00	0.00	0.00	641.79	0		0.00	0.00
10	2.00	0.00	0.00	4.06	582.64	0		0.00	0.00
11	2.00	0.00	0.00	0.00	576.55	0		0.00	0.00
12	2.00	0.31	0.37	7.06	592.68	0		0.61	9.31
13	2.00	0.00	0.00	3.56	627.45	0		0.00	0.00
14	2.00	0.00	0.00	0.00	581.86	0		0.00	0.00
15	2.00	0.00	0.00	2.87	619.33	0		0.00	0.00
16	2.00	0.00	0.00	0.00	613.39	0		0.00	0.00
17	2.00	0.00	0.00	5.56	620.52	0		0.00	0.00
18	2.00	0.00	0.00	0.00	546.75	0		0.00	0.00
19	2.00	0.00	0.00	1.06	604.46	0		0.00	0.00
20	2.00	1.40	1.17	0.00	585.05	0		2.73	10.38
21	2.00	0.00	0.00	0.56	541.89	0		0.00	0.00
22	2.00	0.00	0.00	3.06	599.46	0		0.00	0.00
23	2.00	0.00	0.00	0.00	549.09	0		0.00	0.00
24	2.00	0.00	0.00	0.00	540.08	0		0.00	0.00
25	2.00	0.00	0.00	0.00	533.51	0		0.00	0.00
26	2.00	0.00	0.00	0.00	570.42	0		0.00	0.00
27	2.00	0.00	0.00	0.00	652.32	0		0.00	0.00
28	2.00	0.00	0.00	0.00	443.94	0		0.00	0.00
29	2.00	0.00	0.00	0.00	542.17	0		0.00	0.00
30	2.00	0.00	0.00	0.00	663.66	0		0.00	0.00
31	2.00	0.00	0.00	0.00	562.39	0		0.00	0.00
32	2.00	0.00	0.00	0.00	546.81	0		0.00	0.00
33	2.00	0.00	0.00	0.00	435.75	0		0.00	0.00
34	2.00	0.00	0.00	0.00	483.57	0		0.00	0.00
35	2.00	0.00	0.00	0.00	515.51	0		0.00	0.00

MR

18 Mar 2002 11:30 ALPHA/BETA = 1.09 User : [redacted]

Protocol #: 1 PW H3 #403727

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
36	2.00	0.00	0.00	0.00	573.15	0	0.00	0.00

MSM

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 BUILDING	SURVEY NO 02-TF-0458
PURPOSE: MARSSIM JUDGEMENTALS	RWP NO. N/A
	DATE: 3-19-2002
	TIME 1600

MAP / DRAWING

JUDGEMENTAL SURVEY THOUGHOUT 51 BUILDING
COVERING SURVEY UNITS 1,2 AND 3

RESULTS OF LUDLUM 2350 ON PAGES 3

SMEARS REULTS ON PAGES 4 AND 5

MAPS WITH LOCTIONS OF LUDLUM 2350 AND SMEARS ON PAGES 6 THRU 24

COPY

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary
△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5673/5143	8-21-2002
	N/A	

Completed by: (Signature)	HP [redacted]	Date: 4-8-2002
Completed by: (Print Name) DANIEL J. HARVEY STEVE WIGGINS		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) RMCoblentz	HP# [redacted]	Date: 04-10-02
Reviewed/Approved by: (Print Name) RMCoblentz		

Survey No. 02-11-0400

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See	Attach	ed Print	SU3J-558
2				SU3J-463
3				SU3J-467
4				SU3J-384
5				SU3J-387
6				SU3J-548
7				SU2J-F13
8				SU2J-F17
9				SU1J-L1
10				SU1J-L3
11				SU1J-H1
12				SU1J-I3
13				SU1J-I4
14				SU1J-B7
15				SU1J-B10
16				SU1J-P3
17				SU1J-P6
18				SU3J-921
19				SU3J-912
20	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A

Removable Contamination				
Swipes (dpm/100cm²)				N/A
Sample #	β/γ	Alpha	Tritium	Comments
31	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A
44	N/A	N/A	N/A	N/A
45	N/A	N/A	N/A	N/A
46	N/A	N/A	N/A	N/A
47	N/A	N/A	N/A	N/A
48	N/A	N/A	N/A	N/A
49	N/A	N/A	N/A	N/A
50	N/A	N/A	N/A	N/A
51	N/A	N/A	N/A	N/A
52	N/A	N/A	N/A	N/A
53	N/A	N/A	N/A	N/A
54	N/A	N/A	N/A	N/A
55	N/A	N/A	N/A	N/A
56	N/A	N/A	N/A	N/A
57	N/A	N/A	N/A	N/A
58	N/A	N/A	N/A	N/A
59	N/A	N/A	N/A	N/A
60	N/A	N/A	N/A	N/A

COMMENTS: None

NOTES:

1. **See MD-80036 10002 for calculations of WB, extremity and skin dose rates.**
2. **To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.**
3. **Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.**

ML-0620A (4-96) Computer Generated

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-TF-0458 RCT: [redacted] RCT: _____

43-20 BKG:	0	EFF:	0.166	PROBE AREA:	181	cm	Surface Eff:		1	SHEETMETAL SUFACES
~~43-37 BKG:~~	~~0~~	~~EFF:~~	~~0.183~~	~~PROBE AREA:~~	~~584~~	~~cm~~	~~Surface Eff:~~		~~0.5~~	NOT USED Dept 4-10-02
LOCATION	**2350#**	**RCT ID**	**PROBE**	**DET #**	**ITEM #**	**DATE**	**TIME**	**CNTS**	**CT TIME**	**dpm/100cm2**
SRC BKG	5673	[redacted]	5143	2		3/19/02	9:23	22	300	15
SRCCHECK	5673	[redacted]	5143	2		3/19/02	9:52	2405	60	8004
SRCCHECK	5673	[redacted]	5143	2		3/19/02	9:53	2235	60	7433
SRCCHECK	5673	[redacted]	5143	2		3/19/02	9:55	2006	60	6676
SRCCHECK	5673	[redacted]	5143	2		3/19/02	9:56	2221	60	7392
SU3J 558	5673	[redacted]	5143	2	1	3/19/02	14:00	13	115	23
SU3J 463	5673	[redacted]	5143	2	2	3/19/02	14:03	22	115	38
SU3J 467	5673	[redacted]	5143	2	3	3/19/02	14:06	8	115	14
SU3J 384	5673	[redacted]	5143	2	4	3/19/02	14:09	10	115	17
SU3J 387	5673	[redacted]	5143	2	5	3/19/02	14:12	9	115	16
SU3J 548	5673	[redacted]	5143	2	6	3/19/02	14:14	15	115	26
SU2J F13	5673	[redacted]	5143	2	7	3/19/02	14:24	5	115	9
SU2J F17	5673	[redacted]	5143	2	8	3/19/02	14:26	8	115	14
SU1J L1	5673	[redacted]	5143	2	9	3/19/02	14:30	13	115	23
SU1J L3	5673	[redacted]	5143	2	10	3/19/02	14:33	6	115	10
SU1J H1	5673	[redacted]	5143	2	11	3/19/02	14:35	7	115	12
SU1J I3	5673	[redacted]	5143	2	12	3/19/02	14:38	9	115	16
SU1J I4	5673	[redacted]	5143	2	13	3/19/02	14:45	11	115	19
SU1J B7	5673	[redacted]	5143	2	14	3/19/02	14:47	10	115	17
SU1J B10	5673	[redacted]	5143	2	15	3/19/02	14:50	13	115	23
SU1J P3	5673	[redacted]	5143	2	16	3/19/02	15:45	5	115	9
SU1J P6	5673	[redacted]	5143	2	17	3/19/02	15:48	4	115	7
SU3J 921	5673	[redacted]	5143	2	18	3/19/02	15:57	10	115	17
SU3J 912	5673	[redacted]	5143	2	19	3/19/02	16:00	11	115	19

Alpha/Beta Analysis

Batch ID: 02-TF-0458 HARVEY(19) BSB

Batch File: Smear Unit 1 - 00203200936

Group: A

Device: Unit 1

Geometry: Swipe/Smear

Serial Number: 64937

Acquisition Date: 3/20/2002

Count Time (min): 1.5

Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	55	0.00	0.66	2.79	4.68
2	48	3.61	5.66	1.64	4.09
3	8	1.62	4.03	1.64	4.09
4	41	3.61	5.66	2.77	4.68
5	54	3.61	5.66	0.50	3.40
6	94	1.62	4.03	0.51	3.40
7	29	5.59	6.91	6.18	6.12
8	36	7.58	7.98	5.04	5.69
9	11	0.00	0.66	7.34	6.53
10	24	1.62	4.03	0.00	2.53
11	18	0.00	0.66	0.51	3.40
12	18	0.00	0.66	0.51	3.40
13	134	0.00	0.66	0.00	2.53
14	42	3.61	5.66	0.50	3.40
15	17	0.00	0.66	3.93	5.21
16	89	3.61	5.66	2.77	4.68
17	100	7.58	7.98	1.62	4.10
18	12	0.00	0.66	5.06	5.68
19	127	3.60	5.66	5.05	5.68

29 H 29 H

YB Smith-Brown

4/26/04

nitLab Results - 02-TF-04.pdf

20 Mar 2002 10:06 ALPHA/BETA - 1.09 Page #1
Protocol #: 3 Pw H3 405828 User [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2SX	ERG
Region A:	0.5 -	18.6	0	0.0	8.55
Region B:	2.0 -	18.6	0	0.0	7.98
Region C:	40.0 -	2000	0	0.0	12.40

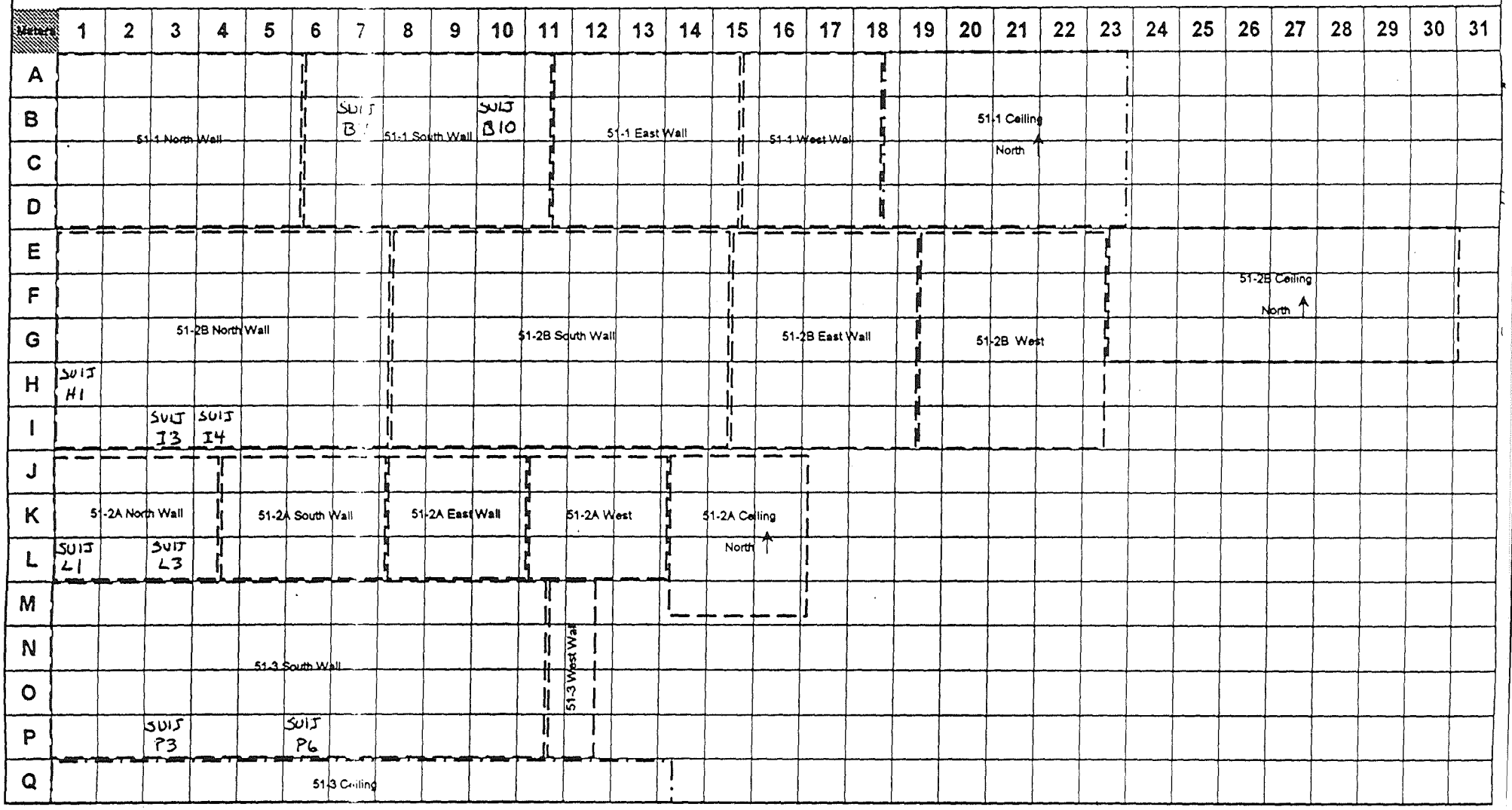
Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0458 HARVEY(19) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT3.DAT
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.55	7.98	0	B	526.70		0.00	12.40
0	2.00	885.91	833.83	0		520.61	1862.77	167.23	2.60
1	2.00	8.64	8.52	0		500.64	18.50	13.24	7.60
2	2.00	5.45	4.79	0		576.12	10.90	11.24	13.60
3	2.00	1.95	2.52	0		403.71	4.77	12.07	4.60
4	2.00	0.00	0.00	0		448.61	0.00	0.00	3.60
5	2.00	0.00	0.00	0		458.06	0.00	0.00	0.00
6	2.00	0.00	0.00	0		552.15	0.00	0.00	0.00
7	2.00	5.95	5.60	0		565.79	12.01	11.53	0.00
8	2.00	0.00	0.00	0		449.97	0.00	0.00	0.00
9	2.00	3.95	3.85	0		543.35	8.14	11.00	0.00
10	2.00	0.00	0.00	0		544.01	0.00	0.00	1.60
11	2.00	2.45	2.53	0		444.69	5.65	11.63	0.00
12	2.00	0.00	0.00	0		573.07	0.00	0.00	4.10
13	2.00	0.00	0.00	0		539.55	0.00	0.00	1.10
14	2.00	0.00	0.00	0		343.27	0.00	0.00	0.60
15	2.00	0.00	0.00	0		481.94	0.00	0.00	0.00
16	2.00	0.45	0.88	0		523.96	0.95	9.70	0.00
17	2.00	0.00	0.52	0		473.45	0.00	0.00	5.10
18	2.00	5.32	5.23	0		477.30	11.75	12.35	1.60
19	2.00	0.00	0.00	0		515.09	0.00	0.00	0.00

DJH

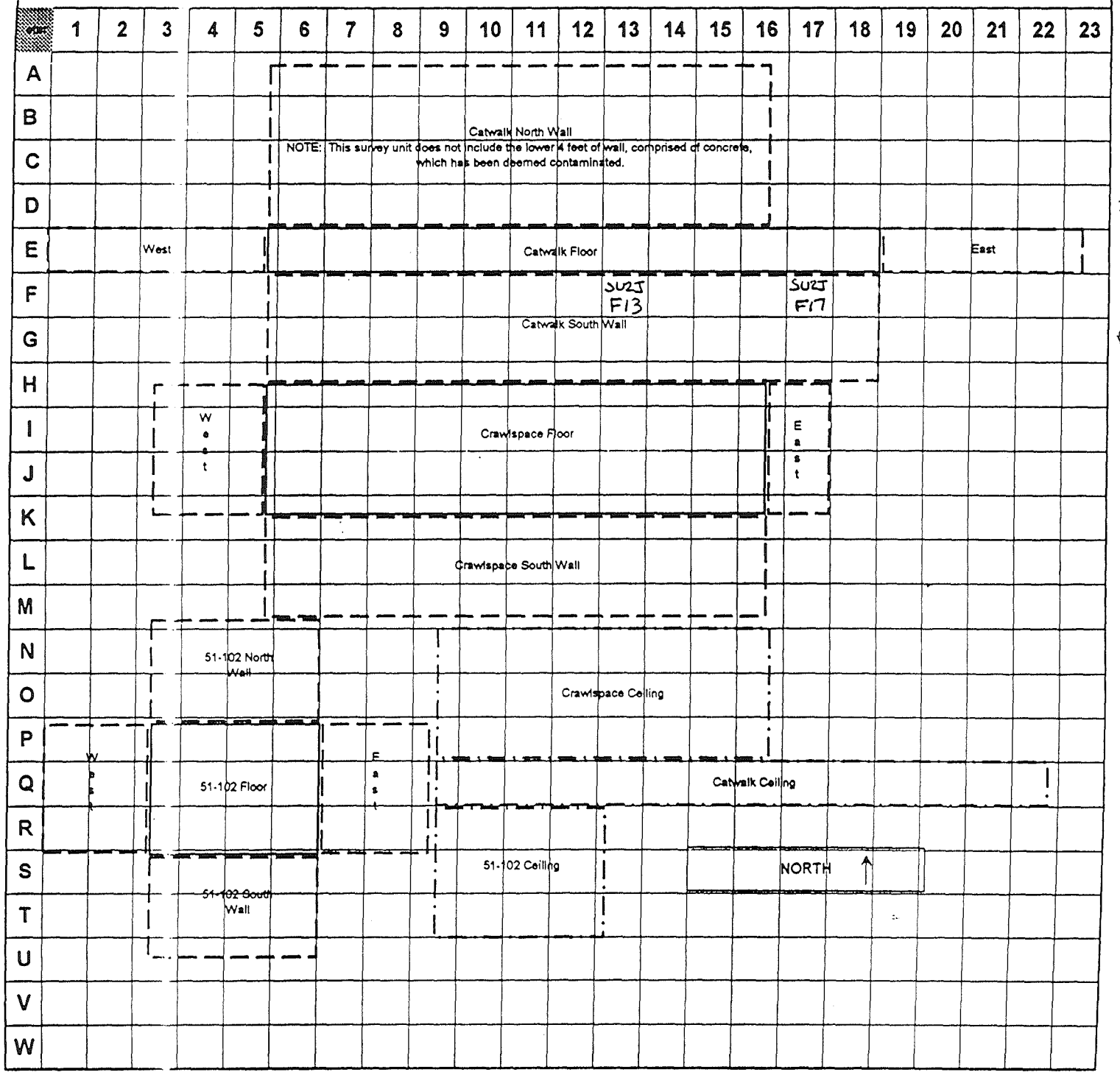
B Smith-Brown

Bldg 51 - SURVEY UNIT 1



68 24

Bldg 51 SURVEY UNIT 2



ADA 8540-FL-20

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North

Building 51 Upper FLOOR

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
3	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
4	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
5	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
6	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
7	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
8	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
9	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
10	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
11	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176
12	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192
13	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208

#6N

02-TF-0458

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Facing North

Building 51 Upper NORTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224
2	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
3	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256
4	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272
5	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288
6	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304
7	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
8																
9																
10																
11																
12																
13																

NGR

8540-71-20

Facing South

Building 51 Upper SOUTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	321	322	323	324	325	326	327	328	329	330						
2	331	332	333	334	335	336	337	338	339	340						
3	341	342	343	344	345	346	347	348	349	350						
4	351	352	353	354	355	356	357	358	359	360						
5	361	362	363	364	365	366	367	368	369	370						
6	371	372	373	374	375	376	377	378	379	380						
7	381	382	383	SU3J 384 384	385	386	SU3J 387 387	388	389	390						
8																
9																
10																
11																
12																
13																

ASA

02-TF-0458

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← North

Building 51 Upper EAST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	391	392	393	394	395	396	397	398	399	400	401	402	403			
2	404	405	406	407	408	409	410	411	412	413	414	415	416			
3	417	418	419	420	421	422	423	424	425	426	427	428	429			
4	430	431	432	433	434	435	436	437	438	439	440	441	442			
5	443	444	445	446	447	448	449	450	451	452	453	454	455			
6	456	457	458	459	460	461	462	SU3J 463 463	464	465	466	SU3J 467 467	468			
7	469	470	471	472	473	474	475	476	477	478	479	480	481			
8																
9																
10																
11																
12																
13																

HGR

02-TF-0458

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North

Building 51 Upper WEST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	482	483	484	485	486	487	488	489	490	491	492	493	494			
2	495	496	497	498	499	500	501	502	503	504	505	506	507			
3	508	509	510	511	512	513	514	515	516	517	518	519	520			
4	521	522	523	524	525	526	527	528	529	530	531	532	533			
5	534	535	536	537	538	539	540	541	542	543	544	545	546			
6	547	SU3J 548 548	549	550	551	552	553	554	555	556	557	SU3J 558 558	559			
7	560	561	562	563	564	565	566	567	568	569	570	571	572			
8																
9																
10																
11																
12																
13																

ASP

02-TF-0458

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North

Building 51 Upper CEILING/ROOF

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588
2	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604
3	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
4	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636
5	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652
6	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668
7	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684
8	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
9	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716
10	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732
11	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748
12	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764
13	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780

HSA

02-TF-0458

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North

Building 51-101 FLOOR

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	781	782	783													
2	784	785	786													
3	787	788	789													
4	790	791	792													
5	793	794	795													
6																
7																
8																
9																
10																
11																
12																
13																

PAGE

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Facing North

Building 51-101 NORTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	796	797	798													
2	799	800	801													
3	802	803	804													
4	805	806	807													
5	808	809	810													
6																
7																
8																
9																
10																
11																
12																
13																

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Facing South

Building 51-101 SOUTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	811	812	813													
2	814	815	816													
3	817	818	819													
4	820	821	822													
5																
6																
7																
8																
9																
10																
11																
12																
13																

ASP

8540-FL-20

← North

Building 51-101 EAST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	823	824	825	826	827											
2	828	829	830	831	832											
3	833	834	835	836	837											
4	838	839	840	841	842											
5																
6																
7																
8																
9																
10																
11																
12																
13																

ASH

02-TF-04558

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North →

Building 51-101 WEST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	843	844	845	846	847											
2	848	849	850	851	852											
3	853	854	855	856	857											
4	858	859	860	861	862											
5																
6																
7																
8																
9																
10																
11																
12																
13																

B7A

02-TF-0458

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North

Building 51-109 FLOOR Map

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	878	879	880													
2	881	882	883													
3	884	885	886													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

ADR

8540-11-20

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Facing North

Building 51-109 NORTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	887	888	889													
2	890	891	892													
3	893	894	895													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

2-4

02-TF-0458

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Facing South

Building 51-109 SOUTH WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	896	897	898													
2	899	900	901													
3	902	903	904													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

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← North

Building 51-109 EAST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	905	906	907													
2	908	909	910													
3	911	912	913													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

North →

Building 51-109 WEST WALL

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	914	915	916													
2	917	918	919													
3	920	921	922													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

SB3J
921
921

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North

Building 51-109 CEILING Map

Meters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	923	924	925													
2	926	927	928													
3	929	930	931													
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																

02-TF-04458

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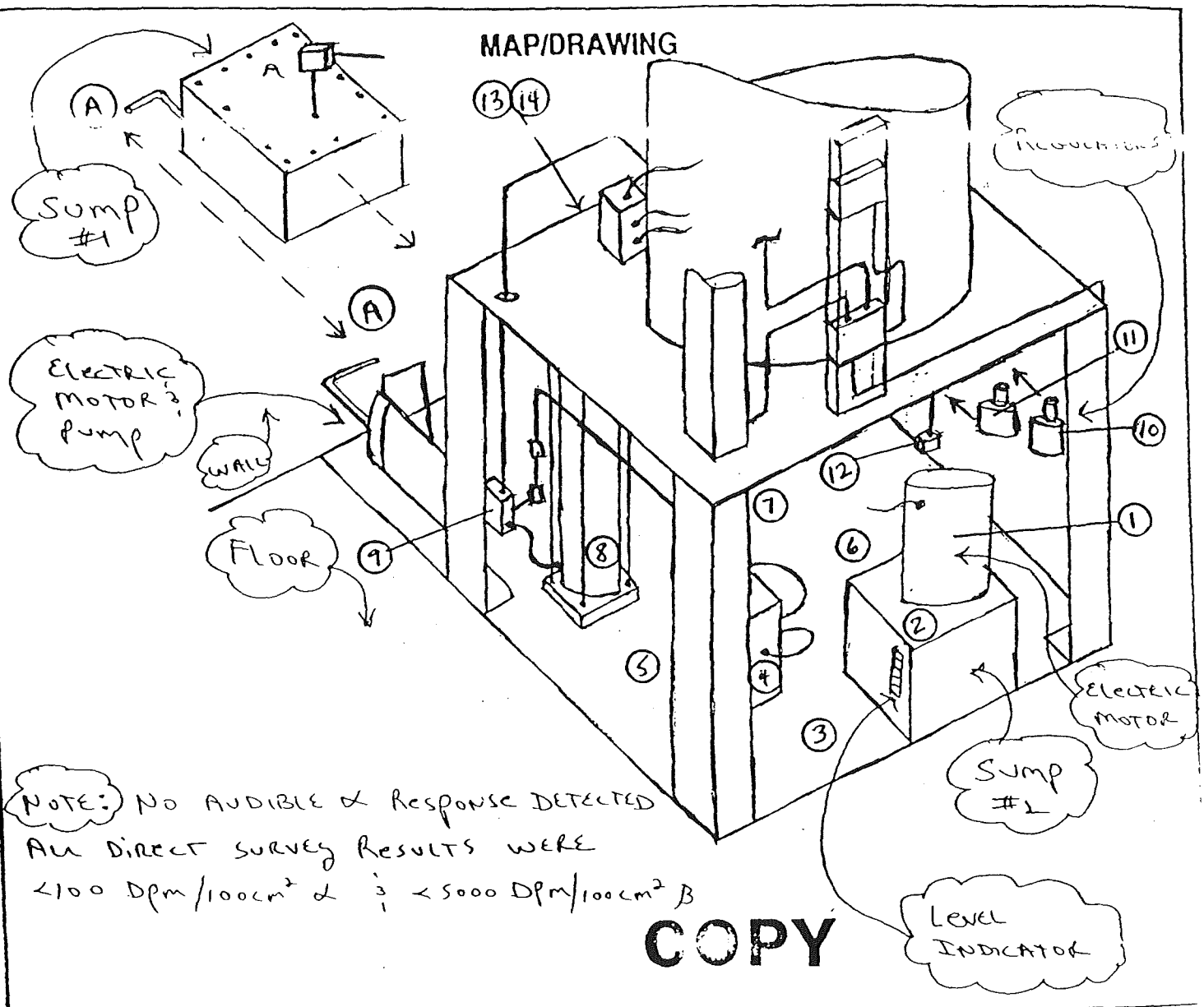
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) BUILDING 51 Room 2A	SURVEY NO. 02-TF-0524
PURPOSE: ISOSTATIC PRESS	RWP NO. N/A
	DATE: 3/26/02
	TIME: 0930

MAP/DRAWING



NOTE: No audible α response detected. All direct survey results were <100 dpm/100cm² α & <5000 dpm/100cm² β

COPY

LEGEND: # = mrem/hr (γ) whole body; # E = mrem/hr (β+η+γ) extremity on contact; # = mrem/hr neutron; # = air sample number; # = swipe number; #/α or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5603/5604	2-6-03
	N/A	

Completed by: (Signature)	[redacted]	Date: 3-26-02
Completed by: (Print Name) DANIEL J. HARVEY / STEVE WIGGINS		
Counted by: (Signature) SEE	HPd	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HPd [redacted]	Date: 03/28/02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #.	β/γ	Alpha	Tritium	Comments
1	SEE			MOTOR
2		ATTACHED		SUMP CASE
3				FLOOR
4				ELE. BOX
5-7				FLOOR
8				BASE PILAR
9				FITTINGS
10-11				FITTINGS
12				FITTINGS
13-14	✓	✓	✓	FITTINGS UNDERPLATE
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-60036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-96)

Alpha/Beta Analysis

Batch ID: 02-TF-0524 HARVEY(14) BSB

Batch File: Smear Unit 1 - 200203261045
Group: J
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 3/26/2002
Count Time (min): 1.5
Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	34	0.00	0.66	1.65	4.09
2	56	0.00	0.66	1.65	4.09
3	1	0.00	0.66	0.00	2.53
4	140	5.59	6.91	3.90	5.21
5	142	0.00	0.66	1.65	4.09
6	11	1.62	4.03	0.00	2.53
7	133	0.00	0.66	1.65	4.09
8	55	0.00	0.66	3.93	5.21
9	33	1.62	4.03	2.78	4.68
10	108	0.00	0.66	2.79	4.68
11	24	0.00	0.66	5.06	5.68
12	11	1.62	4.03	5.06	5.68
13	48	0.00	0.66	1.65	4.09
14	8	0.00	0.66	1.65	4.09
		29A		29A	

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~~1 of~~

CountLab Results - 02-TF-05.pdf

26 Mar 2002 11:38 ALPHA/BETA - 1.08 Page #1
Protocol #: 3 Pw H3 405828 User : [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	8.34
Region B:	2.0	- 18.6	0	0.0	8.06
Region C:	40.0	- 2000	0	0.0	11.10

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0524 HARVEY(14) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT3.DAT
Count Data Filename: c:\data\SDATA3.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	8.34	8.06	0	B	529.75		0.00	11.10
0	2.00	904.74	852.23	0		519.42	1904.48	170.46	0.00
1	2.00	0.00	0.00	0		583.80	0.00	0.00	1.90
2	2.00	0.00	0.00	0		543.18	0.00	0.00	0.00
3	2.00	0.00	0.00	0		445.04	0.00	0.00	0.00
4	2.00	0.00	0.16	0		473.36	0.00	0.00	0.00
5	2.00	0.16	0.09	0		641.40	0.31	8.53	0.00
6	2.00	0.00	0.00	0		415.83	0.00	0.00	0.90
7	2.00	0.00	0.00	0		477.65	0.00	0.00	0.00
8	2.00	0.00	0.00	0		400.05	0.00	0.00	0.00
9	2.00	0.00	0.00	0		521.76	0.00	0.00	1.24
10	2.00	0.00	0.00	0		535.03	0.00	0.00	0.00
11	2.00	0.00	0.00	0		561.01	0.00	0.00	0.00
12	2.00	0.00	0.00	0		410.53	0.00	0.00	0.00
13	2.00	0.00	0.00	0		448.80	0.00	0.00	0.00
14	2.00	0.00	0.00	0		563.59	0.00	0.00	0.00

DJH
B Smith Brown

~~4 of 4~~
4 of 5
e 4/4/02

RSDS # 02-TF-0524
4/4/02

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
3/28/02	oil	STEVE WILKINS	1
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
SMPP/TFV	STEVE WILKINS 4324		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
J00489	3/27/02	02-TF-0524	

ANALYSES REQUESTED (check):

- ☑ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☑ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☐ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U_____ Th____ Am____ Other_____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0203358	51 ISO PRESS	1	< 0.0078 nCi/mL ^3H
	Sump #2		
			< 1.93 dpm/mL α

COMMENTS:

ANALYZED BY:	DATE:
Bradley D Jones	4/1/02

ML-5222 (1-0)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 SURVEY UNIT'S 1&2	SURVEY NO 02-TF-0534
PURPOSE: 25% SCAN SURVEY OF CLASS 2 AREAS	RWP NO. N/A
	DATE: 3-20-02 TO 3-26-02
	TIME: 1330

MAP / DRAWING

INTEGRATED COUNTS PERFORMED WHERE AUDIBLE RESPONSE DETECTED.

THESE AREAS MARKED ON MAPS. (SEE ATTACHED)

ALL OTHER DIREST SURVEY RESULTS <100dpm/100cm2 ALPHA

AT LOCATION SU2 L 15 475dpm/100cm2 DIRECT 17.83dpm/100cm2 REMOVABLE

SMEAR SENT FOR ISOTOPIC RESULTS ATTACHED

COPY

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

— · — · - = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5673/5143	8-21-2002
2350	5671/5148	9-21-2002
	N/A	
	N/A	

Completed by: (Signature)	HP# [redacted]	Date: 4-1-2002
Completed by: (Print Name) DANIEL J. HARVEY MICHEL J. RUBADUE		
Counted by: (Signature) RECORD ON FILE	HP# NA	Date: NA
Counted by: (Print Name) NA		
Reviewed/Approved by: (Signature) RMCoblentz	HP# [redacted]	Date: 04-01-02
Reviewed/Approved by: (Print Name) RMCoblentz		

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-TF-0534 RCT: [illegible] RCT: MOK

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:		0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:		0.5	
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5671	[redacted]	5148	3		3/20/02	9:31	4	300	5
SRCCHECK	5671	[redacted]	5148	3		3/20/02	9:37	2051	60	11742
SRCCHECK	5671	[redacted]	5148	3		3/20/02	9:38	2112	60	12092
SRCCHECK	5671	[redacted]	5148	3		3/20/02	9:39	1878	60	10752
SRCCHECK	5671	[redacted]	5148	3		3/20/02	9:41	1868	60	10695
SU1 A1	5671	[redacted]	5148	3	1	3/20/02	10:42	5	60	29
SU1 A5	5671	[redacted]	5148	3	2	3/20/02	10:48	3	60	17
SU1 B4	5671	[redacted]	5148	3	3	3/20/02	10:52	0	60	0
SU1 C3	5671	[redacted]	5148	3	4	3/20/02	10:55	6	60	34
SU1 C3	5671	[redacted]	5148	3	5	3/20/02	10:58	2	60	11
SU1 B2	5671	[redacted]	5148	3	6	3/20/02	11:00	1	60	6
SU1 B2	5671	[redacted]	5148	3	7	3/20/02	11:02	4	60	23
SU1 A10	5671	[redacted]	5148	3	8	3/20/02	13:35	2	60	11
SU1 C6	5671	[redacted]	5148	3	9	3/20/02	13:49	4	60	23
SU1 C14	5671	[redacted]	5148	3	10	3/20/02	14:13	3	60	17

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-TF-0534 RCT: DGH RCT: MOL

43-20 BKG:	0	EFF:	0.166	PROBE AREA:	181	cm	Surface Eff:		0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:		0.5	
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5673	[redacted]	5143	2		3/20/02	9:03	17	300	23
SRCCHECK	5673	[redacted]	5143	2		3/20/02	9:06	2243	60	14930
SRCCHECK	5673	[redacted]	5143	2		3/20/02	9:09	2280	60	15177
SRCCHECK	5673	[redacted]	5143	2		3/20/02	9:11	2013	60	13399
SRCCHECK	5673	[redacted]	5143	2		3/20/02	9:13	2072	60	13792
SU2 O4	5673	[redacted]	5143	2	1	3/20/02	11:58	4	95	17
SU2 O4	5673	[redacted]	5143	2	2	3/20/02	12:04	16	95	67
SU2 O5	5673	[redacted]	5143	2	3	3/20/02	12:12	4	95	17
SU2 Q2	5673	[redacted]	5143	2	4	3/20/02	15:23	12	95	50
SU2 T4	5673	[redacted]	5143	2	5	3/20/02	15:41	9	95	38

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-TF-0534 RCT: DJH RCT: MGR

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:		0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:		0.5	
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5671	[redacted]	5148	3		3/21/02	5:45	5	300	6
SRCCHECK	5671	[redacted]	5148	3		3/21/02	5:56	1963	60	11239
SRCCHECK	5671	[redacted]	5148	3		3/21/02	5:58	2066	60	11828
SRCCHECK	5671	[redacted]	5148	3		3/21/02	5:59	1855	60	10620
SRCCHECK	5671	[redacted]	5148	3		3/21/02	6:01	1878	60	10752
51SU1 C21	5671	[redacted]	5148	3	1	3/21/02	9:51	4	60	23
51SU1 D20	5671	[redacted]	5148	3	2	3/21/02	9:56	0	60	0

51-BLDG MARSSIM M-2350 SURVEY

RSDS# 02-F-0534 RCT: DJA RCT: MOL

43-20 BKG:	0	EFF:	0.166	PROBE AREA:	181	cm	Surface Eff:		0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:		0.5	
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5673	[redacted]	5143	2		3/21/02	7:52	21	300	28
SRCCHECK	5673	[redacted]	5143	2		3/21/02	9:15	2303	60	15330
SRCCHECK	5673	[redacted]	5143	2		3/21/02	9:18	2269	60	15104
SRCCHECK	5673	[redacted]	5143	2		3/21/02	9:19	2006	60	13353
SRCCHECK	5673	[redacted]	5143	2		3/21/02	9:21	2183	60	14531
SU2 T4	5673	[redacted]	5143	2	1	3/21/02	10:52	10	110	36
SU2 S6	5673	[redacted]	5143	2	2	3/21/02	11:01	10	110	36
SU2 R8	5673	[redacted]	5143	2	3	3/21/02	11:08	12	110	44
SU2 T12	5673	[redacted]	5143	2	4	3/21/02	11:14	11	110	40
SU2 P8	5673	[redacted]	5143	2	5	3/21/02	11:20	11	110	40
SU2 Q5	5673	[redacted]	5143	2	6	3/21/02	11:27	5	110	18
SU2 S10	5673	[redacted]	5143	2	7	3/21/02	15:29	4	110	15

51-BLDG MARSSIM M-2350 SURVEY

RSDS#02-TF-0534 RCT: 29H RCT: MJK

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:		0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:		0.5	
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5671	[redacted]	5148	3		3/22/02	6:43	1	300	1
SRCCHECK	5671	[redacted]	5148	3		3/22/02	6:54	1906	60	10912
SRCCHECK	5671	[redacted]	5148	3		3/22/02	6:56	1938	60	11096
SRCCHECK	5671	[redacted]	5148	3		3/22/02	6:57	1969	60	11273
SRCCHECK	5671	[redacted]	5148	3		3/22/02	6:58	1876	60	10741
51SU1 G4	5671	[redacted]	5148	3	1	3/22/02	8:55	0	60	0
51SU1 H3	5671	[redacted]	5148	3	2	3/22/02	9:02	2	60	11
51SU1 I1	5671	[redacted]	5148	3	3	3/22/02	9:06	2	60	11
51SU1 I5	5671	[redacted]	5148	3	4	3/22/02	9:11	2	60	11
51SU1 I5	5671	[redacted]	5148	3	5	3/22/02	9:13	2	60	11
SRCCHECK	5671	[redacted]	5148	3		3/22/02	9:16	1963	60	11239
SRCCHECK	5671	[redacted]	5148	3		3/22/02	9:17	2059	60	11788
SRCCHECK	5671	[redacted]	5148	3		3/22/02	9:18	1822	60	10431
SRCCHECK	5671	[redacted]	5148	3		3/22/02	9:20	1848	60	10580
51SU1 I23	5671	[redacted]	5148	3	6	3/22/02	12:59	0	60	0
51SU1 F21	5671	[redacted]	5148	3	7	3/22/02	13:04	5	60	29
51SU1 F15	5671	[redacted]	5148	3	8	3/22/02	13:15	2	60	11
51SU1 G18	5671	[redacted]	5148	3	9	3/22/02	13:22	1	60	6
51SU1 G18	5671	[redacted]	5148	3	10	3/22/02	13:26	2	60	11
51SU1 K6	5671	[redacted]	5148	3	11	3/22/02	14:36	1	60	6

51-BLDG MARSSIM M-2350 SURVEY

RSDS#02-TF-0534 RCT: 29A RCT: mon

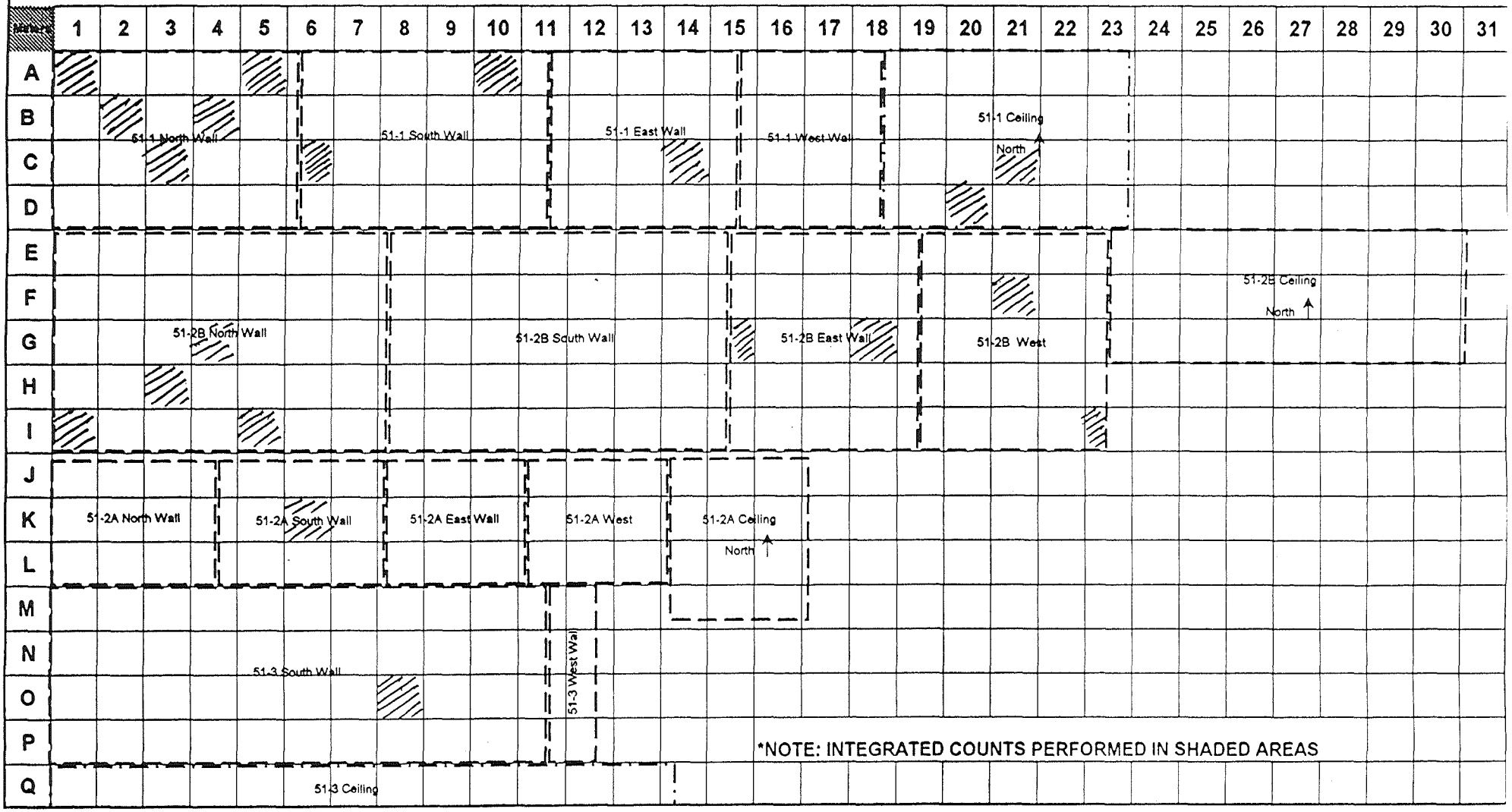
43-20 BKG:	0	EFF:	0.166	PROBE AREA:	181	cm	Surface Eff:		0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:		0.5	
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5673	[redacted]	5143	2		3/22/02	7:01	28	300	37
SRCCHECK	5673	[redacted]	5143	2		3/22/02	7:06	2244	60	14937
SRCCHECK	5673	[redacted]	5143	2		3/22/02	7:08	2245	60	14944
SRCCHECK	5673	[redacted]	5143	2		3/22/02	7:09	2273	60	15130
SRCCHECK	5673	[redacted]	5143	2		3/22/02	7:11	2158	60	14365
51SU2 L6	5673	[redacted]	5143	2	1	3/22/02	8:56	8	135	24
51SU2 L7	5673	[redacted]	5143	2	2	3/22/02	9:01	11	135	33
51SU2 L10	5673	[redacted]	5143	2	3	3/22/02	9:11	10	135	30
51SU2 M11	5673	[redacted]	5143	2	4	3/22/02	9:17	9	135	27
SRCCHECK	5673	[redacted]	5143	2		3/22/02	9:22	1737	60	11562
SRCCHECK	5673	[redacted]	5143	2		3/22/02	9:24	1828	60	12168
SRCCHECK	5673	[redacted]	5143	2		3/22/02	9:26	1987	60	13226
SRCCHECK	5673	[redacted]	5143	2		3/22/02	9:28	2023	60	13466
51SU2 H11	5673	[redacted]	5143	2	5	3/22/02	9:59	7	135	21
51SU2 F11	5673	[redacted]	5143	2	6	3/22/02	10:03	11	135	33
51SU2 G14	5673	[redacted]	5143	2	7	3/22/02	10:17	10	135	30
51SU2 H16	5673	[redacted]	5143	2	8	3/22/02	13:00	18	135	53
51SU2 F16	5673	[redacted]	5143	2	9	3/22/02	13:05	13	135	38
51SU2 E20	5673	[redacted]	5143	2	10	3/22/02	13:23	18	135	53
51SU2 E4	5673	[redacted]	5143	2	11	3/22/02	13:32	8	135	24
51SU2 B12	5673	[redacted]	5143	2	12	3/22/02	14:41	17	135	50

51-BLDG MARSSIM M-2350 SURVEY

RSDS#02-TF-0534 RCT: [illegible] RCT: [illegible]

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm	Surface Eff:		0.5	
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm	Surface Eff:		0.5	
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SRCBKG	5671	[redacted]	5148	3		3/25/02	7:30	1	300	1
SRCCHECK	5671	[redacted]	5148	3		3/25/02	7:40	2042	60	11691
SRCCHECK	5671	[redacted]	5148	3		3/25/02	7:47	2151	60	12315
SRCCHECK	5671	[redacted]	5148	3		3/25/02	7:48	1961	60	11227
SRCCHECK	5671	[redacted]	5148	3		3/25/02	7:54	1942	60	11118
51SU1 O8	5671	[redacted]	5148	3	1	3/25/02	12:55	0	60	0
SRCBKG	5671	[redacted]	5148	3		3/26/02	6:18	10	300	11
SRCCHECK	5671	[redacted]	5148	3		3/26/02	6:29	2072	60	11863
SRCCHECK	5671	[redacted]	5148	3		3/26/02	6:31	1899	60	10872
SRCCHECK	5671	[redacted]	5148	3		3/26/02	6:33	1876	60	10741
SRCCHECK	5671	[redacted]	5148	3		3/26/02	6:34	1926	60	11027
51SU2 L15	5671	[redacted]	5148	3	2	3/26/02	13:05	83	60	475

Bldg 51 - SURVEY UNIT 1

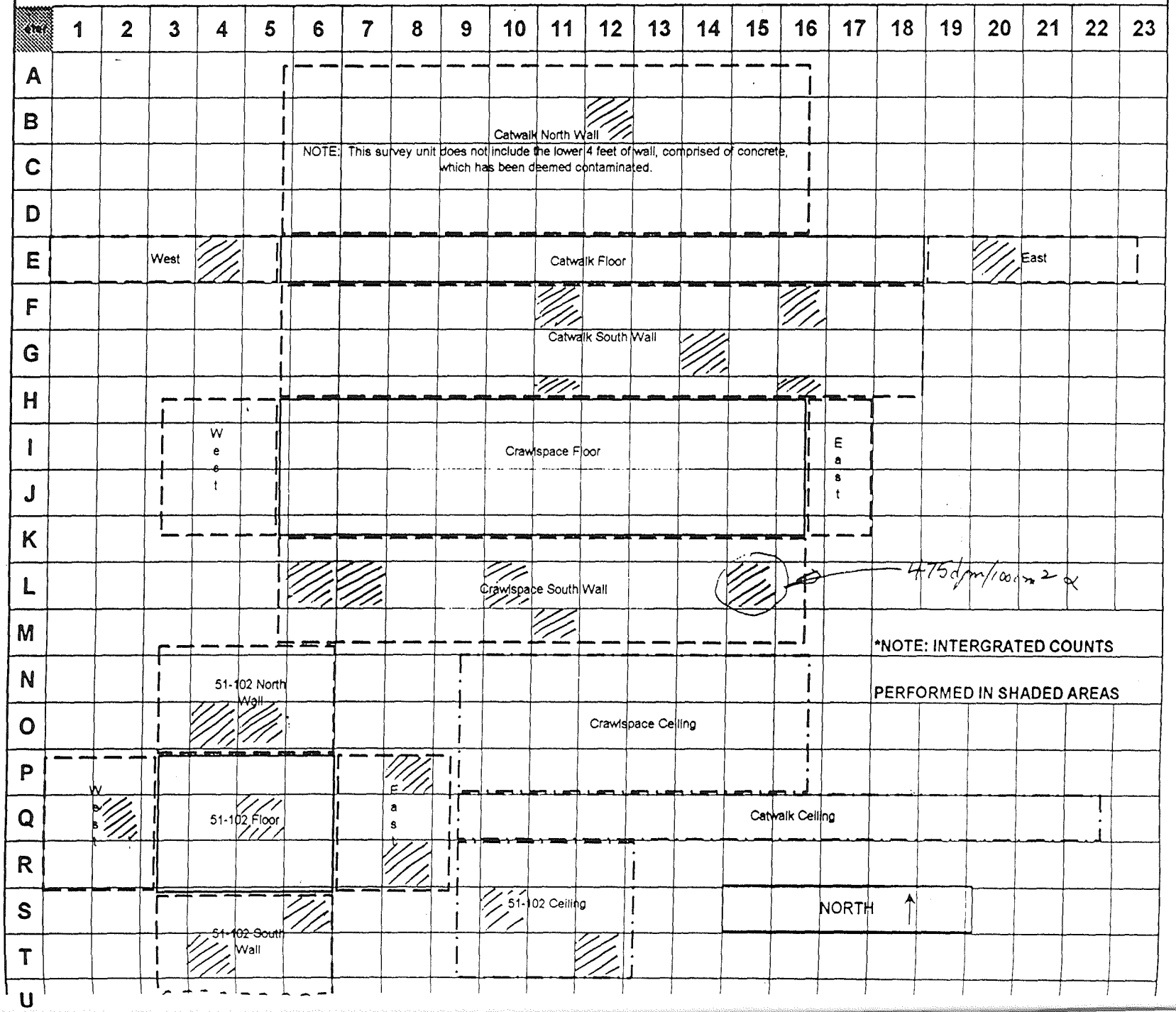


02-TF-0534

Att 4

Pg 12

Bldg 51 SURVEY UNIT 2



02-TE-0534
Page 10 of 12

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR021
Batch Ended: 3/26/02 14:08
Cal. Due Date: 4/25/03
Serial Number: 26966-3

0534 DJH 4-1-02

Batch ID: 02-TF-~~0526~~ HARVEY(1) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
D2	1	17.83	6.12		0.00	1.24	

DJH

29A
11 of 12

Laboratory ID#:	**0203206**
Project/function:	**SMPP/TFV**
Submitted:	**Mar 26, 2002**
Submitted by:	**D. Harvey**
Point of Contact:	**D. Harvey x3163**
RSDS#:	**02-TF-~~0526~~** 0534
Date:	**Mar 28, 2002** DJH 4-1-02

Lab ID	0203206
Sample Location	51 / Crawspace #1

Isotope	dpm/smear	Uncertainty +/-	LDL
Pu-238/Am-241 SJH 3/28/02	21.58	3.47	0.43
Pu-239/240	<LDL	<LDL	0.69
Th-232	<LDL	<LDL	0.43
Th-230	0.80	0.37	0.43
Th-227	<LDL	<LDL	0.69
U-238	<LDL	<LDL	0.43
U-235	<LDL	<LDL	0.43
U-233/234	<LDL	<LDL	0.43

L. C. Hopkins [redacted] 3-28-02

Analyst HP # Date

[redacted] 3/28/02 DJH

Data Verification HP # Date

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG. / ROOM / AREA) Building 51	SURVEY NO. 02-TF-0526
PURPOSE: CONFIRMATION SURVEY OF L15 IN SURVEY UNIT 2	RWP NO. N/A
	DATE: 04/1/02
	TIME: 1300

MAP / DRAWING

THIS IS A CONFIRMATION SURVEY OF L15 IN BUILDING 51

AREA IS COVERED.
POSTED CONTROLLED AREA, CONTAMINATION AREA AND DO NOT ENTER

MAP IS ON PAGE 3

RESULTS ON PAGE 4

COPY

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE Electra	5603/5604	02/06/03
	N/A	

Completed by: (Signature)	HP# [redacted]	Date: 04/10/02
Completed by: (Print Name) DANIEL J. HARVEY		
Counted by: (Signature) See Attached	HP#	Date:
Counted by: (Print Name) See Attached		
Reviewed/Approved by: (Signature) RNCoblentz	HP# [redacted]	Date: 4-10-02
Reviewed/Approved by: (Print Name) RNCoblentz		

ML-9620 (2-98) Computer Generated

Survey No. 02-TF-0526

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	PAGE	4	L15
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

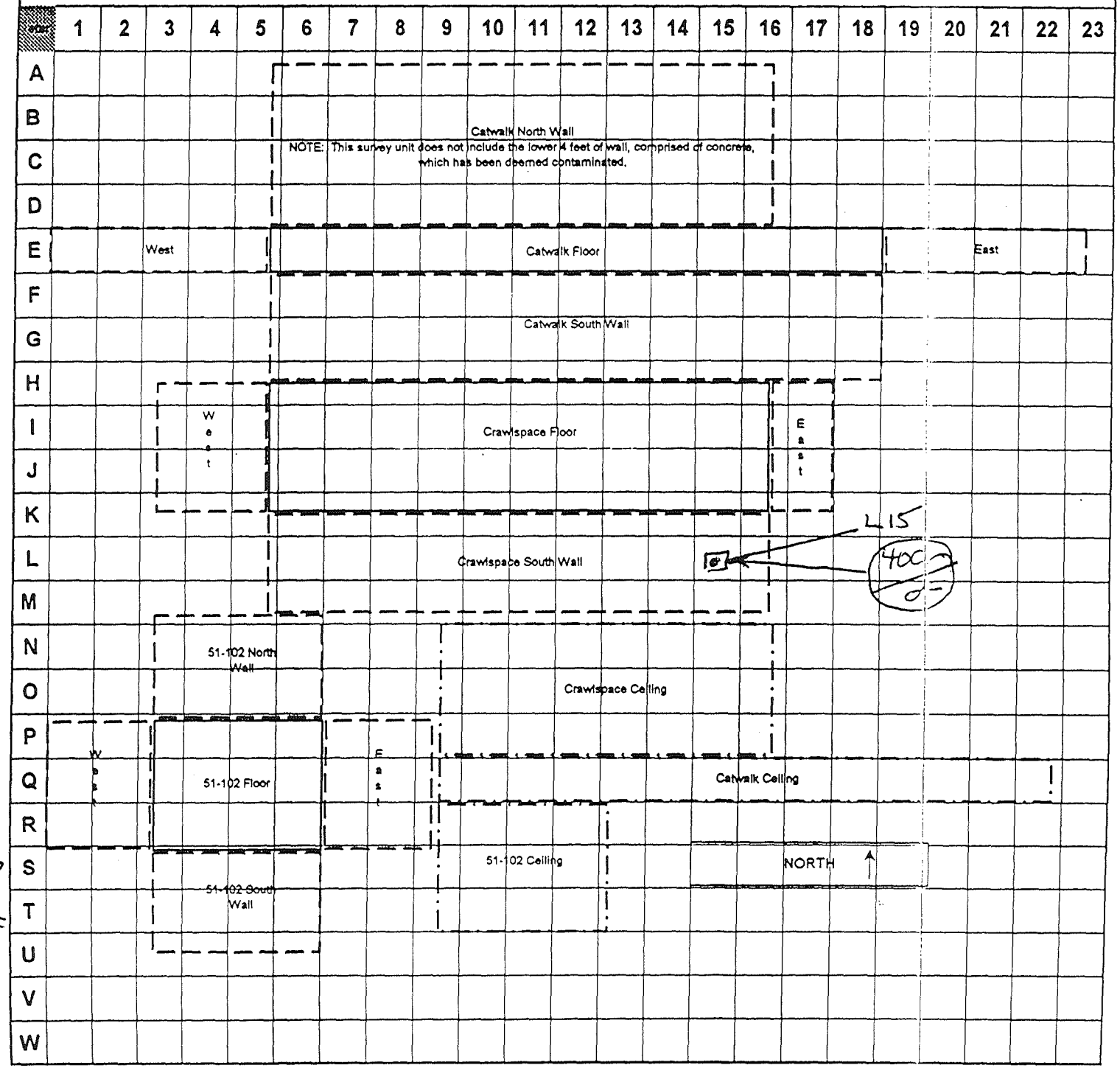
COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Bldg 51 SURVEY UNIT 2



02-TF-0526

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248

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR009
Batch Ended: 4/1/02 14:10

Crosstalk correction performed

Recalibration Date: 4/3/02
Serial Number: 26966-1

Batch ID: HARVEY 02-TF-0526 (1) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
D1	1	77.86	13.09		0.00	2.43	

Dg H Dg H Carol Ly Robinson

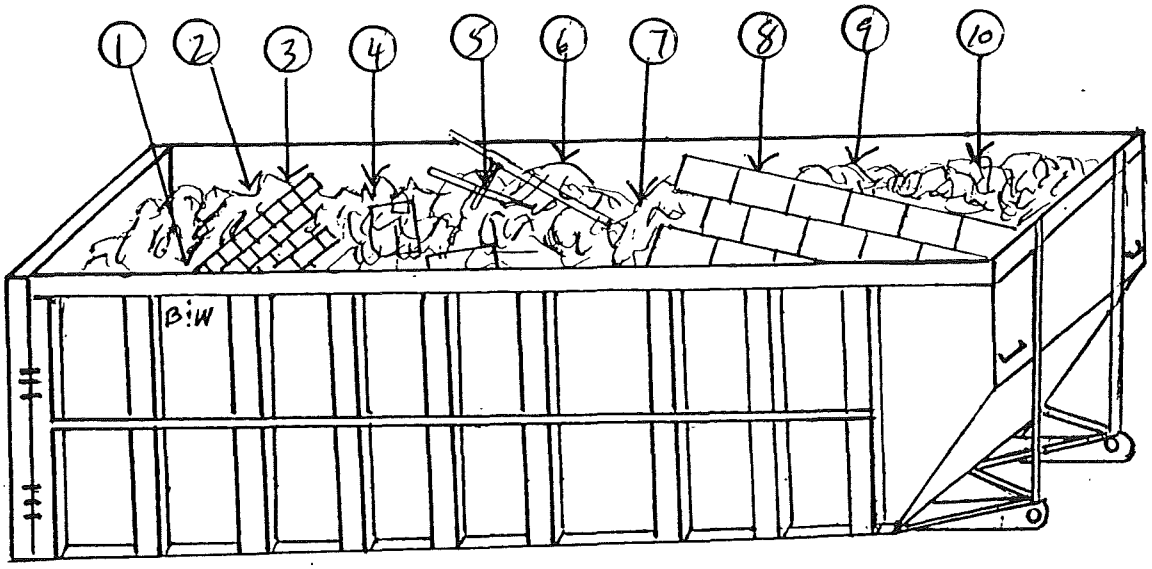
RSDSs After Demolition

RADIOLOGICAL SURVEY DATA SHEET

1 of 4

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0577
PURPOSE: ROLLOFF B+W #13	RWP NO. N/A
	DATE: 4-9-02
	TIME: 1400

MAP/DRAWING



COPY

INTEGRATED COUNT PERFORMED IF AUDIBLE RESPONSE DETECTED. ALL OTHER DIRECTS SURVEY RESULTS: <100 dpm/100 cm² α, WITH NO AUDIBLE ~~RESPONSE~~ RESPONSE 4-9-02

<100/α

<5K/β-

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5603/5604	2-6-03
	N/A	

Completed by: (Signature) [signature]	HP # [redacted]	Date: 4-9-02
Completed by: (Print Name) DANIEL S. HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RM Coblentz	HP # [redacted]	Date: 4-12-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

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Survey No. 02-TF-0577

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RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-10	SEE	ATTACHED		ROLLOFF DEBRIS
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

Batch ID: 02-TF-0577 HARVEY(10) BSB

Batch File: Smear Unit 1 - 200204091553
Group: J
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 4/9/2002
Count Time (min): 1.5
Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	29	11.55	9.76	7.30	6.54
2	74	0.00	0.66	2.79	4.68
3	29	0.00	0.66	3.93	5.21
4	56	0.00	0.66	0.51	3.40
5	30	0.00	0.66	6.20	6.12
6	43	0.00	0.66	1.65	4.09
7	140	0.00	0.66	2.79	4.68
8	92	1.62	4.03	0.51	3.40
9	137	0.00	0.66	1.65	4.09

DJH DJH

Alpha/Beta Analysis

Batch ID:

Batch File: Smear Unit 1 - 200204100744
Group: A
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 4/10/2002
Count Time (min): 1.5
Recalibration Date: 5/22/2003

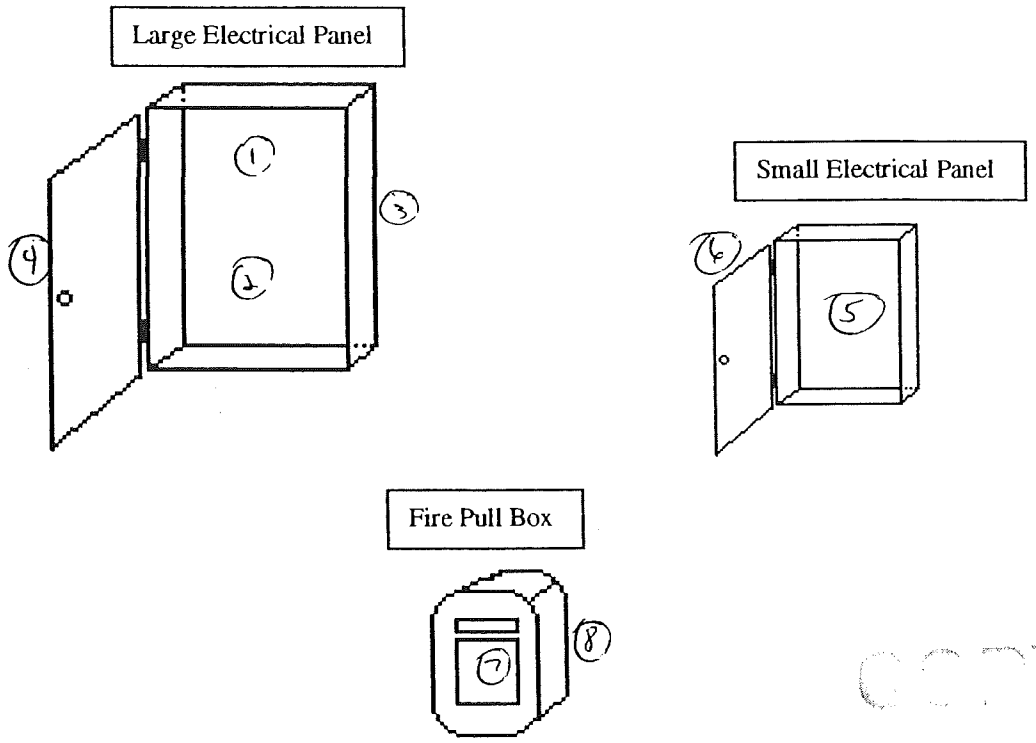
Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
10 4/10/02	89	1.62	4.03	0.51	3.40

COPY

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG. / ROOM / AREA) Building 51 / First Floor	SURVEY NO. 02-TF-0576
PURPOSE: Characterization Free Release of Electrical Equipment	RWP NO. N/A
	DATE: 04/10/02
	TIME: 15:30

MAP / DRAWING



COPY

Note

No audible α response detected; all direct readings were < 100 dpm/100cm2 α and < 5000 dpm/100cm2 β.

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary
(#) = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
NE Electra	5347/5352	03/06/03
NE Electra	5603/5604	02/06/03
N/A	N/A	N/A
N/A	N/A	N/A

Completed by: (Signature) [signature]	HP# [redacted]	Date: 04/10/02
Completed by: (Print Name) Dan Harvey / Steve Wiggins		
Counted by: (Signature) See Attached	HP#	Date:
Counted by: (Print Name) See Attached		
Reviewed/Approved by: (Signature) RM Coblentz	HP# [redacted]	Date: 04-10-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98) Computer Generated

page 2 of 4

Survey No. 02-TF-0576

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See	Attach	ed Print	Inside
2				Inside
3				Outside
4				Outside
5				Inside
6				Outside
7				Inside
8				Outside
9	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A
14	N/A	N/A	N/A	N/A
15	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A
26	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A
30	N/A	N/A	N/A	N/A

Removable Contamination				
Swipes (dpm/100cm²)				N/A
Sample #	β/γ	Alpha	Tritium	Comments
31	N/A	N/A	N/A	N/A
32	N/A	N/A	N/A	N/A
33	N/A	N/A	N/A	N/A
34	N/A	N/A	N/A	N/A
35	N/A	N/A	N/A	N/A
36	N/A	N/A	N/A	N/A
37	N/A	N/A	N/A	N/A
38	N/A	N/A	N/A	N/A
39	N/A	N/A	N/A	N/A
40	N/A	N/A	N/A	N/A
41	N/A	N/A	N/A	N/A
42	N/A	N/A	N/A	N/A
43	N/A	N/A	N/A	N/A
44	N/A	N/A	N/A	N/A
45	N/A	N/A	N/A	N/A
46	N/A	N/A	N/A	N/A
47	N/A	N/A	N/A	N/A
48	N/A	N/A	N/A	N/A
49	N/A	N/A	N/A	N/A
50	N/A	N/A	N/A	N/A
51	N/A	N/A	N/A	N/A
52	N/A	N/A	N/A	N/A
53	N/A	N/A	N/A	N/A
54	N/A	N/A	N/A	N/A
55	N/A	N/A	N/A	N/A
56	N/A	N/A	N/A	N/A
57	N/A	N/A	N/A	N/A
58	N/A	N/A	N/A	N/A
59	N/A	N/A	N/A	N/A
60	N/A	N/A	N/A	N/A

COMMENTS: None

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

CountLab Results - 02-TF-05.pdf

Alpha/Beta Analysis

Batch ID: 02-TF-0576 HARVAEY(8) BSB

Batch File: Smear Unit 3 - 200204091347
Group: B
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 59123

Acquisition Date: 4/9/2002
Count Time (min): 1.5
Recalibration Date: 5/24/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	89	0.00	0.90	0.00	4.10
2	33	0.00	0.90	0.79	5.50
3	36	3.08	5.43	2.06	6.08
4	150	1.19	3.89	0.00	4.10
5	32	3.08	5.43	0.00	4.10
6	1	1.19	3.89	0.78	5.50
7	7	3.08	5.43	0.00	4.10
8	104	0.00	0.90	0.79	5.50

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09 Apr 2002 15:05 ALPHA/BETA - 1.50 Page #1
Protocol #: 5 PW BS 403727 User : [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2SX	BKG
Region A:	0.5 -	18.6	0	0.0	6.32
Region B:	2.0 -	18.6	0	0.0	6.08
Region C:	40.0 -	2000	0	0.0	18.97

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0576 HARVEY(8) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT5.dat
Count Data Filename: C:\DATA\SDATA5.DAT

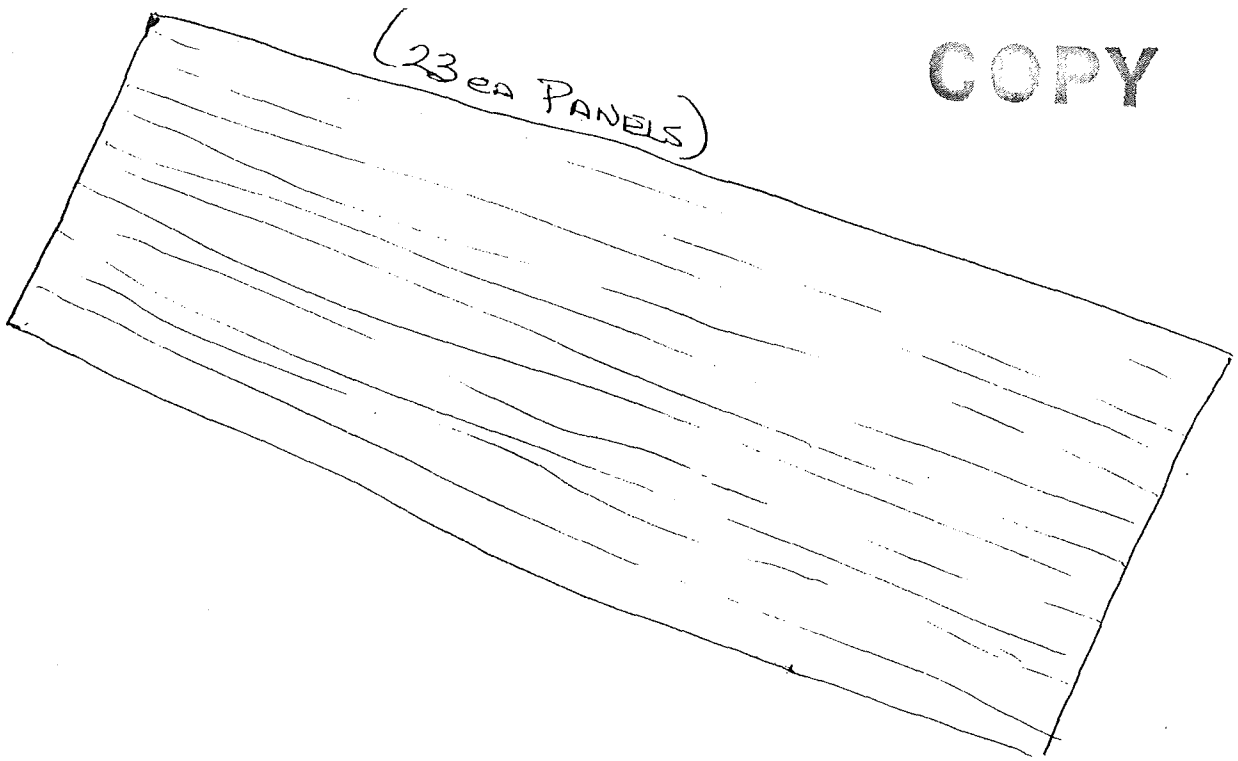
S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.32	6.08	10.97	645.26	2	B		0.00
0	2.00	533.27	520.09	0.00	520.87	0		1097.51	105.05
1	2.00	10.34	9.09	28.53	584.10	0		20.16	11.77
2	2.00	1.48	1.28	0.00	413.08	0		3.47	3.96
3	2.00	1.75	0.94	4.53	643.09	0		3.26	8.04
4	2.00	1.49	0.11	0.00	603.54	0		3.87	8.18
5	2.00	3.09	3.25	9.03	484.39	0		8.62	8.93
6	2.00	0.00	0.00	0.00	549.11	0		0.00	0.00
7	2.00	0.00	0.00	0.00	480.76	0		0.00	0.00
8	2.00	4.99	4.31	2.53	426.92	0		11.56	11.65

COPY

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 / OUTSIDE	SURVEY NO. 02-TF-0719
PURPOSE: OUTSIDE SHEET METAL PANELS	RWP NO. N/A
	DATE: 4-29-02
	TIME: 1400

MAP/DRAWING



COPY

* NOTE: INTEGRATED COUNT PERFORMED IF AUDIBLE RESPONSE DETECTED. ON PANEL D 1/5 (SMEAR #14) 36dpm/α ALL OTHER DIRECT READINGS

<100 / α

<25K / β

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4-1-03

Completed by: (Signature) [redacted]	[redacted]	Date: 4/29/02
Completed by: (Print Name) D.J. HARVEY		
Counted by: (Signature) See attached	HP#	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature) RM Coblentz	HP# [redacted]	Date: 5-3-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

02-TF-0719

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	PANEL A I/S
2				↓
3				A O/S
4				↓
5				B O/S
6				↓
7				B I/S
8				↓
9				C O/S
10				↓
11				C I/S
12				↓
13				D O/S
14				↓
15				D I/S
16				↓
17				E O/S
18				↓
19				E I/S
20				↓
21				F O/S
22				↓
23				F I/S
24				↓
25				G O/S
26				↓
27				G I/S
28				↓
29				H O/S
30				↓
31				H I/S
32				↓
33				I O/S
34				↓
35	↓	↓	↓	I I/S

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTA	CHED	PANEL I I/S
37				J O/S
38				↓
39				J I/S
40				↓
41				K I/S
42				↓
43				K O/S
44				↓
45				L O/S
46				↓
47				L I/S
48				↓
49				M O/S
50				↓
51				M I/S
52				↓
53				N O/S
54				↓
55				N I/S
56				↓
57				O O/S
58				↓
59				O I/S
60				↓
61				P O/S
62				↓
63				P I/S
64				↓
65				Q O/S
66				↓
67				Q I/S
68				↓
69				R O/S
70	↓	↓	↓	↓

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
71	SEE	ATTACHED		PANEL R, I/S
72	↓	↓	↓	↓
73				S O/S
74				↓
75				S I/S
76				↓
77				T O/S
78				↓
79				T I/S
80				↓
81				U O/S
82				↓
83				U I/S
84				↓
85				V O/S
86				↓
87				V I/S
88				↓
89				W I/S
90				↓
91				W O/S
92	↓	↓	↓	↓
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COPY

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

30 Apr 2002 09:31
Protocol #: 4

ALPHA/BETA - 1.09
PW H3 #403727

Page #1
User : [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	7.13
Region B:	2.0	18.6	0	0.0	7.13
Region C:	40.0	2000	0	0.0	13.50

COPY

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0719 HARVEY(92) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT4.dat
Count Data Filename: C:\DATA\SDATA4.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.13	7.13	13.50	506.74	0	B		0.00
0	2.00	496.12	480.27	0.00	531.84	0		1011.30	98.36
1	2.00	1.09	1.09	0.00	555.89	0		2.18	8.77
2	2.00	0.00	0.00	0.00	616.20	0		0.00	0.00
3	2.00	0.87	0.87	0.00	556.12	0		1.74	8.67
4	2.00	0.00	0.00	0.00	464.55	0		0.00	0.00
5	2.00	1.31	1.28	0.00	458.49	0		2.92	9.87
6	2.00	1.54	1.54	0.00	440.78	0		3.51	10.22
7	2.00	1.37	0.87	0.00	568.38	0		2.71	8.80
8	2.00	0.00	0.00	0.00	471.52	0		0.00	0.00
9	2.00	1.87	1.61	0.83	591.41	0		3.62	8.85
10	2.00	0.00	0.00	0.00	599.59	0		0.00	0.00
11	2.00	0.00	0.00	0.00	466.30	0		0.00	0.00
12	2.00	2.13	2.03	0.00	505.23	0		4.46	9.67
13	2.00	0.00	0.00	0.00	517.81	0		0.00	0.00
14	2.00	0.00	0.00	4.00	556.82	0		0.00	0.00
15	2.00	0.00	0.00	0.00	639.15	0		0.00	0.00
16	2.00	0.00	0.00	0.00	472.79	0		0.00	0.00
17	2.00	0.00	0.00	0.00	382.41	0		0.00	0.00
18	2.00	0.00	0.00	0.00	580.03	0		0.00	0.00
19	2.00	0.00	0.00	0.00	578.07	0		0.00	0.00
20	2.00	0.00	0.00	0.00	447.70	0		0.00	0.00
21	2.00	0.00	0.00	0.00	485.18	0		0.00	0.00
22	2.00	0.87	0.87	0.00	590.91	0		1.69	8.42
23	2.00	0.00	0.00	0.00	471.62	0		0.00	0.00
24	2.00	0.00	0.00	1.50	417.84	0		0.00	0.00
25	2.00	0.00	0.00	0.00	483.77	0		0.00	0.00
26	2.00	0.00	0.00	2.00	422.90	0		0.00	0.00
27	2.00	0.00	0.00	0.00	440.26	0		0.00	0.00
28	2.00	0.87	0.87	0.00	551.59	0		1.74	8.70
29	2.00	0.00	0.00	0.00	487.16	0		0.00	0.00
30	2.00	0.00	0.00	0.00	515.05	0		0.00	0.00
31	2.00	0.00	0.00	0.00	457.32	0		0.00	0.00
32	2.00	1.87	1.87	0.00	486.87	0		4.00	9.77
33	2.00	4.85	4.85	0.00	503.89	0		10.15	10.87
34	2.00	1.10	0.90	2.00	503.57	0		2.31	9.21
35	2.00	0.00	0.00	0.00	490.39	0		0.00	0.00

30 Apr 2002 11:23 ALPHA/BETA - 1.09 Page #2
Protocol #: 4 PW H3 #403727 User : [redacted]

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
36	2.00	0.00	0.00	0.00	601.48	0	0.00	0.00
37	2.00	0.32	0.32	2.50	576.23	0	0.63	8.27
38	2.00	0.00	0.00	0.00	524.06	0	0.00	0.00
39	2.00	0.00	0.00	2.00	593.46	0	0.00	0.00
40	2.00	0.00	0.00	0.00	432.81	0	0.00	0.00
41	2.00	0.00	0.00	0.00	446.92	0	0.00	0.00
42	2.00	1.37	1.37	0.00	470.64	0	2.99	9.74
43	2.00	2.87	2.87	0.00	495.31	0	6.08	10.13
44	2.00	0.00	0.00	0.00	551.22	0	0.00	0.00
45	2.00	0.00	0.00	0.00	460.89	0	0.00	0.00
46	2.00	0.00	0.00	0.00	504.52	0	0.00	0.00
47	2.00	0.00	0.00	0.00	515.98	0	0.00	0.00
48	2.00	0.00	0.00	0.00	425.06	0	0.00	0.00
49	2.00	0.28	0.28	0.00	544.02	0	0.57	8.48
50	2.00	0.00	0.00	0.00	526.89	0	0.00	0.00
51	2.00	1.40	0.79	0.00	505.29	0	2.92	9.33
52	2.00	0.00	0.00	1.16	389.13	0	0.00	0.00
53	2.00	0.87	0.87	0.00	475.32	0	1.89	9.43
54	2.00	0.00	0.00	0.00	531.84	0	0.00	0.00
55	2.00	1.87	1.68	0.00	552.15	0	3.75	9.15
56	2.00	0.20	0.20	0.00	450.39	0	0.46	9.39
57	2.00	0.00	0.00	0.00	606.15	0	0.00	0.00
58	2.00	1.37	1.37	0.00	573.42	0	2.70	8.77
59	2.00	1.14	0.64	0.00	535.34	0	2.31	8.95
60	2.00	0.00	0.00	0.00	432.34	0	0.00	0.00
61	2.00	3.84	3.64	2.50	503.53	0	8.04	10.45
62	2.00	1.37	1.37	0.00	521.26	0	2.82	9.17
63	2.00	0.00	0.00	0.00	621.25	0	0.00	0.00
64	2.00	1.87	1.77	0.00	502.21	0	3.92	9.59
65	2.00	1.87	1.86	0.00	451.34	0	4.19	10.24
66	2.00	0.00	0.00	0.00	530.32	0	0.00	0.00
67	2.00	0.00	0.00	0.00	556.37	0	0.00	0.00
68	2.00	0.00	0.00	3.00	440.33	0	0.00	0.00
69	2.00	0.00	0.00	0.00	504.99	0	0.00	0.00
70	2.00	0.37	0.37	0.00	630.69	0	0.70	7.93
71	2.00	0.00	0.00	0.00	573.73	0	0.00	0.00
72	2.00	0.00	0.00	0.00	390.37	0	0.00	0.00
73	2.00	0.00	0.00	0.00	507.78	0	0.00	0.00
74	2.00	0.00	0.00	0.00	536.81	0	0.00	0.00
75	2.00	3.37	3.37	0.00	597.25	0	6.50	9.43
76	2.00	0.00	0.00	0.00	489.88	0	0.00	0.00
77	2.00	0.00	0.00	1.50	429.34	0	0.00	0.00
78	2.00	0.87	0.50	0.00	653.71	0	1.60	8.00
79	2.00	0.00	0.00	0.00	510.03	0	0.00	0.00
80	2.00	0.00	0.00	0.00	490.93	0	0.00	0.00
81	2.00	1.37	1.37	0.00	492.83	0	2.91	9.46
82	2.00	0.00	0.00	0.00	510.26	0	0.00	0.00
83	2.00	0.00	0.00	0.00	475.73	0	0.00	0.00
84	2.00	0.00	0.00	0.00	622.75	0	0.00	0.00
85	2.00	3.37	3.37	0.00	561.60	0	6.70	9.72
86	2.00	0.00	0.00	0.00	611.54	0	0.00	0.00
87	2.00	0.00	0.00	0.00	505.73	0	0.00	0.00
88	2.00	0.00	0.00	0.00	611.84	0	0.00	0.00
89	2.00	0.00	0.00	0.00	616.50	0	0.00	0.00
90	2.00	0.00	0.00	0.00	572.22	0	0.00	0.00
91	2.00	0.00	0.00	3.00	642.84	0	0.00	0.00

30 Apr 2002 14:13 ALPHA/BETA - 1.09 Page #3
Protocol #: 4 PW H3 #403727 User : [redacted]

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
92	2.00	0.00	0.00	0.00	532.32	0	0.00	0.00

COPY

Alpha/Beta Analysis

Batch ID: 02-TF-0719 HARVEY(92) BSB

Batch File: Smear Unit 1 - 200204291635
Group: G
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 4/29/2002
Count Time (min): 1.5
Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	137	0.00	0.66	0.51	3.40
2	78	1.62	4.03	3.92	5.21
3	33	0.00	0.66	0.00	2.53
4	15	1.62	4.03	0.00	2.53
5	10	1.62	4.03	2.78	4.68
6	3	0.00	0.66	1.65	4.09
7	140	0.00	0.66	3.93	5.21
8	114	1.62	4.03	2.78	4.68
9	100	0.00	0.66	2.79	4.68
10	42	1.62	4.03	0.51	3.40
11	4	1.62	4.03	0.51	3.40
12	88	3.61	5.66	1.64	4.09
13	131	0.00	0.66	1.65	4.09
14	65	1.62	4.03	1.64	4.09
15	86	1.62	4.03	0.51	3.40
16	23	5.59	6.91	0.49	3.41
17	89	1.62	4.03	3.92	5.21
18	73	0.00	0.66	0.00	2.53
19	42	1.62	4.03	0.00	2.53
20	100	5.59	6.91	5.04	5.68

Bonnie H. Brown

CountLab Results - 02-TF-07.pdf

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
21	125	1.62	4.03	0.00	2.53
22	136	3.61	5.66	0.50	3.40
23	17	0.00	0.66	0.51	3.40
24	42	5.59	6.91	0.49	3.41
25	17	1.62	4.03	3.92	5.21
26	139	1.62	4.03	2.78	4.68
27	100	0.00	0.66	1.65	4.09
28	86	1.62	4.03	1.64	4.09
29	14	1.62	4.03	2.78	4.68
30	55	0.00	0.66	0.51	3.40
31	30	3.61	5.66	0.00	2.53
32	59	0.00	0.66	3.93	5.21
33	139	3.60	5.66	5.05	5.68
34	76	1.62	4.03	0.51	3.40
35	2	0.00	0.66	2.79	4.68
36	95	0.00	0.66	1.65	4.09
37	8	5.59	6.91	1.63	4.10
38	14	0.00	0.66	3.93	5.21
39	85	3.61	5.66	1.64	4.09
40	114	1.62	4.03	3.92	5.21
41	83	5.59	6.91	0.00	2.53
42	30	3.61	5.66	1.64	4.09
43	140	0.00	0.66	1.65	4.09
44	9	0.00	0.66	0.51	3.40
45	93	1.62	4.03	5.06	5.68
46	17	1.62	4.03	0.00	2.53
47	110	0.00	0.66	0.51	3.40

COPY

CountLab Results - 02-TF-07.pdf

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
48	13	0.00	0.66	5.06	5.68
49	8	1.61	4.03	11.88	7.96
50	31	0.00	0.66	1.65	4.09
51	59	3.61	5.66	0.00	2.53
52	12	5.59	6.91	5.04	5.68
53	144	0.00	0.66	0.51	3.40
54	39	1.62	4.03	1.64	4.09
55	91	1.62	4.03	2.78	4.68
56	135	1.62	4.03	2.78	4.68
57	85	1.62	4.03	3.92	5.21
58	5	0.00	0.66	0.00	2.53
59	32	1.62	4.03	1.64	4.09
60	41	3.60	5.66	5.05	5.68
61	142	1.62	4.03	2.78	4.68
62	1	0.00	0.66	3.93	5.21
63	7	1.62	4.03	0.51	3.40
64	104	0.00	0.66	0.51	3.40
65	29	0.00	0.66	2.79	4.68
66	1	3.61	5.66	1.64	4.09
67	74	1.62	4.03	2.78	4.68
68	97	1.62	4.03	1.64	4.09
69	12	1.62	4.03	0.51	3.40
70	36	1.62	4.03	6.19	6.12
71	115	0.00	0.66	3.93	5.21
72	142	3.61	5.66	1.64	4.09
73	14	0.00	0.66	1.65	4.09
74	97	3.61	5.66	0.00	2.53

COPY

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
75	62	3.61	5.66	2.77	4.68
76	52	0.00	0.66	1.65	4.09
77	137	5.59	6.91	6.18	6.12
78	39	1.62	4.03	0.51	3.40
79	127	0.00	0.66	2.79	4.68
80	105	0.00	0.66	2.79	4.68
81	51	1.62	4.03	0.51	3.40
82	66	5.59	6.91	1.63	4.10
83	71	5.59	6.91	1.63	4.10
84	55	3.60	5.66	5.05	5.68
85	56	1.61	4.03	7.33	6.53
86	85	3.61	5.66	0.50	3.40
87	30	1.62	4.03	1.64	4.09
88	22	0.00	0.66	3.93	5.21
89	108	0.00	0.66	3.93	5.21
90	8	3.61	5.66	1.64	4.09
91	44	0.00	0.66	1.65	4.09

COPY

Alpha/Beta Analysis

Batch ID:	02-TF-0719 HARVEY BSB		
Batch File:	Smear Unit 1 - 200204300721	**Acquisition Date:**	4/30/2002
Group:	D	**Count Time (min):**	1.5
Device:	Unit 1	**Recalibration Date:**	5/22/2003
Geometry:	Swipe/Smear		
Serial Number:	64937		

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
92 ~~1~~	15	0.00	0.66	1.65	4.09

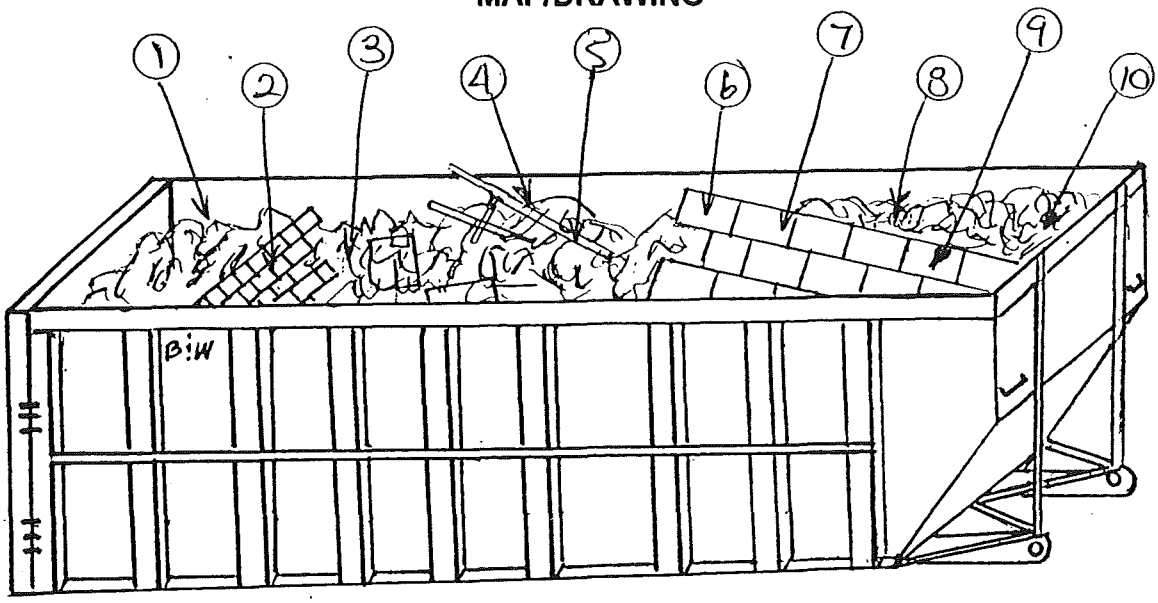
4/30/02 [illegible]

COPY

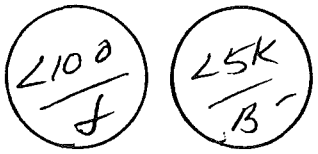
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0720
PURPOSE: ROLLOFFS BW#11 + BW#13	RWP NO. N/A
	DATE: 4-29-02
	TIME: 1400

MAP/DRAWING



COPY



LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5603/5604	2-6-03
	N/A	

Completed by: (Signature) D. Harvey / P.G. Radley [redacted]		Date: 5-2-02
Completed by: (Print Name) DAN HARVEY P.G. RADLEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RM Coblentz [redacted]		Date: 5-10-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-0720

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-10	SEE		N/A	B+W 11
11-20	ATTACHED		N/A	B+W 13
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

COPY

Batch ID: 02-TF-0730 HARVEY(20) BSB

Batch File: Smear Unit 3 - 200204301456
Group: B
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 59123

Acquisition Date: 4/30/2002
Count Time (min): 1.5
Recalibration Date: 5/24/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	115	0.00	0.90	4.68	7.09
2	142	0.00	0.90	2.09	6.08
3	14	3.08	5.43	0.00	4.85
4	97	1.19	3.89	2.08	6.08
5	62	3.08	5.43	3.36	6.61
6	52	0.00	0.90	0.00	4.10
7	137	1.19	3.89	0.00	4.10
8	39	4.98	6.63	0.76	5.50
9	127	0.00	0.90	0.00	4.10
10	105	3.08	5.43	9.83	8.78
11	51	0.00	0.90	0.79	5.50
12	66	1.19	3.89	3.37	6.61
13	71	3.08	5.43	0.77	5.50
14	55	1.19	3.89	0.00	3.18
15	56	0.00	0.90	2.09	6.08
16	85	0.00	0.90	2.09	6.08
17	30	1.19	3.89	4.66	7.09
18	60	1.19	3.89	0.78	5.50
19	108	0.00	0.90	2.09	6.08
20	22	0.00	0.90	0.00	4.10

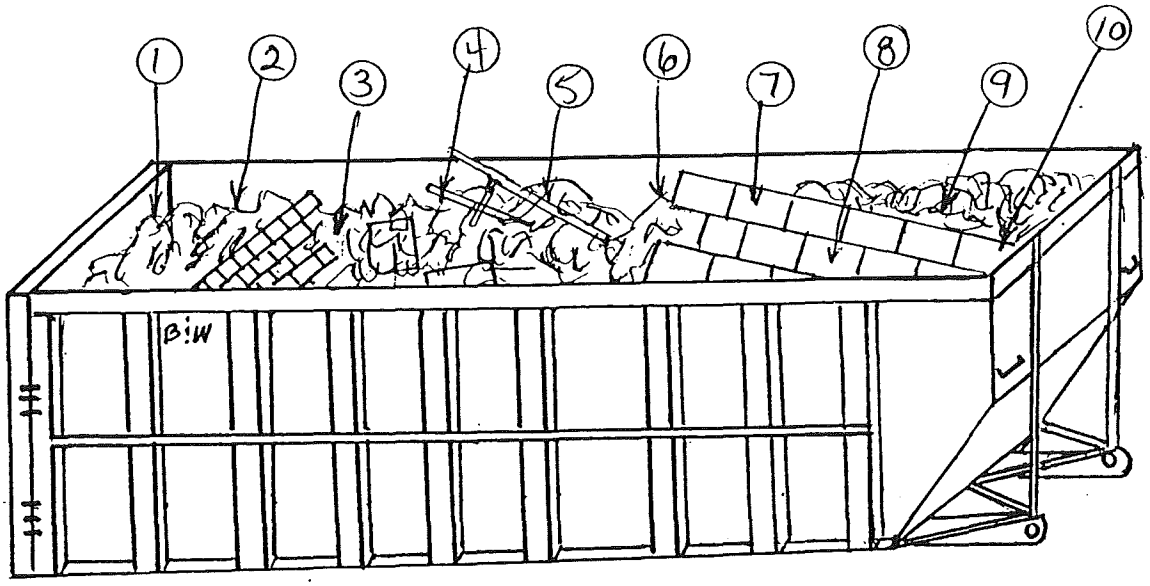
DqH DqH

CountLab Results - 02-TF-07.pdf

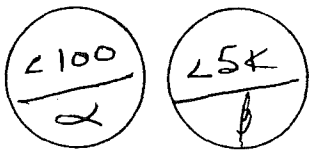
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0781
PURPOSE: Rolloff B+W #13	RWP NO. N/A
	DATE: 5-1-02
	TIME: 1315

MAP/DRAWING



COPY



LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4/1/03
	N/A	

Completed by: (Signature)	[redacted]	Date: 5-1-02
Completed by: (Print Name) P.J. HADLEY / D.J. HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 5-10-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

Survey No. 02-TF-0781

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		CONCRETE
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8				
9				
10	↓	↓	↓	↓
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

Batch ID: 02-TF-0781 HARVEY(10) BSB

Batch File: Smear Unit 3 - 200205011321
Group: F
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 59123

Acquisition Date: 5/1/2002
Count Time (min): 1.5
Recalibration Date: 5/24/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	86	0.00	0.90	0.79	5.50
2	149	0.00	0.90	2.09	6.08
3	129	0.00	0.90	0.00	4.85
4	33	0.00	0.90	0.00	3.18
5	35	0.00	0.90	0.00	4.10
6	42	0.00	0.90	0.00	4.85
7	88	0.00	0.90	0.00	4.10
8	131	0.00	0.90	0.79	5.50
9	29	0.00	0.90	0.79	5.50
10	44	1.19	3.89	0.78	5.50

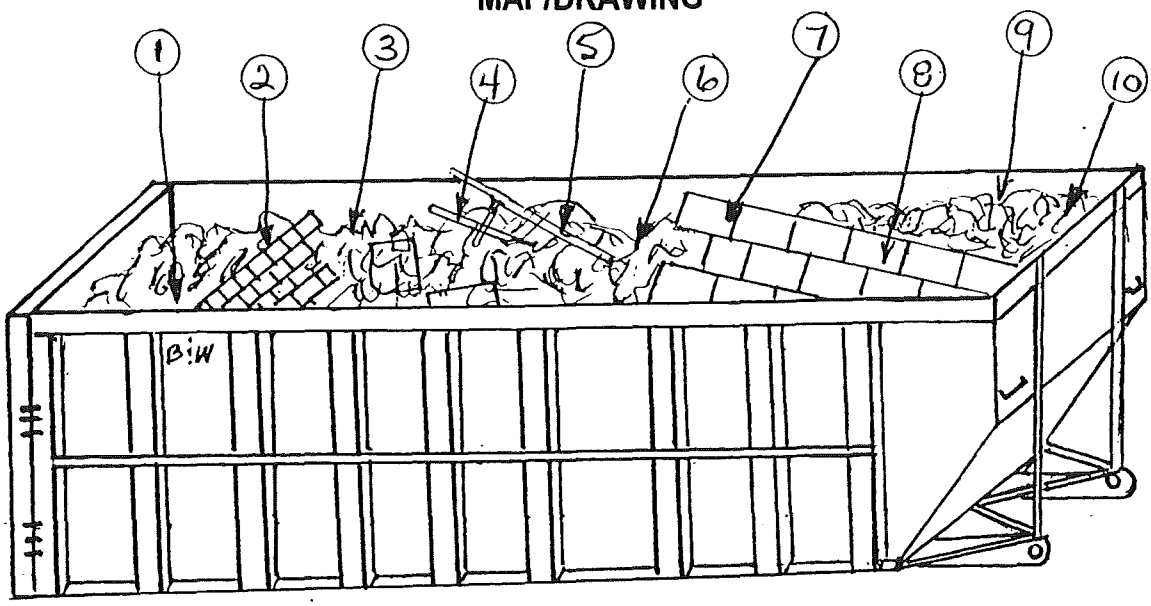
CountLab Results - 02-TF-07.pdf

RADIOLOGICAL SURVEY DATA SHEET

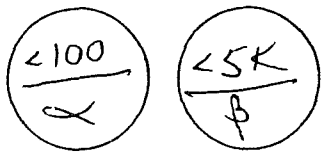
1 of 3

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0782
PURPOSE: ROLL-OFF B&W #11	RWP NO. N/A
	DATE: 5-1-02
	TIME: 1400

MAP/DRAWING



COPY



LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

△# = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4-1-03
	N/A	

Completed by: (Signature) P.R. Radley D.J. Harvey	H [redacted]	Date: 5-1-02
Completed by: (Print Name) P.R. RADLEY / D.J. HARVEY		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name) SEE ATTACHED.		
Reviewed/Approved by: (Signature) RM Coblentz	HP # [redacted]	Date: 5-10-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-0782

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		CONCRETE
2				
3				
4				
5				
6				
7				
8				
9				
10				
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

COPY

Batch ID: 02-TF-0782 HARVEY(10) BSB

Batch File: Smear Unit 1 - 200205011359
Group: F
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 5/1/2002
Count Time (min): 1.5
Recalibration Date: 5/22/2003

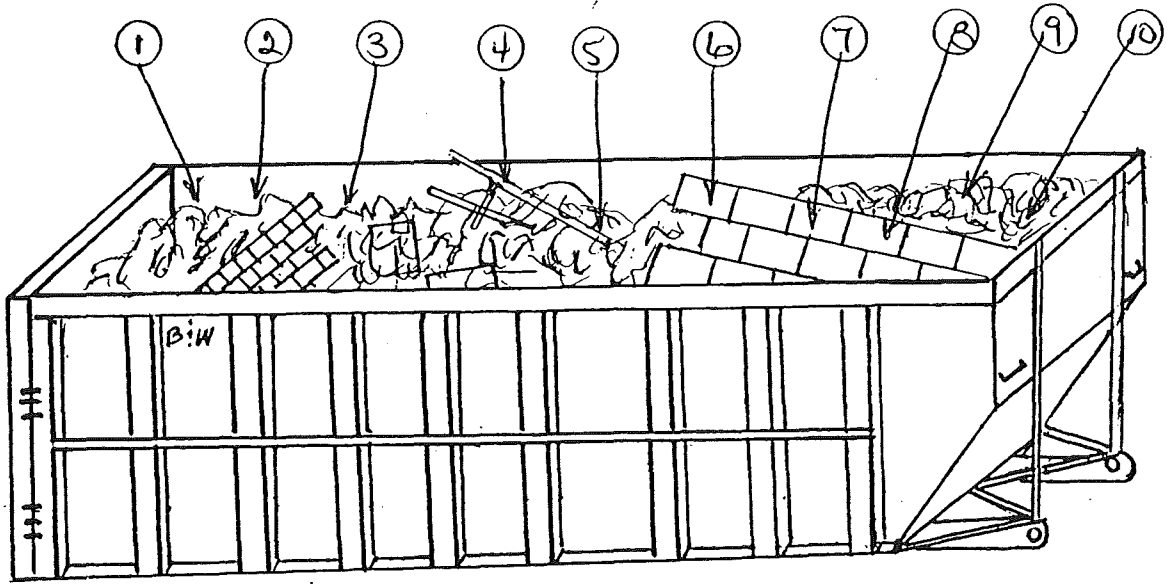
Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	86	1.62	4.03	2.78	4.68
2	149	1.62	4.03	1.64	4.09
3	129	0.00	0.66	1.65	4.09
4	33	0.00	0.66	2.79	4.68
5	35	1.62	4.03	3.92	5.21
6	42	0.00	0.66	0.51	3.40
7	44	0.00	0.66	1.65	4.09
8	29	0.00	0.66	0.51	3.40
9	131	3.61	5.66	0.00	2.53
10	88	0.00	0.66	0.51	3.40

CountLab Results - 02-TF-07.pdf

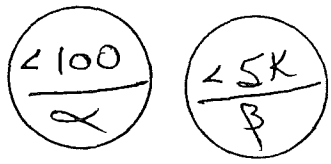
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0783
PURPOSE: ROLL-OFF BW#10	RWP NO. N/A
	DATE: 5-1-02
	TIME: 1600

MAP/DRAWING



COPY



LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

△# = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4-1-03
	N/A	

Completed by: (Signature) PG Radley / D.J. Harvey	HP [redacted]	Date: 5/1/02
Completed by: (Print Name) PG RADLEY / D.J. HARVEY		
Counted by: (Signature) SEE ATTACHED	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 5-10-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

Survey No. 02-TF-0783

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	RUBBLE
2	↓	↓	↓	↓
3	↓	↓	↓	↓
4	↓	↓	↓	↓
5	↓	↓	↓	↓
6	↓	↓	↓	↓
7	↓	↓	↓	↓
8	↓	↓	↓	↓
9	↓	↓	↓	↓
10	↓	↓	↓	↓
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

COPY

Batch ID: 02-TF-0783 HARVEY(10) BSB

Batch File: Smear Unit 1 - 200205020758
Group: F
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 59123

Acquisition Date: 5/2/2002
Count Time (min): 1.5
Recalibration Date: 5/24/2003

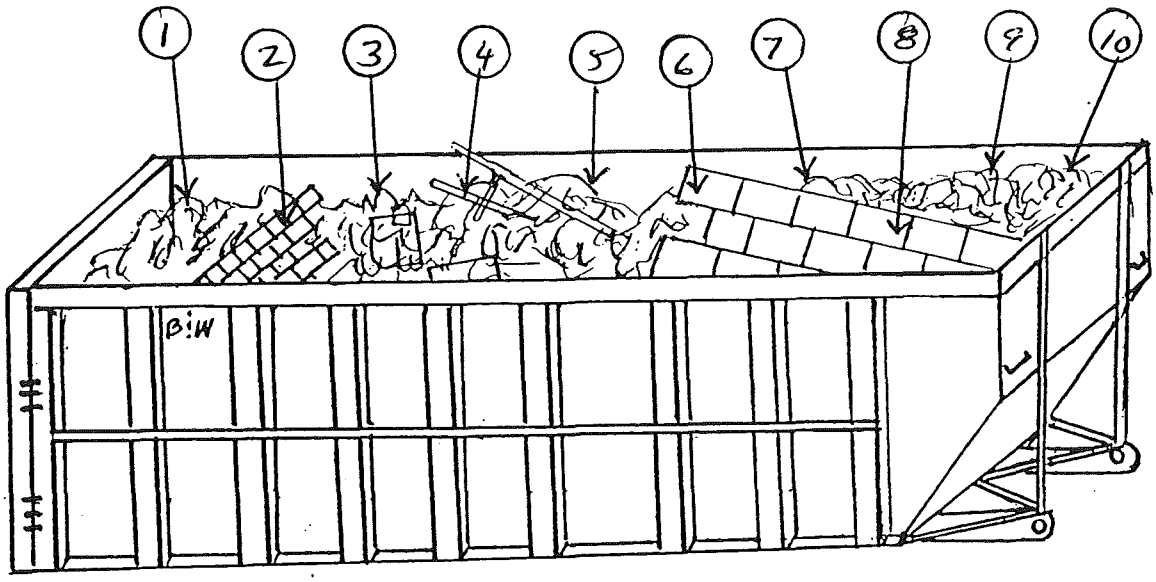
Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	50	0.00	0.90	2.09	6.08
2	149	0.00	0.90	0.00	4.10
3	129	0.00	0.90	0.00	4.10
4	33	0.00	0.90	0.00	4.85
5	35	0.00	0.90	2.09	6.08
6	42	0.00	0.90	3.38	6.60
7	88	0.00	0.90	0.00	4.85
8	131	1.19	3.89	4.66	7.09
9	29	1.19	3.89	0.78	5.50
10	44	3.08	5.43	2.06	6.08

RADIOLOGICAL SURVEY DATA SHEET

Pg. 1 of 3

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0784
PURPOSE: ROLL-OFF B&W #13	RWP NO. N/A
	DATE: 5/2/02
	TIME: 1400

MAP/DRAWING



COPY

<100 / α

<SK / β

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4-1-03
	N	
	A	

Completed by: (Signature) PGKadley / D J Harvey	HP [redacted]	Date: 5-2-02
Completed by: (Print Name) PG KADLEY / D.J. HARVEY		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name) SEE ATTACHED		
Reviewed/Approved by: (Signature) RM Coblentz	HP # [redacted]	Date: 5-10-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-0784

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATT	ACHED	METAL/RUBBLE
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8				
9				
10				
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

COPY

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR025
Batch Ended: 5/2/02 13:31
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0784 HARVEY(10) BSB

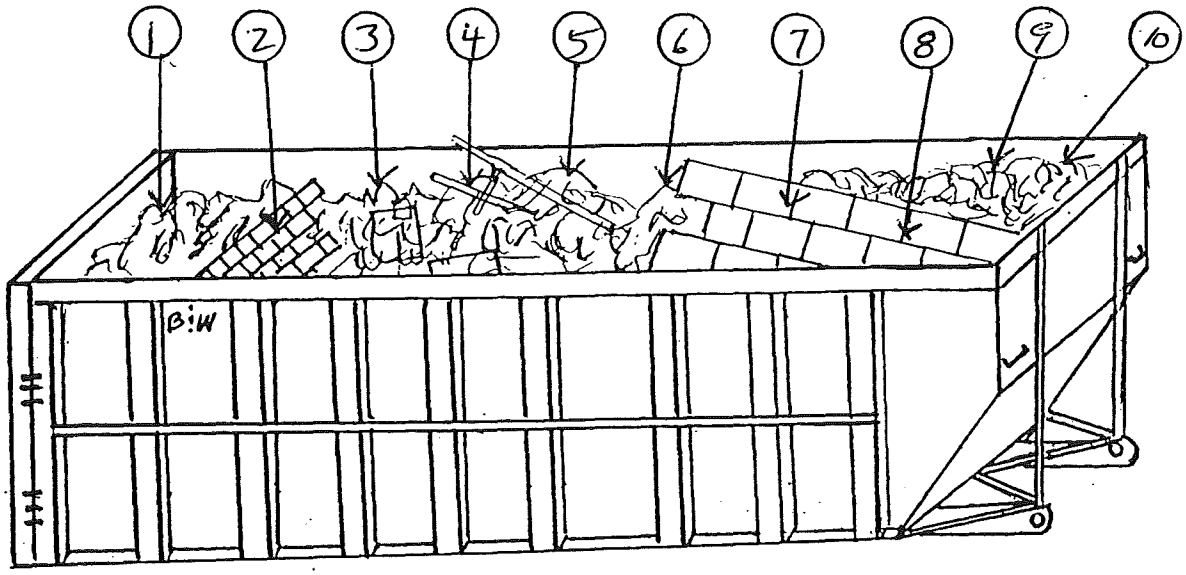
Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.45	2.05		0.00	1.28	
A2	2	3.51	2.75		0.11	1.70	
A3	3	0.00	2.14		0.44	1.75	
A4	4	0.00	2.03		2.70	2.36	
B1	5	0.00	2.04		1.54	2.17	
B2	6	0.00	2.03		1.49	2.06	
B3	7	1.59	2.10		0.00	1.29	
B4	8	0.00	2.02		1.33	2.01	
C1	9	1.56	2.18		9.09	3.77	
C2	10	0.00	1.88		2.84	2.32	

Bryan Brown

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0785
PURPOSE: ROLL-OFF B&W #10	RWP NO. N/A
	DATE: 5/2/02
	TIME: 1500

MAP/DRAWING



COPY

<100 / α

<5K / β

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

△# = mrem/hr neutron

□# = air sample number

(#) = swipe number

(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4-1-03
	N	
	A	

Completed by: (Signature) PG Radley / D. J. Harvey	H [redacted]	Date: 5-2-02
Completed by: (Print Name) PG RADLEY / D.J. HARVEY		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name) SEE ATTACHED		
Reviewed/Approved by: (Signature) RM Collentz	HP # [redacted]	Date: 5-10-02
Reviewed/Approved by: (Print Name) RM Collentz		

ML-9620 (2-98)

Survey No. 02-TF-0785

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATT	ACHED	METAL/RUBBLE
2				
3				
4				
5				
6				
7				
8				
9				
10				
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR026
Batch Ended: 5/2/02 15:07
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0785 HARVEY

COPY

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	3.48	2.91		2.46	2.56	
A2	2	0.00	1.95		0.41	1.70	
A3	3	1.68	2.14		0.29	1.75	
A4	4	0.00	2.03		2.70	2.36	
B1	5	0.00	2.03		0.29	1.77	
B2	6	0.00	2.04		2.68	2.39	
B3	7	3.67	2.97		0.00	1.81	
B4	8	0.00	2.00		0.00	1.16	
C1	9	1.56	2.11		1.61	2.16	
C2	10	0.00	1.84		0.00	1.16	

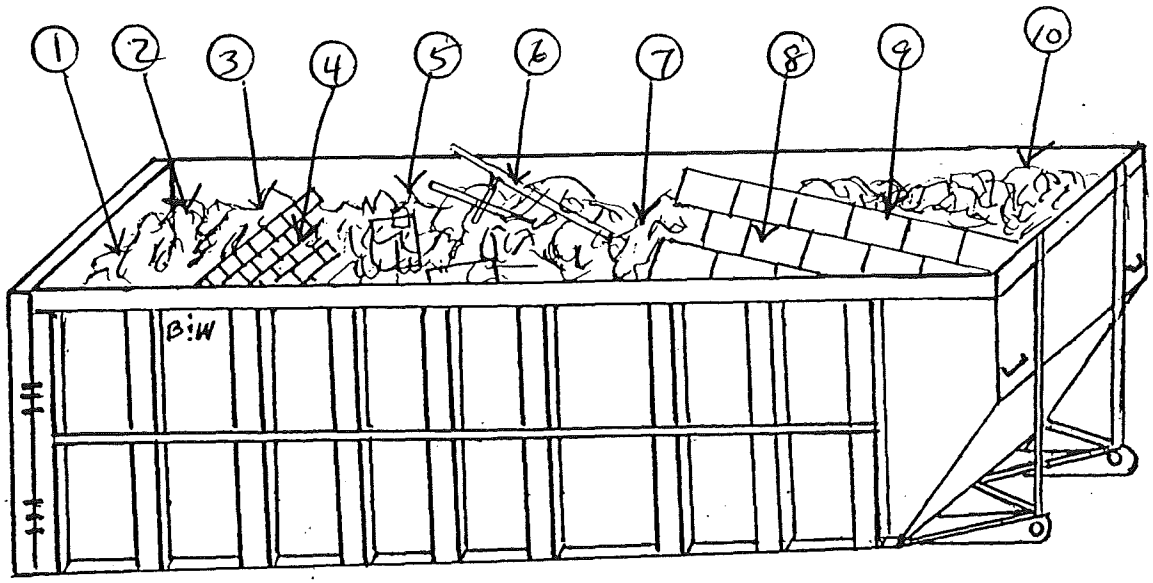
B Smith Brown

RADIOLOGICAL SURVEY DATA SHEET

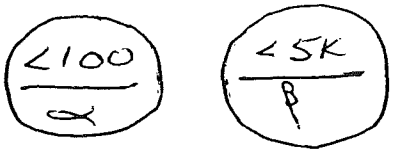
Pg. 1 of 3

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0786
PURPOSE: ROLL-OFF B&W # 11	RWP NO. N/A
	DATE: 5/2/02
	TIME: 1530

MAP/DRAWING



COPY



LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

△# = mrem/hr neutron

□# = air sample number

(#) = swipe number

(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4-1-03
	N	
	A	

Completed by: (Signature) PG Radley / D J Harvey	HP [redacted]	Date: 5-2-02
Completed by: (Print Name) PG RADLEY / DJ HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: ~~5/10~~ 5/10/02 RMC 5-10-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

Survey No. 02-TF-0786

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATT	ACHED	RUBBLE
2				
3				
4				
5				
6				
7				
8				
9				
10				
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR027
Batch Ended: 5/2/02 15:32
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-786 HARVEY

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.45	2.05		0.00	1.28	
A2	2	0.00	1.94		0.00	1.20	
A3	3	0.00	2.14		0.44	1.75	
A4	4	0.00	2.03		2.70	2.36	
B1	5	1.56	2.02		0.00	1.25	
B2	6	0.00	2.01		0.29	1.69	
B3	7	1.59	2.11		0.00	1.81	
B4	8	0.00	2.00		0.00	1.16	
C1	9	0.00	2.10		1.76	2.16	
C2	10	0.00	1.86		0.53	1.64	

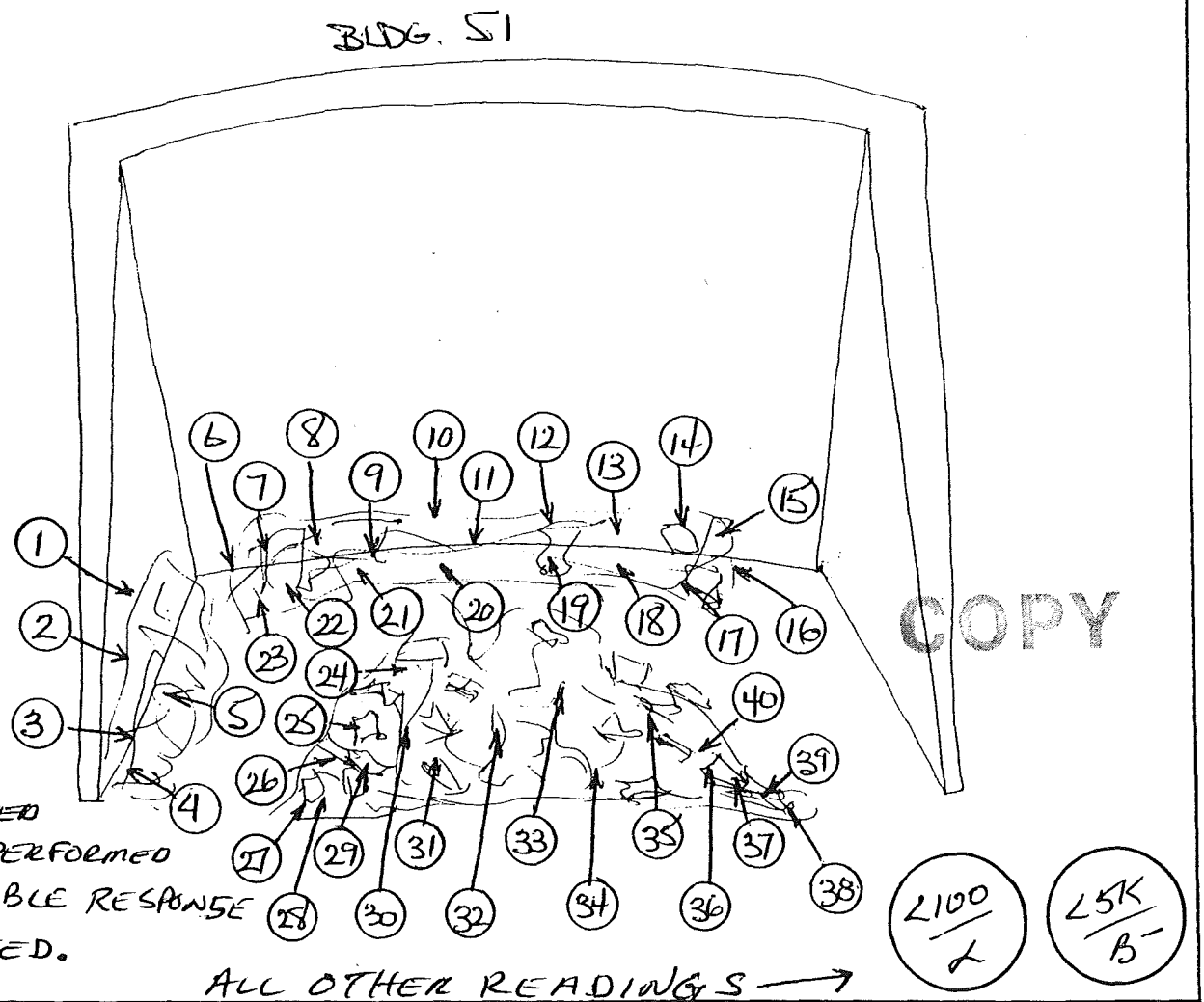
Smith Brown

COPY

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0787
PURPOSE: DEBRIS PILE	RWP NO. N/A
	DATE: 5-3-02
	TIME: 10:30

MAP/DRAWING



INTEGRATED COUNT PERFORMED IF AUDIBLE RESPONSE DETECTED.

ALL OTHER READINGS →

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	4/1/03

Completed by: (Signature) PJ Radley D.J. Harvey	H[redacted]	Date: 5-3-02
Completed by: (Print Name) PJ RADLEY / DJ. HARVEY		
Counted by: (Signature)	HP#	Date:
Counted by: (Print Name) SEE ATTACHED		
Reviewed/Approved by: (Signature) RNCoblentz	HP# [redacted]	Date: 5-14-02
Reviewed/Approved by: (Print Name) RNCoblentz		

ML-9620 (2-98)

Survey No.
02-TF-0787

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	DEBRIS PILE
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
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21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTACHED		DEBRIS PILE
37				
38				
39				
40				

N/A

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR013
Batch Ended: 5/3/02 10:32

Crosstalk correction performed.

COPY

Recalibration Date: 4/3/03
Serial Number: 26966-1

Batch ID: RADLEY 02-TF-0787 (40) CYR

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.06		0.00	1.27	
A2	2	0.00	2.11		1.06	1.83	
A3	3	0.00	1.95		2.69	2.43	
A4	4	0.00	1.91		0.00	1.71	
B1	5	0.00	2.04		1.49	2.09	
B2	6	1.77	2.17		2.66	2.49	
B4	7	0.00	1.90		1.68	1.96	
C1	8	1.72	2.10		1.08	1.87	
C2	9	0.00	2.05		4.72	3.12	
C3	10	0.00	2.01		0.00	1.25	
C4	11	0.00	1.90		2.39	2.49	
D1	12	0.00	2.14		0.00	1.31	
D2	13	1.67	2.06		0.00	1.29	
D3	14	0.00	1.93		0.00	1.27	
D4	15	0.00	2.00		1.17	1.79	
A1	16	1.68	2.07		0.59	1.79	
A2	17	0.00	2.09		0.00	1.29	
A3	18	1.58	1.94		1.33	2.11	
A4	19	0.00	1.91		0.00	1.21	
B1	20	0.00	2.07		5.10	2.96	
B2	21	0.00	2.13		0.38	1.76	
B4	22	1.43	1.91		2.67	2.26	
C1	23	0.00	2.09		0.00	1.32	
C2	24	0.00	2.02		0.00	1.40	
C3	25	0.00	2.01		0.00	1.25	
C4	26	0.00	1.88		0.00	1.25	
D1	27	3.84	3.02		0.00	1.31	
D2	28	0.00	2.08		2.18	2.23	
D3	29	0.00	1.93		0.00	1.27	
D4	30	0.00	1.99		0.00	1.27	
A1	31	0.00	2.06		0.00	1.27	
A2	32	0.00	2.09		0.00	1.29	

✓PBR ✓PBR

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR013
Batch Ended: 5/3/02 10:32

Crosstalk correction performed.

COPY

Recalibration Date: 4/3/03
Serial Number: 26966-1

Batch ID: RADLEY 02-TF-0787 (40) CYR

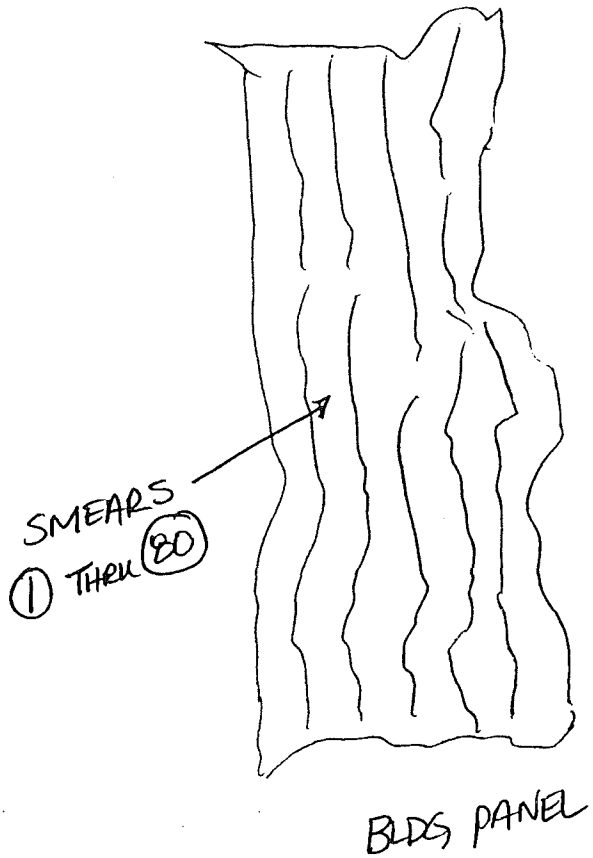
Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A3	33	0.00	1.95		2.69	2.43	
A4	34	0.00	1.91		0.00	1.71	
B1	35	1.78	2.05		2.55	2.41	
B2	36	0.00	2.11		0.00	1.24	
B4	37	0.00	1.91		2.81	2.26	
C1	38	0.00	2.09		0.00	1.32	
C2	39	1.62	2.03		0.42	1.97	
C3	40	0.00	2.02		2.40	2.17	

✓ PBL ✓ PBL

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BLD 51	SURVEY NO. 02-TF-0796
PURPOSE: FREE RELEASE PANELS	RWP NO. NA
	DATE: 050802
	TIME: 1515

MAP/DRAWING



(20) PANELS LABELED "A" THRU "T"

(4) SMEARS PER PANEL
(2) ON EACH SIDE
(80) TOTAL

DIRECT FRISK <100dpm/100cm² α
<5000dpm/100cm² β⁻

NOTE:

AUDIBLE RESPONSE NOT DETECTED
NO INTEGRATED MEASUREMENTS PERFORMED

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5435/5495	5/8/03
	N	
	A	

ML-9620 (2-98)

Completed by: (Signature)	HP # [redacted]	Date: 5/8/02
Completed by: (Print Name) V. FILEPPI		
Counted by: (Signature) SEE ATTACHED	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP # [redacted]	Date: 5-14-02
Reviewed/Approved by: (Print Name) RMCoblentz		

Survey No. 02-TF-0796

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
T-80	See Attached			PANELS
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

Batch ID: 02-TF-0796 FILEPPI(80) BSB

Batch File: Smear Unit 3 - 200205081727
Group: F
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 59123

Acquisition Date: 5/8/2002
Count Time (min): 1.5
Recalibration Date: 5/24/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	36	0.00	0.90	2.09	6.08
2	12	1.19	3.89	2.08	6.08
3	68	1.19	3.89	0.78	5.50
4	8	0.00	0.90	0.79	5.50
5	58	1.19	3.89	4.66	7.09
6	14	0.00	0.90	3.38	6.60
7	56	0.00	0.90	0.00	4.10
8	93	1.19	3.89	0.78	5.50
9	142	0.00	0.90	5.97	7.55
10	11	0.00	0.90	0.00	3.18
11	133	0.00	0.90	0.79	5.50
12	93	1.19	3.89	0.78	5.50
13	1	0.00	0.90	2.09	6.08
14	52	0.00	0.90	0.79	5.50
15	137	0.00	0.90	3.38	6.60
16	127	3.08	5.43	2.06	6.08
17	105	0.00	0.90	0.00	4.85
18	51	0.00	0.90	0.79	5.50
19	66	0.00	0.90	0.79	5.50
20	71	1.19	3.89	0.00	4.85

COPY

B Smith-Brown

3228

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
21	55	0.00	0.90	3.38	6.60
22	56	1.19	3.89	0.00	4.85
23	85	0.00	0.90	2.09	6.08
24	22	3.08	5.43	0.77	5.50
25	34	1.19	3.89	2.08	6.08
26	108	0.00	0.90	0.00	3.18
27	39	0.00	0.90	0.79	5.50
28	60	0.00	0.90	0.00	3.18
29	30	1.19	3.89	0.00	4.85
30	114	0.00	0.90	0.79	5.50
31	128	0.00	0.90	0.00	4.10
32	32	0.00	0.90	0.79	5.50
33	4	0.00	0.90	0.00	4.85
34	112	1.19	3.89	3.37	6.61
35	94	1.19	3.89	3.37	6.61
36	38	3.08	5.43	2.06	6.08
37	47	0.00	0.90	0.79	5.50
38	49	4.98	6.63	0.00	4.86
39	54	1.19	3.89	0.00	4.85
40	94	1.19	3.89	2.08	6.08
41	109	0.00	0.90	3.38	6.60
42	95	1.19	3.89	0.78	5.50
43	143	0.00	0.90	2.09	6.08
44	35	0.00	0.90	0.79	5.50
45	71	0.00	0.90	4.68	7.09
46	60	4.98	6.63	2.05	6.08
47	65	0.00	0.90	2.09	6.08

COPY

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
48	65	0.00	0.90	0.00	4.85
49	15	1.19	3.89	4.66	7.09
50	36	1.19	3.89	4.66	7.09
51	110	0.00	0.90	0.00	4.10
52	13	0.00	0.90	0.00	3.18
53	8	0.00	0.90	0.79	5.50
54	31	1.19	3.89	0.78	5.50
55	59	0.00	0.90	0.00	3.18
56	12	0.00	0.90	0.79	5.50
57	144	0.00	0.90	0.79	5.50
58	39	3.08	5.43	0.00	3.18
59	91	0.00	0.90	0.00	4.10
60	135	0.00	0.90	0.79	5.50
61	85	0.00	0.90	0.00	4.85
62	5	0.00	0.90	0.00	4.10
63	32	0.00	0.90	0.00	4.85
64	41	0.00	0.90	0.00	4.10
65	142	0.00	0.90	0.79	5.50
66	1	0.00	0.90	0.79	5.50
67	57	1.19	3.89	0.00	4.10
68	139	1.19	3.89	0.78	5.50
69	89	0.00	0.90	0.00	4.10
70	33	0.00	0.90	0.00	4.85
71	23	1.19	3.89	2.08	6.08
72	37	0.00	0.90	0.79	5.50
73	100	1.19	3.89	0.00	4.10
74	23	3.08	5.43	0.77	5.50

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
75	108	0.00	0.90	0.00	3.18
76	99	1.19	3.89	0.00	4.10
77	114	0.00	0.90	0.00	4.85
78	12	0.00	0.90	0.00	4.10
79	11	0.00	0.90	0.00	4.10
80	57	0.00	0.90	0.00	4.85

COPY

Protocol #: 5 PW H3 403727 User : [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	6.32
Region B:	2.0 -	18.6	0	0.0	6.04
Region C:	40.0 -	2000	0	0.0	11.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0796 FILEPPI(80) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT5.dat
Count Data Filename: C:\DATA\SDATA5.DAT

COPY

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.32	6.04	11.50	656.01	2	B		0.00
0	2.00	508.94	496.42	2.50	534.47	0		1037.09	100.22
1	2.00	0.00	0.00	0.00	573.11	0		0.00	0.00
2	2.00	4.73	5.01	3.00	552.45	0		9.48	9.96
3	2.00	0.38	0.66	0.00	650.26	0		0.70	7.37
4	2.00	2.11	2.11	0.00	604.97	0		4.05	8.44
5	2.00	3.01	3.29	0.00	687.50	0		5.42	8.30
6	2.00	4.18	4.20	0.00	592.69	0		8.09	9.41
7	2.00	6.68	6.46	0.00	614.06	0		12.71	10.20
8	2.00	3.04	3.09	0.00	570.62	0		5.99	9.10
9	2.00	0.74	0.67	2.49	642.09	0		1.38	7.59
10	2.00	0.18	0.27	0.00	554.22	0		0.36	7.88
11	2.00	0.00	0.00	0.00	595.76	0		0.00	0.00
12	2.00	5.28	5.12	0.00	567.10	0		10.44	10.06
13	2.00	0.18	0.28	0.00	546.78	0		0.37	7.93
14	2.00	0.00	0.00	0.00	583.50	0		0.00	0.00
15	2.00	4.18	4.09	2.00	649.85	0		7.73	8.98
16	2.00	0.18	0.17	0.50	605.02	0		0.35	7.55
17	2.00	3.13	2.94	8.88	576.24	0		6.15	9.10
18	2.00	4.18	3.01	0.00	531.15	0		8.53	9.91
19	2.00	0.68	0.79	3.50	538.00	0		1.38	8.24
20	2.00	1.18	1.21	0.00	585.11	0		2.30	8.16
21	2.00	2.68	2.96	1.50	640.36	0		4.99	8.45
22	2.00	0.18	0.46	0.00	618.35	0		0.34	7.47
23	2.00	0.00	0.00	0.00	524.64	0		0.00	0.00
24	2.00	0.00	0.00	0.00	581.41	0		0.00	0.00
25	2.00	0.18	0.19	0.00	593.33	0		0.35	7.62
26	2.00	4.68	4.68	0.00	600.11	0		9.01	9.55
27	2.00	0.00	0.00	0.00	620.38	0		0.00	0.00
28	2.00	1.18	1.17	0.00	608.60	0		2.26	8.00
29	2.00	0.18	0.00	3.00	586.37	0		0.35	7.67
30	2.00	0.59	0.30	0.00	603.31	0		1.12	7.76
31	2.00	1.96	2.01	0.00	572.61	0		3.86	8.60
32	2.00	0.00	0.00	1.50	474.97	14		0.00	0.00
33	2.00	0.00	0.00	0.00	586.27	0		0.00	0.00
34	2.00	1.18	1.46	0.00	568.98	0		2.33	8.27
35	2.00	3.68	3.71	0.00	579.03	0		7.20	9.31

Protocol #: 5 PW H3 403727 User : [redacted]

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
36	2.00	2.68	2.04	0.00	562.19	0		5.33	9.01
37	2.00	3.81	3.84	0.00	586.96	0		7.41	9.30
38	2.00	2.68	2.96	0.00	507.66	0		5.59	9.45
39	2.00	0.00	0.00	0.00	541.68	0		0.00	0.00
40	2.00	3.25	3.53	0.00	583.52	0		6.35	9.09
41	2.00	0.18	0.46	0.50	581.55	0		0.35	7.70
42	2.00	1.18	1.03	0.00	527.44	0		2.42	8.57
43	2.00	0.00	0.00	2.50	606.17	0		0.00	0.00
44	2.00	0.68	0.71	0.00	582.22	0		1.33	7.94
45	2.00	3.18	3.46	0.00	593.00	0		6.16	8.99
46	2.00	0.00	0.00	0.00	585.39	0		0.00	0.00
47	2.00	0.68	0.96	0.00	584.67	0		1.33	7.92
48	2.00	0.00	0.00	1.50	563.93	0		0.00	0.00
49	2.00	0.00	0.00	0.00	606.30	0		0.00	0.00
50	2.00	0.00	0.00	0.00	565.30	0		0.00	0.00
51	2.00	2.25	2.52	0.00	612.96	0		4.28	8.45
52	2.00	3.20	3.48	1.50	668.74	0		5.84	8.47
53	2.00	0.00	0.00	2.50	569.89	0		0.00	0.00
54	2.00	0.00	0.00	0.00	539.50	0		0.00	0.00
55	2.00	2.18	2.30	2.50	535.68	0		4.43	8.98
56	2.00	0.18	0.00	0.00	679.72	0		0.33	7.12
57	2.00	3.68	3.60	0.00	547.71	0		7.40	9.56
58	2.00	0.15	0.43	0.00	607.38	0		0.30	7.52
59	2.00	3.60	3.88	0.00	636.15	0		6.73	8.85
60	2.00	0.68	0.61	0.50	641.06	0		1.27	7.57
61	2.00	0.00	0.00	3.50	592.00	0		0.00	0.00
62	2.00	0.00	0.00	0.00	527.93	0		0.00	0.00
63	2.00	1.55	1.82	0.00	541.40	0		3.13	8.64
64	2.00	0.00	0.00	2.00	576.90	0		0.00	0.00
65	2.00	5.18	5.17	1.50	608.62	0		9.90	9.68
66	2.00	0.00	0.00	0.00	585.25	0		0.00	0.00
67	2.00	0.00	0.00	0.00	628.93	0		0.00	0.00
68	2.00	1.68	1.96	0.00	569.53	0		3.32	8.50
69	2.00	0.00	0.00	0.00	558.07	0		0.00	0.00
70	2.00	0.18	0.32	0.00	521.61	0		0.37	8.10
71	2.00	0.00	0.00	0.00	639.83	0		0.00	0.00
72	2.00	0.00	0.00	0.00	597.55	0		0.00	0.00
73	2.00	2.08	2.29	0.00	486.71	0		4.45	9.41
74	2.00	0.00	0.00	0.00	614.98	0		0.00	0.00
75	2.00	0.00	0.00	0.00	580.36	0		0.00	0.00
76	2.00	0.68	0.96	0.00	581.59	0		1.33	7.94
77	2.00	0.00	0.00	4.00	547.00	0		0.00	0.00
78	2.00	2.18	2.22	0.00	577.21	0		4.28	8.67
79	2.00	0.00	0.00	1.33	508.21	0		0.00	0.00
80	2.00	1.68	1.96	0.00	526.17	0		3.44	8.82

COPY

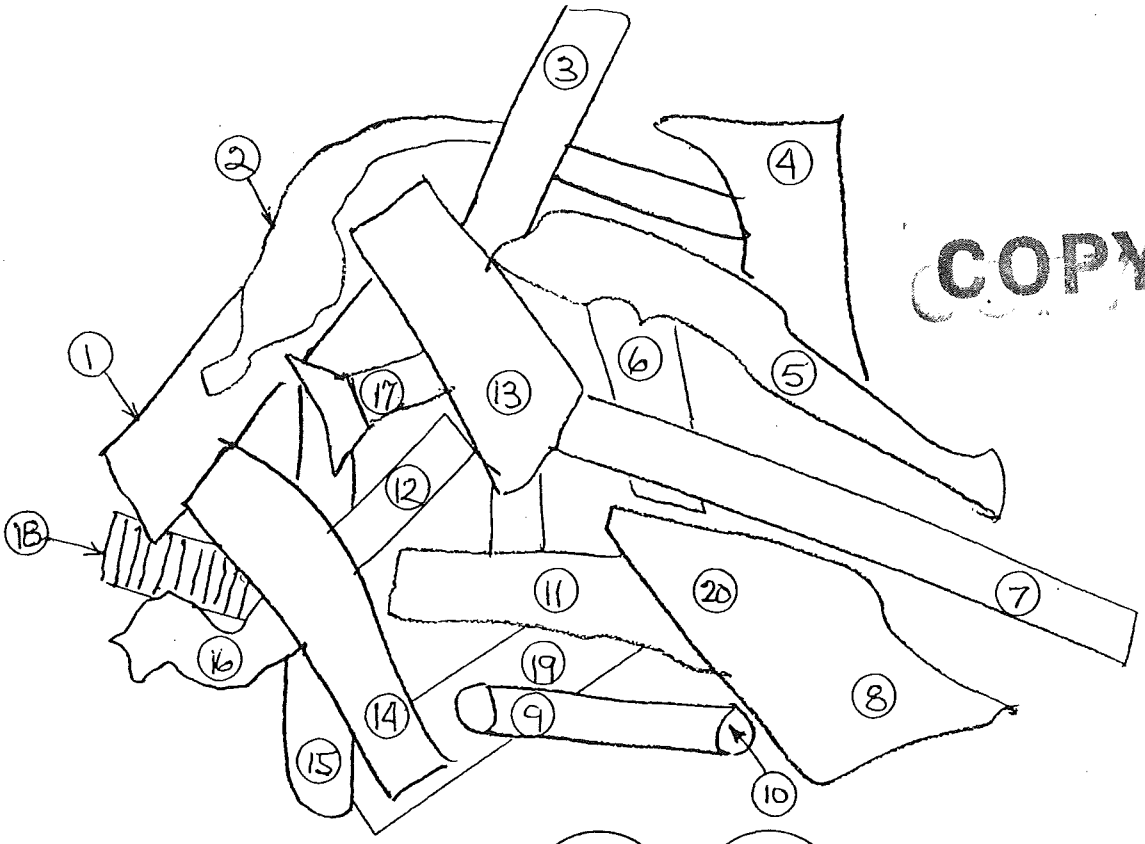
RADIOLOGICAL SURVEY DATA SHEET

Pg 1 of 3

LOCATION: (BLDG./AREA/ROOM) 51 / OUTSIDE	SURVEY NO. 02-TF-0798
PURPOSE: METAL DEBRIS PILE	RWP NO. N/A
	DATE: 5-14-02
	TIME: 1030

MAP/DRAWING

METAL DEBRIS PILE



COPY

DIRECT FRISK RESULTS: <100 / α <5K / β

INTEGRATED COUNT PERFORMED IF AUDIBLE DETECTED.

LEGEND: # = mrem/hr (γ) whole body
#□ = mrem/hr (β+n+γ) externally on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-9-03
	N/A	

Completed by: (Signature) PG Radley / DJ Harvey	H [redacted]	Date: 5-14-02
Completed by: (Print Name) PG RADLEY / DJ HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 5/17/02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

Survey No. 02-TF-0798

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	DEBRIS PILE
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR006
Batch Ended: 5/14/02 8:57
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0798 HARVEY(20) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.45	2.05		0.00	1.28	
A2	2	1.58	1.94		0.00	1.20	
A3	3	0.00	2.13		0.00	1.24	
A4	4	0.00	2.00		0.00	1.18	
B1	5	0.00	2.02		0.00	1.25	
B2	6	0.00	2.03		1.49	2.06	
B3	7	0.00	2.09		0.00	1.29	
B4	8	0.00	2.00		0.00	1.16	
D1	9	1.40	1.93		0.00	1.24	
D2	10	1.57	2.12		1.41	2.10	
D3	11	1.62	2.13		0.00	1.29	
D4	12	1.48	2.10		0.21	1.69	
A1	13	0.00	2.05		0.00	1.28	
A2	14	0.00	1.95		0.41	1.70	
A3	15	0.00	2.13		0.00	1.24	
A4	16	3.45	2.83		1.24	2.05	
B1	17	0.00	2.02		0.00	1.25	
B2	18	1.31	2.03		1.32	2.06	
B3	19	1.59	2.11		0.00	1.81	
B4	20	0.00	2.00		0.00	1.16	

✓PGR ✓PGR

LB Smith-Brown

CountLab Results - 02-TF-07.pdf

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51 / OUTSIDE / ROOFING Sheet Metal	SURVEY NO. 02-TF-0799
PURPOSE: SAMPLING for ISOTOPIC ANALYSIS FROM METAL DEBRIS PILE	RWP NO. N/A
	DATE: 5-14-02
	TIME: 1030

MAP/DRAWING

SAMPLE #	DIRECT FRISK READING: dpm/100cm² α
1	117
2	123
3	110
4	139
5	171
6	123
7	156
8	188

COPY

ALL SAMPLES READING <5K / β

Note:
Readings for found on the top-side surfaces of the roofing material. Materials showed characteristic surface rust.

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-9-03
	N/A	

Completed by: (Signature)	HP [redacted]	Date: 5-14-02
Completed by: (Print Name) TG RADLEY / DJ HARVEY		
Counted by: (Signature) SEE	HP#	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature)	HP# [redacted]	Date: 5-22-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

02-TF-0799

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	SEE PAGE 1
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8	↓	↓	↓	↓
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR008
Batch Ended: 5/14/02 12:46
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0799 HARVEY(8) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	3.48	2.93		5.01	3.14	
A2	2	0.00	1.96		1.61	2.08	
A3	3	3.79	3.05		5.11	3.05	
A4	4	1.47	2.04		3.74	2.64	
B1	5	3.56	2.89		4.97	3.07	
B2	6	3.29	2.83		0.00	1.69	
B3	7	0.00	2.20		9.06	3.87	
B4	8	1.45	2.01		0.03	1.64	

N/A N/A

B Smith Brown

3 of 5
~~Page 1 of 1~~

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
5-15-02	METAL	HARVEY	8

PROJECT/FUNCTION:	PRIMARY CONTACT/PHONE NO.:	MAIL STOP:
SMPP/TFU	HARVEY 3163	

CHARGE NUMBER:	DATE(S) COLLECTED:	RSDS# (if applicable):	ATTACHMENTS (list):
	5-15-02	02-TF-0799	

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☒ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U_____ Th____ Am____ Other_____
- ☐ Other _____

ADDITIONAL INFORMATION:

COPY

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS
0205283	51 ROOF	1	
284		2	Comp.
285		3	
286		4	
287		5	
288		6	Comp.
289		7	
290		8	

COMMENTS:

Hof 5
294

ANALYZED BY:	DATE:
L. C. Hoffman	5-21-02

ML-5222 (1-01)

Laboratory ID#: 0205283-0205290
Project/function: SMPP/TFV
Submitted: May 15, 2002
Submitted by: D. Harvey
Point of Contact: D. Harvey x3163
RSDS#: 02-TF-0799
Date: May 21, 2002

Lab ID 0205283-0205286
Sample Location BLDG-51 Roof # 1-4

Isotope	dpm/sample	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	1.04
Pu-239/240	<LDL	<LDL	1.04
Th-232	<LDL	<LDL	1.20
Th-230	1.33	0.79	1.20
Th-228	<LDL	<LDL	1.20
Th-227	<LDL	<LDL	1.20
U-238	1.06	0.62	0.95
U-235	<LDL	<LDL	1.78
U-233/234	1.68	0.82	1.54
Po-210	1776.20	159.51	2.08

COPY

Lab ID 0205287-0205290
Sample Location BLDG-51 Roof # 5-8

Isotope	dpm/sample	Uncertainty +/-	LDL
Pu-238	<LDL	<LDL	0.96
Pu-239/240	<LDL	<LDL	0.96
Th-232	<LDL	<LDL	0.83
Th-230	<LDL	<LDL	0.83
Th-228	<LDL	<LDL	0.83
Th-227	<LDL	<LDL	0.83
U-238	2.24	0.99	1.69
U-235	<LDL	<LDL	1.05
U-233/234	1.93	0.90	1.05
Po-210	2237.50	301.21	3.38

5665
DH

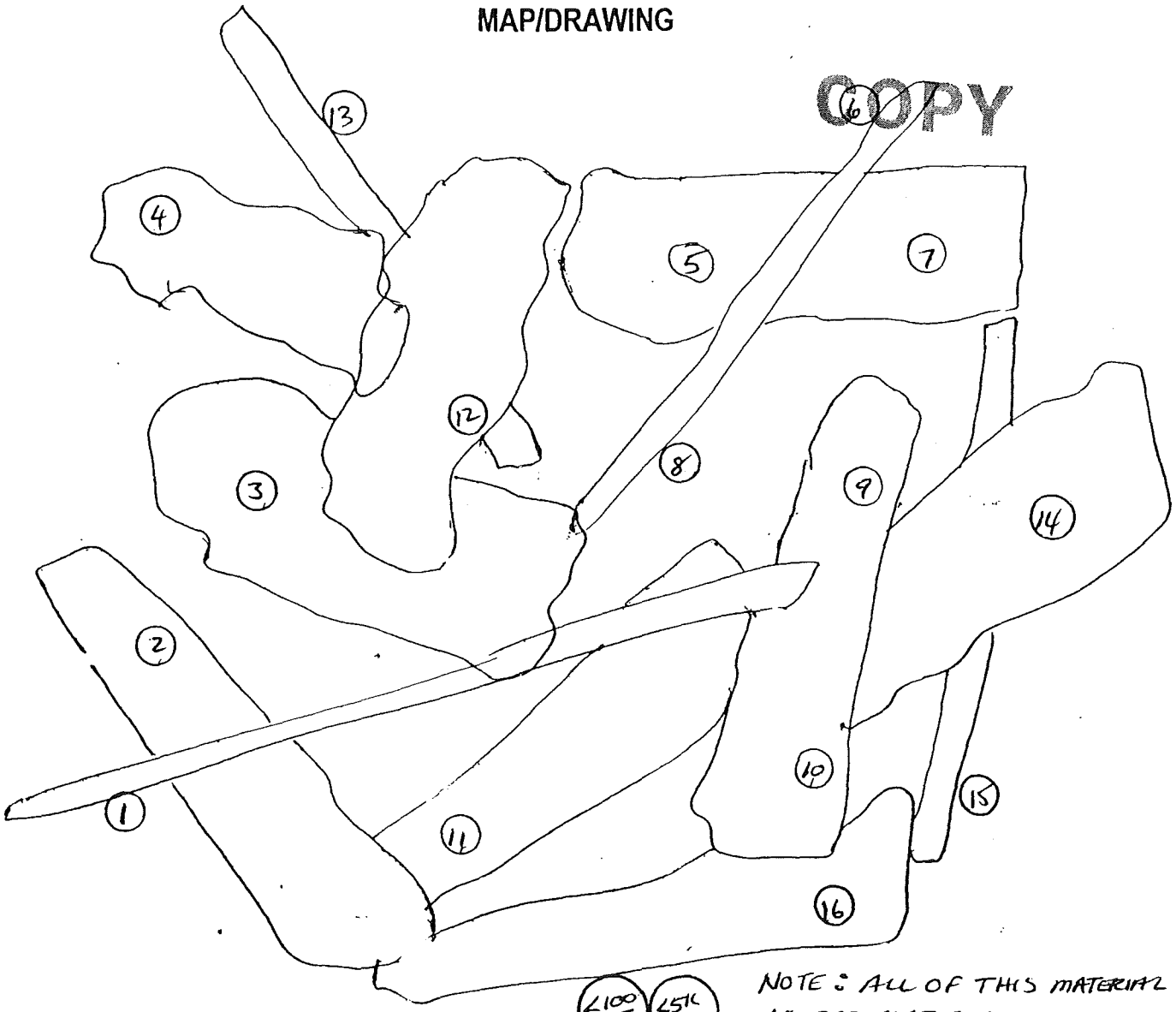
Analyst [redacted] HP # 5-21-02 Date

Data Verification [redacted] HP # 5/21/02 Date

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0800
PURPOSE: CONFIRMATION SURVEY	RWP NO. N/A
	DATE: 5-15-02
	TIME: 1430

MAP/DRAWING



NOTE: ALL OF THIS MATERIAL IS RAD MATERIAL

* RANDOM DIRECTS TAKEN - RESULTS <100 d <5K B-

LEGEND: # = mrem/hr (γ) whole body

#Σ = mrem/hr (p+n+γ) extern. γ on contact

= mrem/hr neutron

= air sample number

= swipe number

#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5364/5377	5-1-03
	N/A	

Completed by: (Signature) [signature]	[redacted]	Date: 5-17-02
Completed by: (Print Name) DAN HARVEY PAT RADLEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	[redacted]	Date: 5-21-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

Survey No. 02-TF-0800

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE		N/A	I-BEAM
2	ATTACHED			SHEET METAL
3				
4				
5				
6				I-BEAM
7				SHEETMETAL
8				I-BEAM
9				SHEETMETAL
10				
11				
12				
13				I-BEAM
14				SHEETMETAL
15				I-BEAM
16				SHEETMETAL
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

CopyLab.Results - 02-TF-08.pdf

COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR010
Batch Ended: 5/15/02 14:30
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0800 HARVEY(16) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	5.51	3.57		4.86	3.14	
A2	2	3.50	2.82		9.70	3.82	
A3	3	3.79	3.03		2.63	2.48	
A4	4	0.00	2.05		5.06	2.90	
B1	5	0.00	2.11		7.79	3.56	
B2	6	0.00	2.07		5.06	2.93	
B3	7	1.59	2.17		6.33	3.41	
B4	8	0.00	2.05		4.81	2.86	
C1	9	0.00	2.08		0.00	1.25	
C2	10	0.00	1.84		0.00	1.16	
C3	11	0.00	2.08		0.00	1.25	
D1	12	3.31	2.74		0.01	1.75	
D2	13	3.64	2.98		2.46	2.43	
D3	14	1.62	2.13		0.00	1.28	
D4	15	0.00	2.09		0.00	1.20	
A1	16	1.44	2.09		3.89	2.86	

M# D9#

3 of 3

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0822
PURPOSE: ROOF GUTTER	RWP NO. N/A
	DATE: 4-29-02
	TIME: 1430

MAP/DRAWING

ROOF GUTTER FROM 51 BUILDING
SHOWED FIXED ALPHA OF 400dpm / PROBE AREA
SENT METAL TO 48 FOR ANALYSIS
RESULTS ON PAGE 3

COPY

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5603/5604	2-6-03
	N/A	

Completed by: (Signature) [signature]	HP # [redacted]	Date: 4-29-02
Completed by: (Print Name) DANIEL J. HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) [signature]	HP # [redacted]	Date: 5-10-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

2 of 3

Survey No. 02-TF-0822

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N A

COMMENTS:

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Laboratory ID#:	**0204601**
Project/function:	**SMPP/TFV**
Submitted:	**Apr 29, 2002**
Submitted by:	**D. Harvey**
Point of Contact:	**D. Harvey** **x3163**
RSDS#:	**N/A**
Date:	**May 2, 2002**

Lab ID	0204601		
Sample Location	BLDG-51 #1		
Isotope	**dpm/smear**	**Uncertainty +/-**	**LDL**
Pu-238	<LDL	<LDL	1.92
Pu-239/240	<LDL	<LDL	1.92
Th-232	<LDL	<LDL	1.01
Th-230	<LDL	<LDL	1.01
Th-228	<LDL	<LDL	0.60
Th-227	<LDL	<LDL	0.60
U-238	<LDL	<LDL	1.93
U-235	<LDL	<LDL	3.77
U-233/234	<LDL	<LDL	1.93
Po-210	572.02	67.74	6.61

COPY

L.C. Hopkins [redacted] 5-2-02

Analyst HP # Date

Daniel J. Hamilton [redacted] 5-2-02

Data Verification HP # Date

DJH 3 of 3

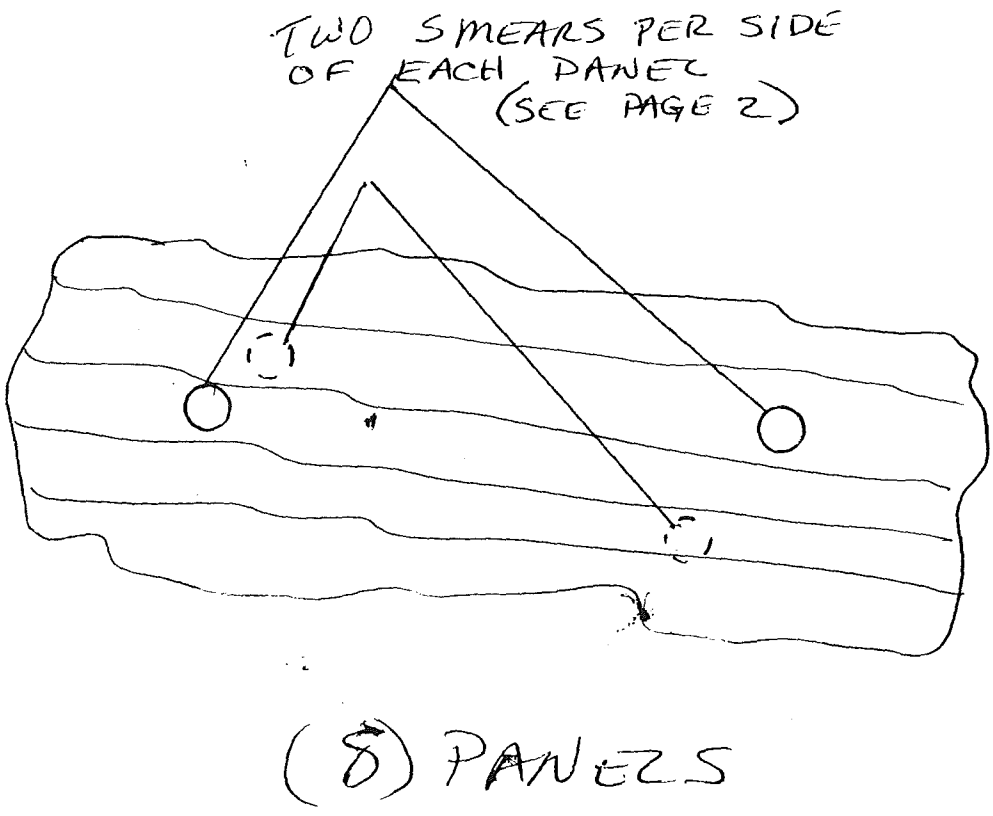
02-TF-0822

RADIOLOGICAL SURVEY DATA SHEET

1 of 5

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0823
PURPOSE: RELEASE OF UPPER LEVEL OUTER SKIN (OUTSIDE PANELS)	RWP NO. N/A
	DATE: 5-7-02
	TIME: 1815

MAP/DRAWING



COPY

INTEGRATED COUNT PERFORMED IF AUDIBLE RESPONSE DETECTED
ALL OTHER READING <100/α <5K/β-

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5311/5322	5-7-03
	N/A	

Completed by: (Signature) [signature]	HP # [redacted]	Date: 5-7-02
Completed by: (Print Name) DANIEL J. HARNEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) [signature]	HP # [redacted]	Date: 5-14-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

2 of 5

Survey No. 02-TF-0823

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE		~~N/A~~	A I/S
2		ATTACHED	DAB 5-7-02	↓
3				A O/S
4				↓
5				B I/S
6				↓
7				B O/S
8				↓
9				C I/S
10				↓
11				C O/S
12				↓
13				D O/S
14				↓
15				D I/S
16				↓
17				E O/S
18				↓
19				E I/S
20				↓
21				F O/S
22				↓
23				F I/S
24				↓
25				G O/S
26				↓
27				G I/S
28				↓
29				H O/S
30				↓
31				H I/S
32	↓	↓	↓	↓
		A		
		N		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: I/S = INSIDE OF PANEL
O/S = OUTSIDE OF PANEL

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

Batch ID: 02-TF-0823 HARVEY(32) BSB

Batch File: Smear Unit 1 - 200205081015
Group: E
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 5/8/2002
Count Time (min): 1.5
Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	136	1.62	4.03	0.51	3.40
2	4	0.00	0.66	0.00	2.53
3	100	0.00	0.66	3.93	5.21
4	35	0.00	0.66	0.51	3.40
5	42	3.61	5.66	1.64	4.09
6	15	0.00	0.66	3.93	5.21
7	40	1.62	4.03	0.00	2.53
8	133	0.00	0.66	0.51	3.40
9	89	0.00	0.66	2.79	4.68
10	86	0.00	0.66	3.93	5.21
11	130	0.00	0.66	0.51	3.40
12	75	1.62	4.03	1.64	4.09
13	89	1.62	4.03	2.78	4.68
14	1	3.61	5.66	0.50	3.40
15	55	1.62	4.03	1.64	4.09
16	12	1.62	4.03	2.78	4.68
17	97	0.00	0.66	2.79	4.68
18	74	1.62	4.03	5.06	5.68
19	127	0.00	0.66	2.79	4.68
20	117	0.00	0.66	0.51	3.40

02-TF-0823 HARVEY(32) BSB

CountLab Results - 02-TF-08.pdf

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
21	100	0.00	0.66	2.79	4.68
22	139	3.61	5.66	2.77	4.68
23	26	0.00	0.66	0.51	3.40
24	148	5.59	6.91	2.77	4.69
25	22	1.62	4.03	0.00	2.53
26	127	1.62	4.03	1.64	4.09
27	21	0.00	0.66	6.20	6.12
28	19	0.00	0.66	2.79	4.68
29	14	7.58	7.98	5.04	5.69
30	39	1.62	4.03	5.06	5.68
31	150	1.62	4.03	1.64	4.09
32	24	0.00	0.66	3.93	5.21

DAH DAH

COPY

02-TF-0823 HARVEY(32) BSB

CountLab Results - 02-TF-08.pdf

08 May 2002 12:24 ALPHA/BETA - 1.09 Page #1
Protocol #: 2 PW H3 #403727 User : [redacted]

Time: 2.00
Data Mode: DPM Nuclide: H3 QUENCH Quench Set: H3QUENCH
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	7.40
Region B:	2.0 -	18.6	0	0.0	7.13
Region C:	40.0 -	2000	0	0.0	12.80

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-0823 HARVEY(32) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT2.DAT
Count Data Filename: C:\DATA\SDATA2.DAT

B Smith Brown

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.40	7.13	12.80	564.01	0	B		0.00
0	2.00	345.67	334.01	0.00	516.54	0		714.14	75.89
1	2.00	0.00	0.00	0.00	514.88	0		0.00	0.00
2	2.00	0.00	0.00	2.70	437.74	0		0.00	0.00
3	2.00	1.60	1.66	0.00	560.92	0		3.18	9.10
4	2.00	0.00	0.00	0.00	535.88	0		0.00	0.00
5	2.00	0.00	0.00	0.00	608.04	0		0.00	0.00
6	2.00	3.46	3.45	1.70	600.45	0		6.65	9.57
7	2.00	0.00	0.00	0.00	548.40	0		0.00	0.00
8	2.00	0.10	0.01	0.00	645.84	0		0.19	7.86
9	2.00	0.00	0.00	0.00	520.91	0		0.00	0.00
10	2.00	0.00	0.00	0.00	466.70	0		0.00	0.00
11	2.00	0.00	0.00	0.00	490.00	0		0.00	0.00
12	2.00	2.10	2.21	0.00	533.46	0		4.27	9.54
13	2.00	0.60	0.87	0.00	544.54	0		1.21	8.78
14	2.00	0.00	0.00	0.00	453.99	0		0.00	0.00
15	2.00	0.00	0.00	0.00	446.78	0		0.00	0.00
16	2.00	0.00	0.00	0.00	488.07	0		0.00	0.00
17	2.00	0.00	0.00	0.00	536.37	0		0.00	0.00
18	2.00	1.60	1.22	0.00	628.08	0		3.01	8.61
19	2.00	3.63	2.79	0.00	619.42	0		6.87	9.49
20	2.00	0.00	0.00	0.00	463.86	0		0.00	0.00
21	2.00	0.00	0.00	0.20	437.43	0		0.00	0.00
22	2.00	0.00	0.00	0.00	456.68	0		0.00	0.00
23	2.00	2.10	2.08	0.00	526.59	0		4.30	9.60
24	2.00	1.60	1.61	0.00	591.49	0		3.10	8.87
25	2.00	1.43	1.70	4.20	479.75	0		3.09	9.81
26	2.00	0.00	0.00	0.00	543.41	0		0.00	0.00
27	2.00	0.00	0.00	0.00	457.06	0		0.00	0.00
28	2.00	0.00	0.00	0.00	449.04	0		0.00	0.00
29	2.00	0.00	0.00	0.00	490.59	0		0.00	0.00
30	2.00	0.00	0.00	0.00	435.32	0		0.00	0.00
31	2.00	2.60	1.81	0.00	601.98	0		4.99	9.21
32	2.00	0.00	0.00	0.00	410.23	0		0.00	0.00

COPY

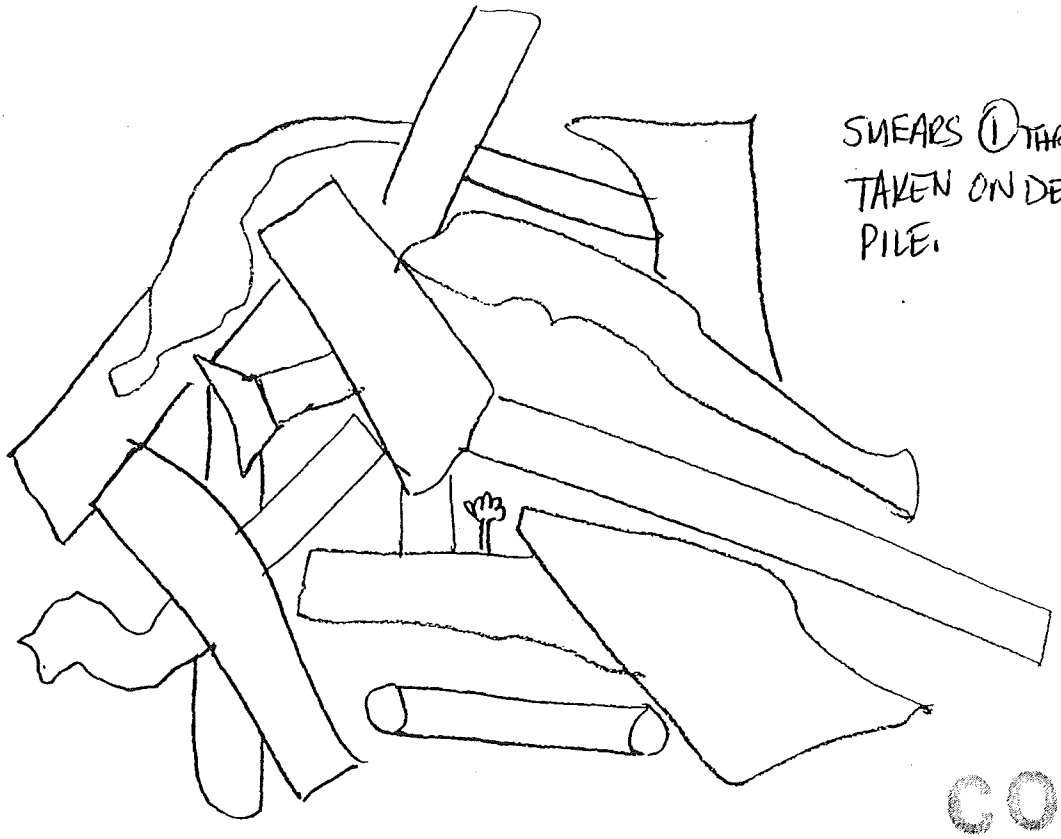
5 of 5

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BLD 51	SURVEY NO. 02-TF-0828
PURPOSE: SURVEY of BLD 51 DEBRIS PILE PRIOR TO SENDING TO RAIL SPUR TO SHIP AS LSA WASTE	RWP NO. NA
	DATE: 5/21/02
	TIME: 1400

MAP/DRAWING

METAL DEBRIS PILE



SMEARS 1 THRU 45 TAKEN ON DEBRIS PILE.

COPY

DIRECT FRISKED RANDOM PIECES of SCRAP IN PILE

<100/α <5000/β-

NO CLICKS ON FRISK ⇒ INTEGRATION NOT REQUIRED

LEGEND: # = mrem/hr (γ) whole body
#Σ = mrem/hr (β+n+γ) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5435/5495	5/8/03
ELECTRA	5369/5377	5/1/03
	N/A	

Completed by: (Signature)	HP [redacted]	Date: 5/21/02
Completed by: (Print Name) FILEPPI / HARVEY		
Counted by: (Signature) See Attached	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature) RMCoblentz	[redacted]	Date: 5-23-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

Survey No. 02-TF-0828

Page 1

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-45	See Attached			DEBRIS
				N/A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
				N/A

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

COPY

B Smith-Brown

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR024
Batch Ended: 5/21/02 13:23
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0828 FILLEPI (45) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.06		0.21	1.81	
A2	2	1.58	1.94		0.00	1.20	
A3	3	1.68	2.19		5.25	3.05	
A4	4	0.00	2.05		5.06	2.90	
B1	5	0.00	2.03		0.29	1.77	
B2	6	1.31	2.01		0.13	1.69	
B3	7	0.00	2.13		2.65	2.57	
B4	8	1.45	2.01		0.03	1.64	
C1	9	0.00	2.13		4.25	2.80	
C2	10	1.31	1.87		1.52	2.00	
C3	11	0.00	2.08		0.00	1.25	
C4	12	0.00	1.95		0.00	1.14	
D1	13	1.40	1.93		0.00	1.24	
D2	14	0.00	2.12		1.58	2.10	
D3	15	0.00	2.14		0.36	1.81	
D4	16	0.00	2.14		3.93	2.67	
A1	17	0.00	2.06		0.21	1.81	
A2	18	0.00	1.95		0.41	1.70	
A3	19	0.00	2.17		4.15	2.78	
A4	20	0.00	2.00		0.00	1.18	
B1	21	1.56	2.11		7.63	3.56	
B2	22	0.00	2.03		1.49	2.06	
B3	23	1.59	2.11		0.00	1.81	
B4	24	1.45	2.01		0.03	1.64	
C1	25	0.00	2.12		3.01	2.50	
C2	26	1.31	1.87		1.52	2.00	
C3	27	0.00	2.08		0.00	1.25	

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COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR024
Batch Ended: 5/21/02 13:23
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0828 FILLEPI (45) BSB

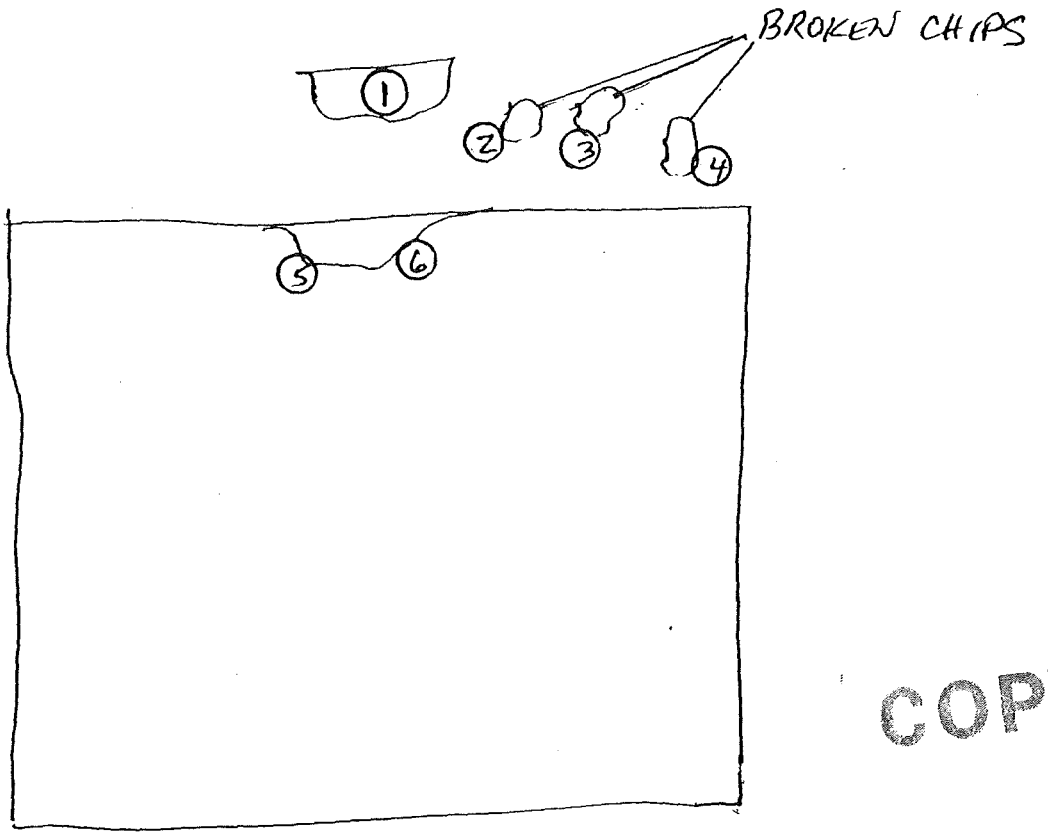
Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
C4	28	0.00	1.99		0.63	2.52	
D1	29	0.00	1.93		0.00	1.24	
D2	30	0.00	2.09		0.00	1.21	
D3	31	0.00	2.14		0.36	1.81	
D4	32	0.00	2.09		0.00	1.20	
A1	33	1.44	2.08		2.61	2.56	
A2	34	1.58	1.95		0.26	1.70	
A3	35	0.00	2.13		0.00	1.24	
A4	36	0.00	2.00		0.00	1.18	
B1	37	0.00	2.02		0.00	1.25	
B2	38	0.00	2.01		0.29	1.69	
B3	39	0.00	2.11		0.08	1.81	
B4	40	3.44	2.82		0.00	1.16	
C1	41	1.56	2.14		5.35	3.07	
C2	42	0.00	1.87		1.68	2.00	
C3	43	0.00	2.13		4.40	2.79	
C4	44	0.00	1.95		0.00	1.14	
D1	45	1.40	1.95		0.19	1.75	

3 of 3

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 51	SURVEY NO. 02-TF-0829
PURPOSE: VERIFICATION OF FIXED CONTAMINATION WALL	RWP NO. N/A
	DATE: 5-21-02
	TIME: 1400

MAP/DRAWING



NORTH BASEMENT WALL

<100 / γ

<5K / β-

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+γ+n) extremity on contact
= mrem/hr neutron
= air sample number
= swipe number
#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5364/5377	5-1-03
	N/A	

Completed by: (Signature) Daniel J. Harvey	HP # [redacted]	Date: 5-23-02
Completed by: (Print Name) DANIEL J. HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RM Coblentz	HP # [redacted]	Date: 5-29-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-0829

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-4	SEE			BROKEN CHIPS
5-6	ATTACHED			WALL
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

Batch ID: 02-TF-0829 HARVEY(6) BSB

Batch File: Smear Unit 1 - 200205211403

Group: E

Device: Unit 1

Geometry: Swipe/Smear

Serial Number: 64937

COPY

Acquisition Date: 5/21/2002

Count Time (min): 1.5

Recalibration Date: 5/22/2003

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	82	1.62	4.03	3.92	5.21
2	80	9.56	8.91	11.86	7.97
3	141	0.00	0.66	0.51	3.40
4	11	0.00	0.66	0.00	2.53
5	113	1.62	4.03	0.51	3.40
6	23	0.00	0.66	2.79	4.68

B Smith Brown

RADIOLOGICAL SURVEY DATA SHEET

1 of 4

LOCATION: (BLDG./AREA/ROOM) 51 / O.S.	SURVEY NO. 02-TF-0832
PURPOSE: DEBRIS PILE	RWP NO. N/A
	DATE: 5-30-02
	TIME: 1300

INTEGRATED COUNT PERFORMED IF AUDIBLE RESPONE DETECTED.

MAP/DRAWING

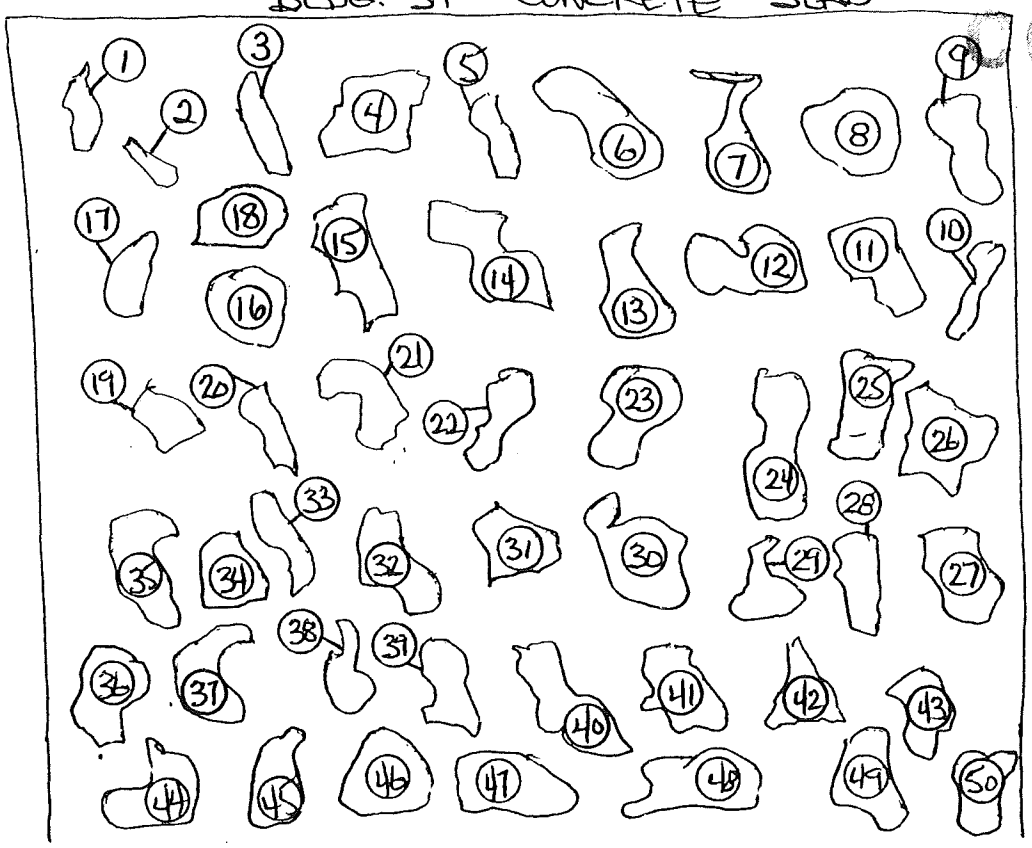
DIRECT FRISK READINGS INDICATE <100 α / <5K β

< 0.

NOTE: DICRON FIDLER USED FOR INDICATION ONLY - RESULTS WERE NON-DETECTABLE

BLDG. 51 - CONCRETE SLAB

COPY



LEGEND: # = mrem/hr (γ) whole body

= mrem/hr neutron

= swine number

= air sample number

#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-1-03
FIDLER	3815/3846	1-7-03
	N/A	

Completed by: (Signature) PG KADLEY	[redacted]	Date: 5-30-02
Completed by: (Print Name) PG Kadley DANIEL J. HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature)	HP # [redacted]	Date: 6/3/02
Reviewed/Approved by: (Print Name) Collas		

ML-9620 (2-98)

Survey No. 02-TJ-0832

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	DEBRIS PILE
2	↓	↓	↓	↓
3	↓	↓	↓	↓
4	↓	↓	↓	↓
5	↓	↓	↓	↓
6	↓	↓	↓	↓
7	↓	↓	↓	↓
8	↓	↓	↓	↓
9	↓	↓	↓	↓
10	↓	↓	↓	↓
11	↓	↓	↓	↓
12	↓	↓	↓	↓
13	↓	↓	↓	↓
14	↓	↓	↓	↓
15	↓	↓	↓	↓
16	↓	↓	↓	↓
17	↓	↓	↓	↓
18	↓	↓	↓	↓
19	↓	↓	↓	↓
20	↓	↓	↓	↓
21	↓	↓	↓	↓
22	↓	↓	↓	↓
23	↓	↓	↓	↓
24	↓	↓	↓	↓
25	↓	↓	↓	↓
26	↓	↓	↓	↓
27	↓	↓	↓	↓
28	↓	↓	↓	↓
29	↓	↓	↓	↓
30	↓	↓	↓	↓
31	↓	↓	↓	↓
32	↓	↓	↓	↓
33	↓	↓	↓	↓
34	↓	↓	↓	↓
35	↓	↓	↓	↓

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTA	CHED	DEBRIS PILE
37	↓	↓	↓	↓
38	↓	↓	↓	↓
39	↓	↓	↓	↓
40	↓	↓	↓	↓
41	↓	↓	↓	↓
42	↓	↓	↓	↓
43	↓	↓	↓	↓
44	↓	↓	↓	↓
45	↓	↓	↓	↓
46	↓	↓	↓	↓
47	↓	↓	↓	↓
48	↓	↓	↓	↓
49	↓	↓	↓	↓
50	↓	↓	↓	↓
		N/A		

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR069
Batch Ended: 5/30/02 12:39
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0832 RADLEY(50) BSB

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.05		0.00	1.28	
A2	2	0.00	2.00		5.21	2.95	
A3	3	0.00	2.14		0.44	1.75	
A4	4	1.47	2.04		3.74	2.64	
B1	5	1.56	2.04		1.38	2.17	
B2	6	0.00	2.01		0.29	1.69	
B3	7	1.59	2.10		0.00	1.29	
B4	8	0.00	2.01		0.17	1.64	
C1	9	0.00	2.13		4.25	2.80	
C2	10	0.00	1.86		0.53	1.64	
C3	11	0.00	2.10		0.67	1.76	
C4	12	1.48	1.95		0.00	1.14	
D1	13	0.00	1.96		1.60	2.14	
D2	14	0.00	2.13		2.80	2.43	
D3	15	0.00	2.13		0.00	1.29	
D4	16	0.00	2.11		1.55	2.07	
A1	17	0.00	2.08		2.76	2.56	
A2	18	0.00	1.94		0.00	1.20	
A3	19	0.00	2.14		0.44	1.75	
A4	20	1.47	2.03		2.56	2.36	
B1	21	0.00	2.03		0.29	1.77	
B2	22	0.00	2.00		0.00	1.19	
B3	23	0.00	2.15		3.93	2.87	
B4	24	0.00	2.02		1.33	2.01	
C1	25	1.56	2.14		5.35	3.07	
C2	26	1.32	1.86		0.36	1.64	
C3	27	0.00	2.08		0.00	1.25	

29H 3 of 4 ~~Page 1 of 2~~ 29H

COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR069
Batch Ended: 5/30/02 12:39
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0832 RADLEY(50) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
C4	28	0.00	1.95		0.00	1.14	
D1	29	0.00	1.96		1.60	2.14	
D2	30	0.00	2.09		0.00	1.22	
D3	31	1.62	2.15		0.20	1.81	
D4	32	1.48	2.13		2.59	2.39	
A1	33	1.45	2.05		0.00	1.28	
A2	34	0.00	2.02		7.60	3.41	
A3	35	1.68	2.15		1.53	2.15	
A4	36	1.47	2.04		3.74	2.64	
B1	37	3.56	2.89		4.97	3.07	
B2	38	1.31	2.01		0.13	1.69	
B3	39	0.00	2.15		3.93	2.87	
B4	40	3.44	2.87		5.69	3.09	
C1	41	0.00	2.14		5.50	3.07	
C2	42	0.00	1.86		0.53	1.64	
C3	43	1.66	2.11		1.76	2.16	
C4	44	0.00	1.98		0.00	2.26	
D1	45	0.00	1.93		0.00	1.24	
D2	46	1.57	2.09		0.00	1.22	
D3	47	1.62	2.15		0.20	1.81	
D4	48	0.00	2.11		1.55	2.07	
A1	49	0.00	2.05		0.00	1.28	
A2	50	1.58	1.95		0.26	1.70	

Dry H Dry H

COPY

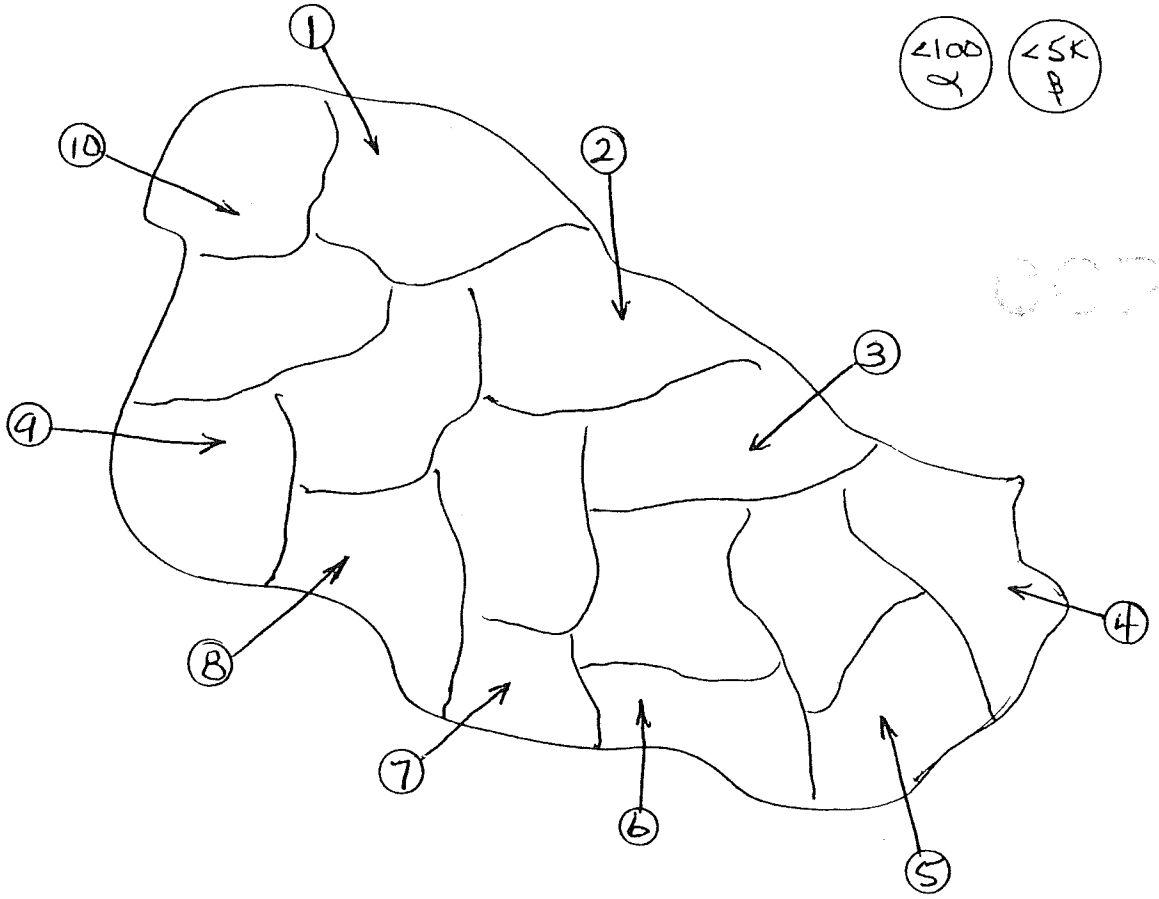
RADIOLOGICAL SURVEY DATA SHEET

Pg. 1 of 3

LOCATION: (BLDG./AREA/ROOM) 51 / DEBRIS PILE	SURVEY NO. 02-TF-0836
PURPOSE: CONFIRMATION	RWP NO. N/A
	DATE: 6-5-02
	TIME: 1300

MAP/DRAWING

INTEGRATED COUNT IF AUDIBLE DETECTED,
ALL DIRECT FRISK RESULTS INDICATE:



COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
= air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-1-~~02~~ 03 PGR
	N/A	

Completed by: (Signature) PG Radley	HP # [redacted]	Date: 6-5-02
Completed by: (Print Name) PG RADLEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RM Coblentz	HP # [redacted]	Date: 6-6-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-0836

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		DEBRIS
2	↓	↓	↓	↓
3	↓	↓	↓	↓
4	↓	↓	↓	↓
5	↓	↓	↓	↓
6	↓	↓	↓	↓
7	↓	↓	↓	↓
8	↓	↓	↓	↓
9	↓	↓	↓	↓
10	↓	↓	↓	↓
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR103
Batch Ended: 6/5/02 17:06
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-0836 RADLEY(10) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.44	2.06		0.06	1.81	
A2	2	3.50	2.79		6.10	3.18	
A3	3	0.00	2.14		0.44	1.75	
A4	4	3.45	2.83		1.24	2.05	
B1	5	1.56	2.06		2.63	2.50	
B2	6	0.00	2.04		2.68	2.39	
B3	7	0.00	2.13		2.65	2.57	
B4	8	0.00	2.00		0.00	1.16	
C1	9	1.57	2.08		0.00	1.25	
C2	10	1.32	1.84		0.00	1.16	

✓ PGR ✓ PGR

B J Brown

CountLab Results - 02-TF-08.pdf