Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

904 PAD CLOSURE PROJECT

(902 Pad and Tent 7, and 904 Pad and Tents 8 and 9)

REVISION 0

November 2, 2001

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(902 Pad and Tent 7, and 904 Pad and Tents 8 and 9)

REVISION 0

November 2, 2001

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A Facility Location Map
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ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data Quality Assessment
DQOs	Data Quality Objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, Ventilation, Air Conditioning
HAR	Hazards Assessment Report
HSAR	Historical Site Assessment Report
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-Based Paint
LLW	Low-Level Waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
NORM	Naturally Occurring Radioactive Material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, Accuracy, Representativeness, Comparability and Completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition Survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSP	Radiological Safety Practices
SVOCs	Semi-Volatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total Surface Activity
VOCs	Volatile Organic Compounds

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EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the DPP (10/8/98) and compliant disposition and waste management of the 904 Pad Cluster anticipated Type 2 facilities (i.e., 902 Pad and Tent 7, and 904 Pad and Tents 8 and 9). These Tents were originally included with the Group A RLC effort. Due to the need for continuing waste management operations in these facilities, these tents were removed from the Group A characterization report, and a subsequent Hazards Assessment Report (HAR) was prepared in August, 1999 (see Attachment C). The HAR has been reviewed against the requirements of the K-H Reconnaissance Level Characterization Plan (RLCP; MAN-077-DDCP) and found to be in compliance. All facility surfaces were characterized in the HAR, including the interior and exterior surfaces of the tents (i.e., pads, tent panels, and structural metal). No data gaps exist. Therefore, the HAR has been included, in whole, to meet the requirements of the RLCP. Anticipated Type 1 facilities in the 904 Pad Cluster (i.e., T904A and 904P Propane Tank Farm) will be characterized at a later date during the closure project. Environmental media beneath and surrounding the facilities were not within the scope of this RLC Report and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization is built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Reports. Measurement and sample locations were identified during facility walk-downs performed during the RLC.

No radiological or chemical contamination was detected on facility surfaces, and no potential asbestos containing material was identified during the asbestos inspection. Also, based on the age of the tents, paints used on railings and other metal surfaces do not contain lead or PCBs. However, the 902 and 904 Pads (below the surface) could be contaminated from the release of pondcrete and/or saltcrete that occurred on the pads. Also, the 904 Pad could be contaminated from IHSSs 900-112, which is located adjacent to the pad. Because of this potential contamination, the 904 Pad was made part of IHSS 900-213. The pads will be further characterized during RCRA closure activities and the Pre-Demolition Survey (PDS). Subsurface soils will be characterized during environmental restoration activities.

Based upon this RLCR and subject to concurrence by the CDPHE, Tents 7, 8 and 9 are considered to be Type 1 facilities, and Pads 902 and 904 are considered to be Type 2 facilities. Although Tents 7, 8 and 9 are considered to be Type 1 facilities based on this RLCR, a PDS will still be required of the tents after use and prior to demolition or sale.

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1 INTRODUCTION

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these are the 904 Pad Cluster anticipated Type 2 facilities. The locations of these facilities are shown in Attachment A. These facilities no longer support the RFETS mission and need to be removed to reduce Site infrastructure, risks and/or operating costs.

Before the 904 Pad Cluster anticipated Type 2 facilities can be decommissioned, a Reconnaissance Level Characterization (RLC) must be conducted; this document presents the RLC results. The RLC was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Reconnaissance Level Characterization Plan (RLCP) (MAN-077-DDCP). The RLC built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Reports.

A RLC was performed to enable compliant disposition and waste management of the 904 Pad Cluster anticipated Type 2 facilities (i.e., 902 Pad and Tent 7, and 904 Pad and Tents 8 and 9). These Tents were originally included with the Group A RLC effort. Due to the need for continuing waste management operations in these facilities, these tents were removed from the Group A characterization report, and a subsequent Hazards Assessment Report (HAR) was prepared in August, 1999 (see Attachment C). The HAR has been reviewed against the requirements of the K-H Reconnaissance Level Characterization Plan (RLCP; MAN-077-DDCP) and found to be in compliance. All facility surfaces were characterized in the HAR, including the interior and exterior surfaces of the tents (i.e., pads, tent panels, and structural metal). No data gaps exist. Therefore, the HAR has been included, in whole, to meet the requirements of the RLCP. Anticipated Type 1 facilities in the 904 Pad Cluster (i.e., T904A and 904P Propane Tank Farm) will be characterized at a later date during the closure project. Environmental media beneath and surrounding the facilities were not within the scope of this RLC Report (RLCR) and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

1.1 Purpose

The purpose of this report is to communicate and document the results of the RLC effort. RLCs are performed before building decommissioning to define the radiological and chemical conditions of a facility. RLC conditions are compared with the release limits for radiological and non-radiological contaminants. RLC results will enable project personnel to make decommissioning decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

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1.2 Scope

This report presents the radiological and chemical conditions of the anticipated Type 2 facilities in the 904 Pad Cluster (i.e., 902 Pad and Tent 7, and 904 Pad and Tents 8 and 9). Environmental media beneath and surrounding the facilities are not within the scope of this RLCR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this RLC were the same DQOs identified in the Reconnaissance Level Characterization Plan (RLCP; MAN-077-DDCP). Refer to section 2.0 of RLCP; MAN-077-DDCP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

Facility-specific Historical Site Assessments (HSAs) were conducted to understand facility histories and related hazards. The assessments consisted of facility walk-downs, interviews, and document reviews, including review of the Historical Release Report. Results were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. Results of the facility-specific HSAs were documented in facility-specific Historical Site Assessment Reports (HSARs). Refer to Attachment B, Historical Site Assessment Reports, for copies of the 904 Pad Cluster HSARs. In summary, the HSARs identify potential radiological and chemical hazards.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

The 904 Pad Cluster anticipated Type 2 facilities were characterized for radiological hazards per the RLCP. Section 3.1 describes the radiological characterization process, and Section 3.2 summarizes the radiological hazards. Refer to Attachment C, Hazards Assessment Report for Tents 7, 8 and 9, for details on survey locations and results.

3.1 Radiological Characterization

During Reconnaissance Level Characterization (RLC) of Group A facilities, radiological surveys and scans were taken to initially characterize radiological contamination in all the tents on the 904/902 Pads, including Tents 7, 8 and 9. Surveys and scans were conducted on March 30 and March 31,1999. Survey results for Tents 7, 8 and 9 are summarized below in Table 3-1 and Table 3-2, and are presented in Attachment C, Appendixes A.2, B.2, C.2, A.3, B.3 and C.3. All results were below the RLCP contamination guideline values.

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Table 3-1 Summary of RLC Radiological Data

	Number of Radiological Surveys/Scans Taken (1)			Results Below Surface Contamination Limits?		
	Interior Floor & Walls < 2 meter (2)	Interior Walls > 2 meters & Ceiling	Exterior Walls	Interior Floor & Walls < 2 meter (2)	Interior Walls > 2 meters & Ceiling	Exterior Walls
Tent 7 - 902 Pad	30	10	30	YES	YES	YES
Tent 8 - 904 Pad	30	10	30	YES	YES	YES
Tent 9 - 904 Pad	30	10	30	YES	YES	YES

(1) - Both total and removable, alpha and beta-gamma surveys were performed at each location
(2) - A $1m^2$ scan survey was also performed around each of these locations.

Table 3-2 Summary of Additional Radiological Data

	Number of Radiological Surveys Taken					Results Below Surface Contamination Limits?				
	Tent Interior Panels < 8 feet (1)	Tent Interior Panels > 8 feet (2)	Interior Metal Ribs (2)	Tent Exterior Panels (2)	Vent System (3)	Tent Interior Panels < 8 feet	Tent Interior Panels > 8 feet	Interior Metal Ribs	Tent Exterior Panels	Vent System
Tent 7 902 Pad	27	10	5	30	3	Yes	Yes	Yes	Yes	Yes
Tent 8 904 Pad	50	11	10	30	6	Yes	Yes	Yes	Yes	Yes
Tent 9 904 Pad	50	12	10	30	6	Yes	Yes	Yes	Yes	Yes

(1) -Both total and removable, alpha and beta-gamma surveys were performed at each location with a 10% scan.
(2) -Both total and removable, alpha and beta-gamma surveys were performed at each location.
(3) -Removable, alpha and beta-gamma surveys were performed at each location.

Radiological surveys were performed on the tents for removable and total, gross alpha and beta-gamma contamination. Scan surveys were performed on the tent panels for gross alpha and beta-gamma contamination. Radiological surveys were performed on each interior panel below 8 feet with an accompanying 10% scan of the area. Every other panel was surveyed on the exterior at a minimum. Ten survey points were selected at random above 6 to 8 feet. Every fifth metal structural tent rib was surveyed below 6 feet, and a survey was performed on each vent system. Radiological surveys/scans were taken in accordance with RSP 07.02, *Contamination Monitoring Requirements*.

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There were a few survey points that initially exceeded the RLCR contamination guideline values. To further qualify/quantify the data and define the isotopes of concern, these points were re-surveyed either using a portable alpha spectroscopy instrument or with the same type of instrument that was used to perform the original survey. These elevated readings and isotopes of concern could not be confirmed during the re-survey. At the time of the re-survey, these points were below the MDC and the RLCP contamination guideline values. The re-survey results attributed the elevated activity to radon progeny in the area of the initial survey, which had radiologically decayed between the initial survey event and the re-survey event.

3.2 Radiological Hazards Summary

The RLC results indicate that the tents do not contain radiological contamination above the RLCP surface contamination guideline values. However, contamination could be present below the surface of the pads. Additional characterization will be conducted during RCRA closure and the Pre-Demolition Survey (PDS).

4 CHEMICAL CHARACTERIZATION AND HAZARDS

The 904 Pad Cluster anticipated Type 2 facilities were characterized for chemical hazards per the RLCP. Section 4.1 describes the chemical characterization process, and Section 4.2 summarizes the chemical hazards. Potential contaminants of concern include asbestos, beryllium, RCRA/CERCLA constituents, and polychlorinated biphenyls (PCBs). Refer to Attachment C, Hazards Assessment Report for Tents 7, 8 and 9, for details on sample locations and results.

4.1 Chemical Characterization

Chemical characterization was performed to determine the nature and extent (if any) of chemical contamination that may be present on or within the anticipated Type 2, 904 Pad Cluster facilities. The decision to sample was determined based upon a review of historical and process knowledge, visual inspections, and RLCP DQOs.

4.1.1 Asbestos

Tents 7, 8 and 9 were inspected and sampled by a CDPHE-certified asbestos inspector (refer to Attachment C, Appendix E). No potential asbestos-containing material was observed on the tent panels or support structure. The black tar used as caulking material between the tents and the asphalt pad was sampled, but asbestos was not detected.

4.1.2 Beryllium (Be)

The pondcrete and saltcrete stored in the tents contained trace amounts of Be, and insufficient Be data on the tents and pads were available. Therefore, Be sampling was warranted and conducted by the RFETS Chronic Beryllium Disease Prevention Program (CBDPP). Seventy surface smears were collected from Tent 7, 25 smears from Tent 8, and 25 from Tent 9. Smears represent surface areas of waste containers, pallets, work surfaces, and the asphalt pad surface. Analysis yielded all non-detect results (i.e., ≤ 0.1 $\mu g/100\ cm^2$); refer to Attachment C, Appendix D.

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4.1.3 RCRA/CERCLA Constituents [including metals and volatile organic analyses (VOAs)]

The 904 Pad and the 902 Pad are permitted as a RCRA unit (Unit 15). It is also documented that releases of pondcrete and saltcrete occurred on the 904 Pad, and the Pad could be contaminated from IHSS 900-112, which is located to the east of the 904 Pad. Pondcrete and saltcrete possess RCRA-listed spent solvents (i.e., F001, F002, & F005) and electroplating wastes containing heavy metals (i.e., F006, F007 & F009). Therefore, the 904 Pad is included as part of IHSS 900-213. However, no sampling for RCRA/CERCLA constituents was conducted as part of this RLC. The pads will be further characterized during RCRA closure activities.

Sampling for lead in paint on railings and other painted surfaces was not required. Based on the construction date of the tents (1990), lead-based paints were most likely not used. In addition, Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) wastes, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal.

4.1.4 Polychlorinated Biphenyls (PCBs)

The tents did not contain PCB-containing equipment or light ballasts, however, wastes stored in the tents contain trace amounts of PCBs. The tents are not designated as TSCA waste storage facilities. However, no sampling for PCBs was conducted as part of this RLC. The pads will be further characterized during RCRA closure activities.

Based on the construction date of the tents (1990), paints used on metal surfaces do not contain PCBs. Therefore, sampling for PCBs in paints was not warranted or conducted.

4.2 Chemical Hazards Summary

The following sections summarize the chemical hazards identified during the RLC. Based on visual inspection (i.e., lack of stains, discoloration, etc.), and historical and process knowledge, no chemical hazards are associated with the tent materials (i.e., tent panels and support structures). The 904 Pad may contain some residual chemical contamination from the release/spill of pondcrete and saltcrete that occurred on the pad. However, no occupational or industrial hygiene issues have been identified, and no related controls have been instituted. In addition, the Site RCRA Permit allows for the storage of mixed wastes on the 902 and 904 Pads without imposing permit conditions to control residual contamination. However, additional characterization of the pads will be conducted during RCRA closure activities.

4.2.1 Asbestos

Tents 7, 8 and 9 were inspected and sampled by a CDPHE-certified asbestos inspector (refer to Attachment C, Appendix E). No potential asbestos-containing material was observed on the tent panels or support structure, and none was detected in the tar between the tents and the asphalt pad. Therefore, asbestos hazards are not present.

4.2.2 Beryllium

No Be contamination was found in the tents and on the pads, and therefore, the tents present no Be hazards. Analytical results were all ≤ 0.1 μg/100 cm^2; refer to Attachment C, Appendix D.

4.2.3 RCRA/CERCLA Constituents

Process knowledge does not give reason to suspect chemical contamination on the tent panels and support structures. Containers were situated on the asphalt pads and were not in contact with tent materials. Also, even though there were releases of pondcrete and saltcrete, releases were small and did not represent reportable quantities. However, the pads may contain residual chemical contamination. Additional characterization of the pads will be conducted during RCRA closure activities.

Lead-based paints were most likely not used in the tents. If such paints were used, they do not present a hazard as long as the paints remain on the painted surfaces.

Tent panels were secured at the base by being nailed to wooden 4x8's, which are bolted to the asphalt pad. Some of these wooden 4x8's are greenish-tinted, arsenical-treated ("wolmanized") wood. Solid waste that consists of discarded arsenical-treated wood or wood products that exceed the toxicity characteristic leaching procedure (TCLP) threshold for hazardous waste codes D004 through D017 are not considered hazardous waste per 40 CFR 261.4(b)(9).

Roofing cement was used to seal the tent panels to wooden 4x8's, which are bolted to the asphalt pad. The cement contains isoparafinnic hydrocarbons and asphalt, but no RCRA constituents.

4.2.4 PCBs

There should be no PCB hazards present in the tents and on the pads. No PCB-containing equipment was ever located on the pads, and the wastes stored on the pads only had trace amounts of PCBs. In addition, PCB paints were not used on surfaces, and the tents contain no PCB-containing light ballasts (i.e., the tents have no lighting). However, additional characterization will be conducted during RCRA closure activities.

5 PHYSICAL HAZARDS

Physical hazards associated with the 904 Pad Cluster anticipated Type 2 facilities include those related to structural components, such as structural metal, fabric panels, and associated cabling. These hazards and other standard industrial and construction hazards will be addressed in the removal project health and safety plan. No other hazards are present, including those associated with electrical, natural gas, or water systems. The three tents do not possess such systems.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of the 904 Pad Cluster anticipated Type 2 facilities, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report [Attachment C: Appendix A – C (radiological survey data), Appendix D (beryllium sample results) and Appendix E (asbestos sample results)] were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original DQOs of the project.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and,
- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment C, Hazards Assessment Report for Tents 7, 8 and 9, Section 4.0.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The decommissioning, demolition and disposal of the 904 Pad Cluster will generate a variety of wastes. Waste types and volume estimates are presented below.

Asphalt	85,000 cu ft
Structural metal	50 tons
Tent panels and other miscellaneous debris	10 tons

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Tents 7, 8 and 9 are considered to be Type 1 facilities, and Pads 902 and 904 are considered to be Type 2 facilities pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). The facility classification is based on a review of historical and process knowledge and previously acquired and newly acquired RLC data, and will be subject to concurrence by the Colorado Department of Public Health and the Environment (CDPHE).

The RLC of the 904 Pad Cluster facilities was performed in accordance with the DDCP and RLCP, all RLCP DQOs were met, and all data satisfied the RLCP DQA criteria. Additional characterization will be conducted during RCRA closure and environmental restoration activities, and the Pre-Demolition Survey. Although Tents 7, 8 and 9 are considered to be Type 1 facilities based on this RLCR, a PDS will still be required of the tents after use and prior to demolition or sale.

Demolition of these facilities will generate various wastes, including tent panels, structural metal, asphalt, and miscellaneous debris. Environmental media beneath and surrounding the facilities will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

9 REFERENCES

DOE/RFFO, CDPHE, EPA, 1996. *Rocky Flats Cleanup Agreement* (RFCA), July 19, 1996.

DOE Order 414.1A, *Quality Assurance.*

EPA, 1994. *The Data Quality Objective Process*, EPA QA/G-4.

MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 0, November 15, 2000.

MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 1, September 1999.

MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 3, April 23, 2001.

K-H, 1999. Decommissioning Program Plan, June 21, 1999.

MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 0, April 23, 2001.

MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual, December 1997 (NUREG-1575, EPA 402-R-97-016).

PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure,* Rev. 1, May 22, 2001.

PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 1, May 22, 2001.

PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.

PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.

3-PRO-165-79-RSP-07.02, *Contamination Monitoring Requirements*, Rev. 0, February 17, 1998.

PRO-563-ACPR, *Asbestos Characterization Procedure,* Rev. 0, August 24, 1999

PRO-536-BCPR, *Beryllium Characterization Procedure,* Rev. 0, August 24, 1999

RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.

RFETS, Historical Site Assessment Report for Group A Type 2 Tents 7, 8, 9, 10, 11.

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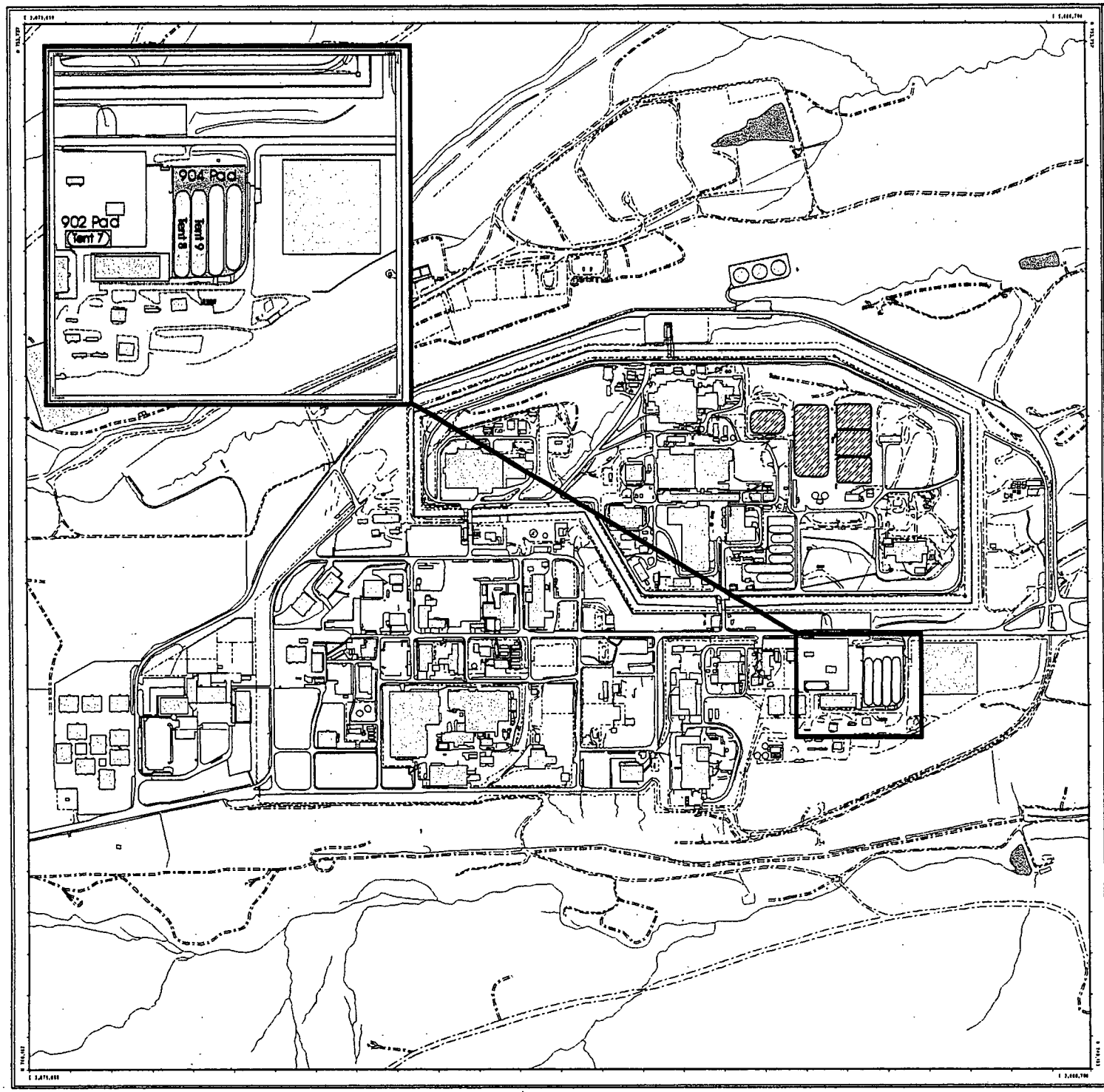
ATTACHMENT A

Facility Location Map



Pad & Tent Cluster

EXPLANATION

- Tents 7, 8, & 9
- Pad 902 & 904

Standard Map Features

- Buildings and other structures
- Solar Evaporation Ponds (SEPs)
- Lakes and ponds
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads

DATA SOURCE BASE FEATURES:
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL Las Vegas. Digitized from the orthophotographs. 1/95

N

Scale – 1 : 12460
1 inch represents approximately 1038 feet
250 0 500 1000ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

Prepared by: DynCorp — THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: FY 2002

October 16, 2001

NT Svr w:/projects/fy2002/02-0031/Pad902.cdr

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ATTACHMENT B

Historical Site Assessment Reports

Historical Site Assessment Report for Pad 902 and Pad 904, October 25, 2001.

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D&D RISS Facility Characterization
Historical Site Assessment Report
October, 2001 Rev. 0

Facility ID: 904 Pad (includes the 902 Pad) and the 904P Propane Tank Farm
Anticipated Facility Type (1, 2, or 3): 904 Pad is an anticipated Type 2 facilities and the 904P Propane Tank Farm is an anticipated Type 1 facility.

This facility – specific Historical Site Assessment (HSA) has been performed in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Physical Description

904 Pad and 902 Pad

The 904 Pad is a fenced and bermed asphalt pad that was built in 1987. The 904 Pad occupies approximately 129,000 square feet and measure approximately 295-feet wide by 435-feet long. The 904 Pad is estimated to be 6-inches thick and is sloped to the northeast to control runoff. In 1990 four large tents (Tents 08, 09, 10, and 11) were added to the pad to enclose the pondcrete and saltcrete waste management activities. The tents were constructed with fabric panel stretched across an aluminum frame and used steel anchored pins to mount the tents to the pad. Tent 10 houses a metal perma-con identified as RCRA Unit 35 that was used to mix the pondcrete. Tent 11 housed a metal perma-con that is used to re-package waste chemical from around the site. The four tents are not part of this HSA, but will be discussed since the floors of the tents are part of the 904 Pad. The perma-cons also are not part of this HSA, but will be discussed since they are constructed on the 904 Pad. The 904 Pad has no utilities. The 904 Pad does have random lighting on the power poles around the pad. Fire protection is provided by fire extinguishers randomly located around the 904 Pad and inside each tent. The 904 Pad is not connected to the fire alarm or LSDW system.

The 902 Pad is a bermed asphalt pad where Tent 07was constructed. The perimeter of the 902 Pad is designated with Jersey Barriers. The 902 Pad is the name of the area segregated from the parking lot north of the 891 contractor yard where Tent 07 was constructed. The Pad was established in 1990 when Tent 07 was constructed to store pondcrete, saltcrete, sewage sludge and other miscellaneous wastes. The 902 Pad occupies approximately 15, 500 square feet and measure approximately 80-feet wide by 195-feet long. The 902 Pad is estimated to be 6-inches thick. The 902 Pad has no utilities. Exterior lighting is provided by random lighting on the poles in the parking lot north of the 902 Pad. Fire protection is provided by fire extinguishers randomly located inside Tent 07. The 902 Pad is not connected to the fire alarm or LSDW system.

The 902 Pad is normally considered part of the 904 Pad (i.e., in the WISRC and the 904 Pad RCRA permit). The 902 Pad will be considered part of the 904 Pad for the remainder of this document.

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904P Tank Farm and Tanks 254, 255, 256, 257, 258, 259, 260, and 261

904P is a propane tank farm constructed in 1990 with eight 1000-gallon steel propane gas tanks mounted on a concrete slab. This tank farm is located 75 feet south of the 904 pad. The concrete slab measures approximately 12-feet wide by 48-feet long-feet and is an estimated 1-foot thick. This tank farm was constructed to provide gas to the tents on the 904 pad. The tanks that make up the 904P tank farm have been assigned the following numbers; Tank 254, 255, 256, 257, 258, 259, 260, and 261. These tanks are vendor-owned. The northeast side of the tank farm has a pressure reduction station, which is used to reduce the pressure of the gas being piped to the space heater in the 904 Pad tents. This pressure reduction station has a heating unit to prevent the gas line from freezing (a common problem when reducing high-pressure gas supply lines). The pressure reduction unit measures approximately 4-feet long by 4-feet wide by 4-feet high. The northwest side of the 904P Propane Tank Farm has another heated pressure reduction station, which is currently not operational (unit was installed to supply additional gas to the 904 Pad tents, but was never activated). This pressure reduction unit also has a heated pressure reduction unit that measures 2-feet wide by 2-feet long by 4-feet high. Since the tanks are vendor-owned they are not be included in the waste volumes below. The heated pressure reduction units have electrical connections. Light is provided by the pole-mounted lights from the 891 contractor yard. Fire protection is provided by a wall-mounted fire extinguisher mounted on a pole outside of the 904P Propane Tank Farm. The 904P Propane Tank Farm has no other utilities and is not connected to the plant fire alarm or the LSDW system.

Historical Operations

904 Pad and 902 Pad

The 904 Pad and 902 Pad have been and continues to be used to store pondcrete (the precipitate from the Solar Evaporation Pond), saltcrete (the precipitate from the Building 774 evaporator), sewage sludge, and other miscellaneous waste. Periodically, waste containers were opened and inspected inside the tents on the two pads. The 904 Pad, also known as RCRA Unit 15, is a low-level RCRA waste storage unit. RCRA Unit 15 consists of cargo containers staged on the north side of the 904 Pad, four storage Tents (Tent 08, 09, 10, and 11) on the south side of the 904 Pad, and the 902 Pad located west of the 904 Pad (including Tent 07). The 902 Pad (administratively part of the 904 Pad) is also part of RCRA Unit 15. RCRA Unit 15 is to be closed in accordance with RCRA B Permit No. CO-97-05-30-01, Part X. The waste stored on the 904 Pad and 902 Pad carry EPA codes and is RCRA regulated. See the 904 WSRIC for additional information.

There have been several small releases to the 904 Pad and 902 Pad, but none of them have represented reportable quantities. Additional release information and area background contamination can be found in the HRR under IHSS 900-213.

Waste sampling and waste chemical re-packaging is performed in the perma-con constructed in Tent 11. The mixing of the sludge with concrete to make pondcrete and saltcrete was performed in the perma-con in Tent 10. The cargo containers on the north side of the 904 Pad are primarily used to store miscellaneous waste from around the site and to store chemicals prior to chemical re-packaging in the perma-con in Tent 11.

904P Tank Farm and Tanks 254, 255, 256, 257, 258, 259, 260, and 261

The 904P tank farm is used to provide natural gas to the space heaters in the 904 Pad Tent. The eight tanks that make up this tank farm are vendor-owned.

Current Operational Status

904 Pad is currently operational as RCRA Unit 15. The 904P Propane Tank Farm includes Tanks 254, 255, 256, 257, 258, 259, 260, and 261, and is currently operational.

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Contaminants of Concern
Asbestos Describe any potential, likely, or known sources of Asbestos: No asbestos surveys exist related to the 904 Pad or the 904P Propane Tank Farm. Tents 07, 08, and 09 where inspected during the development of the "Tents 07, 08, and 09 Hazard Assessment Report" and found not to contain Asbestos. Tents 10 and 11 where inspected during the Group A RLCR and found not to contain asbestos. Note: SME should evaluate and/or verify this information during the RLC/PDS process. SME may need to review additional documents and perform additional interviews.
Beryllium (Be) Describe any potential, likely, or known Be production or storage locations: The 904 Pad (including Tents 07, 08, 09, 10, 11, and the perma-con inside Tent 10) is on the RFETS list of known Be locations. Be was present in trace amounts in the pondcrete managed inside Tents 07, 08, 09, 10, and 11. The 904P Propane Tank Farm has no history of Be operations and is not on the list of known Be areas. Summarize any recent Be sampling results: No recent Be samples have been collected on the 904 Pad or the 904P Propane Tank Farm. Note: SME should evaluate and/or verify this information during the RLC/PDS process. SME may need to review additional documentation and perform additional interviews.
Lead Describe any potential, likely, or known sources of Lead (e.g., paint, shielding, etc.): The 904 Pad has no major painted surfaces. Some individual parts associated with the pad are painted, such as hand rails and the stands that hold the fire extinguishers. Most of the electrical equipment (which may contain lead in wire and lead in solider) is expected to be removed during tent removal. Lead shielding was not used on the 904 Pad. See section on RCRA/CERLA constituents for available information on lead in waste stored on the 904 Pad. The 904P Propane Tank Farm tanks are vendor owned and will be returned to the vendor. The pressure reduction units have an exterior painted surface applied by the manufacture. The 904P Propane Tank Farm has no significant electrical wiring or electrical control panels Note: SME should evaluate and/or verify this information during the RLC/PDS process. SME may need to review additional documentation and perform additional interviews.

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RCRA/CERCLA Constituents

Describe any potential, likely, or known sources of RCRA/CERCLA constituents (e.g., chemical storage, waste storage, and processes): The 904 Pad is a permitted low-level mixed waste storage unit identified as RCRA Unit 15. RCRA Unit 35 is the perma-con currently in Tent 10. A Closure Decision Document (CDD) for RCRA Unit 35 has submitted to CDPHE in April of 2001. RCRA Unit 35 is not part of the 904 Pad, but is mentioned because it was located on the 904 Pad (inside Tent 10). RCRA Unit 15 is to be closed in accordance with RCRA B Permit No. CO-97-05-30-01, part X. The 904 Pad primarily stored pondcrete and saltcrete, and currently stores miscellaneous waste from around the site. These wastes carry EPA codes and are RCRA regulated. See the 904 Pad WSRIC for additional information. The 904P Propane Tank Farm never stored any RCRA/CERCLA constituents.

Describe any potential, likely, or known spill locations (and sources, if any): The part of the 904 Pad, which represents the floors of Tents 07, 08, 09, 10 and 11, have had several pondcrete spills. The spills were below reportable quantities. There are no other documented spills related to the 904 Pad.

Describe methods in which spills were mitigated, if any: The spill mitigation method was to sweep up the spill and/or to wash the pad down with water and to vacuum up the liquid.

Note: SME should evaluate and/or verify this information during the RLC/PDS process. SME may need to review additional documentation and perform additional interviews.

PCBs

Describe any potential, likely, or known sources of PCBs (e.g., light ballasts, paints, equipment, etc.): The 904 Pad has no major painted surfaces. Some individual parts associated with the pad may be painted, such as handrails and the stands that hold the fire extinguishers. The 904 Pad has a transformer, located between Tents 10 and 11, which is labeled as a Non-PCB containing transformer. No process equipment containing PCBs were located on the 904 Pad. The 904 Pad was never a TSCA waste storage area, although waste stored on the 904 Pad may have contained trace amounts of PCB. The 904P Propane Tank Farm tanks are vendor-owned and will be returned to the vendor. The pressure reduction units have an exterior painted surface applied by the manufacture. The tank farm has no facility specific lighting.

Describe any potential, likely, or known spill locations (and sources, if any): No known PCB spills occurred on the 904 Pad.

Describe methods in which spills were mitigated, if any: No known PCB spills occurred on the 904 Pad.

Note: SME should evaluate and/or verify this information during the RLC/PDS process. SME may need to review additional documentation and perform additional interviews.

Radiological Contaminants

Describe any potential, likely, or known radiological production or storage locations: The 904 Pad and 902 Pad are radiologically posted and is a permitted low-level mixed waste storage unit. The waste stored on the 904 Pad and 902 Pad was primarily pondcrete, saltcrete and currently stores miscellaneous waste from around the site. See the 904 Pad WSRIC for additional information. The 904 P Propane Tank Farm has no history of radiological operations.

Describe any potential, likely, or known spill locations (e.g., known leaking sealed radioactive sources, leaking waste drums, potentially contaminated drains, etc.): The part of the 904 Pad, which represents the floors of Tents 07, 08, 09, 10 and 11, have had several pondcrete spills. The spills were below reportable quantities. There are no other documented spills related to the 904 Pad.

Describe methods in which spills were mitigated, if any: The spill mitigation method was to sweep up the spill and/or to wash the pad down with water and to vacuum up the liquid.

Describe any potential, likely, or known isotopes of concern (e.g., weapons grade plutonium, uranium isotopes, pure beta emitters, mixed fission products, etc.): Isotopes of concern include, but are not limited to, uranium, plutonium, and americium. See the 904 Pad WISRC for more information on the radiological contaminants of the waste stored on the 904 Pad.

Describe any potential, likely, or known external facility contamination (e.g., stack release points, unfiltered ventilation, facility's physical location to known site releases, etc.): See section below for information on IHSSs PACs, and UBCs.

Note: SME should evaluate and/or verify this information during the RLC/PDS process. SME may need to review additional documentation and perform additional interviews.

Environmental Restoration Concerns

Describe any ER concerns that could affect facility characterization (e.g., IHSSs, PACs, UBCs): The 904 Pad is included in IHSS 900-213. IHSS 900-213 discusses the potential for IHSS 900-112 affecting the soil under the 904 Pad prior to the pad construction. The 902 Pad is not part of IHSS 900-213. IHSS 900-213 is an active IHSS. The 904 P Propane Tank Farm is not related to any IHSSs, PACs or UBCs.

Note: SME should evaluate and/or verify this information during the RLC/PDS process. SME may need to review additional documentation and perform additional interviews.

Additional Information

Describe any additional information that may be useful during facility characterization (e.g., contaminant migration routes, waste handling operations, physical hazards, Historical Release Reports, WSRIC data, etc.): The 904 Pad is also RCRA Unit 15 and will be closed in accordance with RCRA B permit No. CO-97-05-30-01, part X. A Closure Decision Document (CDD) for RCRA Unit 35 has submitted to CDPHE in April of 2001.

References

Provide all sources of information utilized to gather data for facility history (e.g., documents, files, interviews): Sources reviewed to complete this HSA were the RFETS Facility List, the Historical Release Report, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases. The 904 Pad has a WSRIC (the 902 Pad is considered part of the 904 Pad in the 904 Pad WSRIC as well as the RCRA Permit for RCRA Unit 15). In addition, a facility walkdown and interviews were performed.

Waste Volume Estimates and Material Types							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste
904 Pad	0	0	0	0	0	0	75,000 Cu. Ft. - Asphalt
902 Pad	0	0	0	0	0	0	10,000 Cu. Ft. - Asphalt
904P Tank Farm	700	0	10	5	0	TBD	The propane tanks are vendor owned

Further Actions
Recommend any further actions, if any (e.g., characterization, decontamination, special handling, etc.): Begin the RLC/PDS process.

Note:
This HSA was performed prior to SME walkdowns, and chemical and radiological characterization package preparations. Information contained in this HSA only represents a "snapshot" in time. Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this report will not be amended, and the newer data will take precedence over the data in the report. Newer Data will appear in the RLCR/PDSR. SME may need to review additional documentation and perform additional interviews.

Prepared By: Doug Bryant — Doug Bryant — 10-12-01
Name — Signature — Date

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Historical Site Assessment Report for Type 2 Tents 7, 8, 9, 10, 11.

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STRUCTURE DESCRIPTION FOR TENTS 7,8,9,10&11

All of these tents are constructed on an asphalt pad. Tents 8 - 11 are all on one large asphalt pad, Tent #7 is on a separate asphalt pad, located west of Tents 8 -11. (see photos behind Tab #13 in this book). The tents were constructed in 1/90 for storage of Low Level Waste. The tents structure consist of ground anchored steel arched rigid frame members, with tension prevention bars, that spans the width of the arch, attached underneath, about at the shoulders of the arch. The bars have turnbuckles in the center of their spans, and they screw into anchors at each end. The anchors are attached to the rigid frame members bottom webs. Membrane fabric panels spans between each rigid frame member, which provides the enclosure. The membrane panels are attached at each rigid frame, and on top of the panels are cables that spans from frame to frame for additional hold down.

There are man doors in the side walls of the tents, and large 10'wide X pad to top of tents high, two panel hinged section doors, at each end of Tents 8 - 11. Some of the membrane panels have been wind damaged, they are torn and are sagging into the inside of the tents, and some panels are totally removed. Tents #10 and 11 have overhead heat, lighting, and plant LSDW system, (PA).

HISTORICAL FACILITY OVERVIEW
FOR TENTS 7,8,9,10,11 (904 Pad)

1.0 In January 1990, the 904 Pad Tents were constructed for the controlled storage of low-level mixed waste(LLMW), hazardous (HAZ) waste, and for waste inspection, sampling and repackaging activities. The open pad area and the tents are used for the controlled storage of pondcrete and saltcrete, and a lesser amount of process generated waste, containing a wide variety of radioactive and other hazardous contaminants. Pondcrete and saltcrete are, respectively, sediments from the solar evaporation ponds and the Building 374 evaporator which have been mixed with cement to create a solid waste form. There are two populations of saltcrete stored on the pad, pre-June 1990 and post May-1990. Pre-June 1990 and post-May 1990 are characterized with EPA codes. The 904 Pad is classified as Hazard Category 3 facilities. Evaluation criteria set forth for the various hazard categories are set forth in DOE-STD-1027-92 (DOE, 1992b), which allows a preliminary estimate of the nuclear hazard classification of a facility by comparing the amount of the radioactive material at the facility with certain thresholds. If the amount of material is less than the lowest threshold, the facility hazard is low enough that a SAR is not required, at least in terms of radiological hazards. If the amount falls between the lowest and second thresholds, the facility is considered Hazard Category 3, if greater than the second threshold, it is Hazard Category 2. The tent structures are erected on bermed, asphalt-paved pads to protect the waste containers from the adverse effects of the weather, but the tents are not credited as a shelter in the hazard evaluation. The tent structure consist of modular, stressed membrane, weatherproof fabric shelters with earth anchors and ancillary features and hardware, including doors, vehicle accessways, and ventilators. Tent 7 is being used for storage of usable materials, tent 8 is empty, tents 9,10,11 are used for the controlled storage of pondcrete and saltcrete. The 904 Pad is an asphalt paved area, that is sloped for drainage. The pad has a 6 to 12 inch berm around Tents 8,9,10, and 11. Tent 7 is located to the west of the 904 Pad (on the 902 Pad), (for FSAR purposes Tent 7 is considered to be part of the 904 Pad Waste Storage Facility), also is asphalt paved and sloped for drainage. Berms are approximately 6 to 12 inches high are located on the inside of Tent 7, (apx. 3 feet from the walls) to collect potential spills.

2.0 At the present time, operations within the 904 Pad process are limited to maintaining the stored wastes in compliance with all governing environmental and safety rules and regulations. This requires regular inspections to assure the integrity of the packages and the contents.

3.0 <u>Tents Sizes</u>

Tent No.7.....60ft. wide by 167 ft. long
Tent No.8.....60ft. wide by 362 ft. long
Tent No.9.....60ft. wide by 362 ft. long
Tent No.10..... 60ft. wide by 362 ft. long
Tent No.11..... 60ft. wide by 334 ft. long

HSA/Walkdown Summary – 904 Pad (Tents 7 – 11)

The tents are made of vinyl with metal framing. Tents 8 – 11 are situated on a bermed asphalt pad, and Tent 7 is located in the parking lot west of the pad. Tents 7, 8 and 9 are single-wall, and Tent 10 and maybe Tent 11 are double-wall. The tents are used primarily to store pondcrete and saltcrete, and a lesser amount of process generated waste containing a variety of radioactive and other hazardous constituents. Inventories of waste containers, including empties, are documented in WEMS. Tents include metal doors and associated concrete ramps/pads, metal and asphalt berms, asphalt ramps over ramps, lighting and heating systems, roof vents, and fire extinguishes. Tents 8 – 11 are within a radiological material area, and these tents are posted as radiological material areas. Based on activities within the tents, radiological contamination could exist. Stains were observed on the asphalt, most probably oil stains from forklifts and other equipment. The presence of asbestos and metal- and PCB-based paints is not expected due to the period when the tents were erected.

Tents 7 – 11 are designated as RCRA container storage areas and RCRA Unit 15 B in the Site RCRA permit. The Permacons in Tents 10 and 11 are inactive RCRA interim status units previously used to treat salt and pond crete designated as RCRA Unit 35. The North of the tents are numerous cargo containers containing mixed waste located on a bermed concrete pad. This area is designated as RCRA Unit 15 A in the RCRA permit.

Tent 7

This tent is posted as a RCRA unit, although at the time of the walkdown, no wastes were being stored. The tent was being used to store empty waste containers (metal boxes, wooden crates, and drums), and miscellaneous equipment and supplies (e.g., plastic secondary containment, pallets, tent material, compressor, scaffolding, Zorbent, Abzorbit, Polar Melt, and drum collars). Several pallets were full of what appeared to be junk for PU&D/disposal.

Tent 8

This tent was basically empty, but had been full of pond- and salt-crete. The only contains included 3 chairs, 2 file cabinets, and 1 floor sweeper.

Tent 9

This tent contains ~1200 metal crates of pondcrete (mixed waste). At the time of the walkdown, the tent was heavily damaged by wind storms, and the team did not enter the tent due to physical hazards. No work was in progress. The tent included some cabinets and equipment/supplies.

Tent 10

This tent is used to package waste crates and to store investigation derived waste (primarily soil). It also contains a sheet-metal Permacon unit used to treat waste. The

unit is a Radioactive Work Permit area. The tent is posted as IHSS #213, and the Permacon is posted as RCRA Unit #35. There is a groundwater well casing situated in the middle of the tent (#1087). The tent includes a great deal of equipment and supplies (e.g., process waste tank with crude secondary containment, mobile silo unit, cement batcher, electrical panels, empty 55-gal drums on pallets, drum handling equipment, wooden waste crates, metal waste boxes, forklifts, forklift battery recharge units, compressor, shower tank on elevated platform, saltcrete spill kit, tool boxes, desks and chairs, storage cabinets, equipment racks, and lockers). The Permacon includes a mobile silo, cement unit, emergency shower, empty drum, supplies, plywood, and water lines. The unit is equipped with an external HEPA system, and includes external metal berming.

Tent 11

This tent is designated as RCRA Unit #15 (should be posted as 15 B). It includes an empty Permacon unit. The unit had a false floor, and part of the floor had plastic taped down on it, and floor stains were present. The tent also includes a mobile silo, empty waste drums and wooden crates, ~30 pallets of damaged tent vinyl with wiring/cabling, a sewing machine, PVC piping, ~50 drums of Top Seal, pallets of Abzorbit, an eye-wash station, electrical equipment, generators, hoses, portable handwashing unit, pondcrete spill kit, tool boxes, and various other equipment and supplies (e.g., hardware, Polar Melt). Some areas of the tent had standing water with algal growth (most likely from storm events and snow melt).

Radiological Summary

The interiors to tents 7 – 11 are radiologically posted as "Radioactive Material Areas." An area within tent 10 is radiologically posted as a "Contamination Area." The exterior area of Tent 7 is not radiologically posted. The exterior areas around tents 8 – 11 are radiologically posted as "Radioactive Material Areas."

Routine radiological surveys are available for the interior of tents 7 – 11. Weekly removable radiological surveys are performed on the floors within each tent for radioactive material that emits alpha and beta/gamma radiation. Annual total radiological surveys are performed on the floors within each tent for radioactive material that emits alpha and beta/gamma radiation. All removable and total results for CY 1998 from January to December were below the Minimum Detectable Activity for the instrument.

There are no special radiological surveys (Total and/or Removable) available for the interior and exterior of tents 7 – 11. There are no radiological surveys available for the "Contamination Area" in Tent 10.

Per the Radioactive Source Registry, there are four (4) U-238 sources at the 904 Pad that have been packaged for disposal. There is one (1) Th-232 source that has also been packaged for disposal. There is one (1) Pu-239 source registered at the 904 Pad.

ATTACHMENT C

Hazards Assessment Report for Tents 7, 8 and 9

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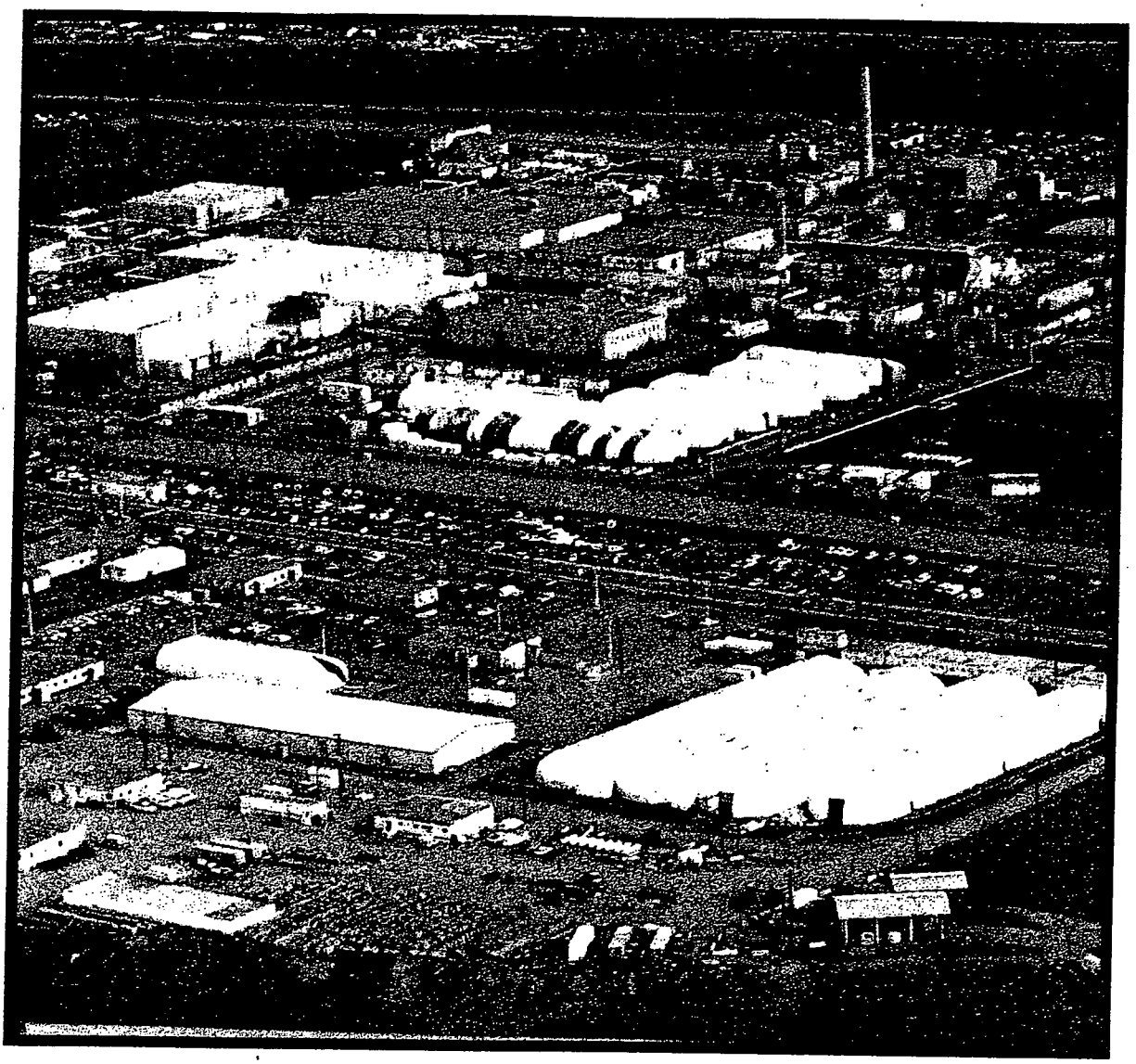

HAZARDS ASSESSMENT REPORT

FOR TENTS 7, 8 and 9

August 18, 1999 - REVISION 0

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HAZARDS ASSESSMENT REPORT

FOR TENTS 7, 8 and 9

REVISION 0

August 18, 1999

This report has been reviewed and approved by:

Vern Guthrie, Project Manager, RMRS — Date 8/18/99

Marcella Broussard, Manager, Characterization Program, RMRS — Date 8-18-99

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Jeff Stevens, Manager, D&D Advanced Planning — Date 8/30/99

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Gregory D. Digregorio, Manager, Quality Assurance — Date 8/25/99

This Closure Description Document was prepared by:

REVIEWED FOR CLASSIFICATION
By [illegible] UND
Date 9/7/99

Tom Scott — August 13, 1999

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ABBREVIATIONS/ACRONYMS

CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act
CHWA	Colorado Hazardous Waste Act
cm	centimeter
D&D	Decontamination and Decommissioning
dpm	disintegration per minute
DOE	U.S. Department of Energy
DQOs	Data Quality Objectives
EPA	U.S. Environmental Protection Agency
HEPA	High Efficiency Particulate Air
HSP	RFETS Health & Safety Practices
K-H	Kaiser-Hill
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
NRA	No-Rad-Added
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
PRE	Property Release Evaluation
RCRA	Resource Conservation and Recovery Act
RCT	Radiological Control Technician
RFETS	Rocky Flats Environmental Technology Site
RLC	Reconnaissance Level Characterization
RSP	RFETS Radiological Safety Practices
TCLP	Toxicity Characteristic Leaching Procedure
TLD	Thermoluminescent Dosimeter

EXECUTIVE SUMMARY

Physical, chemical and radiological hazards associated with Tents 7, 8 and 9 have been characterized and assessed following Health and Safety Practices (HSP) 18.10. This Preliminary Hazards Assessment is necessary to initially characterize these hazards in order to support the project planning effort. Hazards were assessed based on a review of historical and process knowledge, previously collected radiological data, and additional data recently collected as part of the reconnaissance level characterization of Group A facilities. Results indicate no physical, chemical, or radiological hazards are present. However, process knowledge, the condition and contents of the tents at the time of the characterization and the additional data collected from radiological surveys and scans "could" indicate the presence of radioactive contamination as the project proceeds. Physical hazards include those related to the dismantlement of structural components, such as structural metal, fabric panels, and associated cabling. These hazards can be controlled by the use of standard industry practices. In addition, the 904 Pad could contain residual chemical contamination (RCRA-listed spent solvents and electroplating wastes containing heavy metals) from the release of pondcrete and saltcrete that occurred on the pad prior to the tents being erected. However, no occupational or industrial hygiene issues have been identified, and no related controls have been instituted.

Based on this initial assessment, the 50 tons of structural metal and approximately 10 tons of tent panels and miscellaneous debris, which will be generated during the project, is "initially" considered sanitary waste and can be free-released. However, it is recommended that, during demolition, in-process characterization be conducted to further assess waste management options and health and safety practices.

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1.0 INTRODUCTION

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, Tent 7 is the only tent to be dispositioned. Tent 8 and 9 will continue to be used for interim waste storage and will be dispositioned in the future. Tent 7 no longer supports the RFETS mission, and will be dispositioned to reduce Site hazards, risks and operating costs. Tents 8 and 9 are located on the west side of the 904 Pad, which is located in the southeastern part of the Industrial Area. Tent 7 is located in the same general area west of the southwest corner of the 904 Pad. Exhibit 1-1 presents an aerial overview of the 904 Pad and tents, and Exhibit 1-2 shows the interior of Tent 7, which is similar to the interior and structural characteristics of the other two tents. Exhibit 1-3 presents a schematic drawing of the 904 Pad and tents. These tents will be closed as a partial closure of the 904 Pad pursuant to requirements of the Resource Conservation and Recovery Act (RCRA). Closure details are presented in the Project Execution Plan for the Tent 7, 8, 9 Removal Project (K-H, 1999), and will also be included in the Closure Description Document for the three tents. The tents are within RCRA Unit 15 B.

Before the tents can be dispositioned, the hazards will be identified and addressed in closure/cleanup plans for waste management and health and safety purposes. This document presents an preliminary assessment of existing physical, radiological and chemical hazards associated with these three tents. This hazards assessment is based on facility and process knowledge, operating and spill history, and radiological survey data collected. This report also presents estimated decommissioning waste types and volumes.

1.1 Purpose

The purpose of this report is to communicate and document the results of the hazard assessment, including summarizing the data into concise, usable formats and interpreting the data for use in management decisions, primarily for:

- definition of individual hazards and overall risk associated with dismantling the tents and managing resulting waste; and
- identification of waste types based on assessment results
- characterization of the facility and its materials as a prelude to job hazard analyses and to ensure compliance with state and federal waste regulations.

1.2 Scope

This report assesses the physical, radiological and chemical hazards of the three tents. The radiological assessment was conducted using RFETS Health and Safety Practices 18.10, "Radioactive Material Transfer and Unrestricted Release of Property and Waste," Property Release Evaluation (PRE) criteria and the RFETS Radiological Control Manual.

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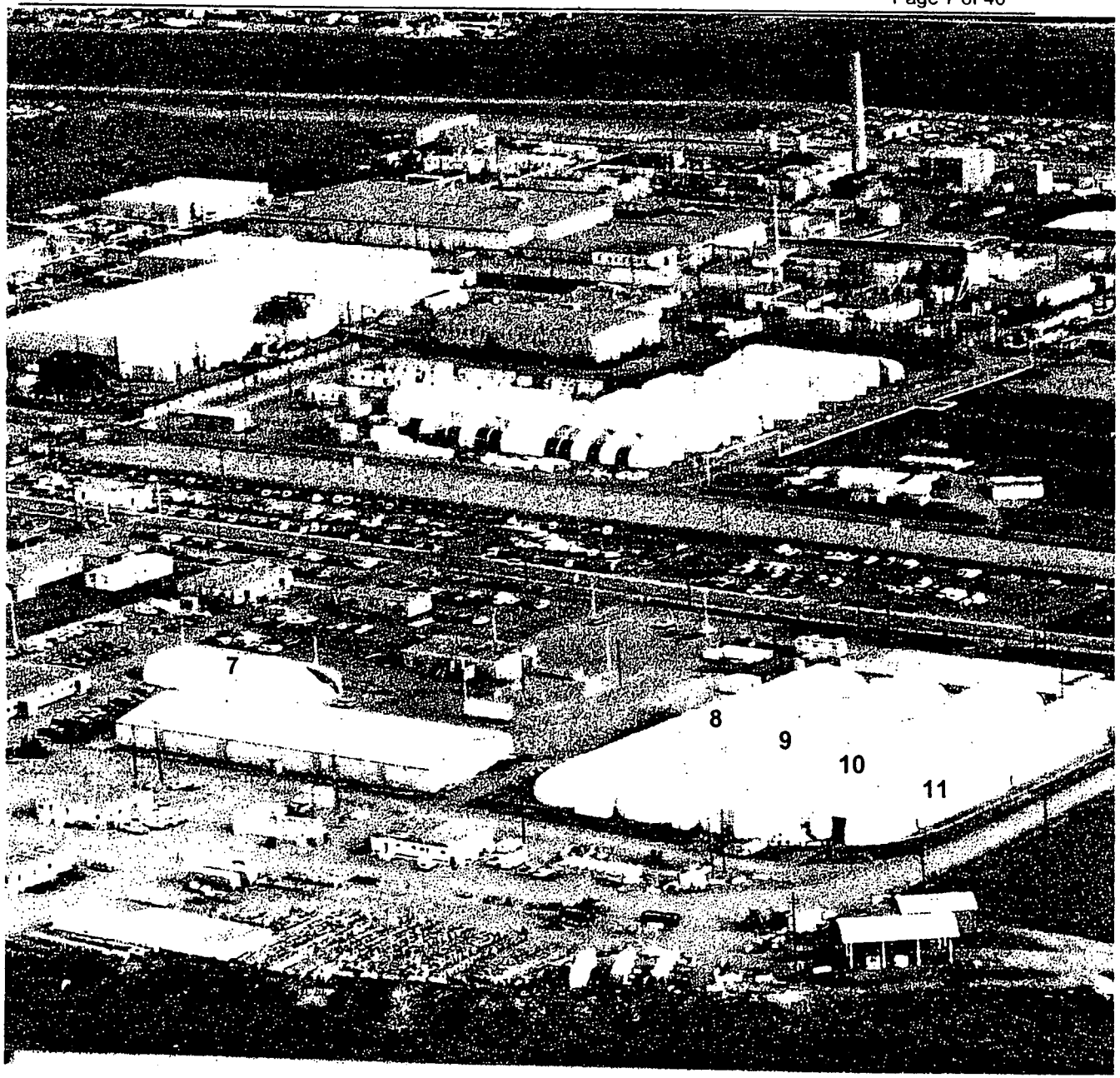
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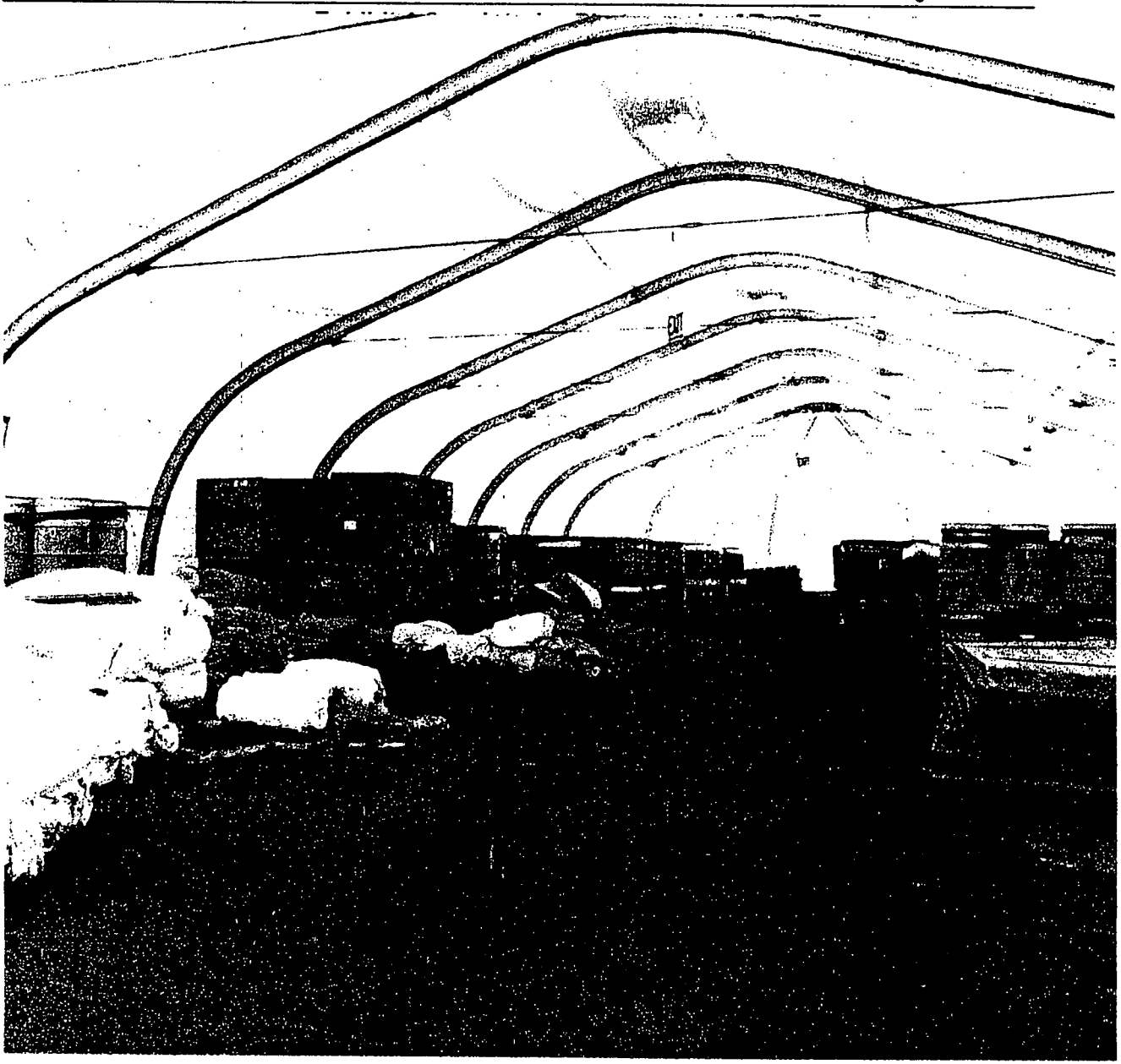

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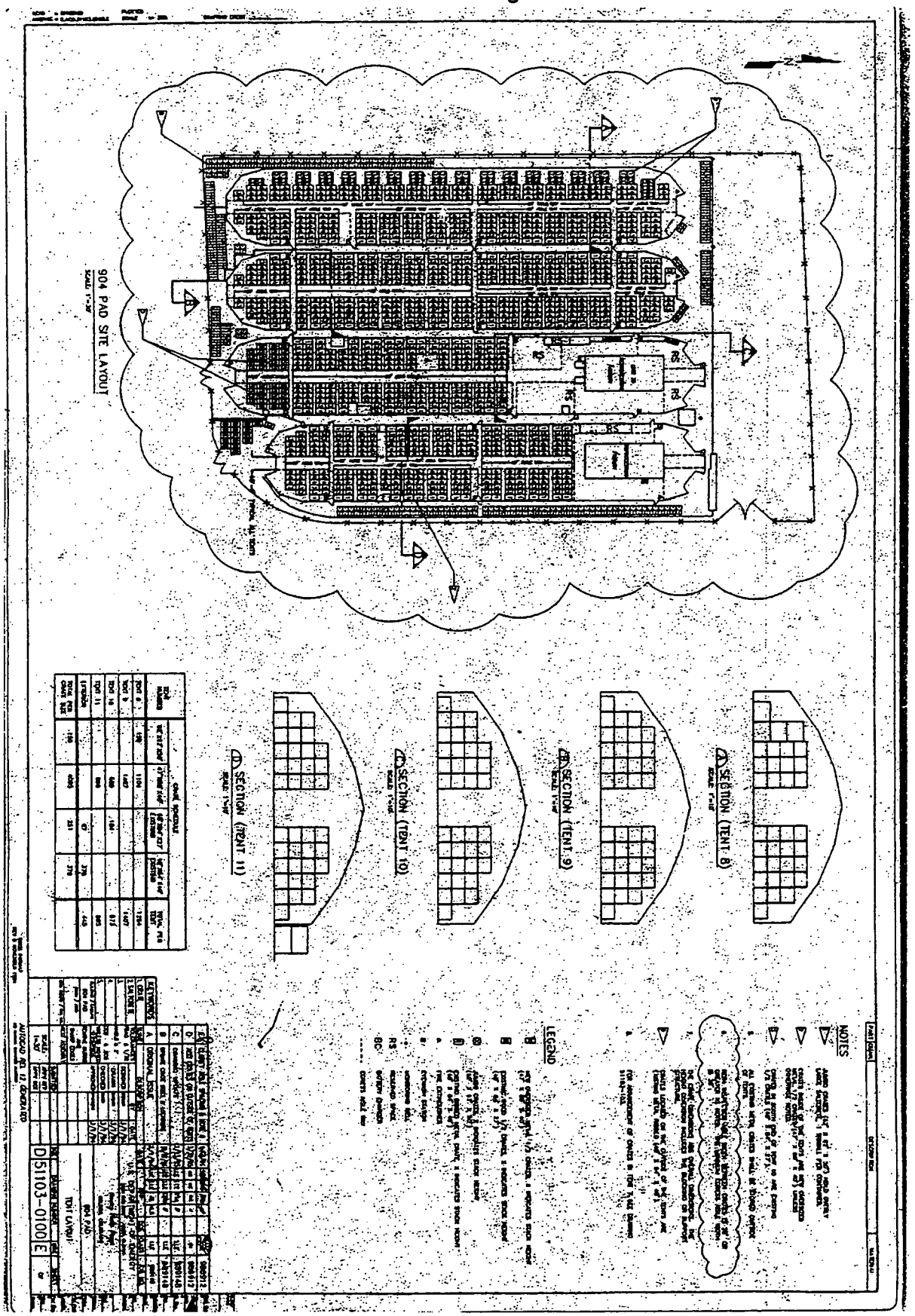
Exhibit 1-3 Schematic Drawing of the 904 Pad and Tents



Chemical characterization was conducted using RCRA/CHWA regulations as a means to segregate materials as either hazardous or non-hazardous waste. Environmental media beneath and surrounding the tents, including the (non-surficial portions of) asphalt pads, are not within this scope.

1.3 Building Description and History

In January 1990, the 904 Pad tents were constructed for the controlled storage of low-level mixed and hazardous waste (pondcrete and saltcrete), and for waste inspection, sampling and repackaging activities (K-H, 1999). Pondcrete and saltcrete are, respectively, sediments from the solar evaporation ponds and the Building 374 evaporator, which have been mixed with cement to create a solid waste form. These wastes carry EPA codes and are RCRA wastes.

The tents were erected on bermed, asphalt-paved pads to protect the waste containers from the adverse effects of the weather, even though the tents are not credited as a shelter in the hazard evaluation (K-H 1999). The tents are modular, stressed membrane, weatherproof fabric shelters with earth anchors and ancillary features and hardware, including doors and vehicle accessways. Tents 7, 8 and 9 consist primarily of structural framing, tent panels and cabling. They possess no windows, lighting, ventilation and heating systems, related electrical and natural gas systems, nor potable or fire-water systems. The 904 Pad is sloped for drainage and has a 6- to 12- inch berm around it. Tent 7, located on the 902 Pad, also is sloped for drainage. Berms approximately 6 to 12 inches high are located on the inside of Tent 7 (approximately 3 feet from the walls) to collect potential spills. Tent 7 is 167 ft long and 60 ft wide. Tents 8 and 9 are 362 ft long and 60 ft wide.

The tents are within RCRA Unit 15 B, and current operations are limited to maintaining the stored wastes in compliance with all governing environmental and safety rules and regulations. This requires regular inspections to assure the integrity of the packages and the contents. Tent 7, 8 and 9 contain no RCRA wastes.

Before the tents were erected, the 904 Pad was also used for the storage of pondcrete and saltcrete. These wastes were contained in Tri-Wall containers. Some of these waste containers lost their integrity, and some wastes were released to the pad. According to current facility personnel, the pad was cleaned up (to some extent) prior to the tents being erected (refer to interview forms in the administrative record). The tents and pads will be officially closed pursuant to RCRA regulations and standards. Details will be presented in the Closure Description Document for the three tents.

2.0 SUMMARY OF CHARACTERIZATION ACTIVITIES

Radiological characterization (e.g., review of historical information and conduct of additional surveys and scans) was performed to determine the nature and extent of radioactive contamination that may be present. These activities were based on data quality objectives (DQOs) developed to assess the radiological and non-radiological hazards associated with the tents. This section presents DQOs for radiological characterization, historical radiological data on the tents, and the additional data collected.

Pre-existing beryllium data, together with historical and process knowledge, were sufficient to characterize hazards, materials and potential wastes (refer to Section 3.1.3). Therefore, no chemical sampling was conducted. DQOs for chemical constituents are presented in the

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Decontamination and Decommissioning Characterization Protocol, MAN-077-DDCP, dated November 20, 1998.

2.1 Radiological Data Quality Objectives

Decisions regarding radiological characterization of Tents 7, 8 and 9 are being made in accordance with the DQOs outlined below. These DQOs apply to the tent structure only and are not applicable to the floor area and tent contents. Any contamination associated with the pad will be addressed during environmental restoration of the 904 Pad area. The contents of the tents will be removed prior to disposition.

2.1.1 The Decisions

The decisions associated with this project concern the tent panels and structure, specifically tent materials (i.e., panels, ribbing and associated structural materials). A sufficient number of radiological surveys/samples to assess the radiological hazards is required.

2.1.2 Inputs to the Decision

The inputs to the decision are the magnitude and location of data from radiological surveys/samples taken. Radiological surveys/samples were taken in accordance with the requirements of Health & Safety Practices (HSP) Procedure 18.10, "Radioactive Material Transfer and Unrestricted Release of Property and Waste," and Radiological Safety Practices (RSP) Procedure 9.01, "Unrestricted Release of Property, Material, Equipment and Waste." RSP 9.03, "Unrestricted Release of Bulk or Volume Material," is also applicable. Based on adequate process knowledge of the types of radionuclides associated with the RCRA storage unit, no radiochemical sampling and analysis is necessary.

2.1.3 Decision Boundaries

The decision boundaries include spatial confines of building structures, which includes tent panels, tent ribbing and associated structural materials.

2.1.4 Decision Rules

These decision rules are developed to initially assess the radiological hazards and to recommend safe work control practices.

1. **If** the Historical Site Assessment and/or current building configuration indicate that no radiological hazards may be present due to process knowledge and history, **then** activities in the area may be performed with no radiological controls in place.

2. **If** the Historical Site Assessment and/or current building configuration indicate that any radiological hazards may be present due to process knowledge and history, **then** activities in the area must be performed with proper radiological controls in place per the RFETS Radiological Control Manual requirements.

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3. **If** all radiological survey measurements are below the surface contamination thresholds provided in the RFETS Radiological Control Manual, **then** no significant radiological hazards exist. This indicates that no radiological controls are necessary depending on the results of Steps 1 and 2 above.

4. **If** any radiological survey measurement exceeds the surface contamination thresholds provided in the RFETS Radiological Control Manual, **then** a potential radiological hazard may exist. Activities in the area must be performed with proper radiological controls in place per the RFETS Radiological Control Manual.

2.1.5 Tolerable Limits on Decision Error

The radiological surveys/samples required to comply with these DQOs will not be statistically based. Therefore, quantitative decision errors are not defined.

2.1.6 Optimization of Plan Design

Radiological surveys and scans were taken in accordance with the requirements of the RFETS Radiological Control Manual, Health & Safety Practices (HSP) Procedure 18.10, "Radioactive Material Transfer and Unrestricted Release of Property and Waste," and Radiological Safety Practices (RSP) Procedure 9.01, "Unrestricted Release of Property, Material, Equipment and Waste." RSP 9.03, "Unrestricted Release of Bulk or Volume Material," is also applicable.

2.2 Summary of Historical Radiological Data

Historically, only routine radiological surveys were taken of tent floors to assure that radiological contamination was being controlled in the tents. No routine radiological samples were taken of any of the three tents. Existing radiological survey data were reviewed for the period from 1/1/98 to 12/1/98. Survey results are summarized below in Table 2-1, and data are presented in Appendixes A.1, B.1, and C.1. Results are compared with the surface contamination limits prescribed in the RFETS Radiological Control Manual (Table 2-2). Results are below contamination limits.

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Table 2-1 Summary of Historical Radiological Data

	Number of Radiological Survey Points Taken per Survey Frequency (Annually or Weekly)		Results Below Surface Contamination Limits?	
	Weekly Surveys - Interior Floor (1)	Annual Surveys - Interior Floor (2)	Weekly Surveys - Interior Floor (1)	Annual Surveys - Interior Floor (2)
Tent 7 - 904 Pad	10	10	YES	YES
Tent 8 - 904 Pad	19	19	YES	YES
Tent 9 - 904 Pad	19	19	YES	YES

(1) - Removable, alpha and beta-gamma surveys were performed at each location.
(2) - Both total and removable, alpha and beta-gamma surveys were performed at each location.

2.3 Summary of " Tent" Reconnaissance Level Characterization Radiological Data

During Reconnaissance Level Characterization (RLC) of Group A facilities, radiological surveys and scans were taken to initially characterize radiological contamination in all the tents on the 904/902 Pads, including Tents 7, 8 and 9. Surveys and scans were conducted on March 30 and March 31,1999. No radiological samples were taken in any of the tents. Survey results for Tents 7, 8 and 9 are summarized below in Table 2-2, and are presented in Appendixes A.2, B.2, and C.2. Results are compared with the surface contamination limits prescribed in the RFETS Radiological Control Manual (Table 2-2). Results are elevated, but below contamination limits.

Table 2-2 Summary of Group A RLC Radiological Data

	Number of Radiological Surveys/Scans Taken (1)			Results Below Surface Contamination Limits?		
	Interior Floor & Walls < 2 meter (2)	Interior Walls > 2 meters & Ceiling	Exterior Walls	Interior Floor & Walls < 2 meter (2)	Interior Walls > 2 meters & Ceiling	Exterior Walls
Tent 7 - 904 Pad	30	10	30	YES	YES	YES
Tent 8 - 904 Pad	30	10	30	YES	YES	YES
Tent 9 - 904 Pad	30	10	30	YES	YES	YES

(1) - Both total and removable, alpha and beta-gamma surveys were performed at each location
(2) - A $1m^2$ scan survey was also performed around each of these locations.

2.4 Summary of Additional Radiological Data

Due to elevated results as indicated in Section 2.3, further characterization was necessary to identify isotopes of concern. Surveys and scans were taken in accordance with the requirements of HSP 18.10 and RSP 9.01. Radiological survey and scan results are

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summarized below in Table 2-3, and data are presented in Appendixes A.3, B.3, and C.3. Results are compared with the surface contamination limits prescribed in the RFETS Radiological Control Manual (Table 2-2). Some results are elevated, but do not exceed contamination limits.

Table 2-3 Summary of Additional Radiological Data

	Number of Radiological Surveys Taken					Results Below Surface Contamination Limits?				
	Tent Interior Panels < 8 feet (1)	Tent Interior Panels > 8 feet (2)	Interior Metal Ribs (2)	Tent Exterior Panels (2)	Vent System (3)	Tent Interior Panels < 8 feet	Tent Interior Panels > 8 feet	Interior Metal Ribs	Tent Exterior Panels	Vent System
Tent 7 904 Pad	27	10	5	30	3	Yes	Yes	Yes	Yes	Yes
Tent 8 904 Pad	50	11	10	30	6	Yes	Yes	Yes	Yes	Yes
Tent 9 904 Pad	50	12	10	30	6	Yes	Yes	Yes	Yes	Yes

(1) -Both total and removable, alpha and beta-gamma surveys were performed at each location with a 10% scan.
(2) -Both total and removable, alpha and beta-gamma surveys were performed at each location.
(3) - Removable, alpha and beta-gamma surveys were performed at each location.

2.5 Measurement Methods, Procedures and Equipment

Radiological surveys/scans were taken in accordance with the requirements of HSP 18.10, "Radioactive Material Transfer and Unrestricted Release of Property and Waste," and RSP 9.01, "Unrestricted Release of Property, Material, Equipment and Waste." No radiological samples were required

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3.0 IDENTIFIED HAZARDS AND ANTICIPATED WASTE VOLUMES

3.1 Hazards

Based on facility and process knowledge and radiological data collected, physical, radiological and chemical hazards were identified and are presented below. Wastes currently being stored in the tents, as well as empty waste containers and miscellaneous equipment and supplies will be removed prior to project initiation, and therefore, will not present any hazards.

3.1.1 Physical Hazards

Physical hazards associated with the tents include those related to structural components, such as structural metal, fabric panels, and associated cabling. These hazards and other standard industrial and construction hazards will have to be addressed in the removal project health and safety plan. No other hazards are present, including those associated with electrical, natural gas, or water systems. The three tents do not possess such systems.

3.1.2 Radiological Hazards

Overview

Radiological hazards were evaluated in Tents 7, 8 and 9 through the use of radiological surveys and scans. Radiological samples were not required to support this assessment. Radiological surveys were performed on the tents for removable and total, gross alpha and beta-gamma contamination. Scan surveys were performed on the tent panels for gross alpha and beta-gamma contamination. Radiological surveys were performed on each interior panel below 8 feet with an accompanying 10% scan of the area. Every other panel was surveyed on the exterior at a minimum. Ten survey points were selected at random above 6 to 8 feet. Every fifth metal structural tent rib was surveyed below 6 feet, and a survey was performed on each vent system.

A majority of survey points did not exceed the Minimum Detectable Concentration (MDC) of the instrument. However, there were many survey points above the MDC of the instrument but below the contamination limits prescribed in the RFETS Radiological Control Manual. These elevated survey points were located on the floor and on the tent walls less than 6 ft high.

There were also a few survey points that initially exceeded the contamination limits prescribed in the RFETS Radiological Control Manual. To further qualify/quantify the data and define the isotopes of concern, these points were resurveyed either using a portable alpha spectroscopy instrument or with the same type of instrument as was used to perform the original survey. These elevated readings and isotopes of concern could not be confirmed during the re-survey. At the time of the re-survey, these points were either attributed to radon or were below the MDC and the contamination limits prescribed in the RFETS Radiological Control Manual. These re-survey results are attributed to radon progeny in the area of the initial survey that had radiologically decayed between survey events. If DOE-added radioactive material had been the source of these elevated survey points, the elevated survey results would have been confirmed.

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Contamination above the limits could be present in areas that were inaccessible to surveying (e.g., under waste crates and other materials in storage). Therefore, even though no readings exceeded contamination limits as specified in the RFETS Radiological Control Manual, all work in the tents will initially be radiologically controlled per "Contamination Area" work control requirements. Based on the nature of stored materials and historical releases, there is potential for worker exposure during disposition and associated configuration changes.
Results are summarized below and in Table 3-1, "Radiological Survey Results for Tents 7, 8 and 9." This table includes the survey results.

Radiological Surveys in Tent 7

There were 27 radiological survey points on the interior tent panels. The 10% scan of each tent panel was below the MDC of the survey instrument. All survey points were less than the MDC of the instrument for removable alpha and beta-gamma contamination. There were 26 points less than the MDC of the instrument for total alpha and total beta-gamma contamination. There was one elevated total alpha survey point at 174 dpm/100 cm^2, which is above the contamination limits prescribed in the total RFETS Radiological Control Manual. There was one elevated total beta-gamma survey point at 369 dpm/100 cm^2, which is below the contamination limits prescribed in the RFETS Radiological Control Manual.

The one elevated total alpha survey point was investigated using a portable alpha spectroscopy instrument (AP-2). The re-survey indicated total alpha contamination at 66dpm/100 cm^2, which is above the MDC of the instrument, but is below the contamination limits prescribed the RFETS Radiological Control Manual.

There were 10 radiological survey points of the interior tent panels above 6 to 8 feet. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

There were 5 radiological survey points of the interior tent panels ribs. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

There were 30 radiological survey points of the exterior tent panels. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

There were 3 radiological survey points within the vent systems. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

Radiological Surveys in Tent 8

There were 50 radiological survey points of the interior tent panels. The 10% scan of each tent panel was below the MDC of the survey instrument. All survey points were less than the MDC of the instrument for removable alpha and beta-gamma contamination. There were 48 points less than the MDC of the instrument for total alpha contamination. There were 46 points less than the MDC of the instrument for total beta-gamma contamination. There were two elevated total alpha survey points at 108 and 228 dpm/100 cm^2, which are above the surface contamination limits prescribed in the RFETS Radiological Control Manual. There were four

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elevated total beta-gamma survey points at 648, 390, 396 and 489 dpm/100 cm^2, which are below the contamination limits prescribed in the RFETS Radiological Control Manual.

The two elevated survey points were resurveyed. The re-survey results indicate elevated total alpha contamination of 30 and 30 dpm/100 cm^2, which is above the MDC of the instrument, but below the contamination limits prescribed in the RFETS Radiological Control Manual.

There were 11 radiological survey points on the interior tent panels above 6 to 8 feet. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

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Table 3-1 Radiological Survey Results for Tents 7, 8 and 9

	Removable Contamination						Total Contamination					
	Alpha (dpm/100 cm²)			Beta (dpm/100 cm²)			Alpha (dpm/100 cm²)			Beta (dpm/100 cm²)		
	Survey Points	Minimum	Maximum	Survey Points	Minimum	Maximum	Survey Points	Minimum	Maximum	Survey Points	Minimum	Maximum
Tent 7 – Interior Panels < 8 Feet	27	<20	<20	27	<200	<200	27	<59	66	27	<316	369
Tent 7 – Interior Panels > 8 Feet	10	<20	<20	10	<200	<200	10	<72	<72	10	<313	<313
Tent 7 – Interior Metal Ribs	5	<20	<20	5	<200	<200	5	<59	<59	5	<316	<316
Tent 7 – Exterior Panels	30	<20	<20	30	<200	<200	30	<66	<66	30	<303	<303
Tent 7 – Vent System	3	<20	<20	3	<200	<200	3	<72	<72	3	<313	<313
– Interior Panels <	50	<20	<20	50	<200	<200	50	<33	30	50	<302	648
Tent 8 – Interior > 8 Feet	11	<20	<20	11	<200	<200	11	<72	<72	11	<313	<313
Tent 8 – Interior Metal Ribs	10	<20	<20	10	<200	<200	10	<33	90	10	<302	<302
Tent 8 – Exterior Panels	30	<20	<20	30	<200	<200	30	<56	<56	30	<331	<331
Tent 8 – Vent System	6	<20	<20	6	<200	<200	6	<72	<72	6	<313	<313
Tent 9 – Interior Panels < 8 Feet	50	<20	<20	50	<200	<200	50	<33	72	50	<302	936
Tent 9 – Interior Panels > 8 Feet	12	<20	<20	12	<200	<200	12	<72	<72	12	<313	<313
Tent 9 – Interior Metal Ribs	10	<20	<20	10	<200	<200	10	<33	<33	10	<302	<302
Tent 9 – Exterior Panels	30	<20	<20	30	<200	<200	30	<55	66	30	<317	465
Tent 9 – Vent System	6	<20	<20	6	<200	<200	6	<72	<72	6	<313	<313

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There were 10 radiological survey points on the interior tent panels ribs. All survey points were less than the MDC of the instrument for removable alpha and beta-gamma contamination and for total beta-gamma contamination. There were 7 points less than the MDC of the instrument for total alpha contamination. There were three elevated total alpha survey points at 42, 60 and 90 dpm/100 cm^2, which is above the MDC of the instrument, but are below the contamination limits prescribed in the RFETS Radiological Control Manual.

There were 30 radiological survey points on the exterior tent panels. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

There were 6 radiological survey points within the vent systems. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

Radiological Surveys in Tent 9

There were 50 radiological survey points on the interior tent panels. The 10% scan of each tent panel was below the MDC of the survey instrument. All survey points were less than the MDC of the instrument for removable alpha and beta-gamma contamination. There were 44 points less than the MDC of the instrument for total alpha contamination. There were 40 points less than the MDC of the instrument for total beta-gamma contamination. There were two elevated total alpha survey points at 144 and 216 dpm/100 cm^2, which exceed the contamination limits prescribed in the RFETS Radiological Control Manual. There were four elevated total alpha survey points at 60, 84, 84 and 66 dpm/100 cm^2, which is above the MDC of the instrument, but are below the contamination limits prescribed in the RFETS Radiological Control Manual. There were ten elevated total beta-gamma survey points at 729, 654, 732, 936, 642, 861, 696, 615, 600 and 462 dpm/100 cm^2, which are above the MDC of the instrument, but are below the contamination limits prescribed in the RFETS Radiological Control Manual.

The two total alpha survey points that exceeded contamination limits were resurveyed. The re-survey results indicate elevated total alpha contamination at 72 and 66 dpm/100 cm^2, which are above the MDC of the instrument, but are below the contamination limits prescribed in the RFETS Radiological Control Manual.

There were 12 radiological survey points on the interior tent panels above 6 to 8 feet. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

There were 10 radiological survey points on the interior tent panels ribs. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

There were 30 radiological survey points on the exterior tent panels. All survey points were less than the MDC of the instrument for removable alpha and beta-gamma contamination. There were 28 points less than the MDC of the instrument for total alpha contamination. There were 29 points less than the MDC of the instrument for total beta-gamma contamination. There were two elevated alpha survey point at 66 and 66 dpm/100 cm^2, which is above the MDC of the instrument, but are below the contamination limits prescribed in the RFETS Radiological Control

Manual. There was one elevated beta-gamma survey point at 465 dpm/100 cm^2, which is above the MDC of the instrument, but is below the contamination limits prescribed in the RFETS Radiological Control Manual

There were 6 radiological survey points within the vent systems. All survey points were less than the MDC of the instrument for removable and total, alpha and beta-gamma contamination.

3.1.3 Chemical Hazards

Based on visual inspection (i.e., lack of stains, discoloration, etc.), and historical and process knowledge (refer to interview forms in the administrative record), no chemical hazards are associated with the tent materials (i.e., tent panels and support structures). The 904 Pad may contain some residual chemical contamination from the release/spill of pondcrete and saltcrete that occurred on the pad prior to the tents being erected. Pondcrete and saltcrete possess RCRA-listed spent solvents (i.e., F001, F002, & F005) and electroplating wastes containing heavy metals (i.e., F006, F007 & F009). However, no occupational or industrial hygiene issues have been identified, and no related controls have been instituted. In addition, the Site RCRA Permit allows for the storage of mixed wastes on the 904 Pad without imposing permit conditions to control residual contamination, which indicates that State did not perceive any chemical hazard on the pad. However, during tent removal, it is recommended that the pad be covered to prevent any potential release or migration of residual contamination.

Lead

No painted surfaces exist on the tent panels or support structures. Railings and other structures are painted, however, Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based Paint Debris Disposal* states that LBP debris generated outside of high contamination areas shall be managed as non-hazardous (solid) wastes and that additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. Process knowledge does not give reason to suspect other sources of lead contamination on the tent panels or support structures.

Beryllium

Results from beryllium surface smears, conducted by the RFETS Chronic Beryllium Disease Prevention Program (CBDPP), yielded all non-detect results (i.e., ≤ 0.1 μg/100 cm^2). Refer to Appendix D. A total of 70 smears were analyzed in Tent 7, 25 smears in Tent 8, and 25 smears in Tent 9. Smears represent surface areas of waste containers, pallets, work surfaces, and the asphalt pad surface. The CBDPP free-release criteria for Be is 0.2 μg/100 cm^2 (Occupational Safety and Industrial Hygiene Program Manual, Chapter 28).

Other Metals

Tent panels were secured at the base by being nailed to wooden 4x8's, which are bolted to the asphalt pad. Some of these wooden 4x8's are greenish-tinted, arsenical-treated ("wolmanized") wood. Solid waste that consists of discarded arsenical-treated wood or wood products that exceed the toxicity characteristic leaching procedure (TCLP) threshold for hazardous waste

codes D004 through D017 are not considered hazardous waste per 40 CFR 261.4(b)(9). Process knowledge of the waste storage practices does not give reason to suspect any other metal contamination on the tent panels or support structures. Containers were situated on the asphalt pad and were not in contact with the tent materials. Also, even though there were releases of pondcrete and saltcrete on the pad, releases were small and did not represent reportable quantities (Site Historical Release Report). In addition, removable surface levels of metals on the pad are expected to be very low based on the beryllium analytical results (i.e., all beryllium smears were below detectable limits). However, TCLP characterization of the pad will be performed at a later time.

PCBs

Process knowledge does not give reason to suspect PCB contamination on the tent panels or support structure. According to the Waste Stream and Residue Identification and Characterization of the 904 Pad, no PCB wastes or PCB-containing equipment were located in the pad. In addition, the *Operation Unit 10 RCRA Facility Inventory and Remedial Investigation , Technical Memorandum 1, January, 1995* does not indicate the presence of PCBs on the pad.

Chlorinated Solvents

Process knowledge does not give reason to suspect chlorinated solvent contamination on the tent panels or support structures. Containers were situated on the asphalt pad and were not in contact with the tent materials. Also, even though there were releases of pondcrete and saltcrete on the pad, releases were small and did not represent reportable quantities (Site Historical Release Report). In addition, any solvents on surfaces from the release/spill of pondcrete and saltcrete would have evaporated. Solvents may have penetrated into the pad, and the pad will be characterized for solvent contamination at a later time.

Other Organics

Process knowledge does not give reason to suspect other organic contamination on the tent panels or support structures. Containers were situated on the asphalt pad and were not in contact with the tent materials. Also, even though there were releases of pondcrete and saltcrete on the pad, releases were small and did not represent reportable quantities (Site Historical Release Report). In addition, no spill were observed during walkdowns of the tents, and organic contaminants would not likely be resuspended and attach to the tent materials. Organic contaminants may have penetrated into the pad, and the pad will be characterized for organic contamination at a later time.

Roofing cement was used to seal the tent panels to wooden 4x8's, which are bolted to the asphalt pad. The cement contains isoparafinnic hydrocarbons and asphalt, but no RCRA constituents.

Asbestos

Tents 7, 8, and 9 were inspected by a CDPHE-certified asbestos inspector (refer to Appendix E). No potential asbestos-containing material was observed on the tent panels or support structure.

3.2 Anticipated Waste Volumes

Approximately 50 tons of structural metal and approximately 10 tons of ten panels and miscellaneous debris will be generated during tent disposition. Based on the initial results, this volume is considered sanitary waste and can be free released.

4.0 DATA QUALITY ASSESSMENT

Data used in making management decisions regarding health and safety and waste management must be of adequate quality to ensure 1) compliance with waste requirements and 2) adequate safety of human health and the environment. Verification and validation of the data ensure that data used in decisions resulting from the site hazard assessment are usable and defensible.

Verification and validation (V&V) of data contained in this report are the primary components of the data quality assessment (DQA). V&V constitutes the cornerstone of the DQA, because statistical tests and background determinations relative to decision-making for radiological survey units are not required for decisions regarding hazards or the free-release of materials vs. low-level waste classification. Instead, measurement results were compared, on a one-to-one basis, with free-release criteria given in the RFETS Radiological Control Manual (Table 2-2). The DQA presented in this section supports conclusions in the report based on implementation of the relevant data quality requirements and accomplishment of the DQOs.

4.1 Verification/Validation Of Results

Verification of the radiological survey data set(s) corroborates that data produced and used by the project are documented and traceable per quality requirements. Specifically, verification confirmed that:

- format and content of the data are clearly presented relative to the project decisions;
- survey and scan results are properly authenticated, dated, and labeled, which allows clear traceability to survey and scan locations and responsible technical personnel ;
- calibrations and periodic performance checks produced satisfactory accuracy and precision; and
- count times of surveys produced adequate sensitivity of measurements for comparison with action levels.

Validation consists of a technical review of all data that directly support the dismantling and waste management decisions, so that any limitations of the data relative to project goals are delineated and that associated data are qualified (caveated) accordingly. Data were validated relative to the DQOs.

PARCC parameters -- Precision, Accuracy, Representativeness, Comparability, and Completeness – were used and address characteristics of the data that must be defined for scientific integrity and defensibility. The following subsections on PARCC parameters also include discussion on bias and sensitivity.

4.1.1 Precision

Precision of the radiological instrumentation was satisfactory based on tolerance charting of daily source checks for each individual sensor used on the project, which includes all measurement types (scans and static measures for total contamination, and swipes for removable). Adequate precision was established through instrument performance within a

±20% range as defined by measurement results compared to a standard source value. Based on standard protocol RFETS Radiological Safety Practices (RSP) 02.01, Radiological Instrumentation, any measurement exceeding the defined tolerance limits required corrective action (repair or replacement) prior to the instrument's use in measurement of real samples.

4.1.2 Accuracy (and Bias)

Accuracy of radiological surveys ands scans is satisfactory based on RFETS-programmatic annual calibrations that establish instrument efficiencies and sensitivities for all instrumentation used on this project. Daily source checks also provided periodic checks to ensure that all sensors are within accuracy tolerances during daily operations. Calibration and calibration check results were within the RFETS and industry-standard requirement of 20% of the applicable reference standard values.

No biases were noted that would cause data to be qualified or rejected.

4.1.3 Representativeness

Surveys and scans are representative based on the following criteria:

- familiarity with facilities -- multiple walk-downs and collaborations by and within the sampling team;
- controlled and approved methods (RFETS Radiological Safety Practices); and
- compliance with the Characterization Package (RMRS, April 1999) and the PRE -- reviewed and approved by technical and management consensus prior to implementation.

4.1.4 Completeness

The data set for this project is complete, with respect to both survey results and quality records resulting from the characterization process. The total number of planned surveys was determined by Radiological Engineering professional judgement and consensus approval by Quality Assurance and management organizations. All surveys and scans planned were accomplished and are summarized in Table 3-1.

4.1.5 Comparability

All results presented are comparable with radiological survey and free-release criteria on a site- and DOE-complex wide basis. This comparability is based on:

- use of standardized engineering units in the reporting of measurement results;
- use of site-approved procedures (RFETS Radiological Safety Practices); and
- thorough documentation of the planning, sampling/analysis process, and data reduction into formats designed for making decisions based on the project's original DQOs.

4.1.6 Sensitivity

Adequate sensitivities, in units of dpm/100^2 cm, were attained for all surveys and scans based on MDAs less than decision limits.

4.2 Summary

In summary, the data presented in this report have been verified and are qualified as valid and complete for comparison with free-release criteria (action levels) as stated in the original DQOs. All media surveys and scans relative to both total and removable beta activities yielded results less than action levels for the potentially existing actinides.

APPENDIX A

TENT 7 RADIOLOGICAL DATA

A.1 HISTORICAL RADIOLOGICAL DATA

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 PAd

ROOM: tent 7

DATE: 01-07-98

TIME: 10:30

ITEM DESCRIPTION: Weekly Survey

COMMENTS: 7-2-99 I Hank I Forgot to Enter Electra Reading on the Survey Instrument Date Form I Hank I Feel the Copy is the Inst used I H

PERFORMED BY (PRINT NAME): L Hankins

L Hankins [redacted] 01-07-98

RCT SIGNATURE DATE

REVIEWED BY: THyasher

RO SUPERVISION PRINT NAME

[signature] 1/14/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	956	1050		
CAL DATE:	9-12-97	9-16-97		
CAL DUE DATE:	3-12-98	3-16-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 838			
CAL DATE:	1-6-98			
CAL DUE DATE:	7-6-98			

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:	1427			
CAL DATE:	1-7-98			
CAL DUE DATE:	5-12-98			
BACKGROUND:				
SFFICIENCY:	22.73% / 35.49%			
MDA:	260 / 455			

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

59

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LOG NUMBER: _____

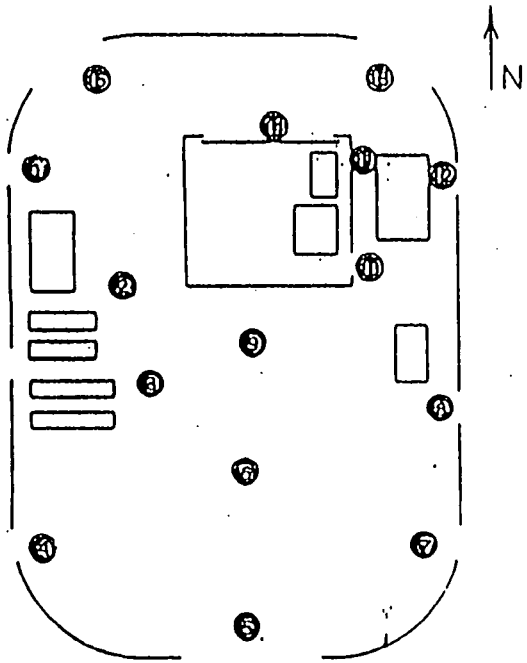
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 10



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA GAMMA	TOTAL ALPHA (including fixed covers)	TOTAL BETA GAMMA
1		<18	<205	<60	<45
2		<18	<205	<60	<45
3		<18	<205	<60	<45
4		<18	<205	<60	<45
5		<18	<205	<60	<45
6		<18	<205	<60	<45
7		<18	<205	<60	<45
8		<18	<205	<60	<45
9		<18	<205	<60	<45
10		<18	<205	<60	<45
11		<18	<205	<60	<45
12		<18	<205	<60	<45
13		<18	<205	<60	<45
14		<18	<205	<60	<45
15		<18	<205	<60	<45
		<18	<205	<60	<45

J.H. 01-07-98

Copy

Performance Test Log

Instrument Serial Number: 1427

Instrument Efficiency Alpha 22.73 % Beta 35.49 %

Instrument Calibration Due Date 5-12-98

Source Serial Number	Cal. Due Date	Source Act. (dpm)	Source Act. (cpm)[1]	Source Acceptable Range[2]
680147 α	11-98	17220	3914	3131 – 4697
603936 β	11-98	19891	7059	5647 – 8471

Date	ALPHA BKGD	ALPHA Reading (Corrected cpm)	ALPHA PASS/FAIL	BETA Bkgd	BETA Reading (Corrected cpm)	BETA PASS/FAIL	RCI Employee Number	RCI NAME (Print)	RCI Signature
1-13-98	2.0	3810	Pass	539	6517	Pass	512590	Munoz	[illegible]
1-14-98	1.0	3880	Pass	547	6550	Pass	508252	Hawkins	[illegible]

1. Source activity in cpm is equal to the source activity in dpm multiplied by the instrument efficiency.

2. Acceptable range is ± 20% (source activity in cpm multiplied by 0.8 or 1.2).

3. All counts are to be 1 minute in duration.

NOTE: If the instrument will be used for alpha measurements only, the beta portion of the test log should be lined through. If the instrument will be used for beta only, then the alpha portion should be lined through.

61

~~30~~ 31

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD

ROOM: TENT 7

DATE: 1-8-98

TIME: 0900

ITEM DESCRIPTION: CONTROL POINT

COMMENTS: Could Not Access Tent due to snow.

PERFORMED BY (PRINT NAME): [signature] [redacted] 98

RCT SIGNATURE [redacted] DATE 1-8-98

REVIEWED BY: THipsher

RO SUPERVISION PRINT NAME

[signature] 1/14/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

62

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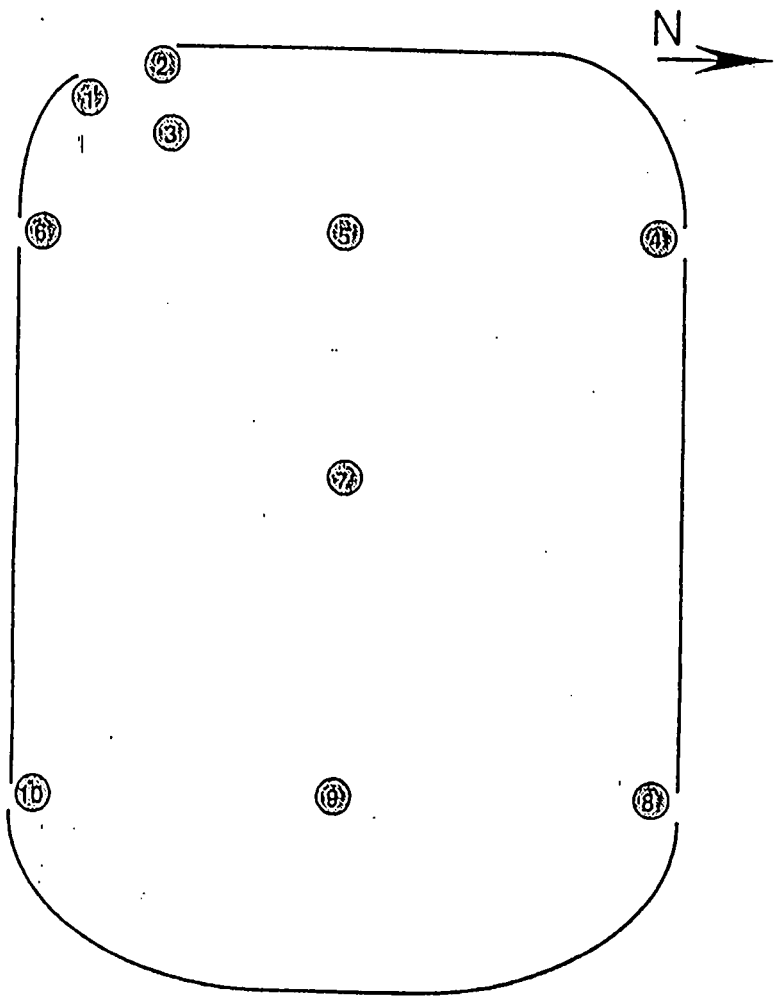
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



(#) 10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (Fixed/100 sec count)	TOTAL BETA/GAMMA

133

COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL _____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 1-16-98	TIME: 1210

ITEM DESCRIPTION: CONTROL POINT

COMMENTS: 7-2-98 J Hank I Forgot to Enter the Electra Data. I Feel the information is Correct on this Date 1-16-98 See Performance Test Log J Hank 7-2-98

PERFORMED BY (PRINT NAME): Hankins L

J Hank [redacted] 1-16-98

RCT SIGNATURE DATE

REVIEWED BY: THupsher

RO SUPERVISION PRINT NAME

[signature] 1/19/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-17-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	770	838		
CAL DATE:	1-7-98	1-06-98		
CAL DUE DATE:	7-7-98	9-06-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:	1290			
CAL DATE:	1-16-98			
CAL DUE DATE:	1-29-98			
BACKGROUND:				
SFFICIENCY:	α 23.49 β 34.2 %			
MDA:	α <60 β <455			

MDA = CP X (2.71 + 4.65 √BACKGROUND (CPM))

64
24

Printed with soy ink on recycled paper

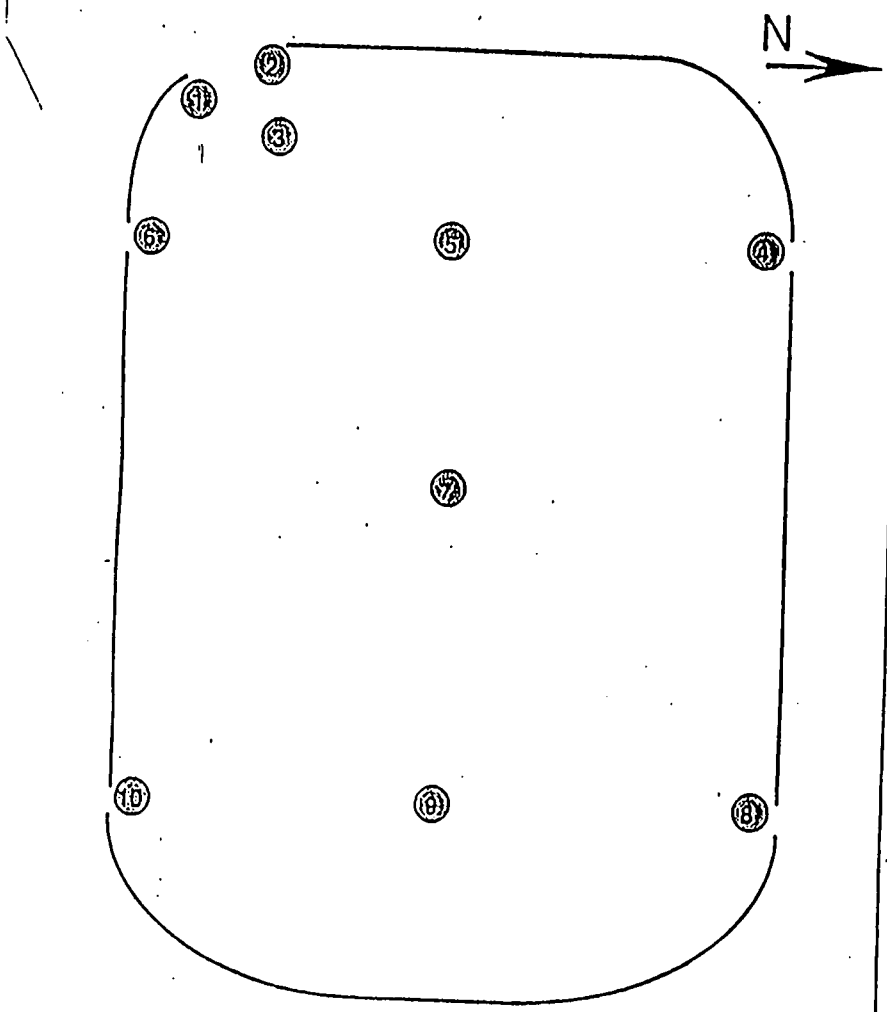
59

LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/loose see comm)	TOTAL BETA/GAMMA
1		<18	<205	<60	<455
2		<18	<205	<60	<455
3		<18	<205	<60	<455
4		<18	<205	<60	<455
5		<18	<205	<60	<455
6		<18	<205	<60	<455
7		<18	<205	<60	<455
8		<18	<205	<60	<455
9		<18	<205	<60	<455
10		<18	<205	<60	<455

TW 1-1658

35

COPY

Electra Perfor nce Test Log

Instrument Serial Number: 1290

Instrument Efficiency Alpha 23.4% Beta 34.2%

Instrument Calibration Due Date 1-29-98

Source Serial Number	Calibration Due Date	Source Act. (dpm)	Source Acct. (cpm)	Source Acceptable Range (sq)
680147 α	11-98	17220	4029	3224 – 4835
603930 β	11-98	19891	6803	5442 – 8163

Date	ALPHA BKGD3	ALPHA Reading (Corrected cpm)3	ALPHA Pass/Fail	BETA Bkgd 3	BETA Reading (Corrected cpm)3	BETA Pass/Fail	RCT Employee Number	RCT NAME (Print)	RCT Signature
1/15/98	2.0	3920	Pass	466	7089	Pass	[redacted]	Munoz	Munoz
1/16/98	2.0	3940	Pass	539	6960	Pass		Hankins	Hank
1/19/98	2.0	3810	Pass	529	7620	Pass		Hankins	Hank
1/20/98	2.0	4010	Pass	494	6940	Pass		Hankins	Hank
1/21/98	2.0	3960	Pass	506	6610	Pass		Hankins	Hank
1/22/98	2.0	3770	Pass	465	7090	Pass		Munoz	Munoz
1/26/98	2.0	3910	Pass	463	7590	Pass		Hankins	Hank
1/27/98	2.0	4000	Pass	482	7390	Pass		Hankins	Hank
1/28/98	1.0	3970	Pass	434	7195	Pass		Munoz	Munoz
/ /									
/ /									
/ /									
/ /									
/ /									

1. Source activity in cpm is equal to the source activity in dpm multiplied by the efficiency.
2. Acceptable range is a + 20% (source activity in cpm multiplied by 0.8 or 1.2).
3. All counts are to be1 minute in duration.

NOTE: If the instrument will be used for alpha measurements only, the beta portion of the test log should be lined through. If the instrument will be used for beta only, then the alpha portion should be lined through.

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 1-21-98	TIME: 0900

ITEM DESCRIPTION: CONTROL POINT Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins L

RCT SIGNATURE	EMP#	DATE
[signature]	[redacted]	1-21-98

REVIEWED BY: T Hopsher

RO SUPERVISION PRINT NAME

[signature] 1/27/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-11-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 220	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

67

80

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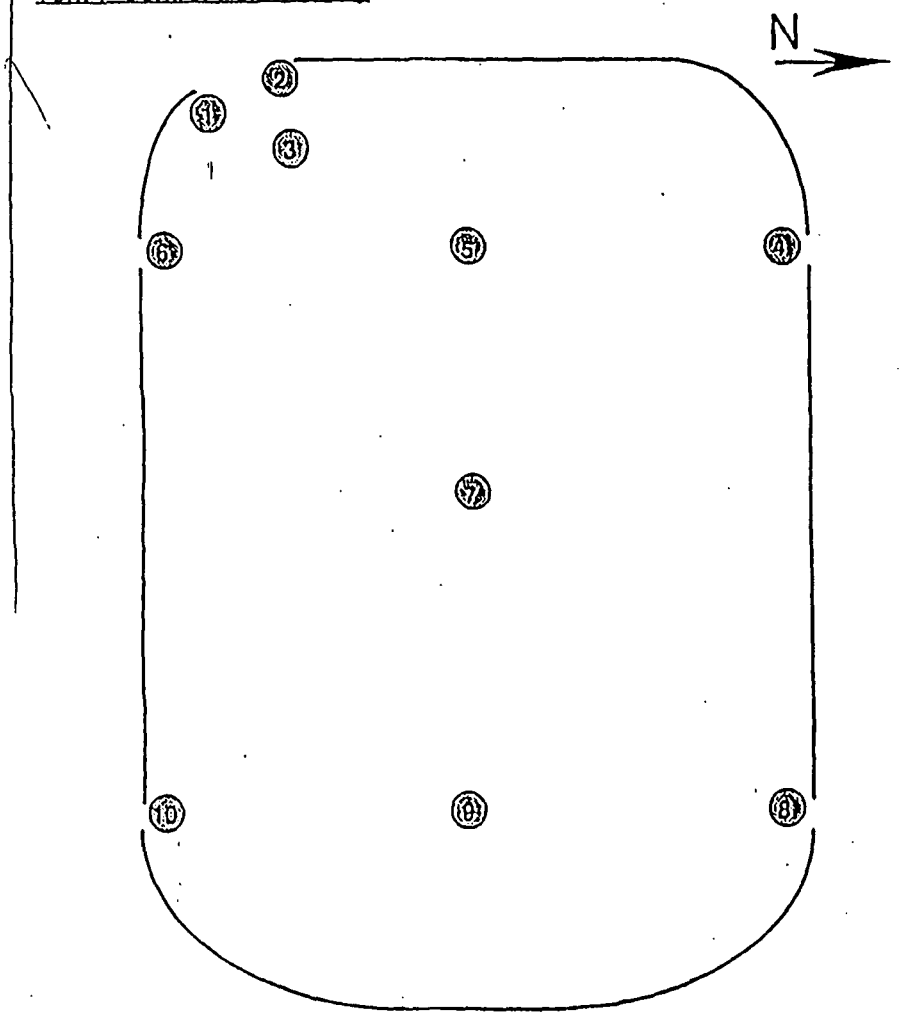
LOG NUMBER: _____

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FINISH/SQ. SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
		<20	<200		

TH 1-21-98

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RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 1-29-98	TIME: 0830

ITEM DESCRIPTION: CONTROL POINT Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): [redacted]

RCT SIGNATURE | EMP# [redacted] | DATE 1-29-98

REVIEWED BY: T Hughes
RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE | DATE 2/23/98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF'X [2.71 + 4.65 √BACKGROUND (CPM)]

69

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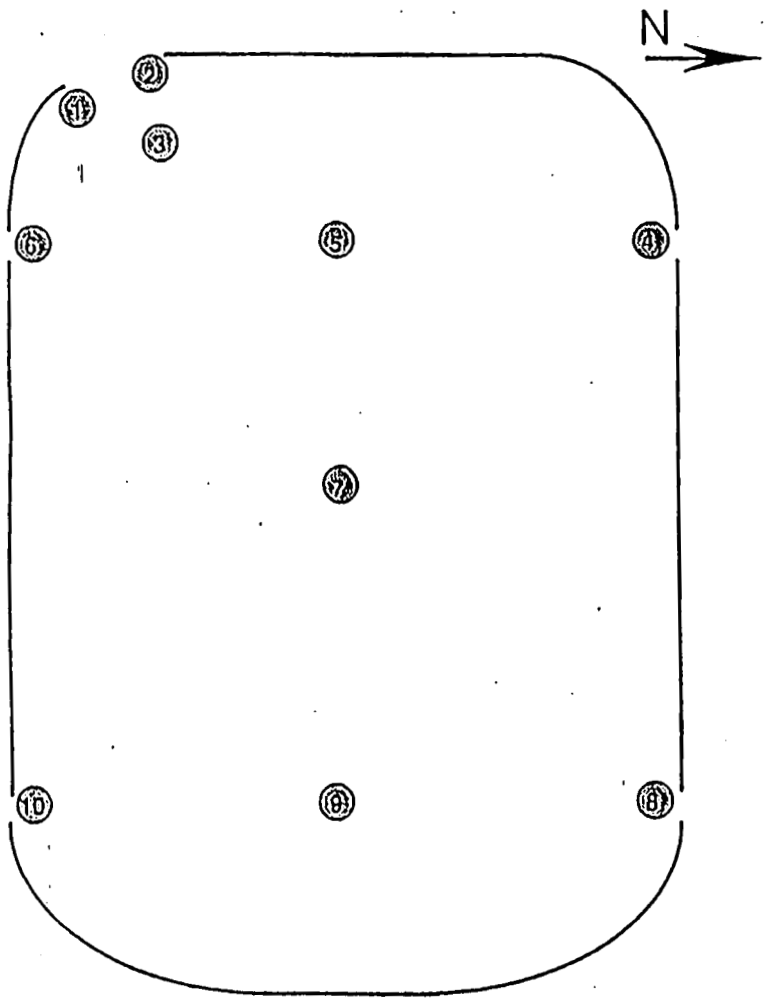
LOG NUMBER: ——

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIOR/SQ DEG COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

[illegible] 1-29-98

40

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD	ROOM: TENT 7
DATE: 2-4-98	TIME: 0800

ITEM DESCRIPTION: CONTROL POINT Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE | [redacted] EMP# | 2-4-98 DATE

REVIEWED BY: THughes
RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE | 2/12/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

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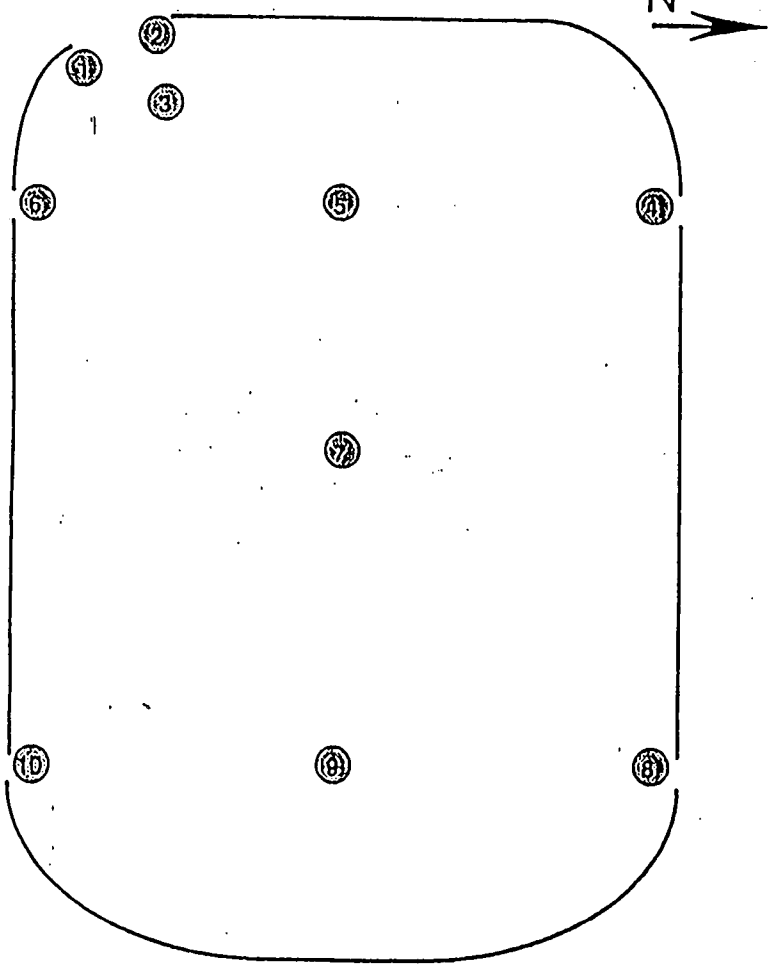
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (subtract bkg count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

CG 2-4-98

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RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL

____ RWP ____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 02/12/98	TIME: 1230

ITEM DESCRIPTION: CONTROL POINT

COMMENTS: Weekly Survey

PERFORMED BY (PRINT NAME): L Hawkins

[signature] [redacted] 02/12/98

RCT SIGNATURE EMP# DATE

REVIEWED BY: THupsher

RO SUPERVISION PRINT NAME

[signature] 12/23/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 830		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

73

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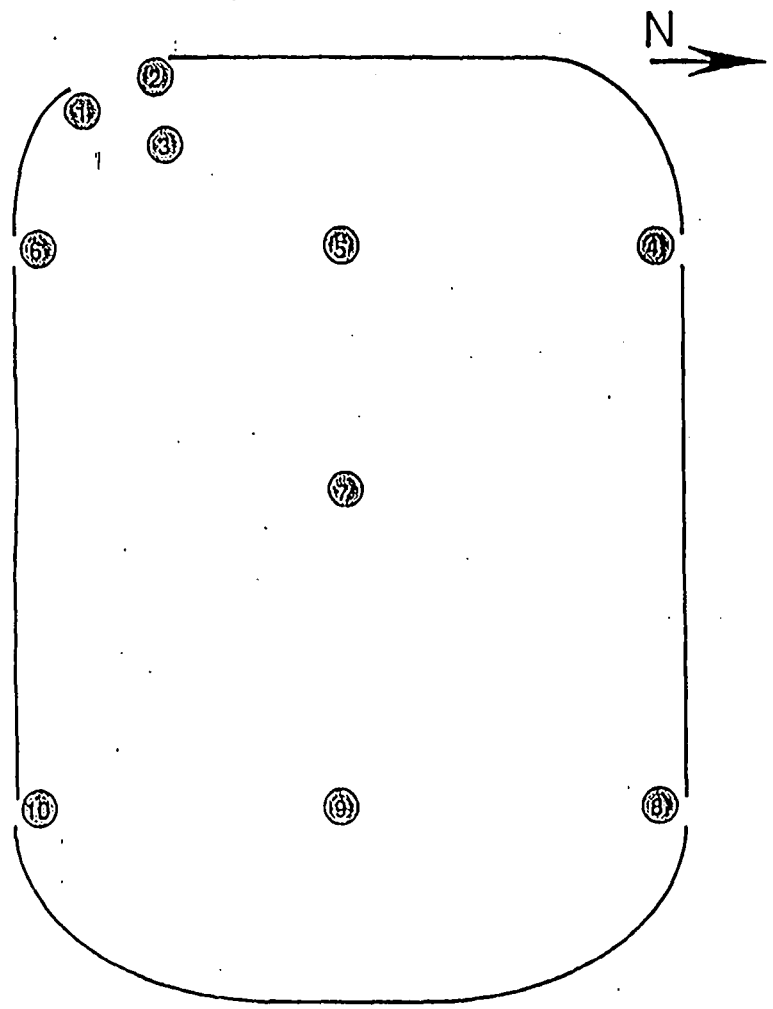
LOG NUMBER: _____ hL

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (CHECKED BY COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JH 02/12/98

#4

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 02-26-98	TIME: 0830

ITEM DESCRIPTION: CONTROL POINT Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Larry Hankins

[signature] [redacted] / 02-26-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: T Hypsher

RO SUPERVISION PRINT NAME

[signature] 3/4/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	959		
CAL DATE:	10-8-97	9-12-97		
CAL DUE DATE:	4-8-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

7/25

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9L

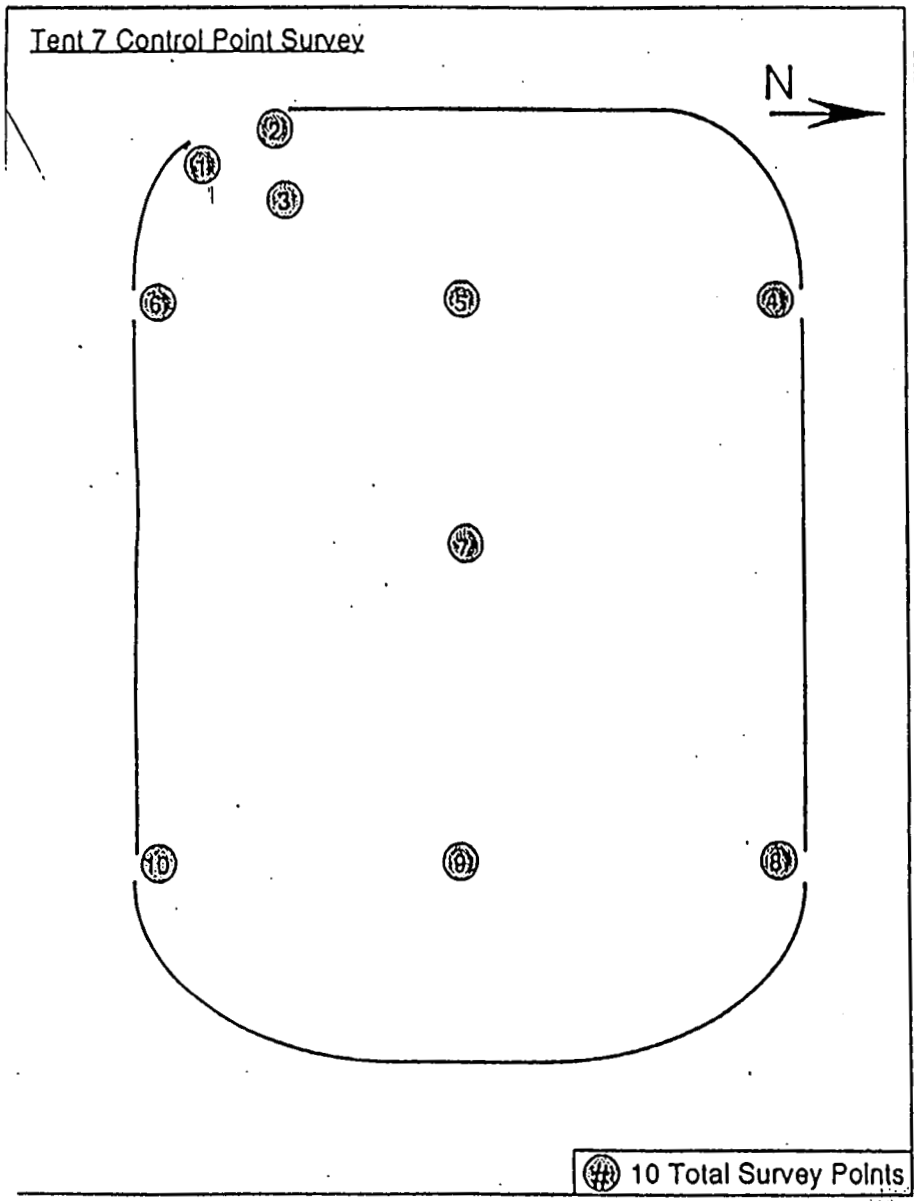
LOG NUMBER: _____

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



(#) 10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/removable count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

7L 02-26-98

46

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER "ROUTINE

BUILDING/LOCATION: 904 PAD

ROOM: TENT 7

DATE: 3-11-98 ~~3-10-98~~

TIME: 1450

ITEM DESCRIPTION: CONTROL POINT Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins

RCT SIGNATURE [redacted]

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 3/17/98

DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	767		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

17
A-7

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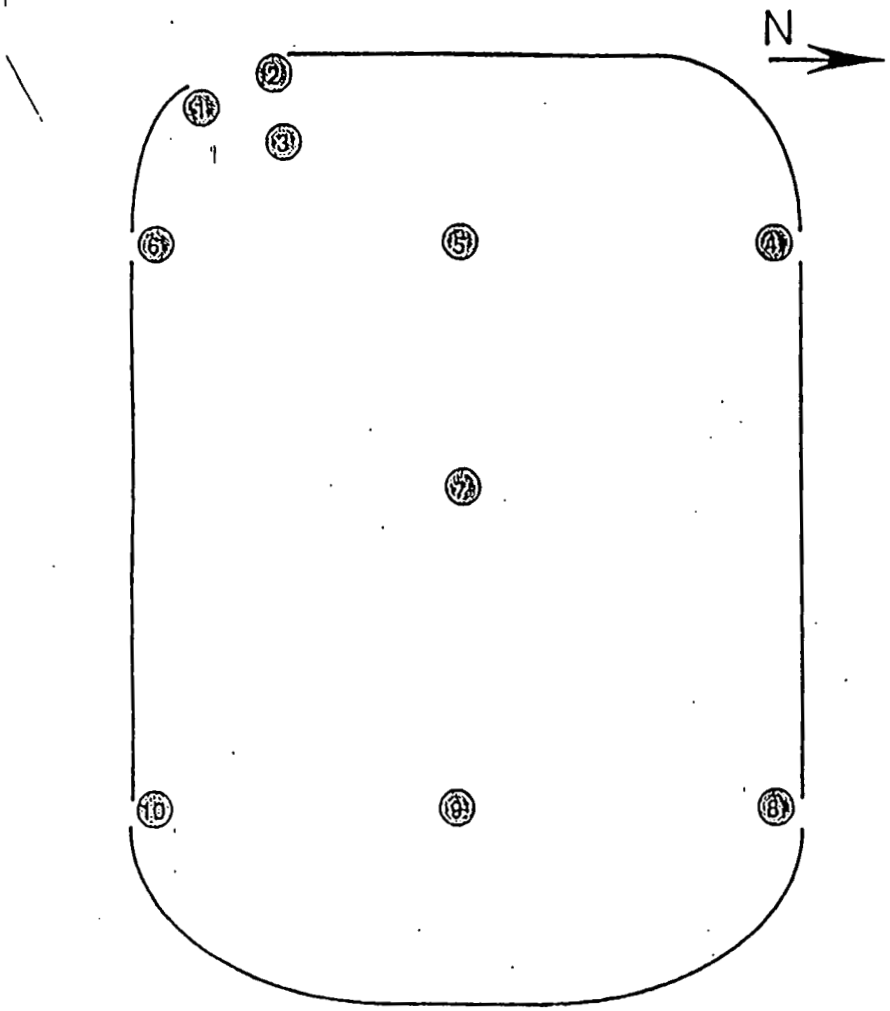
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRISK/SO SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JH 3-10-98

48

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER "ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 3-18-98	TIME: 0800

ITEM DESCRIPTION: CONTROL POINT

COMMENTS:

PERFORMED BY (PRINT NAME): Hopkins

[redacted] 12-18-98

RCT SIGNATURE DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] 12/23/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	767	797		
CAL DATE:	10-10-97	10-8-97		
CAL DUE DATE:	4-10-98	4-8-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

79
~~49~~

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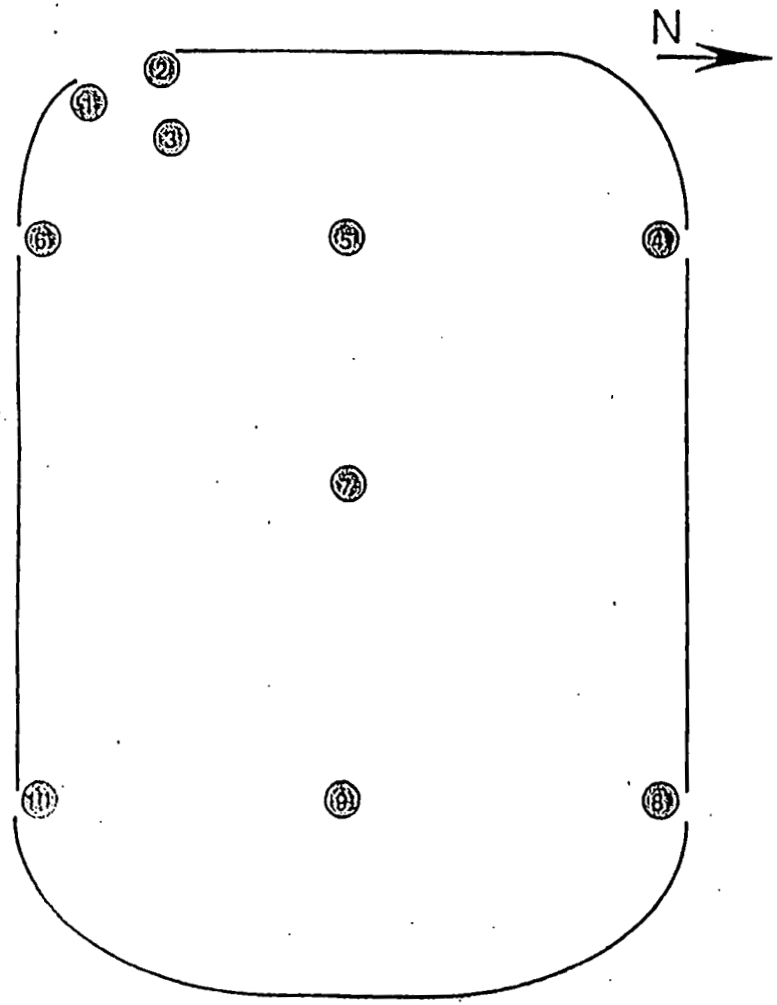
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JLP 3-18-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL _____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 3-26-98	TIME: 1015

ITEM DESCRIPTION: CONTROL POINT Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins

RCT SIGNATURE [redacted] EMP# 3-26-98 DATE

REVIEWED BY: K. GARLAND
RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 4-1-98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	767	767		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC878		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
EFFICIENCY:				
MDA:				

$$MDA = CF \times [2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)}]$$

81 r.1

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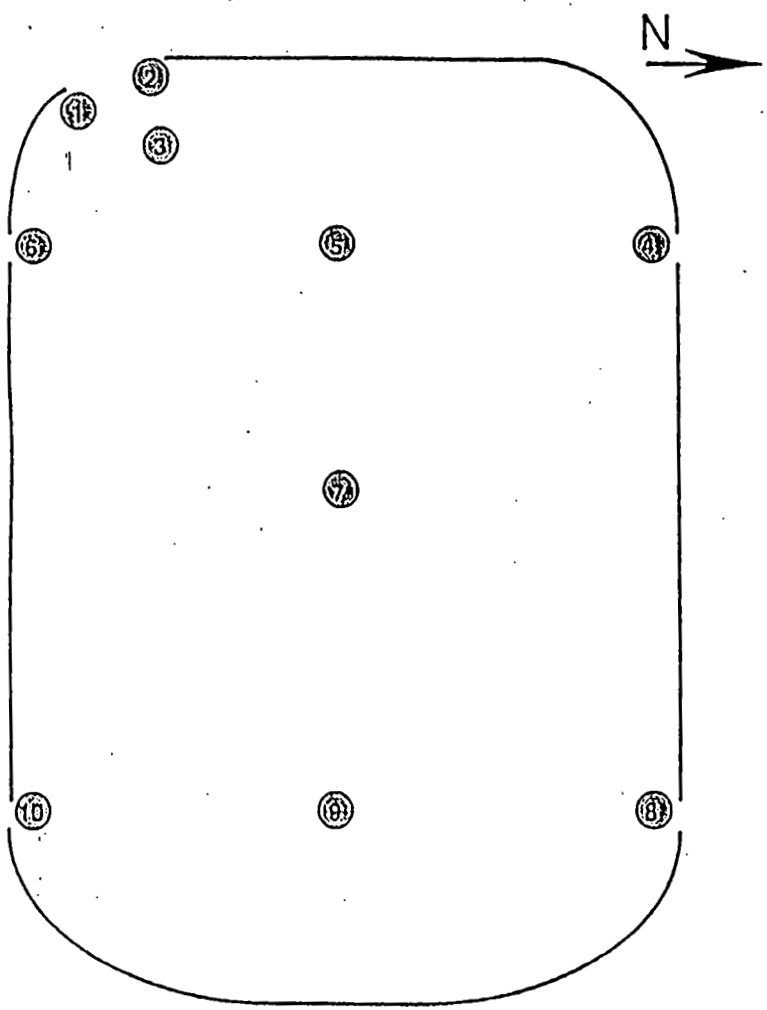
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



(#) 10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (results/sec count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

DH 3-26-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: ____ P/WRE ____ PRL

____ RWP ____ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD

ROOM: TENT 7

DATE: ~~4-1-98~~ 4-1-98

TIME: 0830

ITEM DESCRIPTION: CONTROL POINT Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE | [redacted] EMP# | 4-1-98 DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE | 4/10/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	267		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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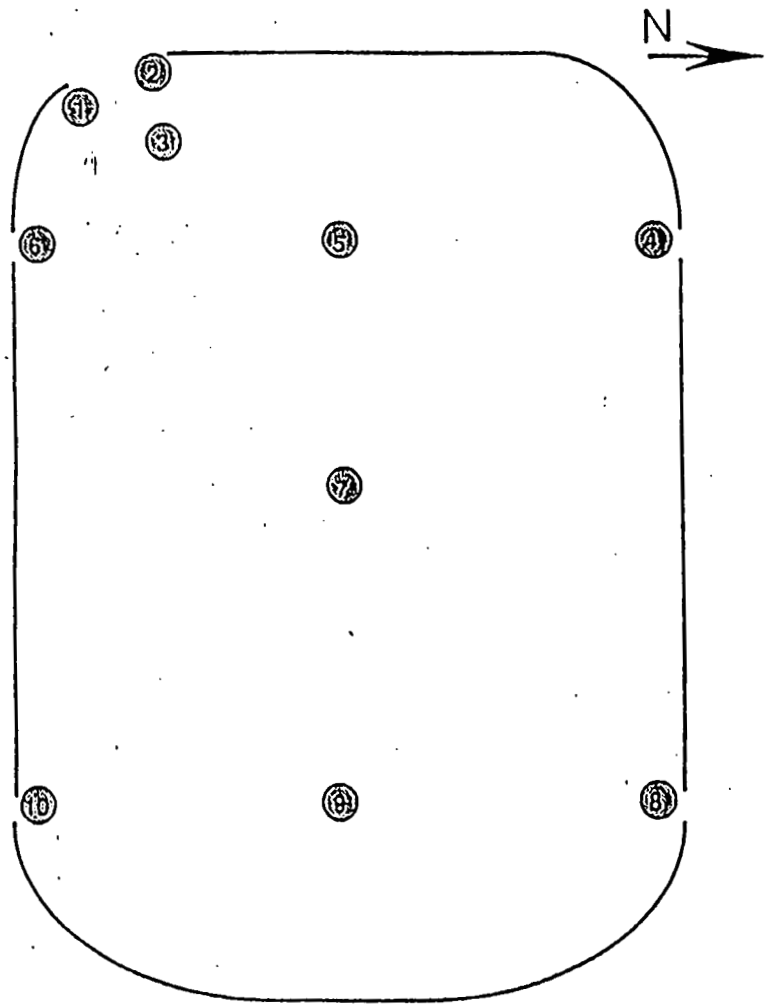
LOG NUMBER: _____ 48

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/FIX SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

Exp 4-1-98

54

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 4-8-98	TIME: 1430

ITEM DESCRIPTION: CONTROL POINT

COMMENTS:

PERFORMED BY (PRINT NAME): HANKINS L

RCT SIGNATURE [redacted] DATE 4-8-98

REVIEWED BY: K. GARLAND

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE DATE 15/5/98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	JH 11/05/01			
CAL DATE:	04-10-98			
CAL DUE DATE:	10-10-98			
	JH 11/05/01			
MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF·X [2.71 + 4.65 √BACKGROUND (CPM)]

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98

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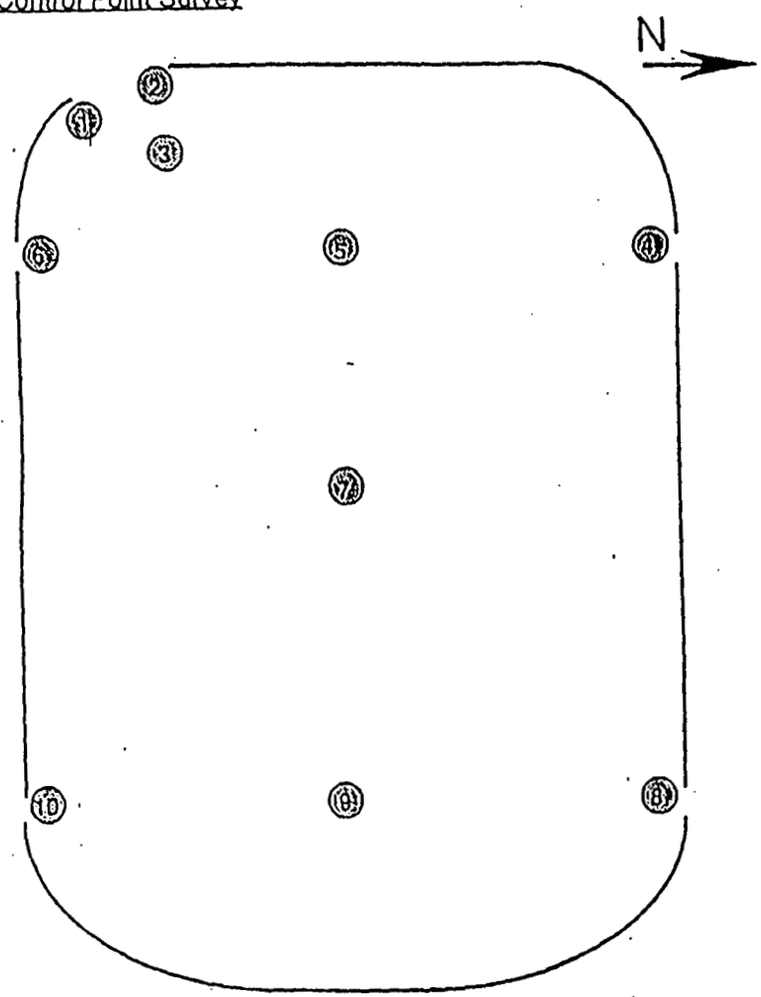
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIOR/SUBSEQUENT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JH 4-8-98

56

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE:	TIME:
4-15-98	0230

ITEM DESCRIPTION: CONTROL POINT

COMMENTS:

PERFORMED BY (PRINT NAME): HANKINS L

[signature] [redacted] 4-15-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: K. Copeland

RO SUPERVISION PRINT NAME

[signature] 5/4/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC720	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

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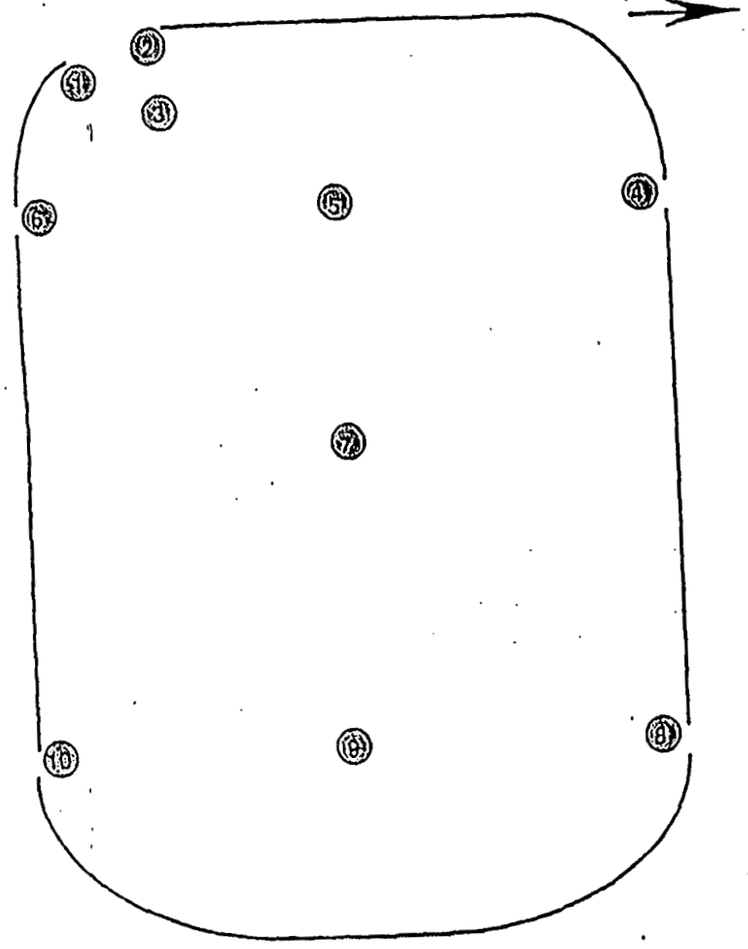
LOG NUMBER: _____

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/removable counts)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

4-5-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 4-23-98	TIME: 0830

ITEM DESCRIPTION: CONTROL POINT Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): R Munoz

RCT SIGNATURE / [redacted] EMP# / 4-23-98 DATE

REVIEWED BY: K. Gardner

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 5/20/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 270	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 √BACKGROUND (CPM)]

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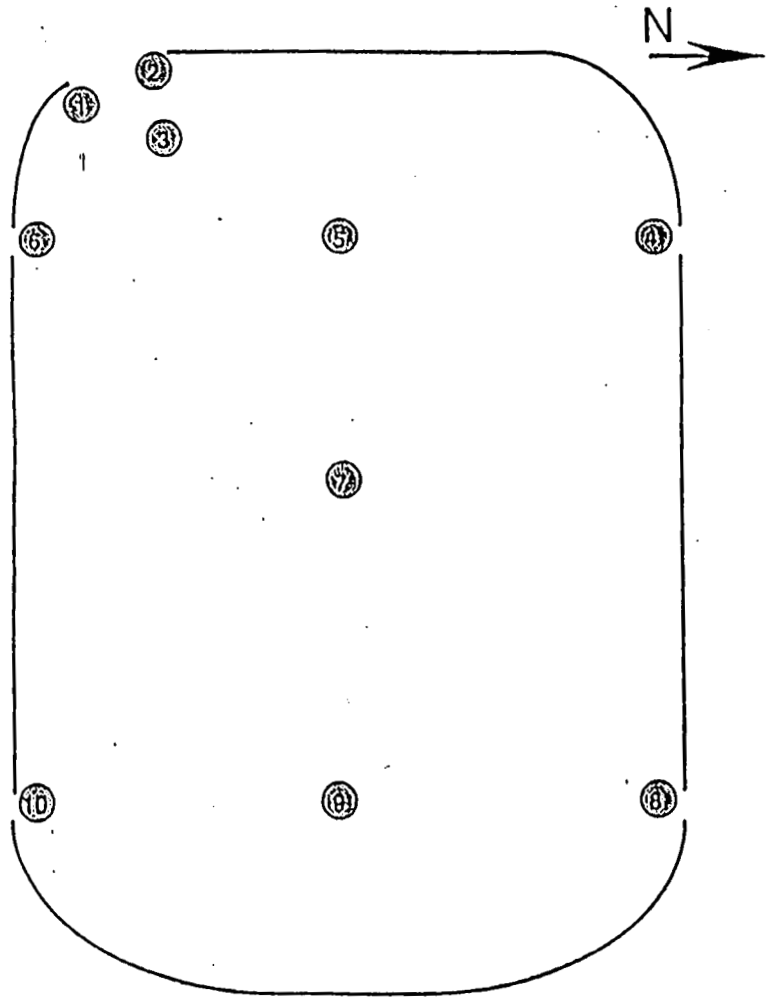
LOG NUMBER: _____ 06

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRISH/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

[illegible] 4-23-98

60

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER "ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 4-28-98	TIME: 1100

ITEM DESCRIPTION: CONTROL POINT Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

Munoz [redacted] / 4-28-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: K. Gaulard

RO SUPERVISION PRINT NAME

[signature] 5/19/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

91

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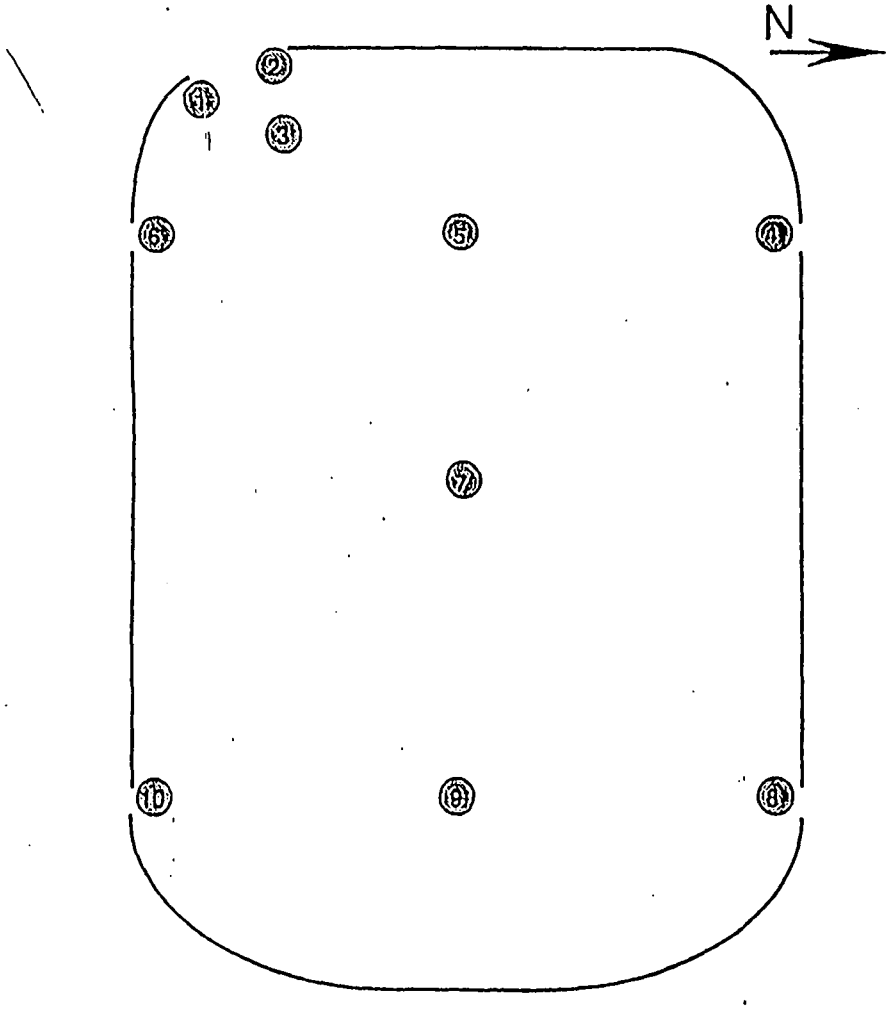
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (DPM/100 CM² CORR)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

Tent 4-28-88

1:2

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER "ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE:	TIME:
5-7-98	0900

ITEM DESCRIPTION: CONTROL POINT Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

[redacted] / 5-7-98

RCT SIGNATURE / [redacted] / DATE

REVIEWED BY: K. Gonzalez

RO SUPERVISION PRINT NAME

[signature] 1/5/20/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 220	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

93

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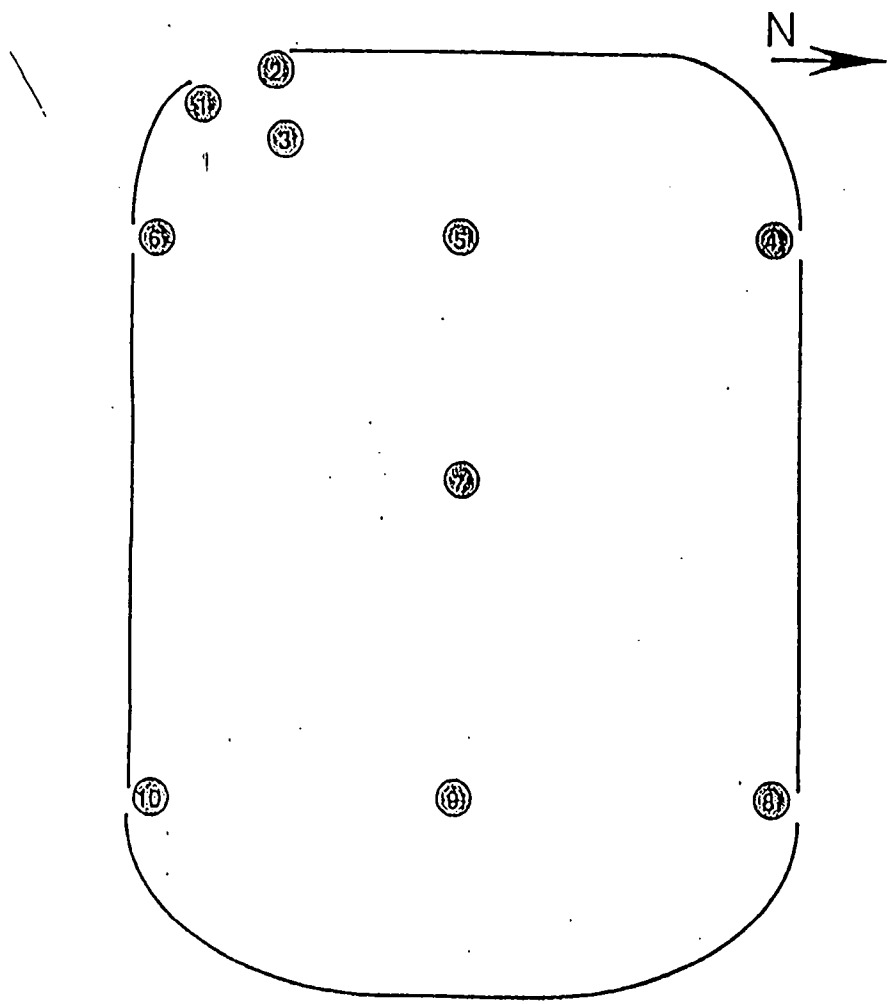
LOG NUMBER: _____ 76

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



(#) 10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200 ~~<200~~	~~<148~~	
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

5-7-88

64

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE:	TIME:
5-26-98	0900

ITEM DESCRIPTION: CONTROL POINT Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): [illegible]

[illegible] [redacted] 5-26-98

RCT SIGNATURE DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

J. Stewart-Bell 16-10-98

RO SUPERVISION SIGNATURE DATE

95

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 720	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 √BACKGROUND (CPM))

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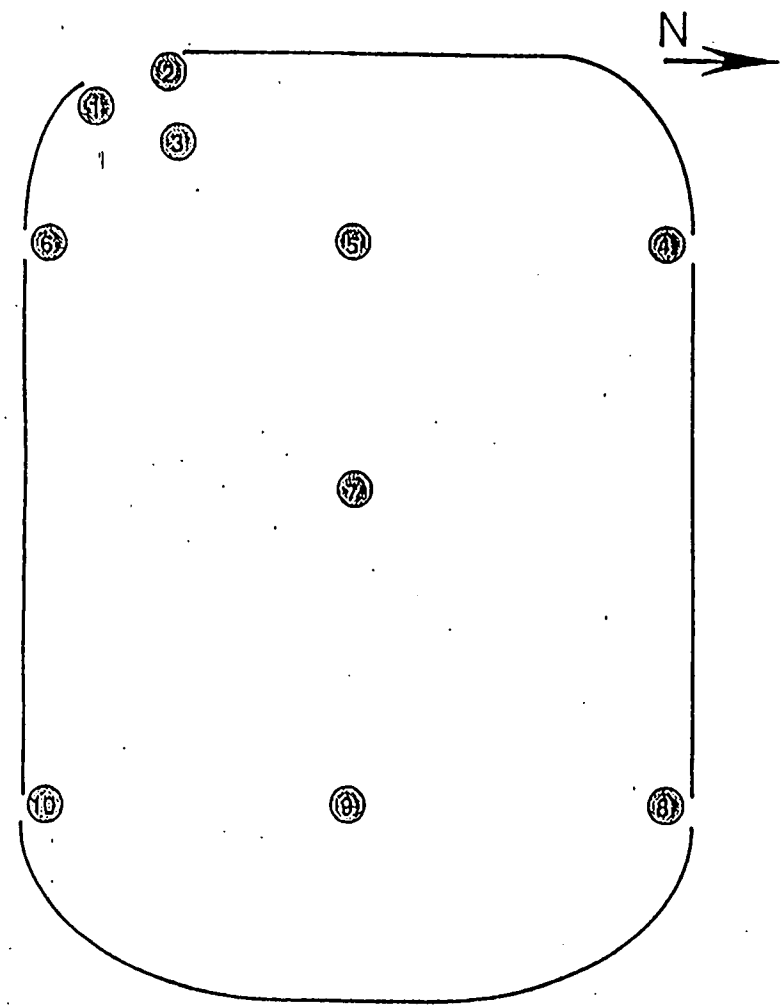
LOG NUMBER: _____ 96

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



(#) 10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (REMOVABLE + FIXED)	TOTAL BETA/GAMMA
1	refer to map.	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

Em 5-26-90

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 5-13-98	TIME: 0930

ITEM DESCRIPTION: CONTROL POINT Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

Munoz / [redacted] / 5-13-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

J Stewart Bell / 6-10-98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 270	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$

97

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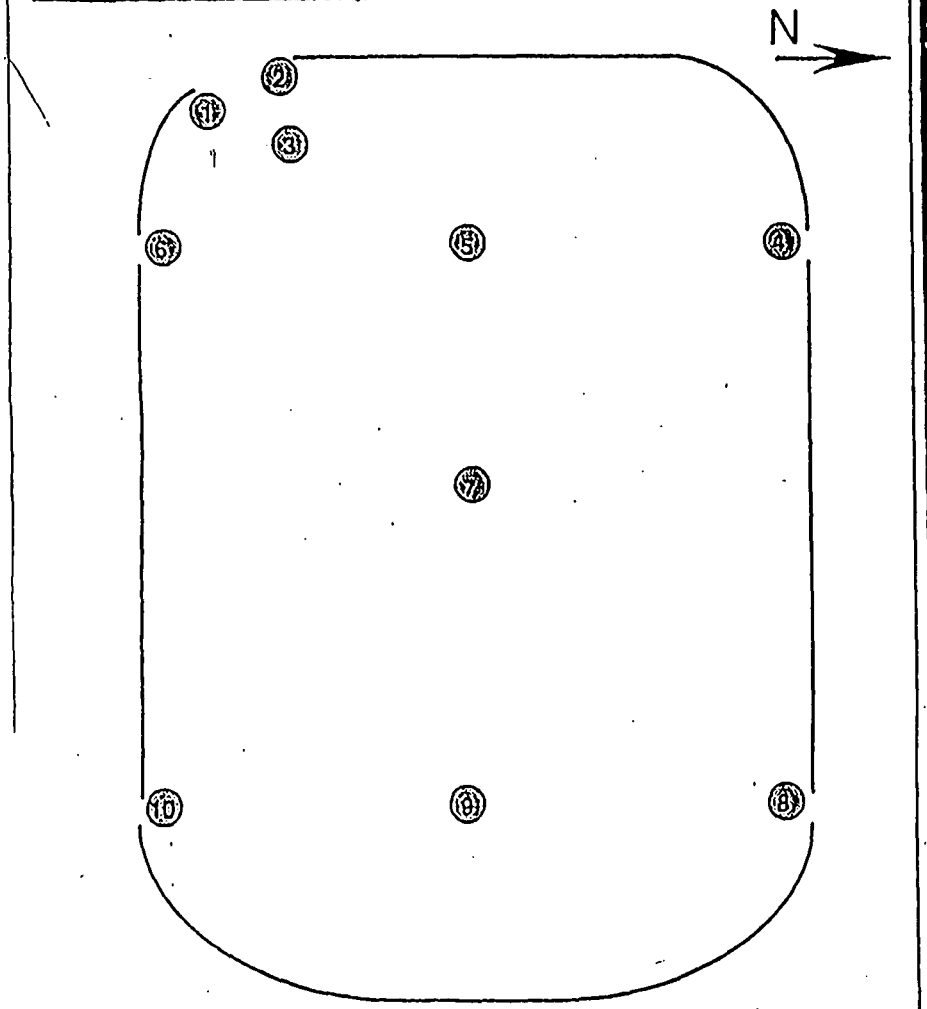
LOG NUMBER: _____ 86

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/see comm)	TOTAL BETA/GAMMA
1	refer to map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

5-15-98

68

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL _____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE:	TIME:
5-21-98	0930

ITEM DESCRIPTION: CONTROL POINT Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

Munoz / [redacted] / 5-21-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

J. Stewart-Bell 6-10-98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 √BACKGROUND (CPM)]

99

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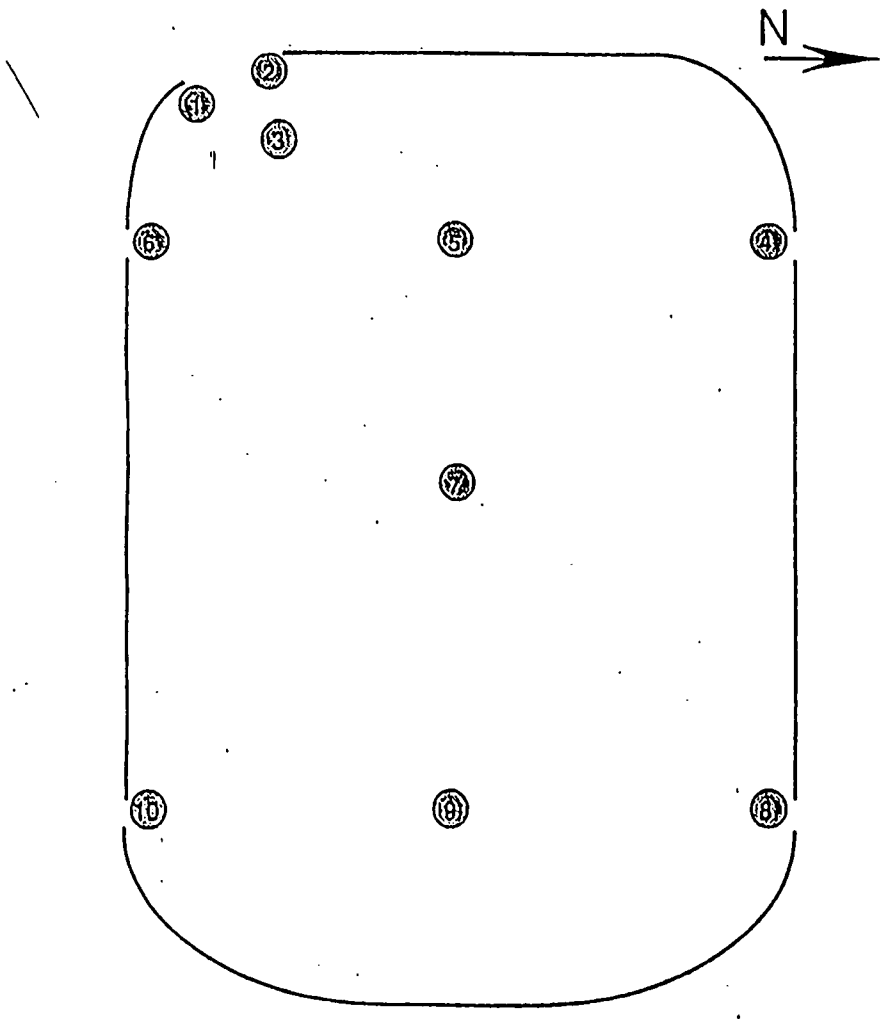
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



(#) 10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (Fixed/100 sec count)	TOTAL BETA/GAMMA
1	refer to map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11					

5-21-98

70

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD	ROOM: TENT 7
DATE: 06-04-98	TIME: 10.00

ITEM DESCRIPTION: CONTROL POINT

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins L.

RCT SIGNATURE [redacted] EMP# 06-04-98 DATE

REVIEWED BY: R. Sawyer

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 6/8 6/9/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

101

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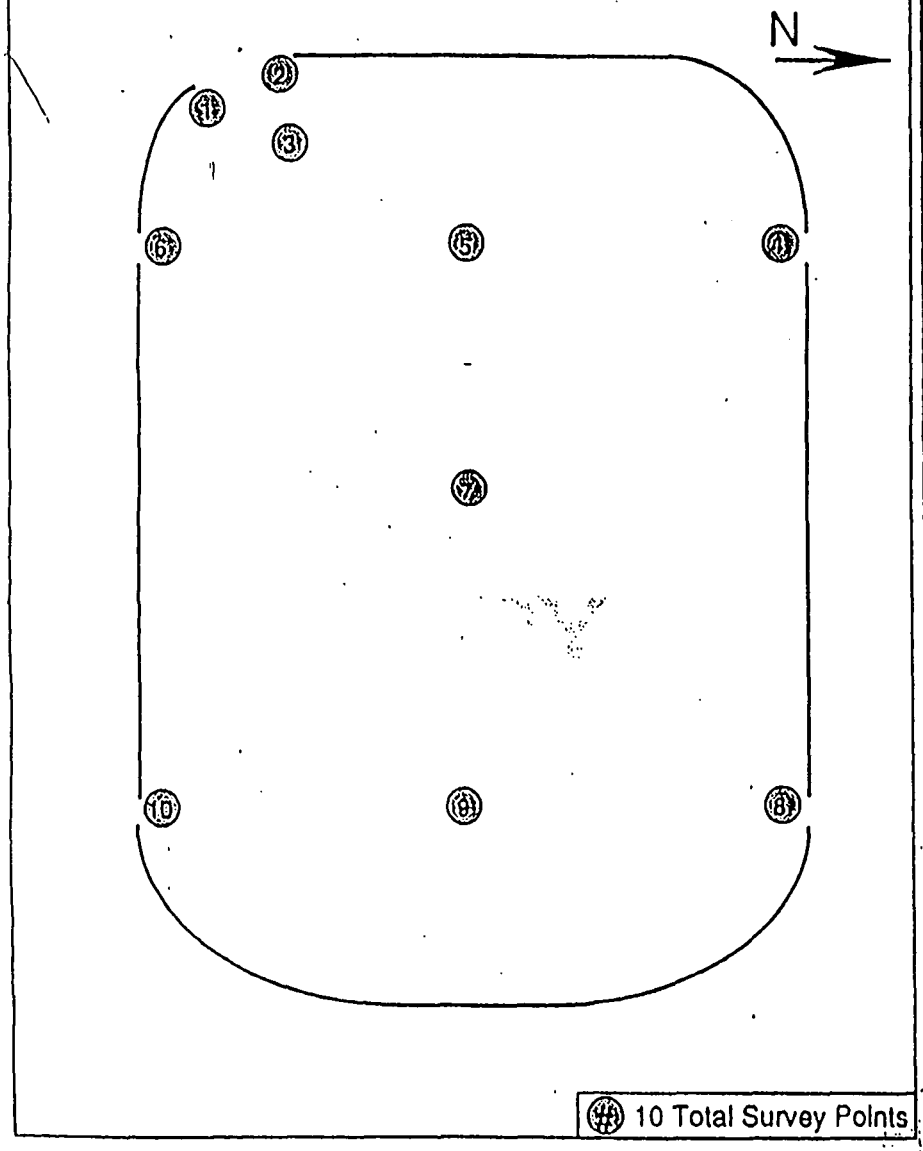
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (Fixed/100 cm² count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JH 06-04-98

72

COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 6-9-98	TIME: 1430

ITEM DESCRIPTION: CONTROL POINT

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins L

Hankins L [redacted] 6-9-98

RCT SIGNATURE DATE

REVIEWED BY: R. Sawyer

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 6/25/98

DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-17-98	3-24-98		
CAL DUE DATE:	9-17-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	720	838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

103

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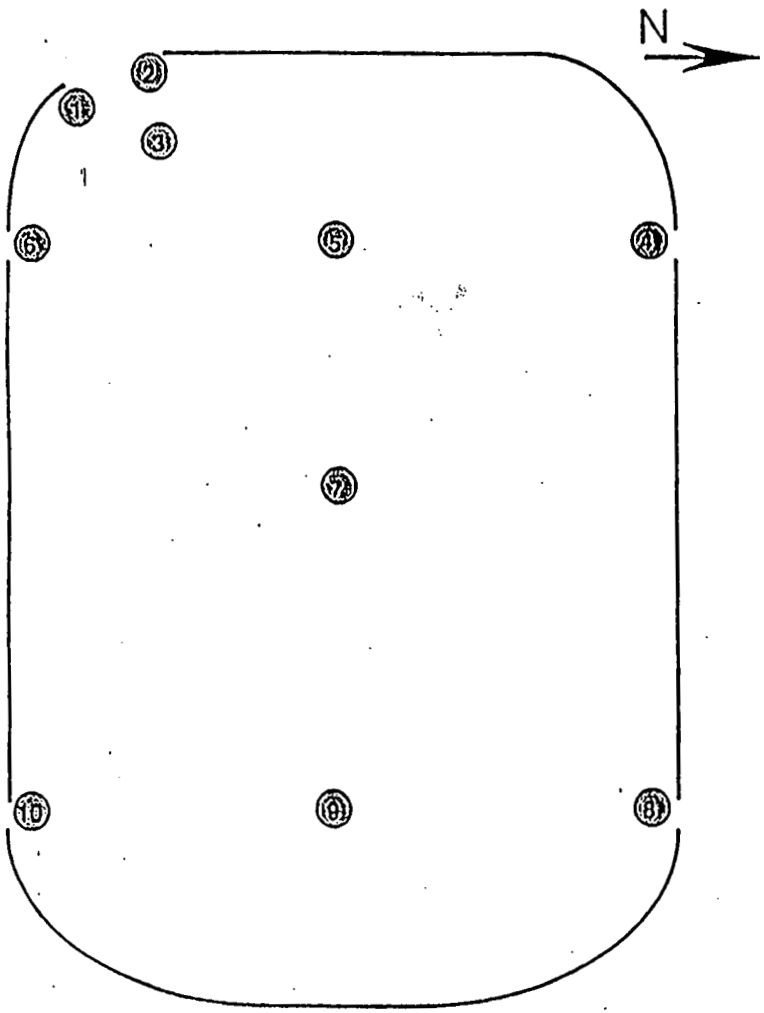
LOG NUMBER: 601

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



(#) 10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/loose see comm)	TOTAL BETA/GAMMA
1	See map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

24 6-9-98

74

RADIOLOGICAL CONTAMINATION SURVEY FORM

LC NUMBER:

FOR: ____ P/WRE ____ PRL

____ RWP X OTHER ROUTINE

BUILDING/LOCATION:	ROOM:
904 PAD	TENT 7
DATE: 6-17-98	TIME: 0815

ITEM DESCRIPTION: CONTROL POINT

COMMENTS: Weekly Survey

PERFORMED BY (PRINT NAME): Hawkins L

[signature] [redacted] 6-17-98

RCT SIGNATURE DATE

REVIEWED BY: R. Sounck

RO SUPERVISION PRINT NAME

[signature] 6/25/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

105

901

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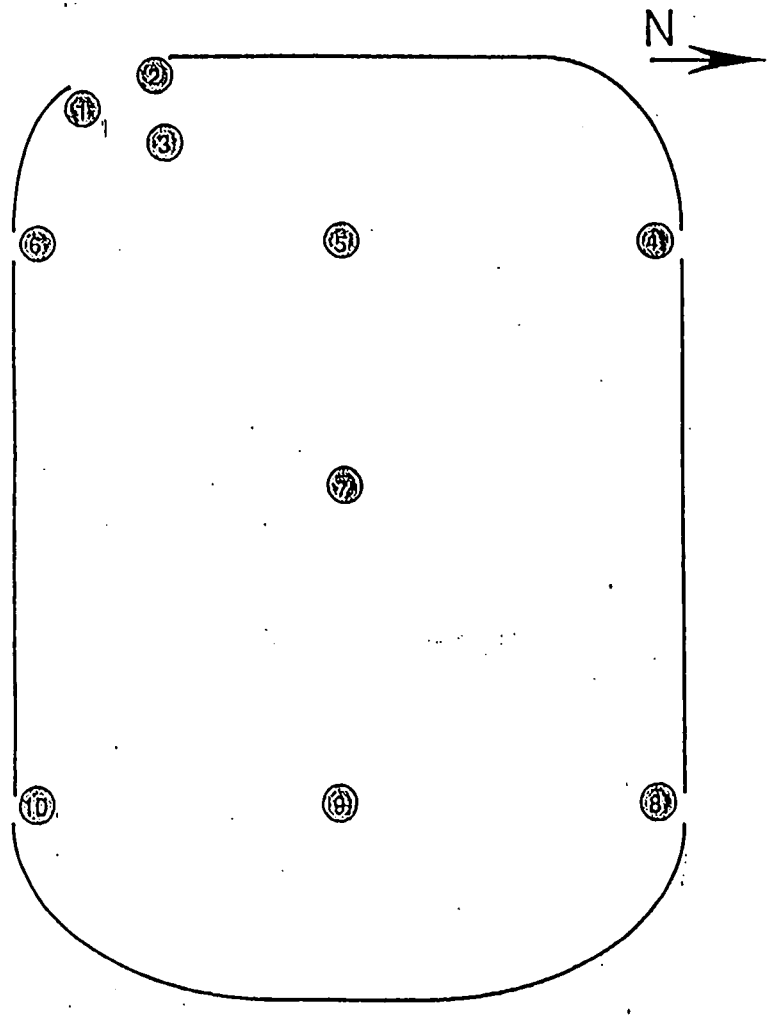
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRISK/60 SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JH 6-17-98

JH 6-17-98

116

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801

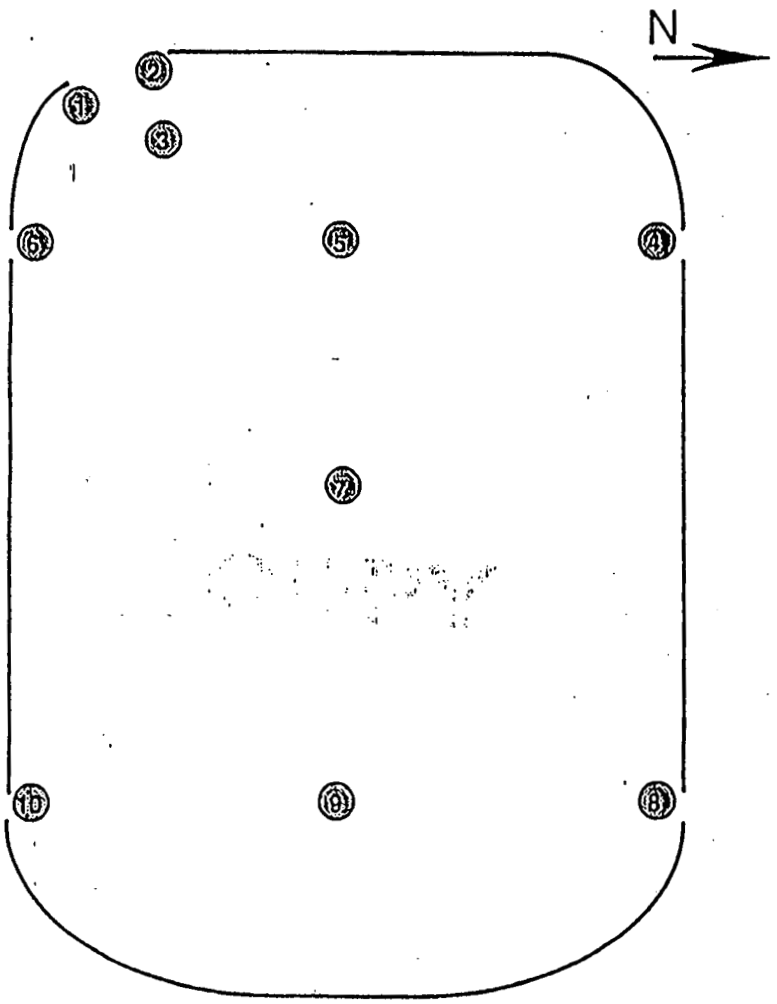
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JH 6-24-98

78

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD

ROOM: TENT 7

DATE: 6-24-98

TIME: 0915

ITEM DESCRIPTION: CONTROL POINT

COMMENTS: Weekly Survey

PERFORMED BY (PRINT NAME): L Hankins

L Hankins [redacted] 6-24-98

RCT SIGNATURE DATE

REVIEWED BY: R Sawyer

RO SUPERVISION PRINT NAME

[signature] 8/5/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	07 ~~3~~-13-98	2 ~~3~~-24-98		
CAL DUE DATE:	03 ~~7~~-13-98	3 ~~2~~-24-98		
	JH 11/05/01 508252	JH 11/05/01 508252		
MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

107

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due
Bkg. 0.0	Bkg. 0.0	Bkg.
Efficiency ~~33%~~ 33%	Efficiency 33%	Efficiency
MDA 20 d/m	MDA 20 d/m	MDA
Mfg. Eberline	Mfg. Eberline	Mfg.
Model BC-4	Model BC-4	Model
Serial # BC704	Serial # BC702	Serial #
Cal Due 12-11-98	Cal Due 12-15-98	Cal Due
Bkg. 36	Bkg. 38	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA 200 d/m	MDA 200 d/m	MDA

7-22-98

Survey Type: Contamination Survey
Building: 904 Pad
Location: 904 Pad T-7 T8-T9 T10 T11 Break Room Locker Room, Service Locker
Purpose: Weekly Control Point
RWP #: on 7-22-98
Date: 7-22-98 Time: 0800
RCT: HAWKINS (Print name) [signature] (Signature) [redacted]
RCT: MUNOZ (Print name) [signature] (Signature) [redacted]

PRL #: on 7-22-98
Comments:
* See attached survey forms for survey results
TENT 7

SURVEY RESULTS

on 7-22-98

Date Reviewed: 8/5/98 RS Supervision: [signature] (Print Name) [signature] (Signature) [redacted] Emp. #

79/109

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Alan 7-22-98

110

~~80~~

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL _____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD

ROOM: TENT 7

DATE: 7-1-98

TIME: 1000

ITEM DESCRIPTION: CONTROL POINT

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins L

J Hankins [redacted] 7-1-98

RCT SIGNATURE DATE

REVIEWED BY: _____

RO SUPERVISION PRINT NAME

_____ /

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		
Bkg	0.2	0.2		

JH 7-1-98

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	770	838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		
Bkg	41	43		

JH 7-1-98

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

JH 7-1-98

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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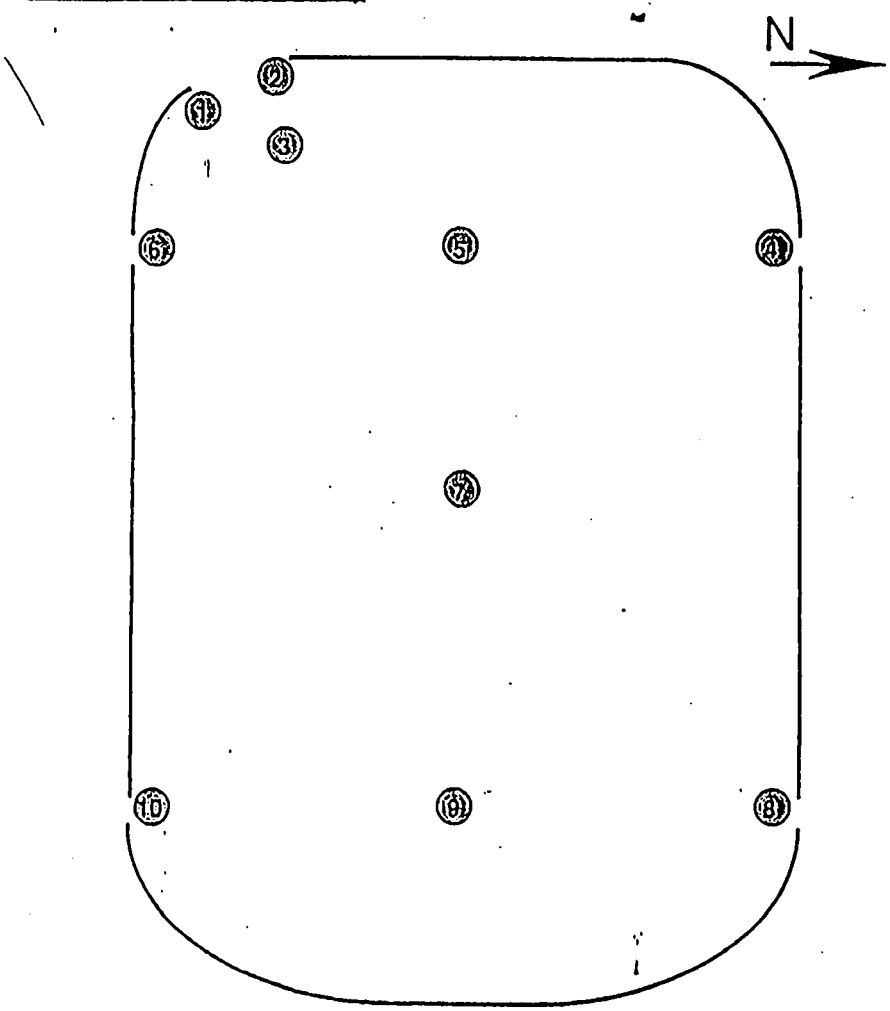
LOG NUMBER: _____

PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIOR/SUBSEQ COUNT)	TOTAL BETA/GAMMA
1	See Map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

JH 7-1-98

JH 7-1-98

32

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due
Bkg. 0.0	Bkg. 0.0	Bkg.
Efficiency ~~33%~~ 33%	Efficiency 33%	Efficiency
MDA 20 d/m	MDA 20 d/m	MDA
Mfg. Eberline	Mfg. Eberline	Mfg.
Model BC-4	Model BC-4	Model
Serial # BC704	Serial # BC702	Serial #
Cal Due 12-11-98	Cal Due 12-15-98	Cal Due
Bkg. 36	Bkg. 38	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA 200 d/m	MDA 200 d/m	MDA

Survey Type: Contamination Survey
Building: 904 Pad
Location: 904 Pad T-7 T8-T9 T10 T11 Break Room Locker Rooms, Service Locker
Purpose: Weekly Control Point
RWP #:
Date: 7-22-98 Time: 0800
RCT: HAWKINS [redacted] Print name Signature Emp. #
RCT: Munoz [redacted] Print name Signature Emp. #

PRL #:
Comments: * See attached survey forms for Survey results
TENT 7

SURVEY RESULTS

Date Reviewed: 8/5/98 RS Supervision: [redacted] Print Name Signature Emp. #

113
83

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

7-22-98

114
~~84~~

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD

ROOM: TENT 7

DATE:

TIME:

ITEM DESCRIPTION: CONTROL POINT

2-22-95

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

/

RO SUPERVISION SIGN

115

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

Printed with soy ink on recycled paper

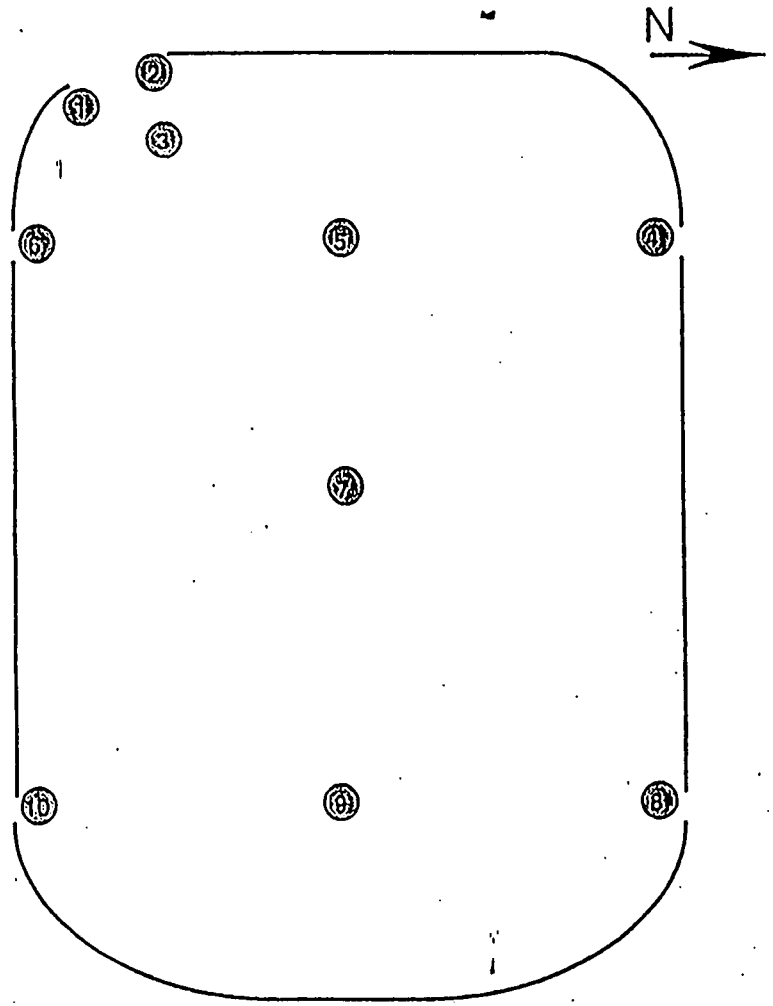
LOG NUMBER: 7-22-98 9/1

PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/loose see comm)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

7-22-98

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # BC 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.0	Bkg. 38
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 d/m	MDA 20 d/m	MDA 200 d/m
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA ~~20~~ 200 d/m	MDA	MDA

Survey Type: CONTAMINATION

Building: 904 Pad

Location: T-7, Locker Room, Break Room, 904 Pad, T-8, T-9, T-10, T-11

Purpose: Source Locker Weekly Control Point Survey

TENT 7

~~RWP #:~~ 7-30-98

Date: 7-30-98 Time: 0900

RCT: Munoz / [signature] [redacted]

Print name Signature Emp. #

RCT: / /

Print name Signature Emp. #

~~PRL #:~~ 7-30-98

Comments: Survey results, for each survey, are located on attached sheets.

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.					23.				
2.					24.				
3.					25.				
4.					26.				
5.					27.				
6.					28.				
7.					29.				
8.					30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
					42.				
21.					43.				
22.					44.				

Date Reviewed 8/26/98 RS Supervision: [signature] [signature] [redacted]

Print Name Signature Emp.

117 87

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

9-30-98

118

Printed with soy ink on recycled paper

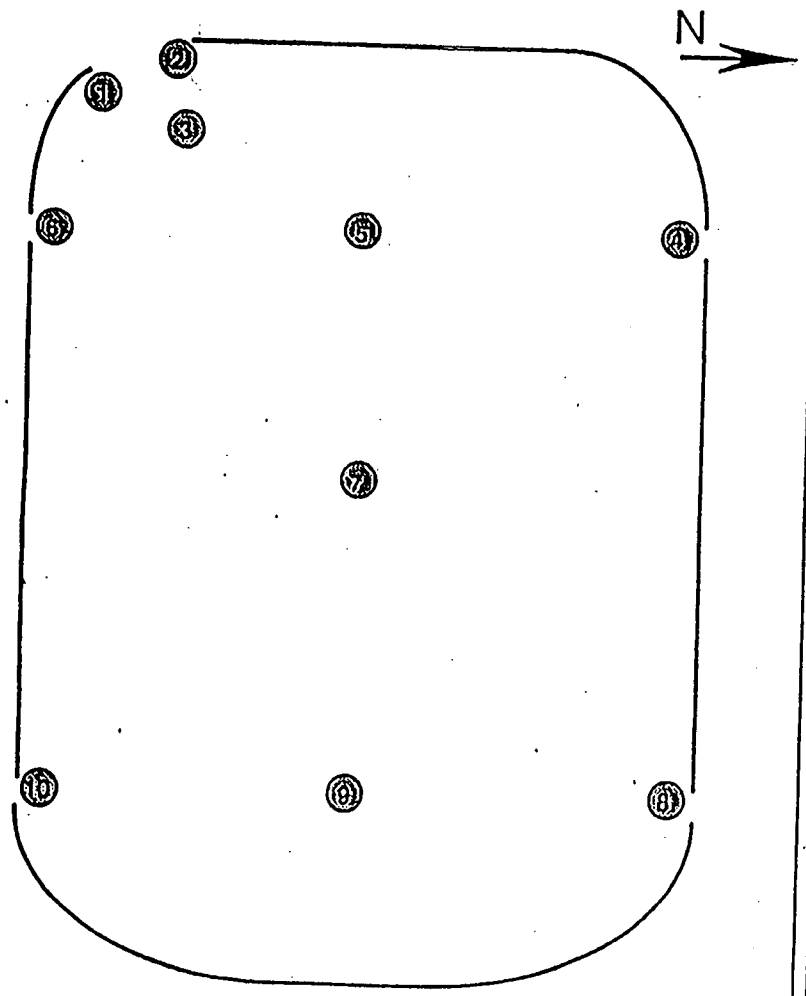
LOG NUMBER: Cu 7-30-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

PAGE 2 OF 2

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 7 Control Point Survey



10 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (DPM/100 SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		

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RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER ROUTINE

BUILDING/LOCATION: 904 PAD

ROOM: TENT 7

DATE:

TIME:

ITEM DESCRIPTION: CONTROL POINT

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
EFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4 824	Model ~~SAC-4~~ BC4
Serial # 795	Serial # 9/29/98	Serial # BC 704
Cal Due 9/13/98	Cal Due	Cal Due 12/11/98
Bkg. 0.0	Bkg. 0.0	Bkg. 36
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20	MDA <20	MDA <200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC 702	Serial #	Serial #
Cal Due 12/15/98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200	MDA	MDA

8/13/98 8/13/98 8/13/98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #: NA

Date: 8/13/98 Time: 10:00

RCT: [illegible] / [illegible] [redacted]

Print name Signature Emp. #

RCT: / /

Print name Signature Emp. #

PRL #: NA

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

8/13/98 8/13/98 8/13/98

Date Reviewed: 8/26/98 RS Supervision: R. Sampe [signature] [redacted]

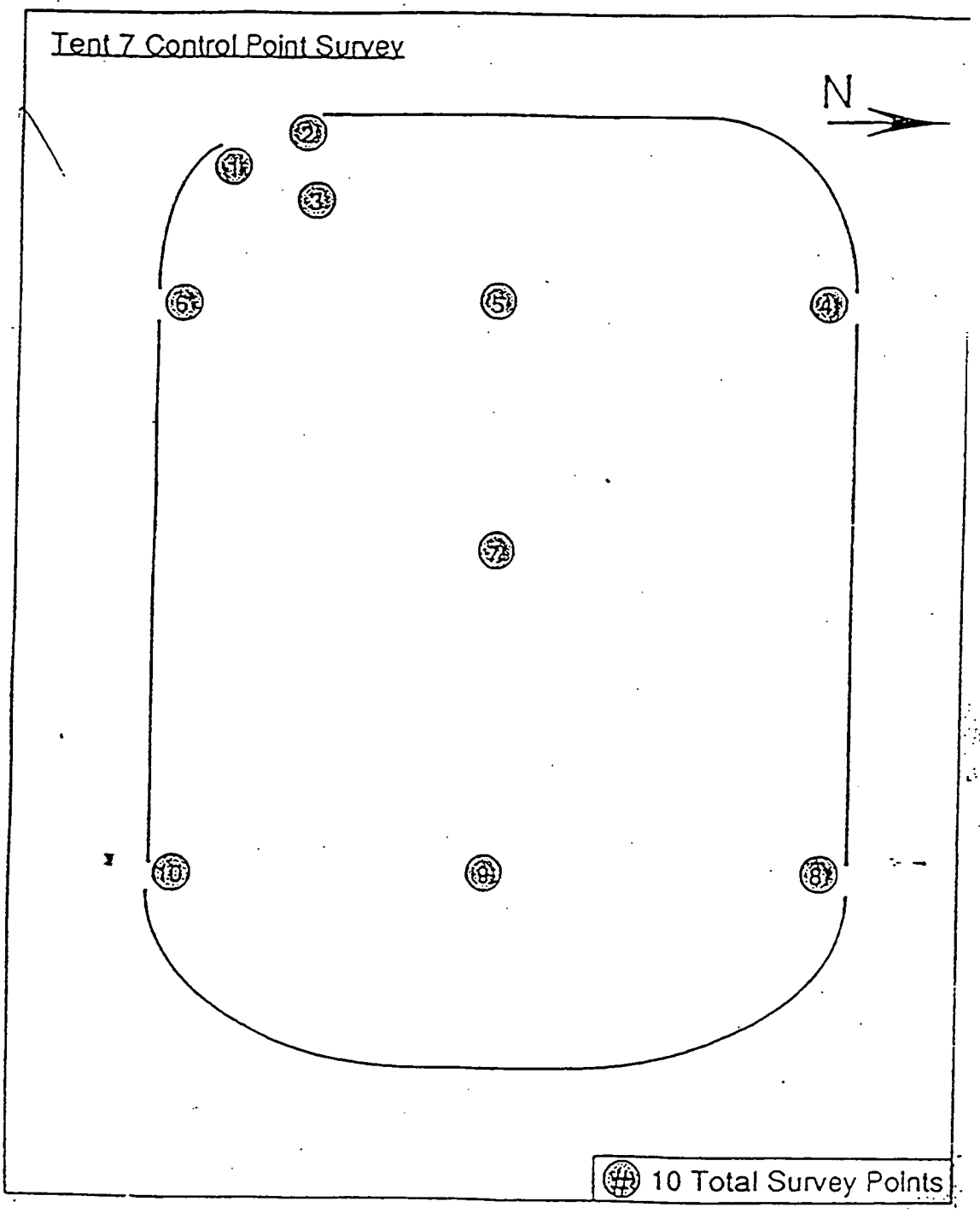
Print Name Signature Emp. #

RS FORMS 07:02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 795	Serial # 824	Serial # 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.1	Bkg. 0.1	Bkg. 33
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 34	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

JH 8-5-98

JH 8-5-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

~~RWP #~~ JH 8-5-98

Date: 8-5-98 Time: 0900

RCT: HANKINS LI [signature] [redacted]

Print name Signature Emp. #

RCT: JH 8-5-98

Print name Signature Emp. #

~~PRL #~~ JH 8-5-98

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

JH 8-5-98

JH 8-5-98

JH 8-5-98

Date Reviewed: 8/26/98 RS Supervision: [signature] [redacted]

Print Name Signature Emp. #

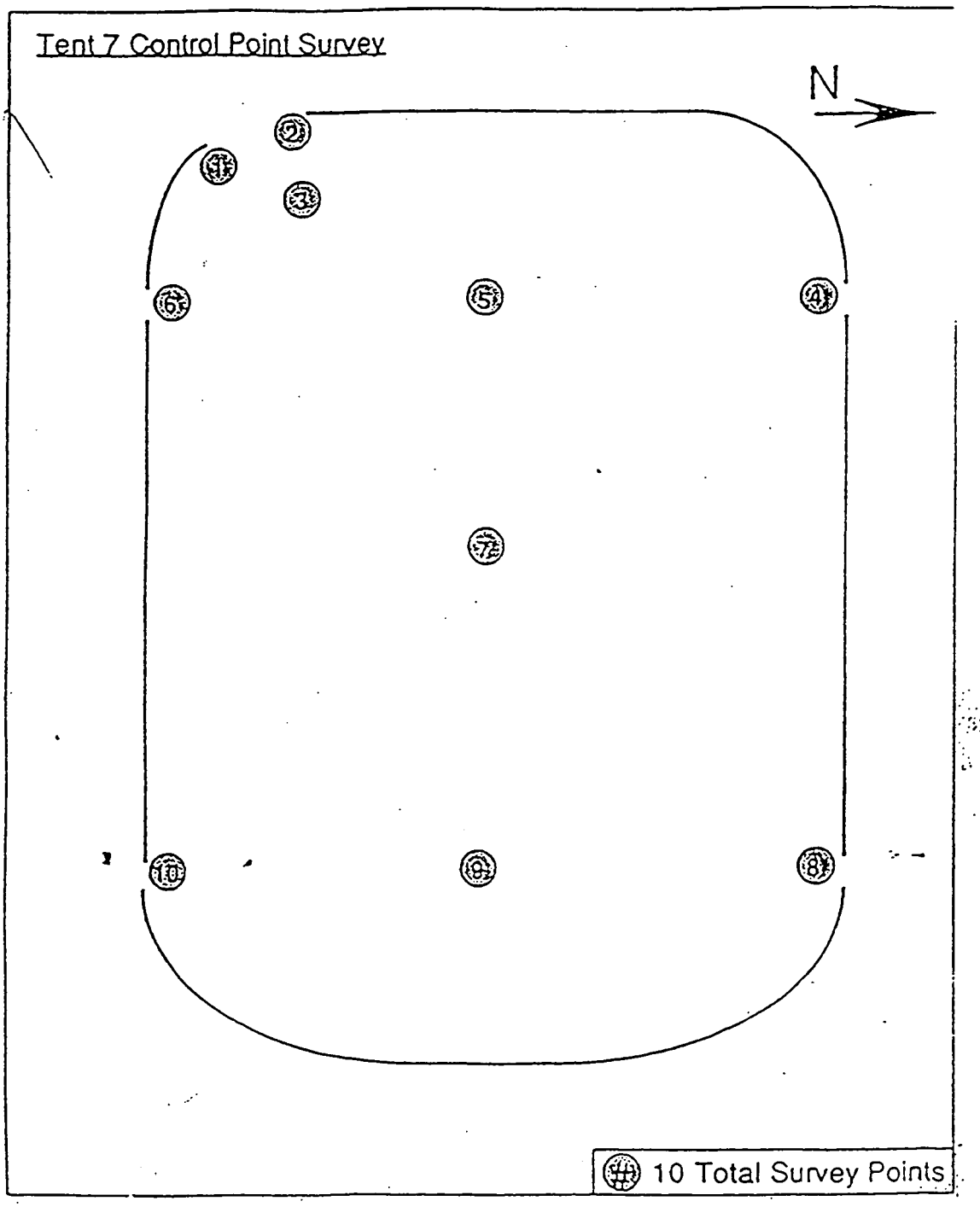
123 43

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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Page ___ of ___

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 795	Serial # 824	Serial # BC704
Cal Due 9-17-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.2	Bkg. 36
Efficiency 33%	Efficiency 33%	Efficiency 33%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC707	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

JH 8-27-98 JH 8-27-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

~~RWP #~~: 8-27-98 JH

Date: 8-27-98 Time: 10:20

RCT: HANKINS / [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

JH 8-27-98

~~PRL #~~: JH 8-26-98

Comments: See page 2 of 2 for survey map

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

JH 8-27-98 JH 8-27-98 JH 8-27-98

Date Reviewed: 9/3/98 RS Supervision: K. Garland / [signature] / [redacted]
Print Name Signature

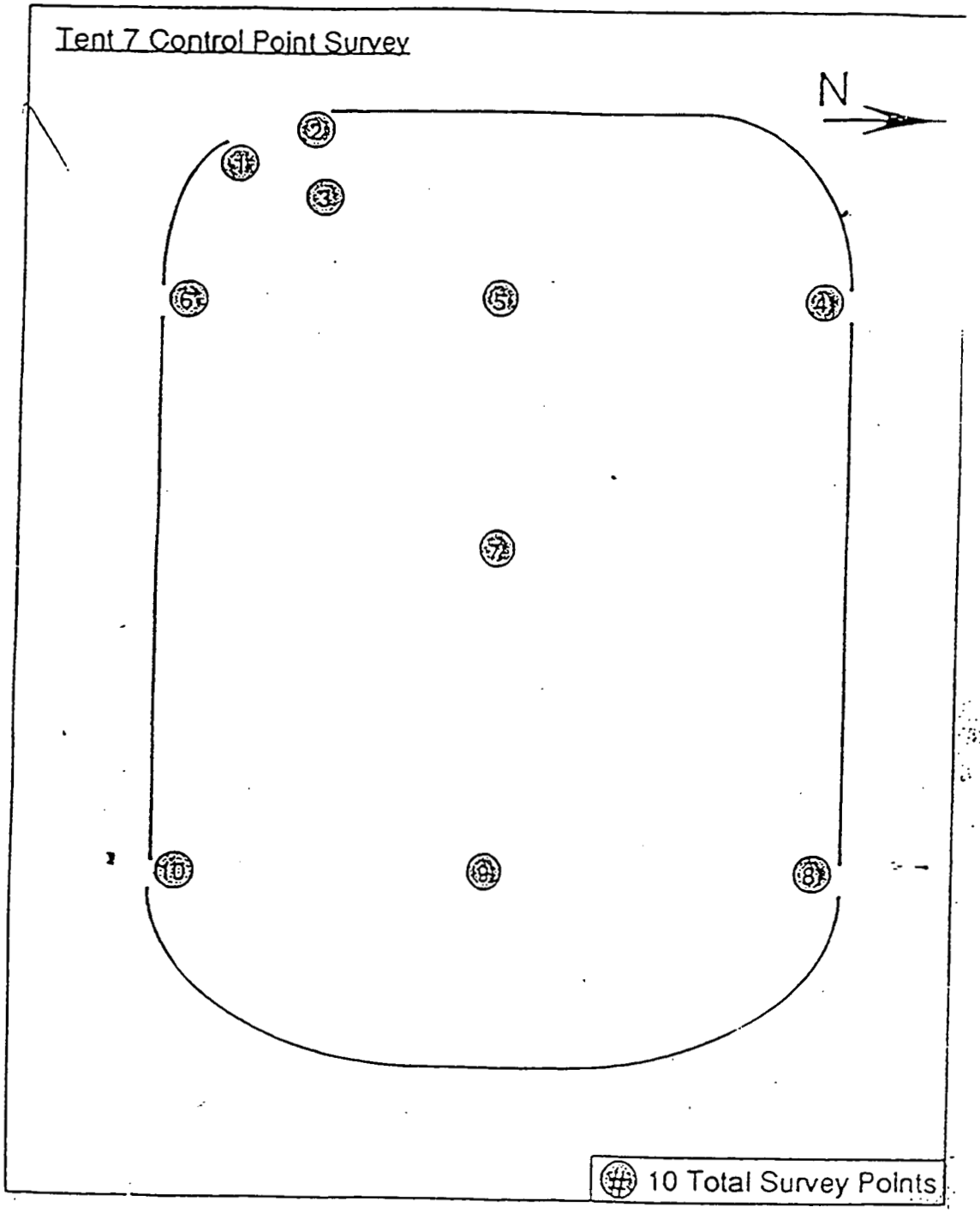
12-95

RS FORMS 07:02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 795	Serial # 824	Serial # 704
Cal Due 11-98	Cal Due 11-98	Cal Due 11-98
Bkg. 0.0	Bkg. 0.2	Bkg. 41
Efficiency 33 %	Efficiency 33 %	Efficiency 25 %
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 707	Serial # JH	Serial # JH
Cal Due 11-98	Cal Due 8-19-98	Cal Due 8-19-98
Bkg. 38	Bkg.	Bkg.
Efficiency 25 %	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 7
Purpose: WEEKLY CONTAMINATION

~~RWP~~ #: JH 8-19-98
Date: 8-19-98 Time: 0930
RCT: Hawkins U J Hall [redacted]
Print name Signature
RCT: JH 8-19-98
Print name Signature Emp. #

~~PRL~~ #: JH 8-19-98
Comments: JH 8-19-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
					42.				
21.					43.				
22.					44.				

JH 8-19-98

Date Reviewed: 9/3/98 RS Supervision: [illegible] [illegible] [redacted]
Print Name Signature

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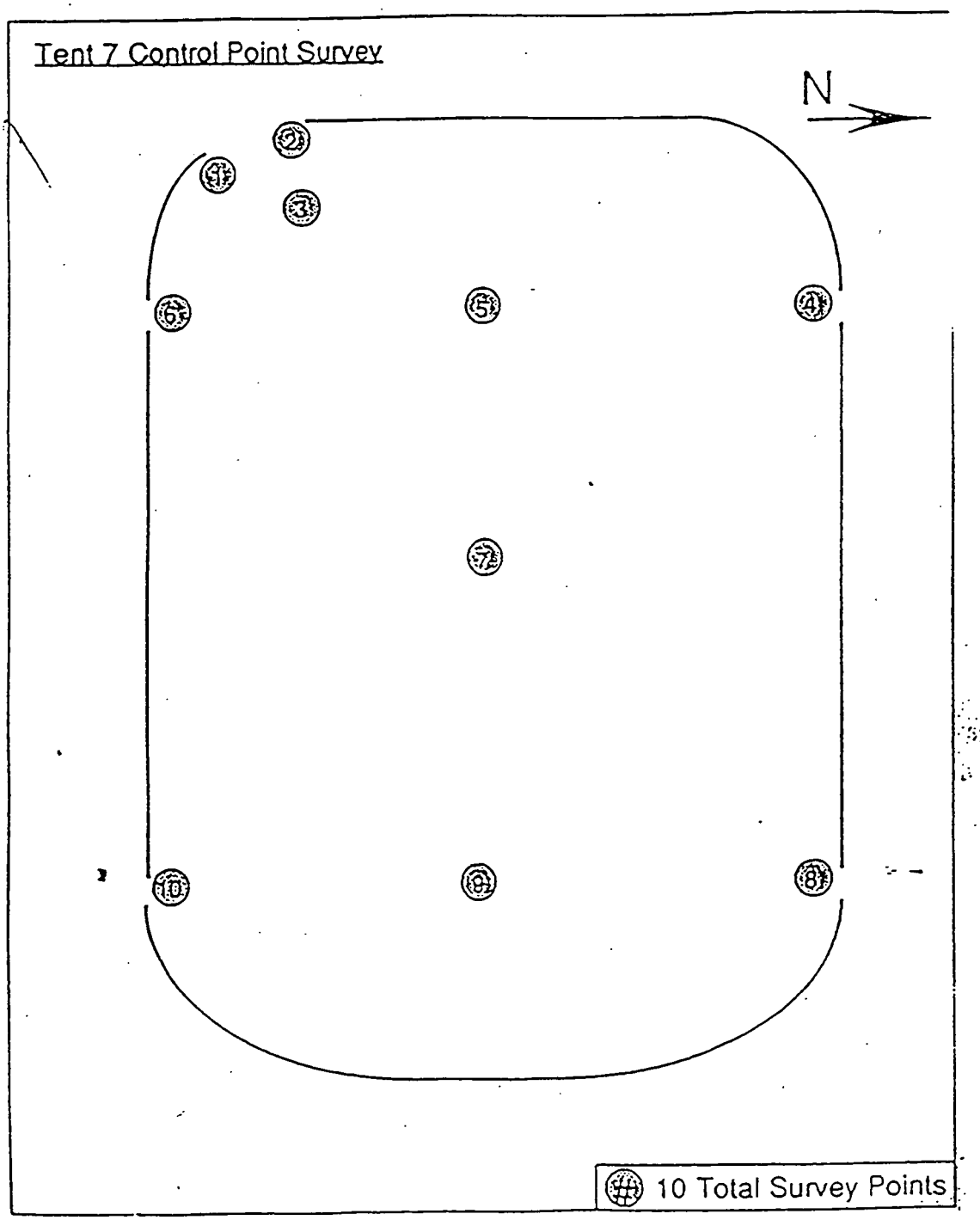
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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68
78

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.3	Bkg. 0.1	Bkg. 37
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 39	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #:

Date: 9-2-98 Time: 1245

RCT: M.E. VAUGHN / [signature] [redacted]
Print name Signature

RCT: / /
Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<205			23.				
2.					24.				
3.					25.				
4.					26.				
5.					27.				
6.					28.				
7.					29.				
8.					30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

9-2-98

9-2-98

Date Reviewed: 9/3/98 RS Supervision: K. Garland / [signature] [redacted]
Print Name Signature

129
79

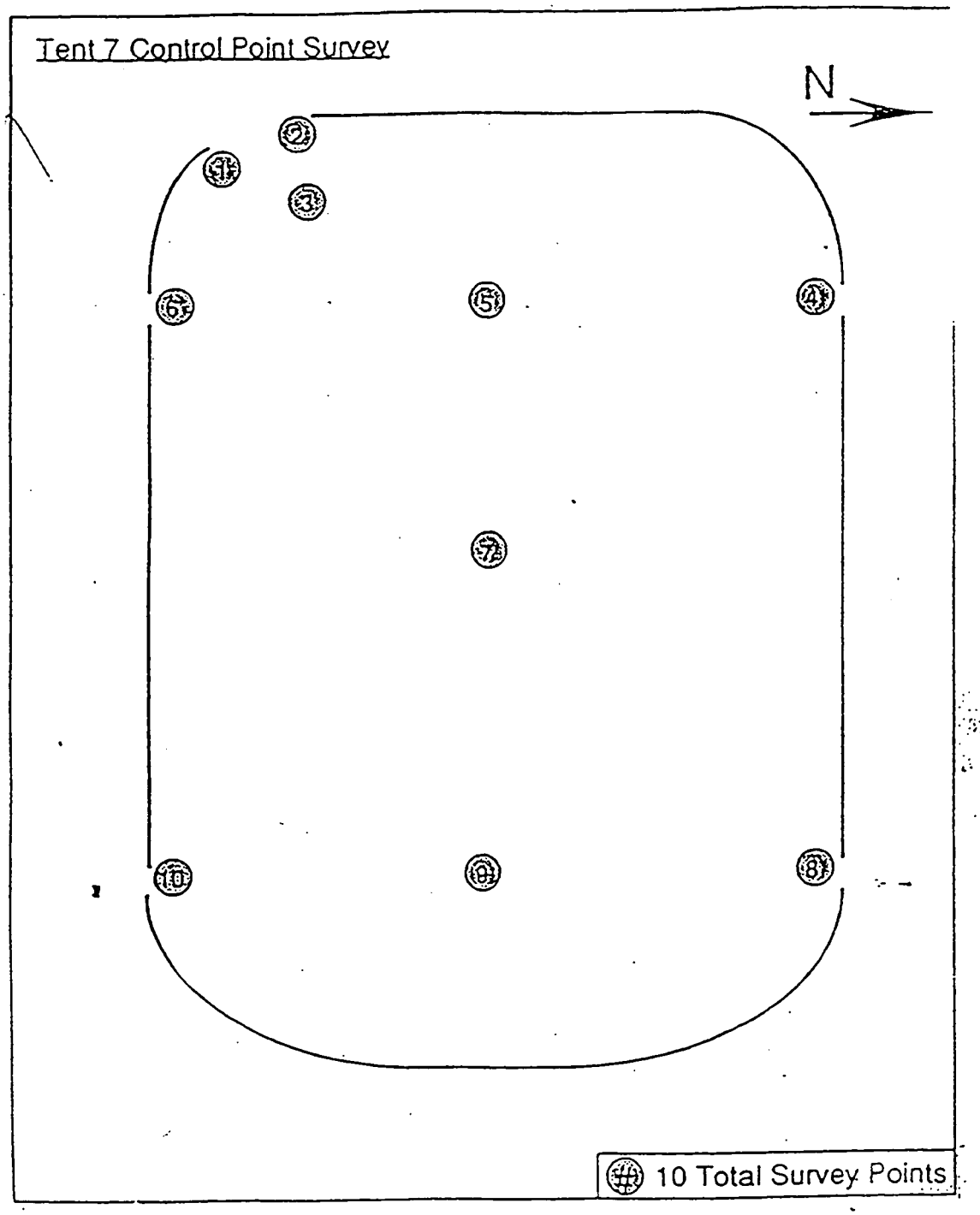
@RAH-

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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@RAH

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE_	Mfg.EBERLINE__	Mfg.EBERLINE_
Model SAC-4___	Model SAC-4___	Model ~~SAC~~ BC-4___
Serial # 795	Serial # 824	Serial # 838
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 1-9-98
Bkg. 0.1	Bkg. 0.0	Bkg. 39
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20dpm	MDA <20dpm	MDA <200dpm
Mfg.EBERLINE	Mfg.NE.TECH___	Mfg.NE.TECH___
Model BC-4___	Model ELECTRA_	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 44	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200dpm	MDA	MDA

JH 9-9-98 JH 9-9-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

~~RWP #:~~ JH 9-9-98

Date: 9-9-98 Time: 0945

RCT: HANKINS L / JHal [redacted]
Print name Signature

JH 9-9-98

RCT: / /
Print name Signature Emp. #

PRL #:

Comments: JH 9-9-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

JH 9-9-98 JH 9-9-98 JH 9-9-98

Date Reviewed: 9/15/98 RS Supervision: J. Ewell / J Ewell / [redacted]
Print Name Signature

10/31

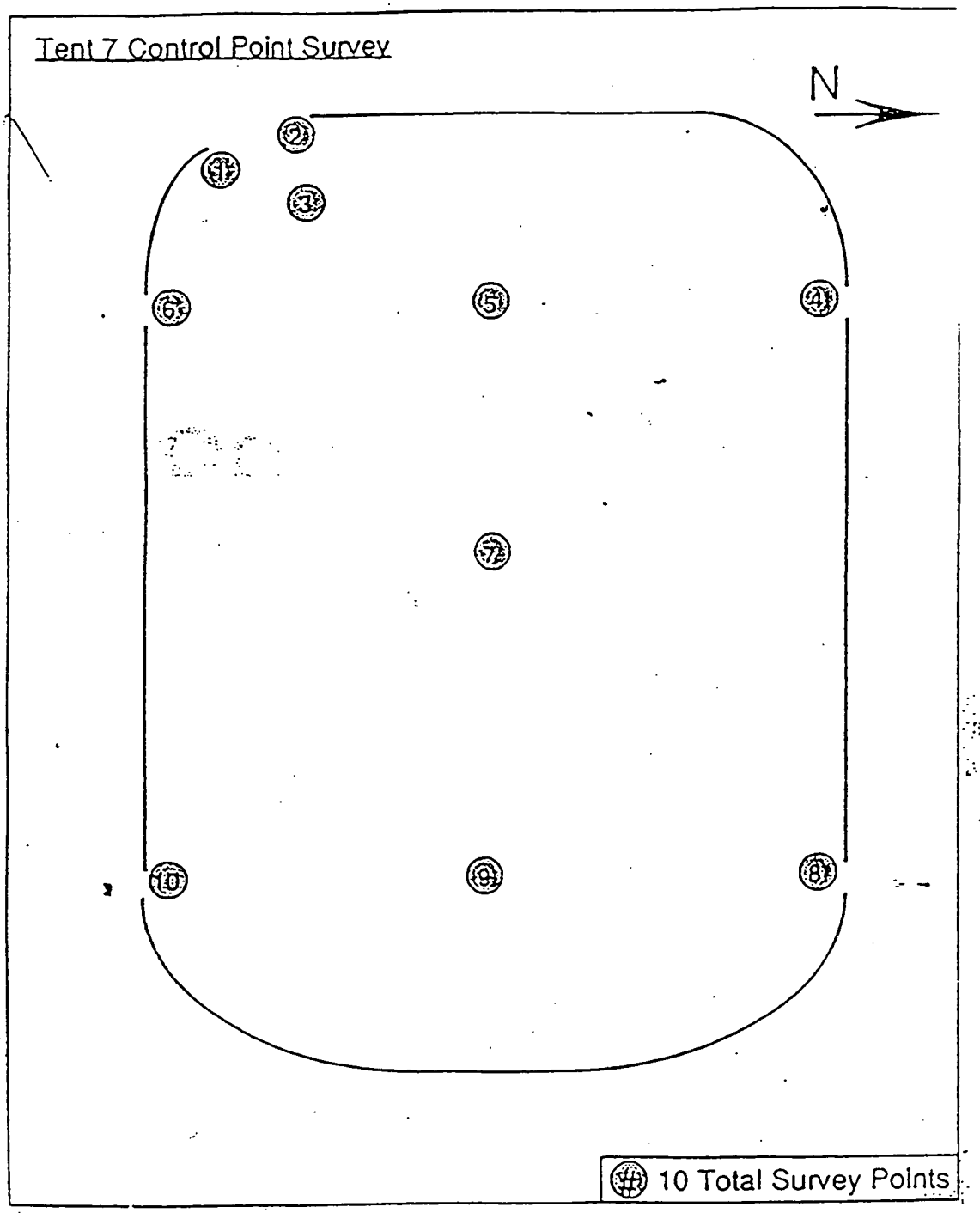
@RAH

RS FORMS 07:02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 767	Serial # 824	Serial # 838
Cal Due 10-14-98	Cal Due 9-24-98	Cal Due 1-9-98
Bkg. 0.0	Bkg. 0.1	Bkg. 40
Efficiency 33%	Efficiency 37%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 41	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

JH 9-16-98

JH 9-16-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #: JH 9-16-98

Date: 9-16-98 Time: 1200

RCT: HANKINS L / JH [redacted]

Print name Signature

JH 9-16-98

RCT: Print name Signature Emp. #

PRL # :

Comments: JH 9-16-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

JH 9-16-98

JH 9-16-98

JH 9-16-98

Date Reviewed: 9/22/98 RS Supervision: J. Ewell / [signature] / [redacted]

Print Name Signature Emp. #

133
103

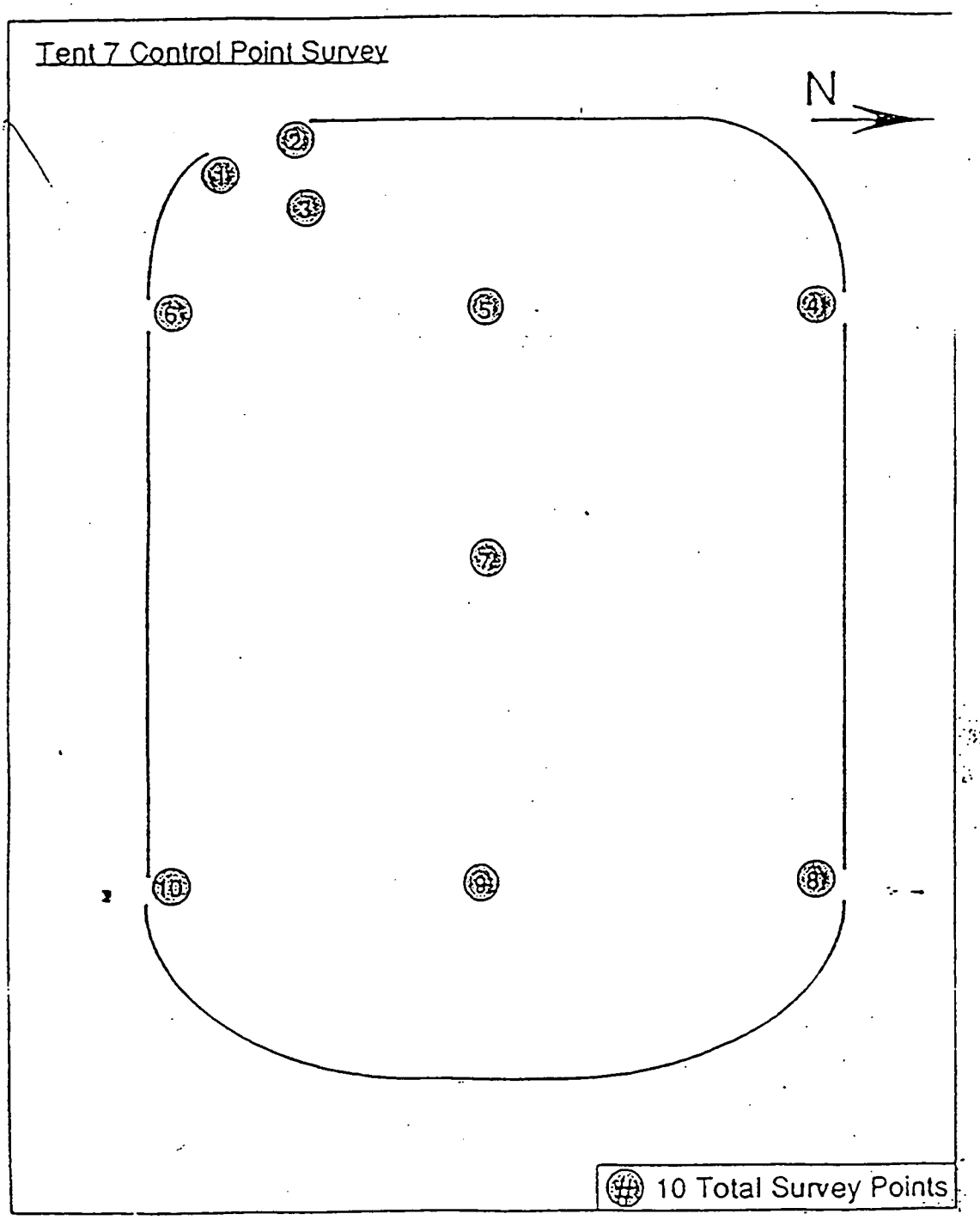
@RAH—

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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~~104~~

@RAH

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 767	Serial # 795	Serial # 838
Cal Due 10-14-98	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. .1	Bkg. .2	Bkg. 39
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 d/m	MDA 20 d/m	MDA 200 d/m
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 d/m	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #: N/A

Date: 9-23-98 Time: 1030

RCT: L. Meacham / L. Meacham [redacted]
Print name Signature Emp. #

RCT: Hankins L [redacted]
Print name Signature Emp. #

PRL # : N/A

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 10/5/98 RS Supervision: J. Ewell / J. Ewell [redacted]
Print Name Signature Emp #

135
105

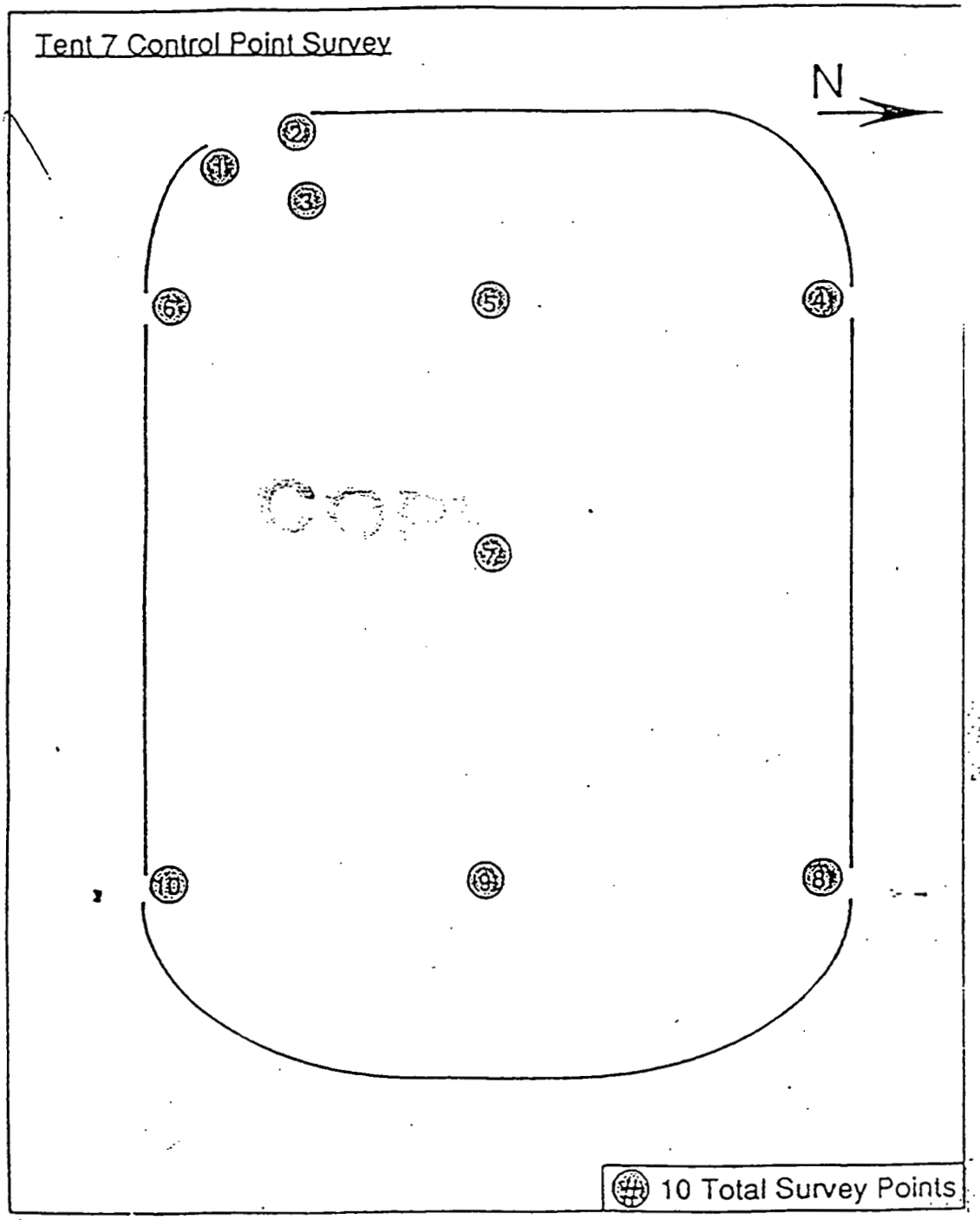
@RAH -

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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@RAH

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ PC-4
Serial # 767	Serial # 795	Serial # 838
Cal Due 10-14-98	Cal Due 3-16-98	Cal Due 1-9-98
Bkg. 0.1	Bkg. 0.2	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg. EBERLINE	~~Mfg. NE.TECH~~	Mfg. NE.TECH
Model BC-4	~~Model ELECTRA~~	Model ELECTRA
Serial # 702	~~Serial #~~	Serial #
Cal Due 12-15-98	~~Cal Due~~	Cal Due
Bkg. 36	~~Bkg.~~	Bkg.
Efficiency 25%	~~Efficiency~~	Efficiency
MDA <200 dpm	~~MDA~~	MDA

~~JH 9-30-98~~

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

~~RWP #:~~ JH 9-30-98

Date: 9-30-98 Time: 12:00

RCT: Hankins / JHak [redacted]
Print name Signature Emp. #

~~RCT:~~ JH [redacted]
Print name Signature Emp. #

~~PRL #:~~ JH 9-30-98

Comments: ~~JH 9-30-98~~

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
					43.				
22.					44.				

JH 9-30-98

Date Reviewed: 10/5/98 RS Supervision: J. Ewell / Ewell / [redacted]
Print Name Signature Emp. #

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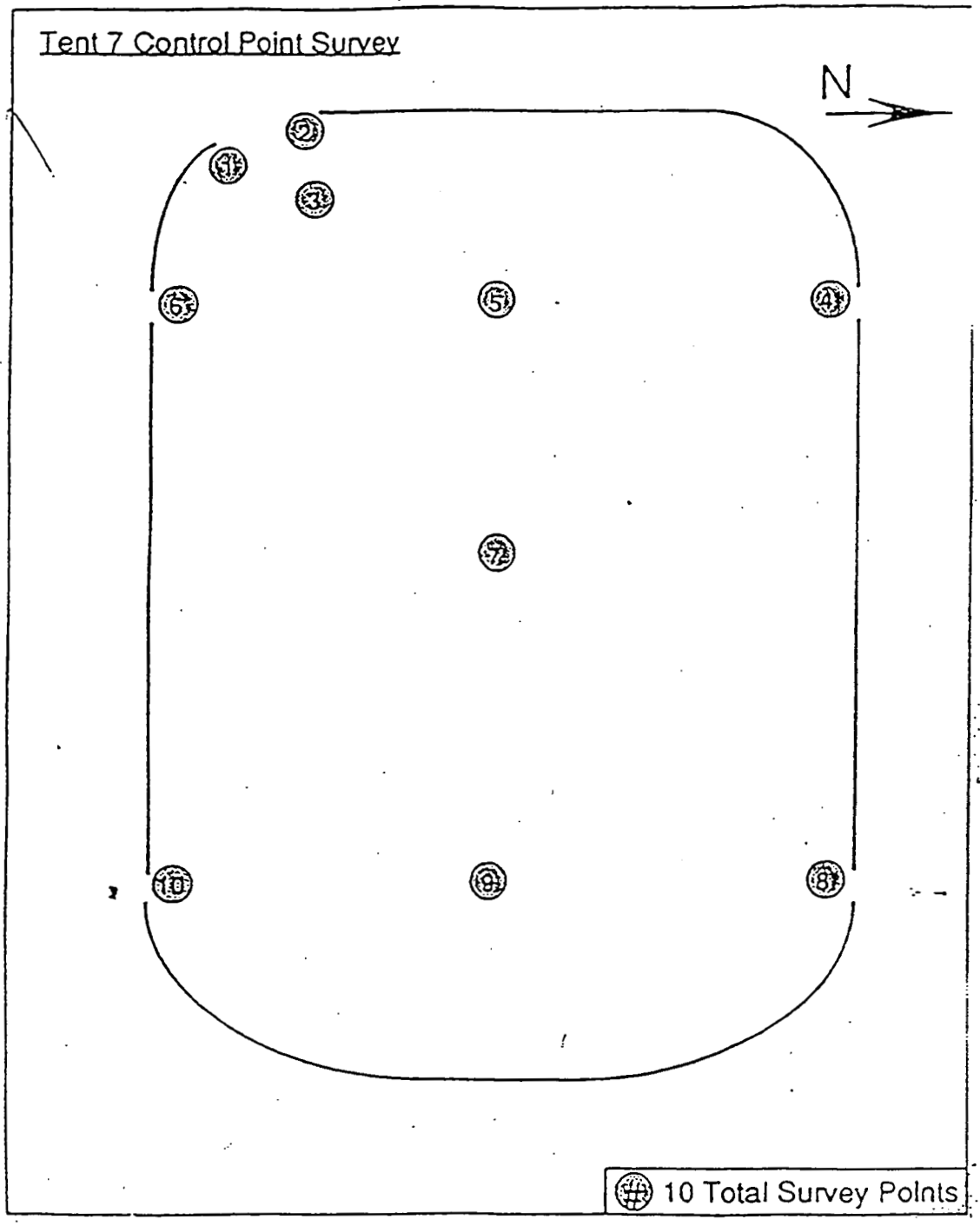
@RAH

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ PC-4
Serial # 1050	Serial # 1199	Serial # 914
Cal Due 2-26-99	Cal Due 2-14-99	Cal Due 2-4-99
Bkg. 0.0	Bkg. 0.6	Bkg. 4.3
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 706	Serial #	Serial #
Cal Due 12-22-98	Cal Due 10-3-98	Cal Due 10-3-98
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #: JH 10-7-98

Date: 10-7-98 Time: 1320

RCT: Hank [redacted]
Print name Signature Emp. #

RCT: JH 10-7-98
Print name Signature Emp. #

PRL #: 7

Comments: JH 10-7-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200		
2.	<20	<200		
3.	<20	<200		
4.	<20	<200		
5.	<20	<200		
6.	<20	<200		
7.	<20	<200		
8.	<20	<200		
9.	<20	<200		
10.	<20	<200		
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				
31.				
32.				
33.				
34.				
35.				
36.				
37.				
38.				
39.				
40.				
41.				
42.				
43.				
44.				

Date Reviewed: 10/12/98 RS Supervision: D. J. Enoch
Print Name Signature [redacted]
Emp. #

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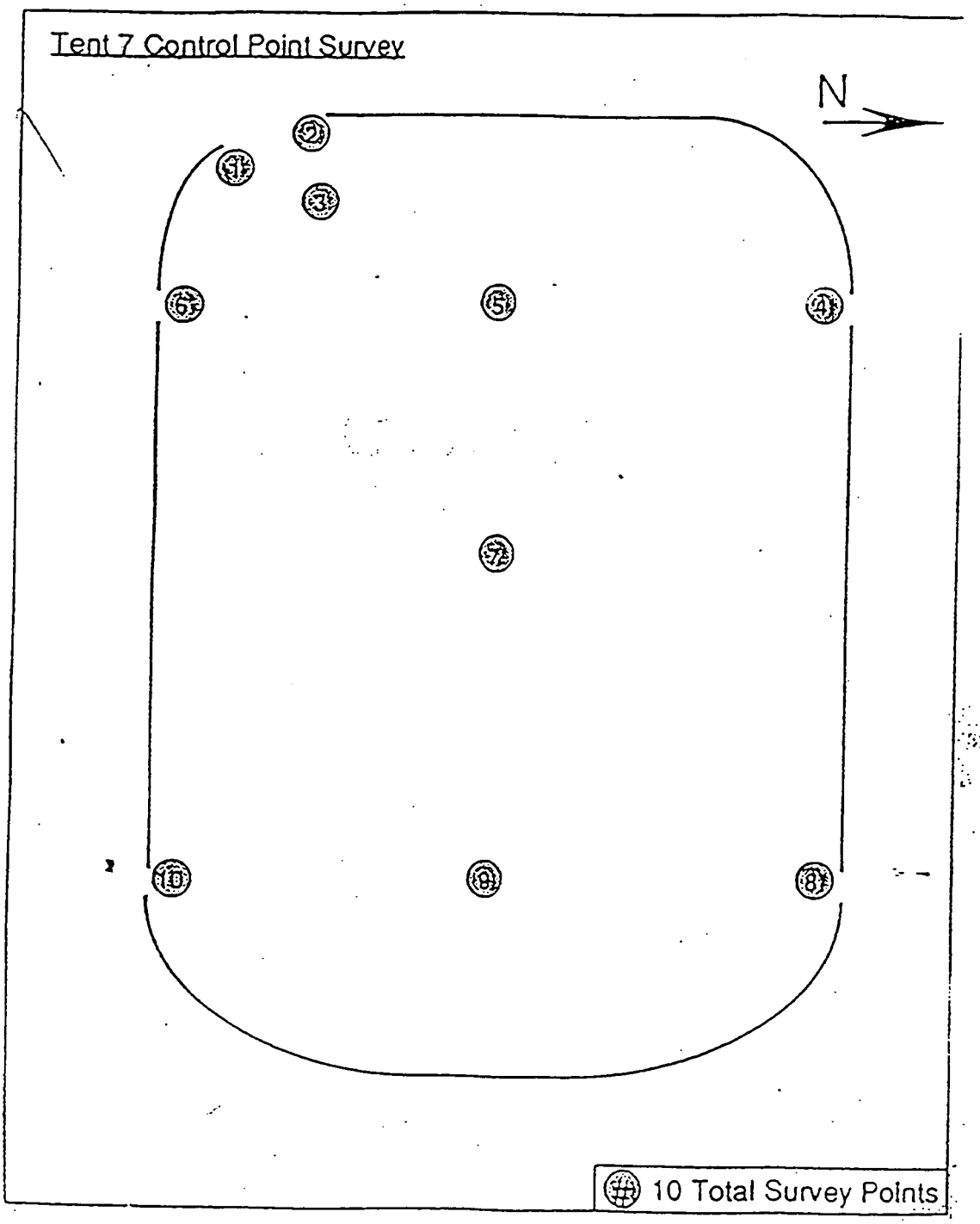
109

RS FORMS 07:02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

SJ 10.14.98

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC4
Serial # 824	Serial # 795	Serial # 838
Cal Due 3.21.99	Cal Due 3.16.99	Cal Due 1-9-99
Bkg. 0.0 cpm	Bkg. 0.1 cpm	Bkg. 40 cpm
Efficiency .35	Efficiency .33	Efficiency .25
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 767	Serial #	Serial #
Cal Due 12.15.98	Cal Due	Cal Due
Bkg. 42 cpm	Bkg.	Bkg.
Efficiency .25	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 7
Purpose: WEEKLY CONTAMINATION

~~RWP #:~~ JH 10-14-98

Date: 10-14-98 Time: 1315

RCT: Hawkins Hank [redacted]
Print name Signature Emp. #

RCT: JH 10-14-98 /
Print name Signature Emp. #

PRL # : JH 10-14-98

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
					42.				
21.					43.				
22.					44.				

JH 10-14-98

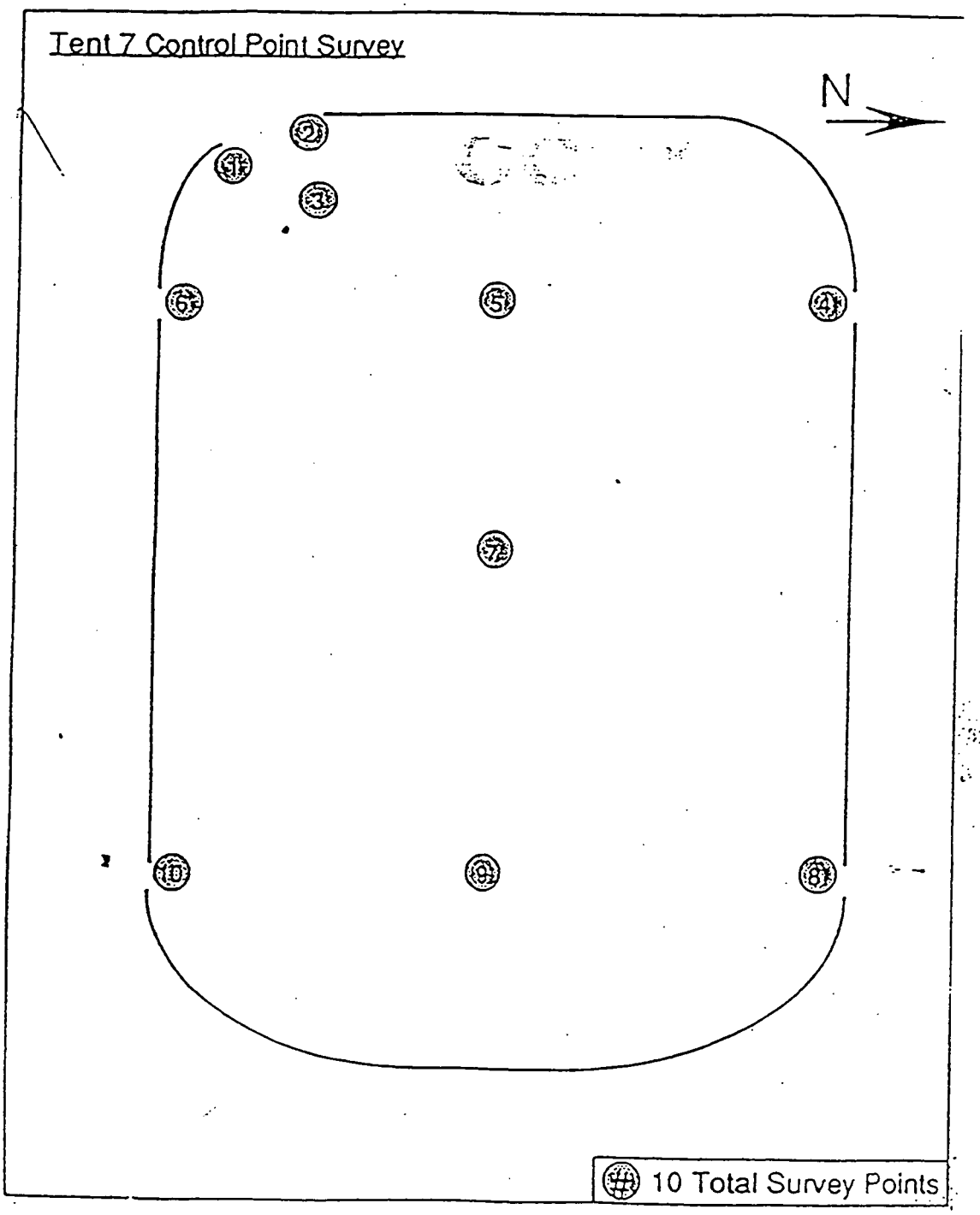
Date Reviewed: 10/19/98 RS Supervision: [illegible]
Print Name Signature [redacted]

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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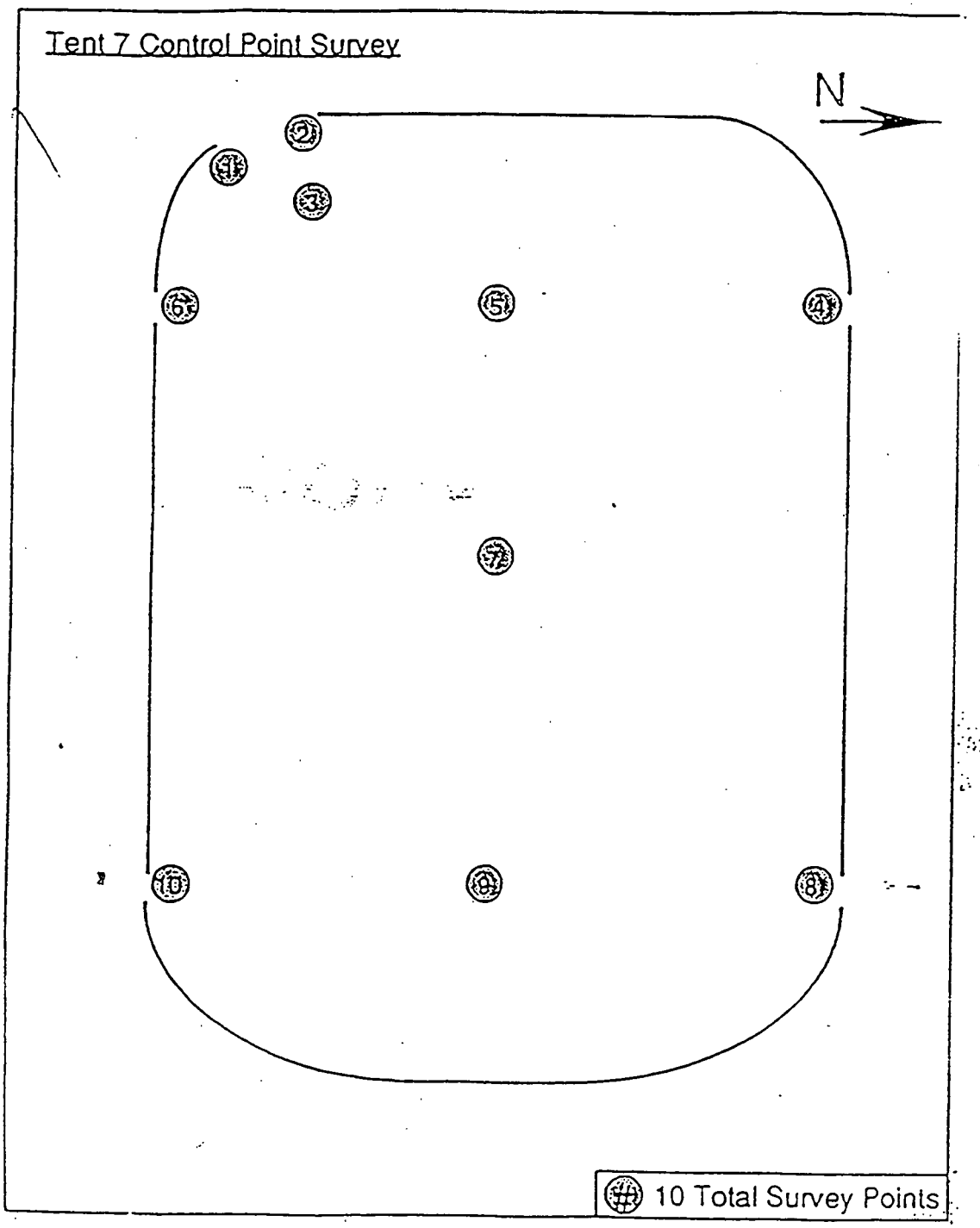
RS FORMS 07:02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

10-19-98

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 824	Serial # 795	Serial # 838
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.0 cpm	Bkg. 0.0 cpm	Bkg. 41 cpm
Efficiency .33	Efficiency .33	Efficiency .25
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36 cpm	Bkg.	Bkg.
Efficiency .25	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #:

Date: 10-19-98 Time: 1340

RCT: [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200			23.				
2.	< 20	< 200			24.				
3.	< 20	< 200			25.				
4.	< 20	< 200			26.				
5.	< 20	< 200			27.				
6.	< 20	< 200			28.				
7.	< 20	< 200			29.				
8.	< 20	< 200			30.				
9.	< 20	< 200			31.				
10.	< 20	< 200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 10/23/98 RS Supervision: J. Ewell [redacted]
Print Name Signature

14213

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4 BC
Serial # 824	Serial # 795	Serial # 838
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 1-8-99
Bkg. 0.1	Bkg. 0.2	Bkg. 40
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial # JH	Serial # JH
Cal Due 12-15-98	Cal Due 10-28-98	Cal Due 10-28-98
Bkg. 40	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

~~RWP #:~~ JH 10-28-98

Date: 10-28-98 Time: 0915

RCT: Hankins Hank [redacted]

Print name Signature Emp. #

RCT: JH 10-28-98 / /

Print name Signature Emp. #

PRL #: JH

Comments: 10-28-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
	<20	<200			23.				
	<20	<200			24.				
	<20	<200			25.				
	<20	<200			26.				
	<20	<200			27.				
	<20	<200			28.				
	<20	<200			29.				
	<20	<200			30.				
	<20	<200			31.				
0.	<20	<200			32.				
1.					33.				
2.					34.				
3.					35.				
4.					36.				
5.					37.				
6.					38.				
7.					39.				
8.					40.				
9.					41.				
0.					42.				
1.					43.				
2.					44.				

JH 10-28-98

JH 10-28-98

JH 10-28-98

JH 10-28-98

Date Reviewed: 10/28/98 RS Supervision: J. Ewell / J. Ewell [redacted]

Print Name Signature Emp. #

~~115~~

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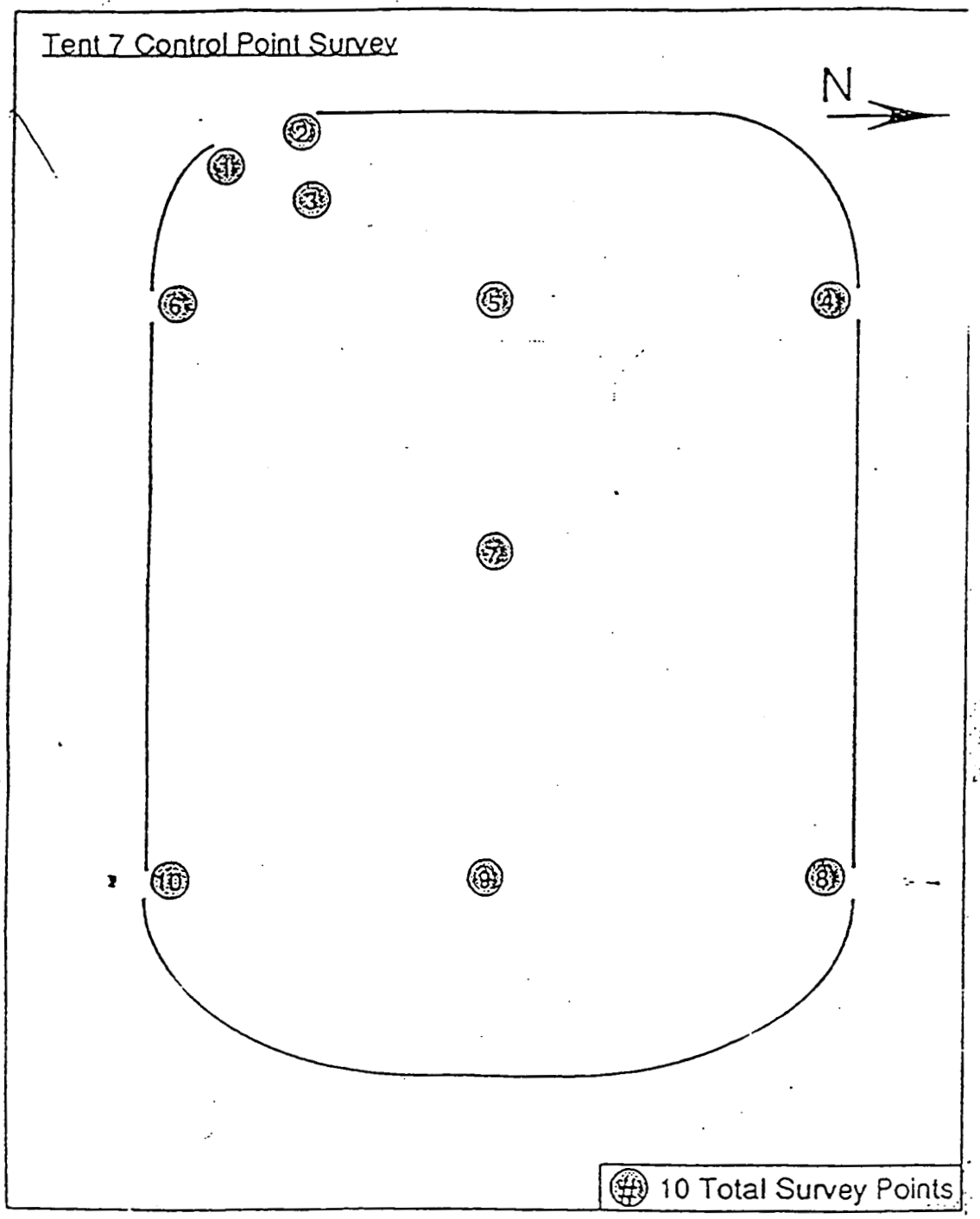
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4 RM 11-4-98
Serial # 829	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.1	Bkg. 0.2	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20	MDA 20	MDA 200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #:

Date: 11-4-98 Time: 1400

RCT: Rick Muller / Rick Muller [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200			23.				
2.	< 20	< 200			24.				
3.	< 20	< 200			25.				
4.	< 20	< 200			26.				
5.	< 20	< 200			27.				
6.	< 20	< 200			28.				
7.	< 20	< 200			29.				
8.	< 20	< 200			30.				
9.	< 20	< 200			31.				
10.	< 20	< 200			32.				
11.					33.				
12.					34.				
13.					35.				
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16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
					43.				
22.					44.				

RM 11-4-98

N/A

RM 11-4-98

Date Reviewed: 11/17/98 RS Supervision: E. J. Ewell / J. Ewell [redacted]
Print Name Signature Emp #

~~117~~

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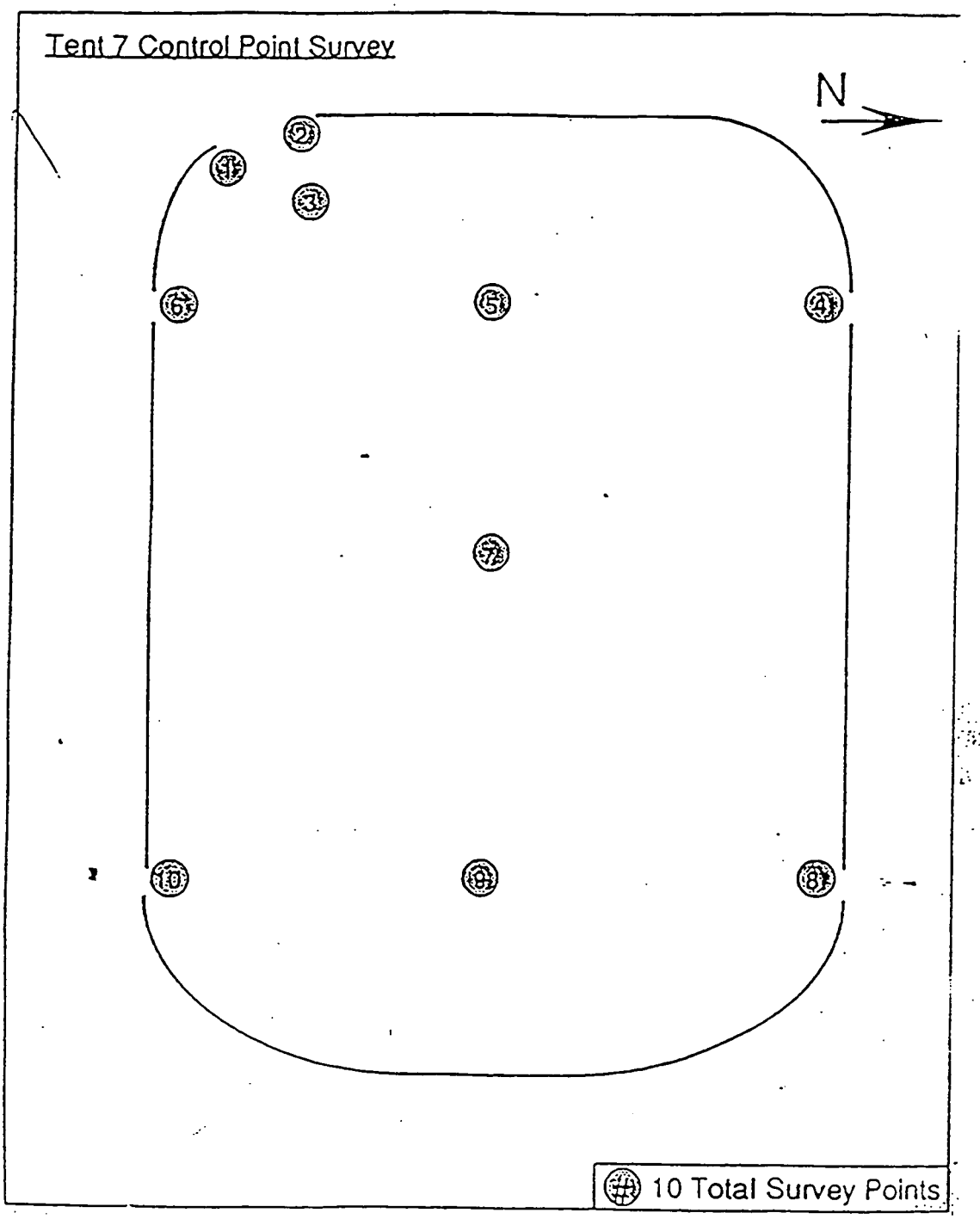
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



148
~~118~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 824	Serial # 795	Serial # BC916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.0	Bkg. 0.0	Bkg. 41
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 42	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

11-11-98 11-11-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #:

Date: 11-11-98 Time: 1230

RCT: Munoz / [signature] [redacted]

Print name Signature Emp. #

11-16-98

RCT: / /

Print name Signature Emp. #

11-11-98

PRL #:

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20					42.				
21					43.				
22.					44.				

11-11-98 11-11-98 11-11-98

Date Reviewed: 11/17/98 RS Supervision: J. Ewell / J. Ewell [redacted]

Print Name Signature

~~119~~

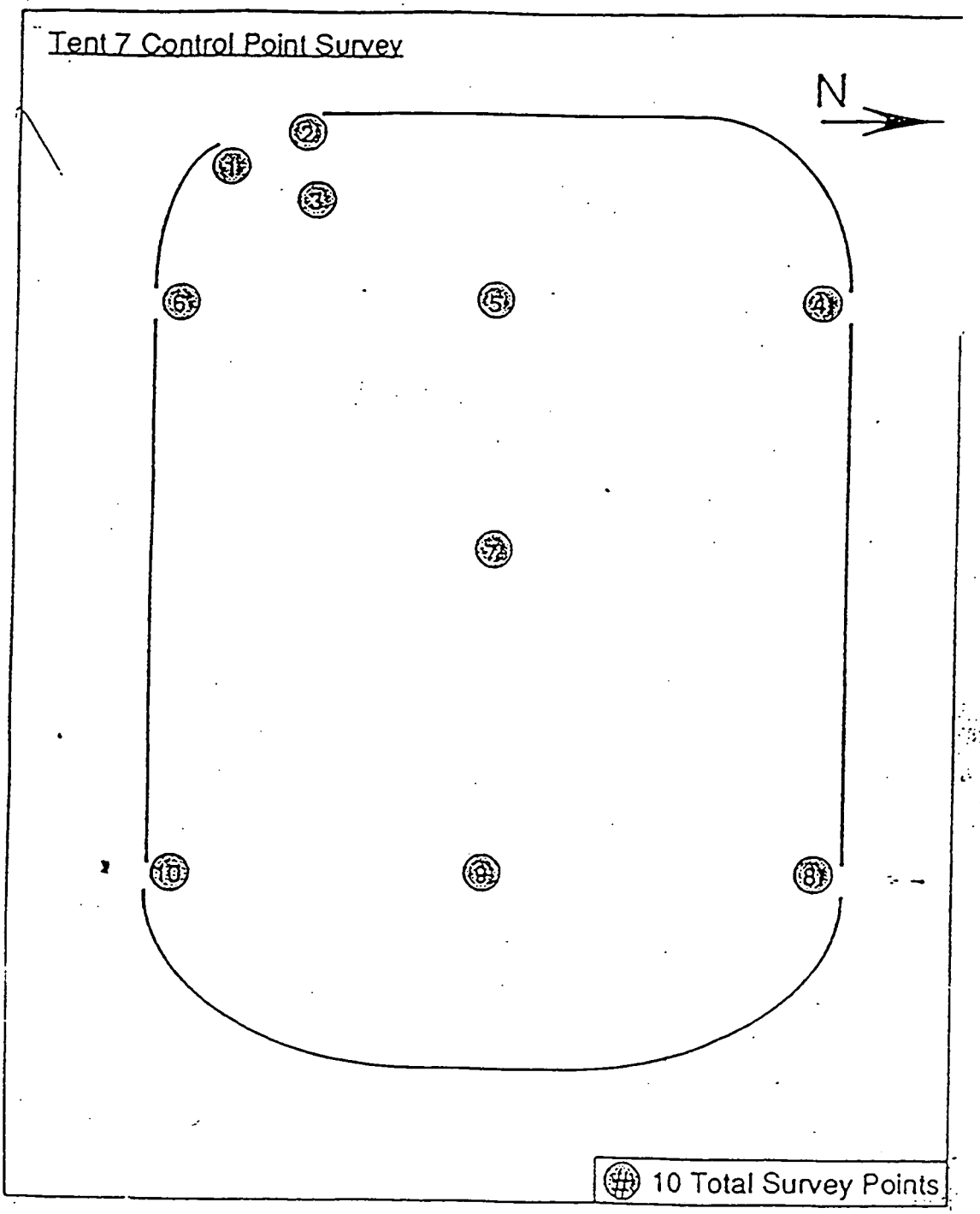
149

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



150
120

1035

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.0	Bkg. 0.0	Bkg. 43
Efficiency 23%	Efficiency 33%	Efficiency 25%
MDA <20	MDA <20	MDA <200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 39	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #:

Date: 11/19/98 Time: 1100

RCT: [signature] / [signature] [redacted]

Print name / Signature / Emp. #

RCT: / /

Print name / Signature / Emp. #

PRL #:

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

[initials] 11/19/98

[initials] 11/19/98

[initials] 11/19/98

Date Reviewed: 11/19/98 RS Supervision: J. Ewell / [signature] [redacted]

Print Name / Signature / Emp #

~~121~~

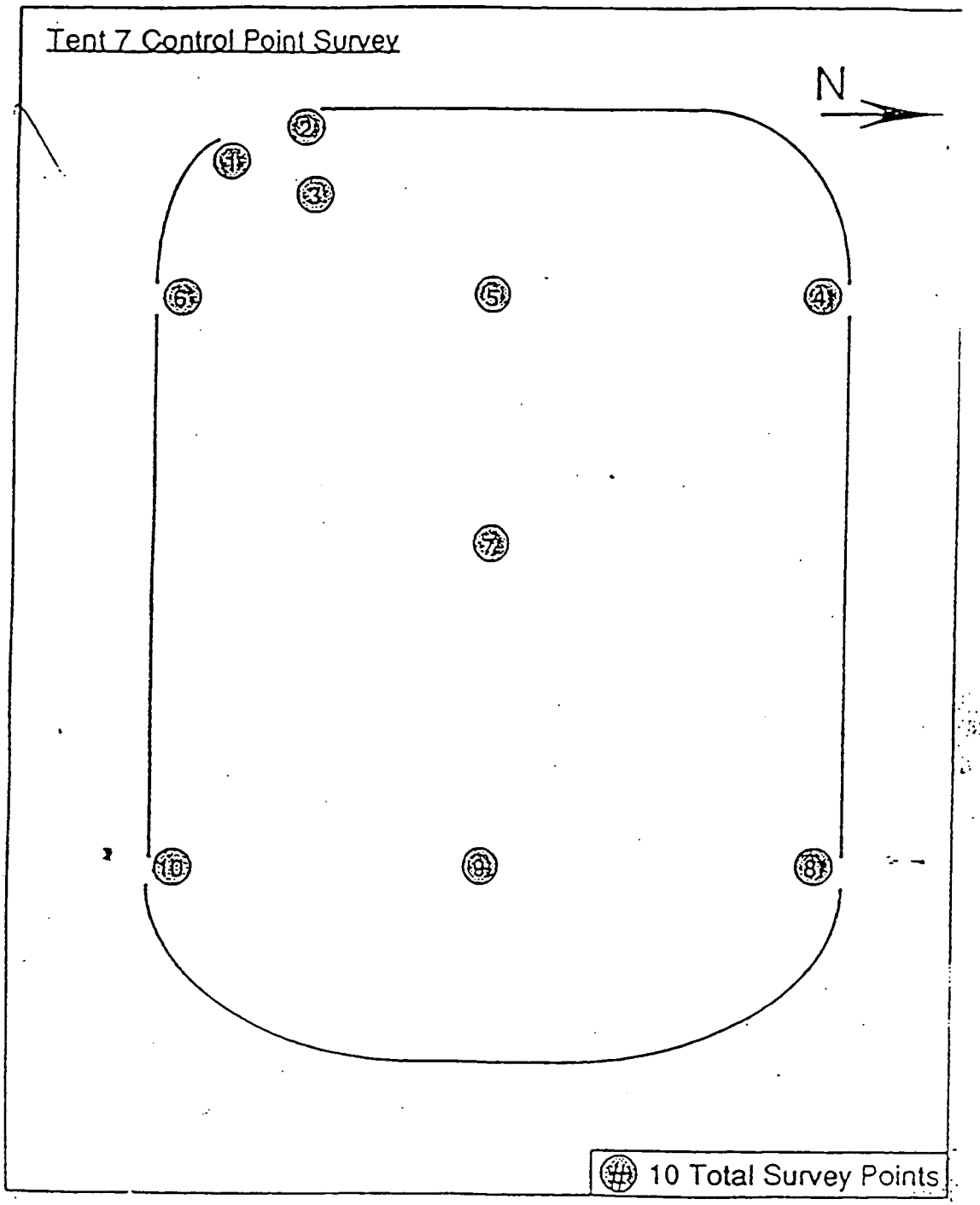
151

RS FORMS 07:02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



152
~~122~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ 3C
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.1	Bkg. 0.0	Bkg. 43
Efficiency 33	Efficiency 33	Efficiency 25
MDA 20	MDA 20	MDA 200
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 27	Bkg.	Bkg.
Efficiency 33	Efficiency	Efficiency
MDA 20	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 7
Purpose: WEEKLY CONTAMINATION

RWP #:

Date: 11/23/98 Time: 1020

RCT: [illegible] / [illegible] [redacted]
Print name / Signature / Emp. #

RCT: / /
Print name / Signature / Emp. #

PRL # :
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20					42.				
21.					43.				
22.					44.				

Date Reviewed: 11/24/98 RS Supervision: [illegible] / [illegible] [redacted]
Print Name / Signature / Emp. #

123

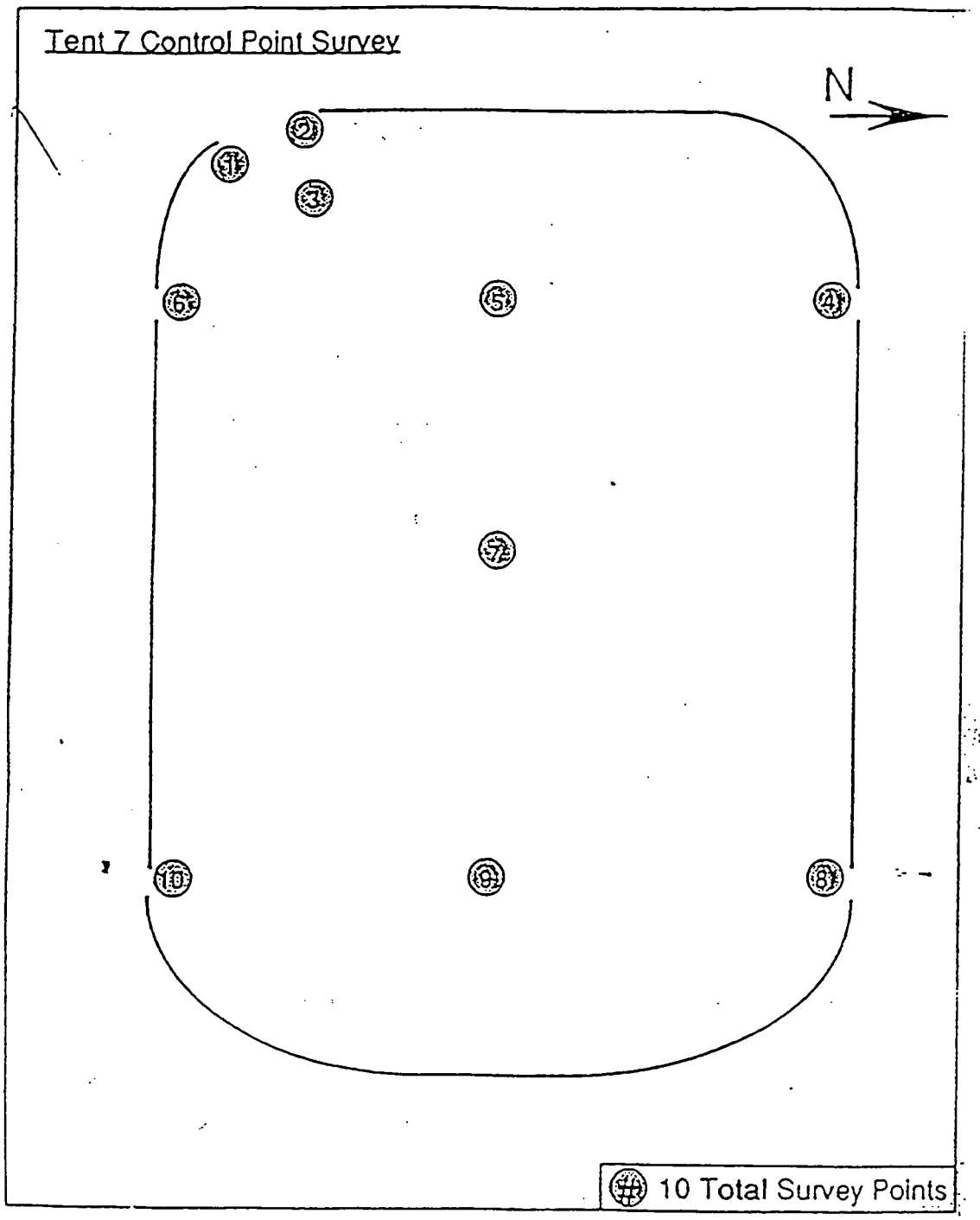
153

RS FORMS 07:02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



154
~~124~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.2	Bkg. 0.0	Bkg. 40.5
Efficiency 33	Efficiency 32	Efficiency 25
MDA <20	MDA <20	MDA <200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 38.8	Bkg.	Bkg.
Efficiency 25	Efficiency	Efficiency
MDA <200	MDA	MDA

N/A RLW 12-2-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

RWP #: N/A 12/2/98 RLW

Date: 12/2/98 Time: 1430

RCT: [signature] [signature] [redacted]

Print name Signature Emp. #

RCT: N/A 12/2/98 RLW

Print name Signature Emp. #

PRL # :

Comments: RLW 12-2-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
					42.				
21.					43.				
22.					44.				

12/2/98 RLW

RLW 12/2/98

Date Reviewed: 12/10/98 RS Supervision: J. Ewell [signature] [redacted]

Print Name Signature Emp. #

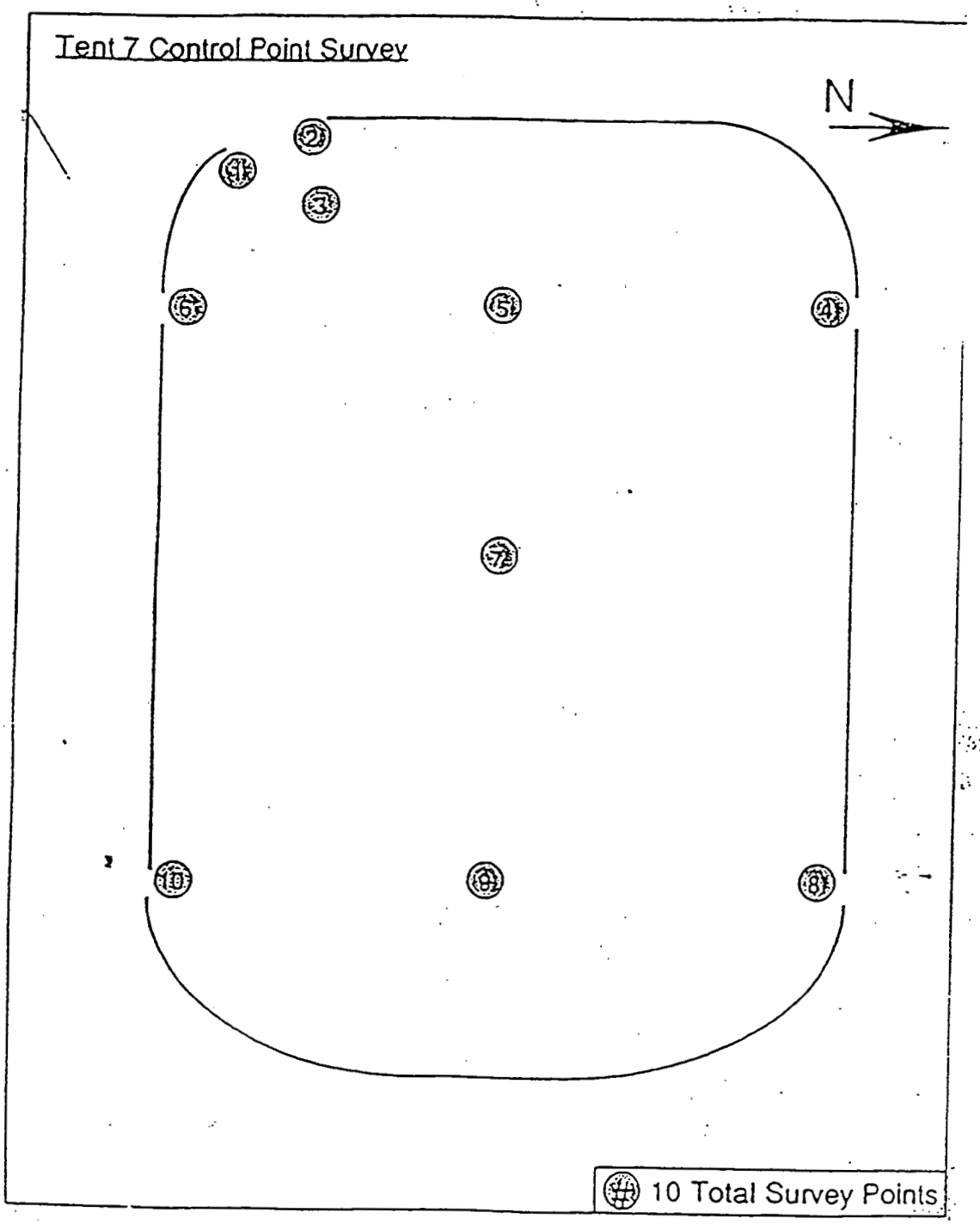
155 125

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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~~126~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 2	Bkg. 0.0	Bkg. 40
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 43	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

JH 12-17-98

JH 12-17-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

~~RWP #:~~ JH 12-17-98

Date: 12-17-98 Time: 1355

RCT: Hankins [redacted]

Print name Signature Emp. #

~~RCT:~~ JH 12-17-98

Print name Signature Emp. #

PRL #:

Comments: JH 12-17-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
					43.				
22.					44.				

JH 12-17-98

JH 12-17-98

JH 12-17-98

Date Reviewed: 1/6/99 RS Supervision: J. Ewell / [signature] [redacted]

Print Name Signature Emp. #

~~127~~

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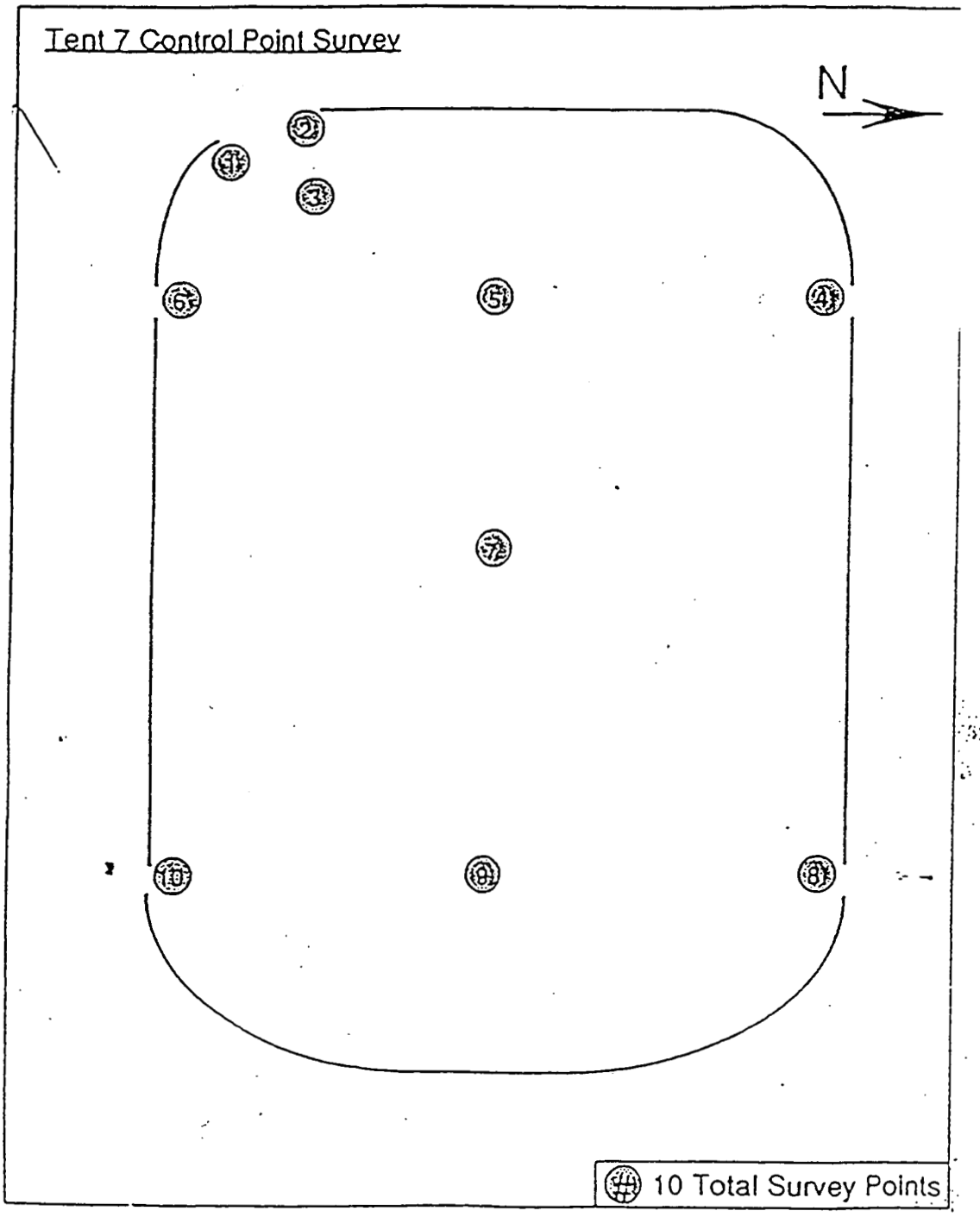
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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~~128~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 824	Serial # 795	Serial # BC 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.1	Bkg. 0.0	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 41	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 7
Purpose: WEEKLY CONTAMINATION

~~RWP #:~~ am 12-21-98

Date: 12-21-98 Time: 0930

RCT: Munoz [signature] [redacted]
Print name Signature Emp. #

~~RCT:~~ am 12-21-98
Print name Signature Emp. #

~~PRL #:~~ am 12-21-98

Comments: See Page 2 of 2 for survey map

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

am 12-21-98

Date Reviewed: 1/6/99 RS Supervision: J. Ewell, [signature] [redacted]
Print Name Signature

~~129~~

159

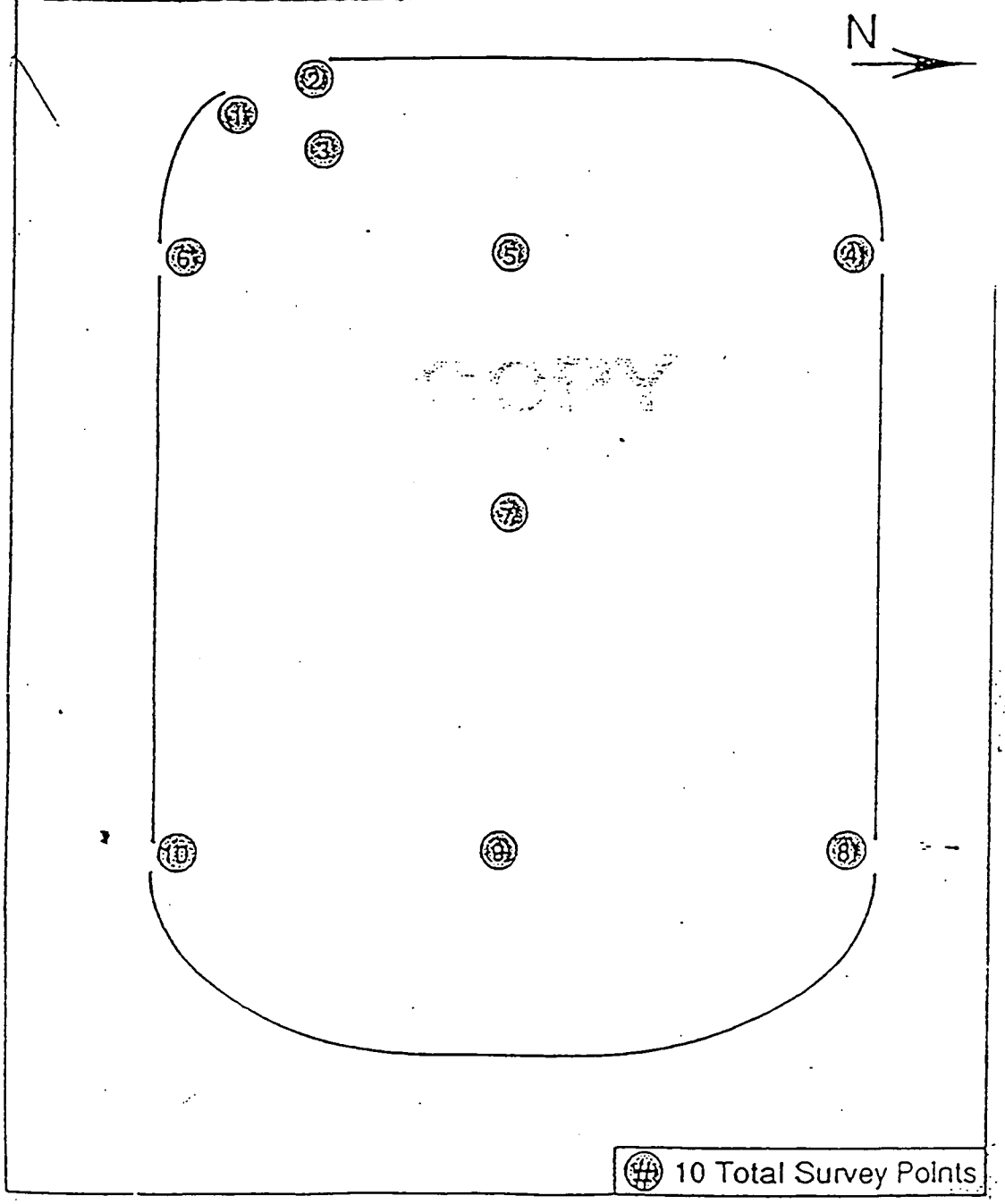
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Tent 7 Control Point Survey



160
130

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.2	Bkg. 0.2	Bkg. 41
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 42	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

JH 12-29-98

JH 12-29-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 7

Purpose: WEEKLY CONTAMINATION

~~RWP #:~~ JH 12-29-98

Date: 12-29-98 Time: 0850

RCT: Hankins / Hal [redacted]

Print name Signature Emp. #

~~RCT:~~ JH 12-29-98 /

Print name Signature Emp. #

PRL #:

Comments: JH 12-29-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

JH 12-29-98

JH 12-29-98

JH 12-29-98

Date Reviewed: 1/6/99 RS Supervision: J. Ewell / J. Ewell [redacted]

Print Name Signature Emp. #

131

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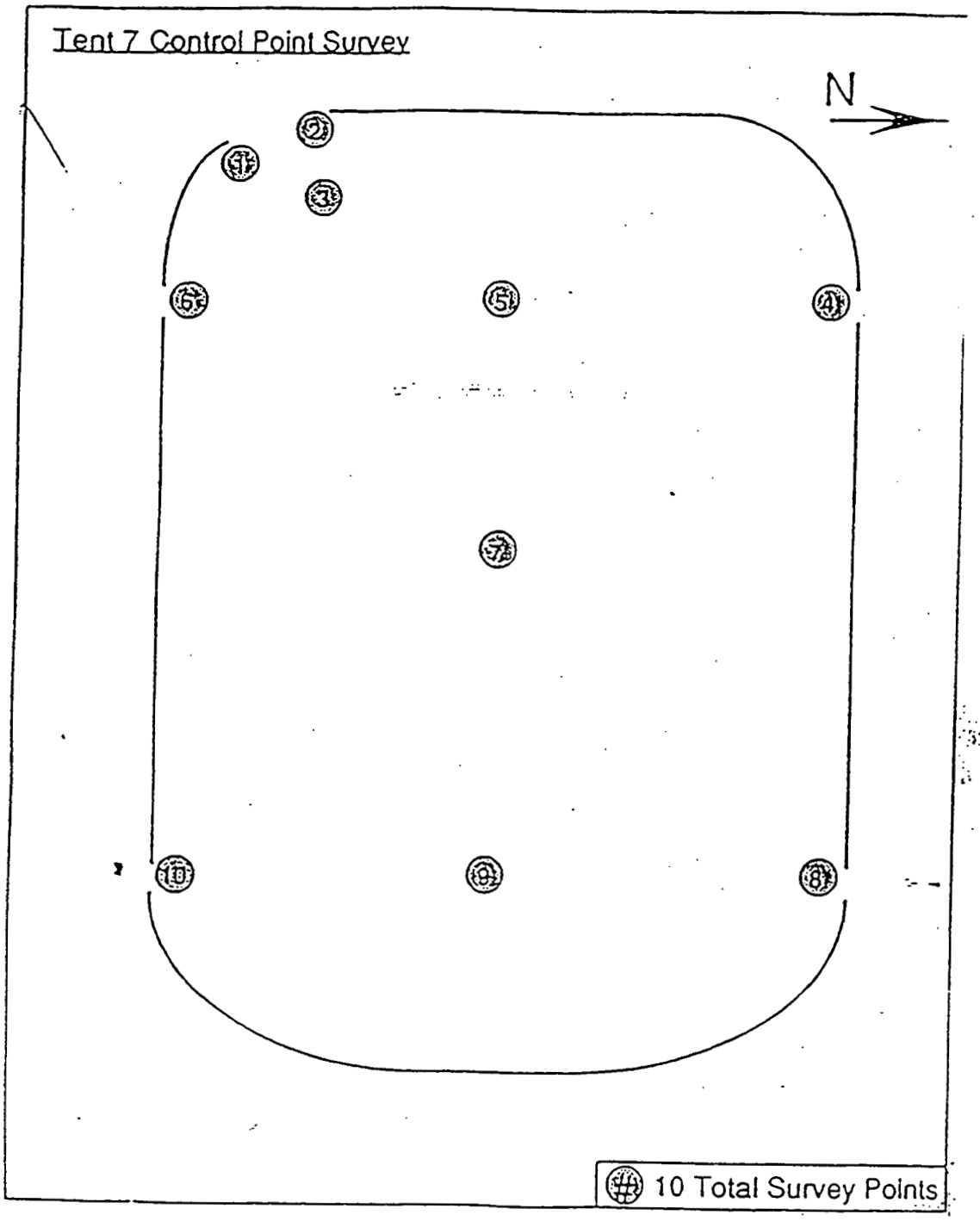
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



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A.2 RECONNAISSANCE LEVEL CHARACTERIZATION RADIOLOGICAL DATA

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 38	Bkg. 39	Bkg. 0.2
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1685	Serial # 1685
Cal Due 6/16/99	Cal Due 6-18-99	Cal Due 6-18-99
Bkg. 0.2	Bkg. 6	Bkg. 448
Efficiency 33%	Efficiency 21.9%	Efficiency 31.3%
MDA <20	MDA 66	MDA 303

Survey Type: Contamination Survey
Building: TENT # 7
Location: 904 PAD
Purpose: CHARACTERIZATION SURVEYS
RWP #: — NA —
Date: 03-30-99 Time: 1500
RCT: Rex Snyder / R. Snyder [redacted]
Print name Signature Emp. #
RCT: N / A /
Print name Signature Emp. #

PRL # :
Comments Exterior Survey

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 66	< 303	23.	< 20	< 200	< 66	< 303
2.	< 20	< 200	< 66	< 303	24.	< 20	< 200	< 66	< 303
3.	< 20	< 200	< 66	< 303	25.	< 20	< 200	< 66	< 303
4.	< 20	< 200	< 66	< 303	26.	< 20	< 200	< 66	< 303
5.	< 20	< 200	< 66	< 303	27.	< 20	< 200	< 66	< 303
6.	< 20	< 200	< 66	< 303	28.	< 20	< 200	< 66	< 303
7.	< 20	< 200	< 66	< 303	29.	< 20	< 200	< 66	< 303
8.	< 20	< 200	< 66	< 303	30.	< 20	< 200	< 66	< 303
9.	< 20	< 200	< 66	< 303	31.				
10.	< 20	< 200	< 66	< 303	32.				
11.	< 20	< 200	< 66	< 303	33.				
12.	< 20	< 200	< 66	< 303	34.				
13.	< 20	< 200	< 66	< 303	35.				
14.	< 20	< 200	< 66	< 303	36.				
15.	< 20	< 200	< 66	< 303	37.		N	A	
16.	< 20	< 200	< 66	< 303	38.				
17.	< 20	< 200	< 66	< 303	39.				
18.	< 20	< 200	< 66	< 303	40.				
9.	< 20	< 200	< 66	< 303	41.				
20.	< 20	< 200	< 66	< 303	42.				
21.	< 20	< 200	< 66	< 303	43.				
22.	< 20	< 200	< 66	< 303	44.				

Date 4-1-99 RS Supervision: Greg Osburn [redacted]
Print Name Signature Emp. #

16P

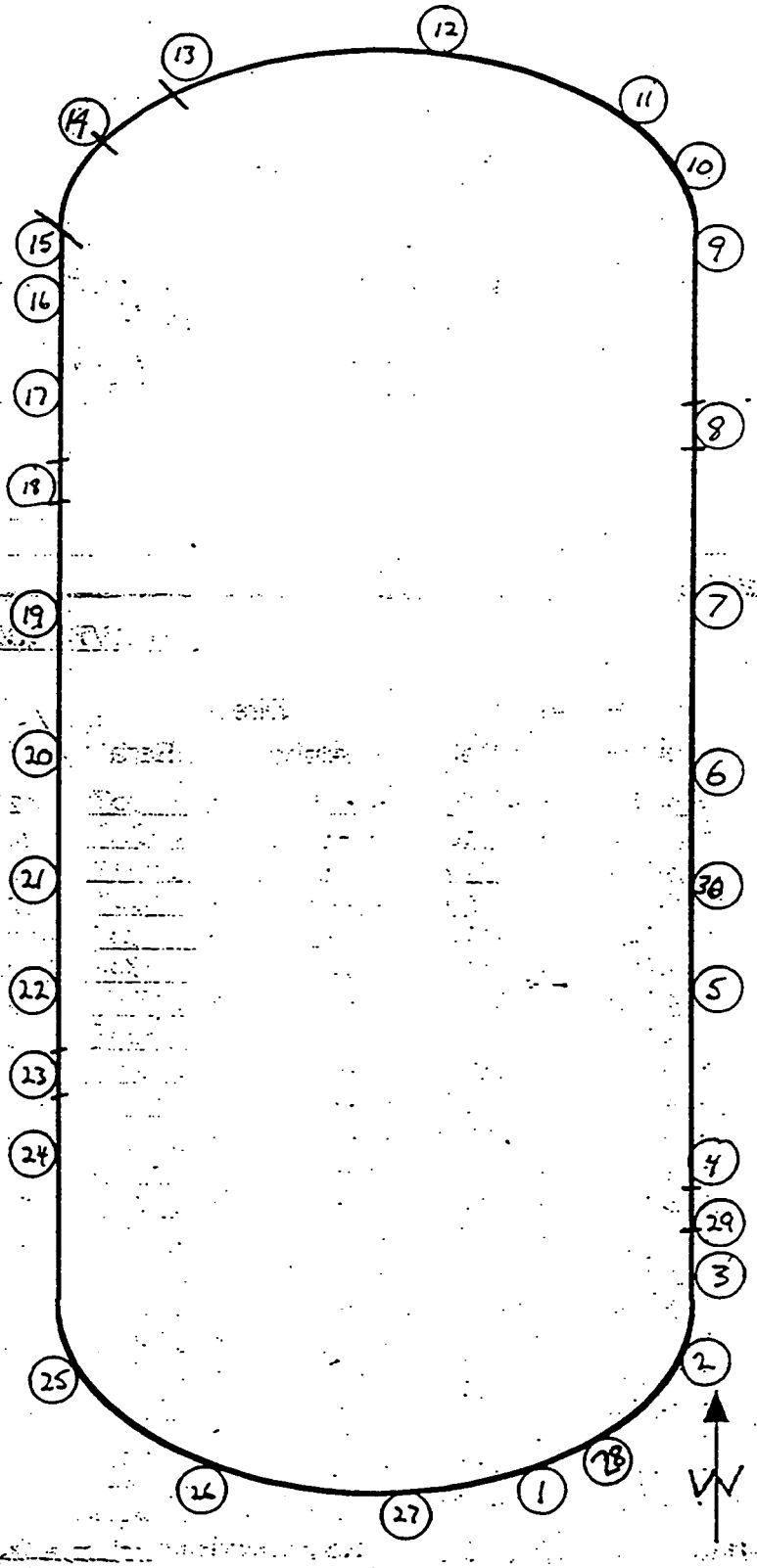
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	#10 - C - 3'
2.	#9 - C - 6'
3.	#N8 - C - 8'
4.	#N6 DOOR - C - 1'
5.	#N5 - C - 1'
6.	~~N6/N5 - C - 8'~~ #N4 - 4'
7.	#N-3 - C - 1'
8.	#N3N2 - C - 8' (over Door)
9.	#N2 - C - 4'
10.	#N1 - 2'
11.	#16 - 8'
12.	#15 - C - 3'
13.	#14 - 6'
14.	Door - C - 5'
15.	#13 - C - 1'
16.	#S1 - 4'
17.	#S2 - C - 4'
18.	#S2/S3 - DOOR - 3'
19.	#S3 - C - 1'
20.	#S4 - C - 8'
21.	#S5 - C - 4'
22.	#S6 - 2'
23.	~~#S6/S7 - C - 8'~~ (above door)
24.	#S7 - C - 1'
25.	#S8 - C - 8'
26.	#12 - C - 1'
27.	#13 - 6'
28.	#10 - C - 4'
29.	DOOR
30.	N6/N5 - C - 8'
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	

N A



C = Canvas
# = Support ID
(ft) = Height from Ground

165
~~135~~

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 41	Bkg. 38	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2343	Serial # 2343
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.1	Bkg. α 2	Bkg. β 392
Efficiency 33%	Efficiency 22.0%	Efficiency 32.0%
MDA <20	MDA 43	MDA 284

Survey Type: Contamination Survey

Building: #7 Tent

Location: 904 Pad

Purpose: CHARACTERIZATION SURVEYS

RWP #: – N/A –

Date: 04-05-99 Time: 1600

RCT: Rex Snyder / [signature] [redacted]

Print name Signature Emp. #

RCT: N / A /

Print name Signature Emp. #

PRL #:

Comments: Internal Tent Survey Posted: · Rad Material · Personnel Dosimetry Req Plus Direct Scan at all points < 2 meter at 1 m²

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 43	1932	23.	< 20	< 200	< 43	< 284
2.	< 20	< 200	66	1740	24.	< 20	< 200	< 43	< 284
3.	< 20	< 200	< 43	1479	25.	< 20	< 200	< 43	< 284
4.	< 20	< 200	< 43	1578	26.	< 20	< 200	< 43	< 284
5.	< 20	< 200	< 43	1475	27.	< 20	< 200	< 43	< 284
6.	< 20	< 200	< 43	1641	28.	< 20	< 200	< 43	< 284
7.	< 20	< 200	< 43	1497	29.	< 20	< 200	< 43	< 284
8.	< 20	< 200	< 43	1647	30.	< 20	< 200	< 43	< 284
9.	< 20	< 200	< 43	1665	31.	< 20	< 200	< 43	< 284
10.	< 20	< 200	< 43	1314	32.	< 20	< 200	< 43	< 284
11.	< 20	< 200	48	1638	33.	< 20	< 200	< 43	1866
12.	< 20	< 200	< 43	1500	34.	< 20	< 200	< 43	< 284
13.	< 20	< 200	< 43	1623	35.	< 20	< 200	< 43	< 284
14.	< 20	< 200	< 43	1611	36.	< 20	< 200	< 43	< 284
15.	< 20	< 200	< 43	1680	37.	< 20	< 200	< 43	< 284
16.	< 20	< 200	48	1470	38.	< 20	< 200	< 43	< 284
17.	< 20	< 200	54	1860	39.	< 20	< 200	< 43	< 284
18.	< 20	< 200	48	1806	40.	< 20	< 200	< 43	< 284
19.	< 20	< 200	< 43	1476	41.				
20.	< 20	< 200	< 43	1635	42.				
21.	< 20	< 200	< 43	< 284	43.		N	A	
22.	< 20	< 200	< 43	< 284	44.				

Date 4-6-99 RS Supervision: G. E. OSBURN / [signature] [redacted]

Print Name Signature Emp. #

166

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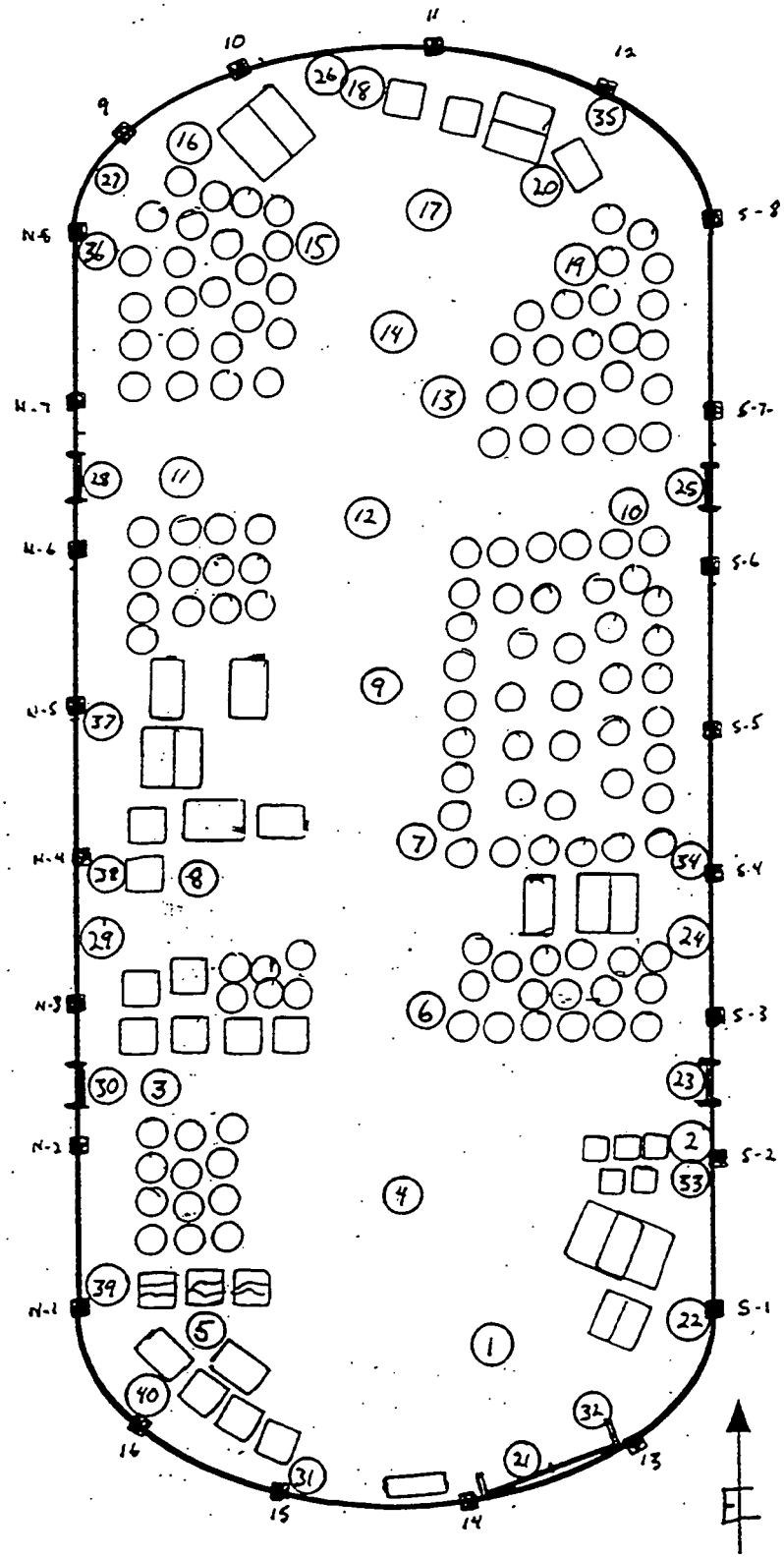
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Doorway - F - 20'
2.	#S-2 - F - 5'
3.	#N-3/N-4 - F 10'
4.	#Center - F-
5.	#N1 - F - 10'
6.	#S-3 - F - 25'
7.	#S4 - F 30'
8.	#N4 - F - 6'
9.	#Center - F - 30'
10.	#S-6 - F - 5'
11.	#N-6 - F 10'
12.	#N-6 - F 25'
13.	#S-7 - F 25'
14.	#Center - F - 30'
15.	#N8 - F - 25'
16.	#9 - F - 6'
17.	#10 - F - 15'
18.	#10-11 F - 4'
19.	#S8 - F - 15'
20.	#11 - F - 10'
21.	Door - C - 4'
22.	#S1 - 4'
23.	Door - 3'
24.	#S4/S3 - C - 4'
25.	Door 3'
26.	#10/11 - C - 4'
27.	#9/N-8 - C - 4'
28.	Door - 4'
29.	#N4/N3 - C - 4'
30.	Door - 3'
31.	#15 - 8'
32.	#13 - White Support - 8'
33.	#S2 - 8'
34.	#S4 - 8'
35.	#12 - 8'
36.	#N8 - 8'
37.	#N5 - 8'
38.	#N4 - 8'
39.	#N1 - 8'
40.	#16 - 8'
41.	
42.	
43.	N A
44.	



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A.3 SITE HAZARD ASSESSMENT RADIOLOGICAL DATA

168
~~138~~

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 41	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1680	Serial # 1680
Cal Due 6/16/99	Cal Due 8-10-99	Cal Due 8-10-99
Bkg. 0.1	Bkg. 5	Bkg. 490
Efficiency 33%	Efficiency 22.9%	Efficiency 34.7%
MDA <20	MDA 59	MDA 316

Survey Type: Contamination Survey

Building: TENT # 7

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 05-05-99 Time: 1600

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: N / * /
Print name Signature Emp. #

PRL #:

Comments: Canvas Panels + 10% Scan + Every 5th Support Survey Points
* Reading at 7' ** Reading at Ground Level ** Panel was marked + posted as "Fixed Contam" per L. Cooper [initials]

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	<20	<200	<59	<316	23.	<20	<200	<59	<316
2.	<20	<200	<59	369	24.	<20	<200	<59	<316
3.	<20	<200	<59	<316	25.	<20	<200	<59	<316
4.	<20	<200	<59	<316	*26.	<20	<200	<59	<316
5.	<20	<200	<59	<316	27.	<20	<200	<59	<316
6.	<20	<200	<59	<316	28.	<20	<200	<59	<316
7.	<20	<200	<59	<316	29.	<20	<200	<59	<316
8.	<20	<200	<59	<316	30.	<20	<200	<59	<316
9.	<20	<200	<59	<316	31.	<20	<200	<59	<316
10.	<20	<200	<59	<316	**32.	<20	<200	174	<316
11.	<20	<200	<59	<316	33.				
12.	<20	<200	<59	<316	34.				
13.	<20	<200	<59	<316	35.				
14.	<20	<200	<59	<316	36.				
15.	<20	<200	<59	<316	37.				
16.	<20	<200	<59	<316	38.				
17.	<20	<200	<59	<316	39.				
18.	<20	<200	<59	<316	40.				
	<20	<200	<59	<316	41.				
20.	<20	<200	<59	<316	42.				
21.	<20	<200	<59	<316	43.				
22.	<20	<200	<59	<316	44.				

Date 5/10/99 RS Supervision: L N Cooper / [signature] [redacted]
Print Name Signature Emp. #

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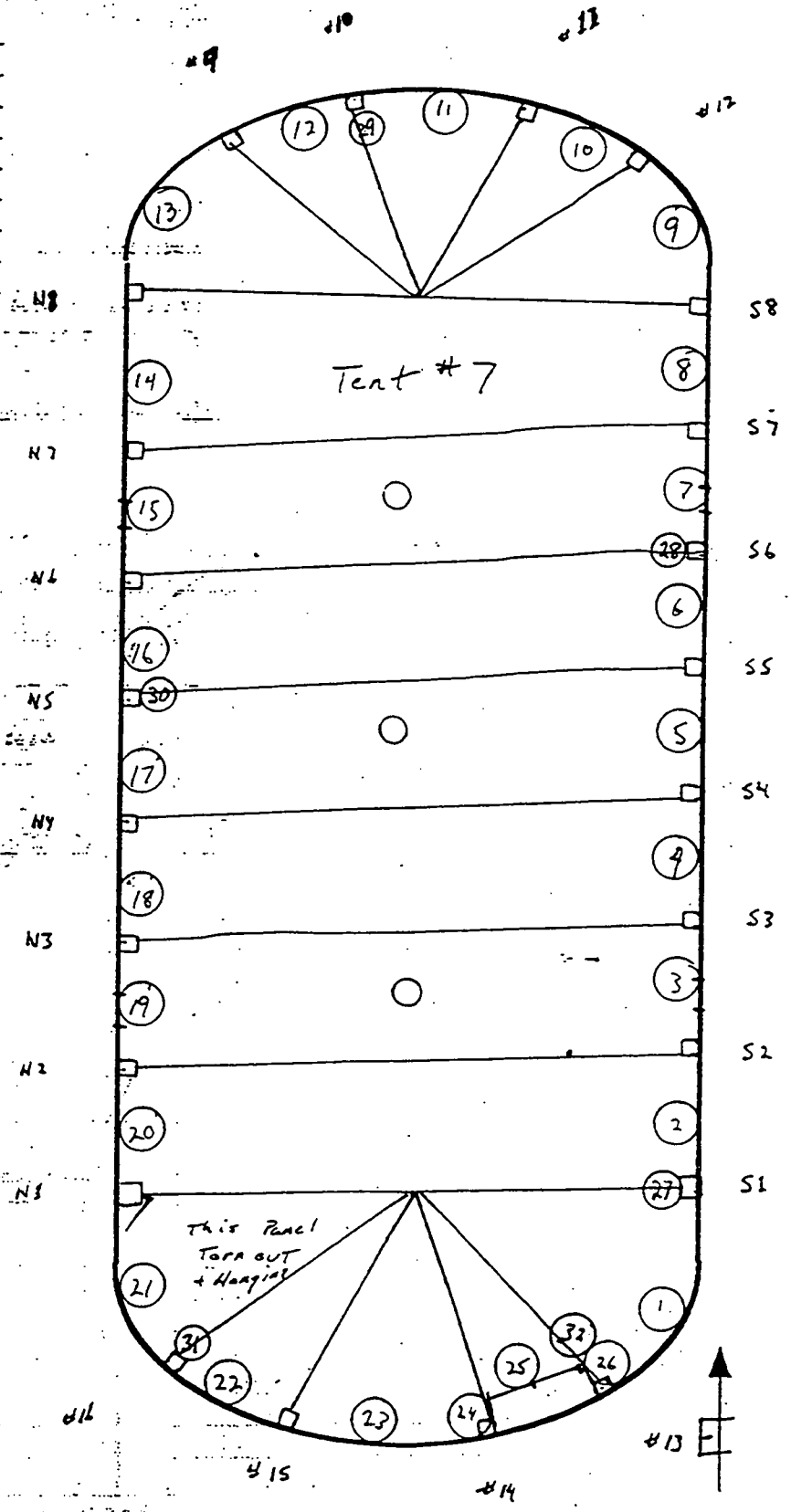
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Canvas Panel
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.	Canvas Panel
27.	Support S1
28.	Support S6
29.	Support #10
30.	Support N5
31.	Support #16
32.	Canvas Panel
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	



170 ~~140~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 959	Serial # 1188	Serial #
Cal Due 7-5-99	Cal Due 6-16-99	Cal Due
Bkg. 0.1	Bkg. 0.1	Bkg.
Efficiency 33%	Efficiency 33%	Efficiency
MDA <20	MDA <20	MDA
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial # 1680	Serial # 1680
Cal Due 7-13-99	Cal Due 8-10-99	Cal Due 8-10-99
Bkg. 44	Bkg. α 5	Bkg. 490
Efficiency 25%	Efficiency 22.9%	Efficiency 34.7%
MDA 200	MDA 59	MDA 316

Survey Type: CONTAMINATION

Building: Tent 7

Location:

Purpose: Characterization Survey

RWP #: -NA

Date: 05-05-99 Time: 1500

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: [signature] / [signature] /
Print name Signature Emp #

PRL #:

Comments: Survey Points on Canvas Panel on South Side of Big Door. This Area has been posted as "Fixed Contam" until further notice. Plus 10% Scan on area

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200	72	< 316	23.				
2.	< 20	< 200	78	546	24.				
3.	< 20	< 200	84	417	25.				
4.	< 20	< 200	114	< 316	26.				
5.	< 20	< 200	114	< 316	27.				
6.	< 20	< 200	174	< 316	28.				
7.	< 20	< 200	90	< 316	29.				
8.	< 20	< 200	< 59	< 316	30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 5/10/99 RS Supervision: LN Cooper / Letty Cooper / [redacted]
Print Name Signature Emp #

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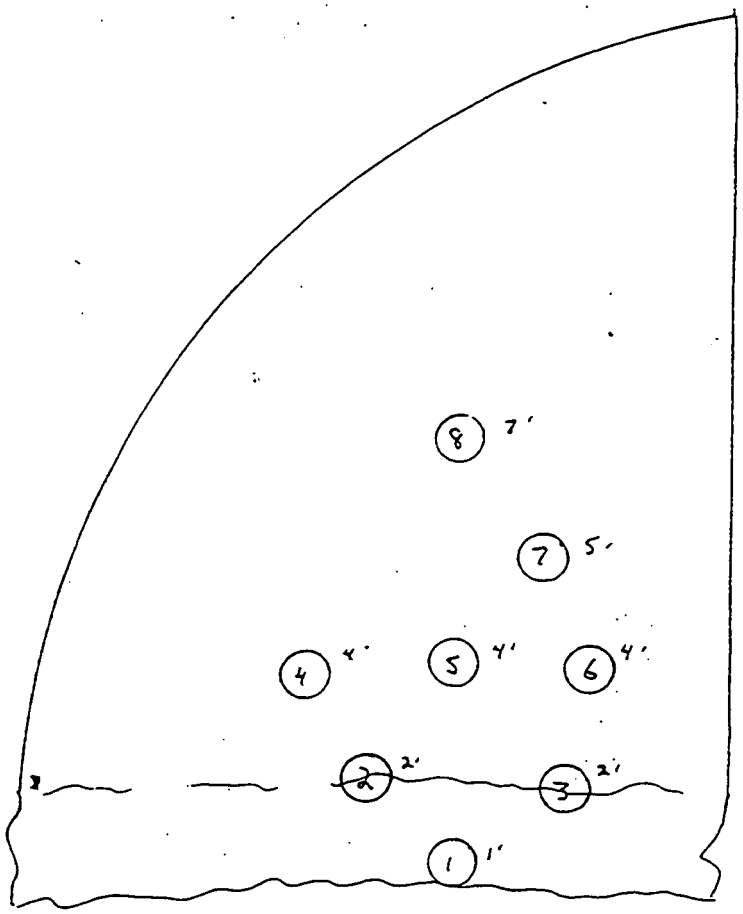
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



Note...
• Measurements are approx. Distance from bottom of Canvas

Tent # 7

Panel on South Side of Big Door

172

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COPY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial #	Serial #	Serial #
Cal Due	Cal Due	Cal Due
Bkg.	Bkg.	Bkg.
Efficiency	Efficiency	Efficiency
MDA	MDA	MDA
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial #	Serial #	Serial # 1354
Cal Due	Cal Due	Cal Due 8-99
Bkg.	Bkg.	Bkg. 1.0+ 449b
Efficiency	Efficiency	Efficiency .248d .308
MDA	MDA	MDA ~~<29.6~~ <328

Survey Type: CONTAMINATION

Building: 664

Location: 904 PAd

Purpose: Tent panel

RWP #: 99-549-6095

Date: 5-20-99 Time: 1600

RCT: K Mote / [signature] [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL #:

Comments: Tent #7 panel Resurveyed; 1g Area wipe + direct Reading Per conversation with Bill Bair, RAD. Eng., this isn't considered DOE enhanced material. L Cooper

*Large Area Wipe

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<29.6	<328	<29.6	<328	23.				
2.	<29.6	<328	66.0+	<328	24.				
3.	<29.6	<328	KM ~~29.6~~ <29.6	<328	25.				
4.	<29.6	<328	30	<328	26.				
5.	<29.6	<328	30	<328	27.				
6.	<29.6	<328	<29.6	<328	28.				
7	<29.6	<328	<29.6	<328	29.				
8.	<29.6	<328	<29.6	<328	30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17					39.				
8.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

int 7
int 8
int 9

[signature] 5-20-99

[signature] 5-20-99

Date Reviewed: 5/21/99 RS Supervision: LN Cooper / [signature] [redacted]
Signature Emp. #

143
143

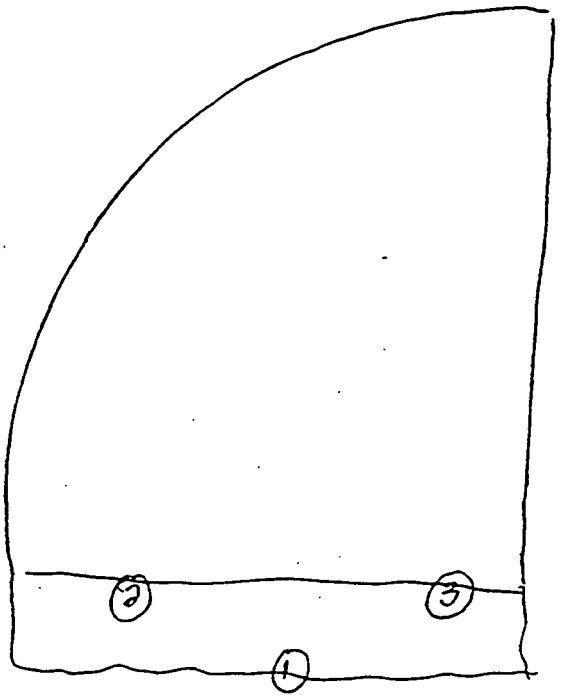
2 of 4

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

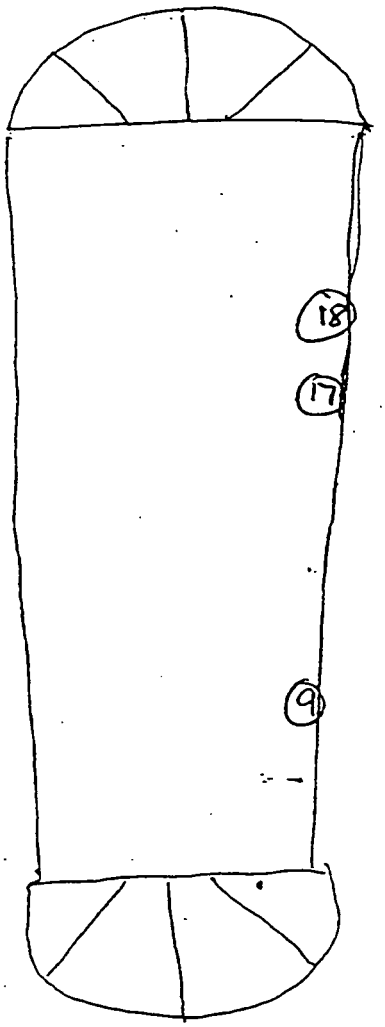
RADIOLOGICAL SAFETY

Drawing Showing Survey Points

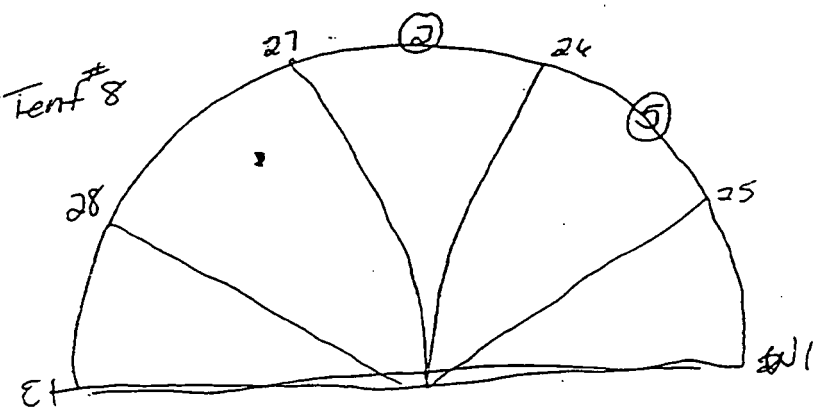
Tent #7



Tent #9



Tent #8



174

3 of 4

99052002.SPE MEV>
REC# 1 OF 1

MIN: 0
MAX: 7
RANGE: 7
SCALE: MIN to MAX

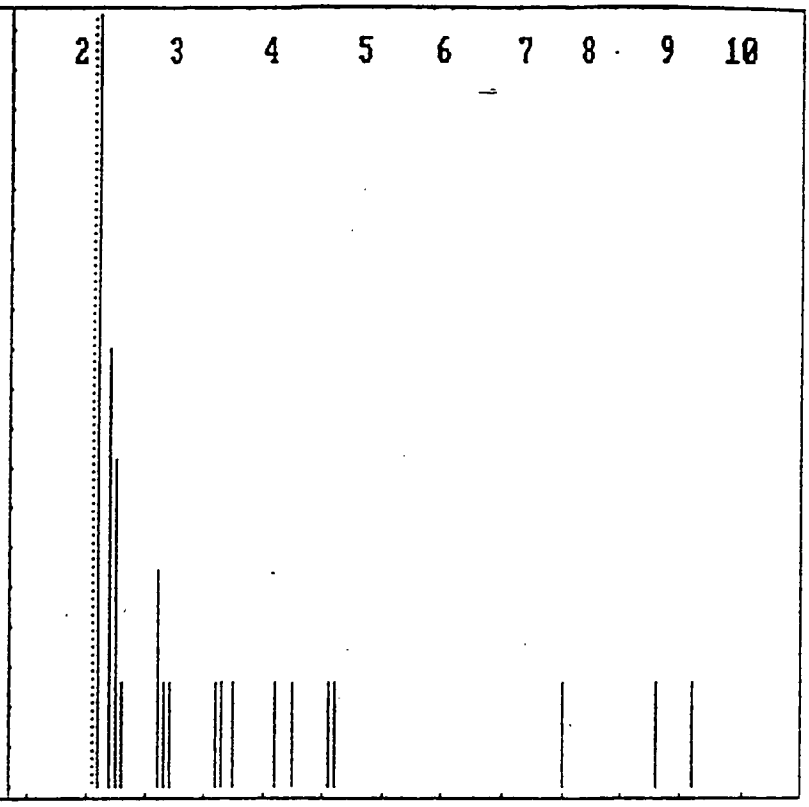
Record Keys:
Up Dn Home End

Zoom Keys:
+ - 0-9

Video Mode Keys:
c C (CGA) e E (EGA)

Esc to QUIT

Cursor MEV: 2.2
COUNT: 7



175
~~145~~

RSFORMS-03.02-03

SAIC AP-2 SURVEY RESULTS LOG

Serial No.: A119 Calibration Due Date: 6-99

Date	Spectrum File Name	Description	Pu-239 ROI Counts	Radon ROI Counts	Gross ROI Counts	Instrument User (print/signatur
5/20/99	99052002.	Tent #7 Panel	2.0	1.0	36.0	[illegible]

Comments:

Approved by:
RS Supervision:
LN Cooper / [signature] [redacted] / 5/21/99
Name (print) Signature Date

176 4 of 4

Rev 10/97

INFORMA...

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL
____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: TENT #8

DATE: 5-13-98

TIME: 0800

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): M E VAUGHN

[signature] / [redacted] / 5-13-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

[signature] Bell / 6-10-98

RO SUPERVISION SIGNATURE DATE

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~~147~~

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	799	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	720	838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

Printed with soy ink on recycled paper

LOG NUMBER: _____

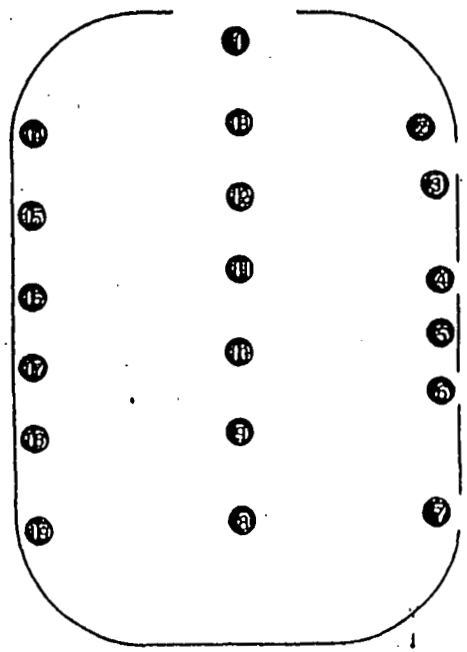
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

178
148

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (dpm/100 cm² fixed covers)	TOTAL BETA/GAMMA
1	refer to Map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

Roberts, Rick

om: Neveau, Rock
nt: Thursday, May 27, 1999 8:03 AM
To: Roberts, Rick
Subject: RE: Tent 7-9 Hazard Assessment

TO: Rick Roberts, Radiological Engineering, T130B

FROM: Rock Neveau, Bldg. 886 / 904 Pad Radiological Engineer, T886A

SUBJECT: Alpha Spectroscopy (AP-2) results for 904 Pad Tent Panel Survey

As I instructed the RCTs on the 904 Pad project to do, an alpha spectroscopy measurement was performed on a single panel of Tent #7. The attached spectrum (titled: 99052002.SPE) shows a main peak in the 2.2 MeV range of the spectrum.

The purpose of using the AP-2 was to determine the presence of naturally occurring radioactive material (NORM), with the most obvious being the radon progeny polonium-218. However, the spectrum obtained on this tent panel is inconclusive. The energy peak of 2.2 MeV is not from any known isotope of concern. Additionally, the AP-2 survey instrument can only confirm the presence of an isotope, not the absence of an isotope.

Therefore, although the spectrum does not have any energy peaks in the ranges of NORM or DOE enhanced material, the spectrum cannot be interpreted to show an absence of radiological contamination of any kind. The spectrum obtained on the Tent #7 panel is inconclusive.

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149

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

M. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 38	Bkg. 39	Bkg. 0.2
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1685	Serial # 1685
Cal Due 6/16/99	Cal Due 6-18-99	Cal Due 6-18-99
Bkg. 0.2	Bkg. 6	Bkg. 448
Efficiency 33%	Efficiency 21.9%	Efficiency 31.3%
MDA <20	MDA 66	MDA 303

Survey Type: Contamination Survey
Building: TENT # 7
Location: 904 PAD
Purpose: CHARACTERIZATION SURVEYS
RWP #: — NA —
Date: 03-30-99 Time: 1500
RCT: Rex Snyder / Rex Snyder [redacted]
Print name Signature Emp. #
RCT: N / A /
Print name Signature Emp. #

PRL # :
Comments Exterior Survey

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 66	< 303
2.	< 20	< 200	< 66	< 303
3.	< 20	< 200	< 66	< 303
4.	< 20	< 200	< 66	< 303
5.	< 20	< 200	< 66	< 303
6.	< 20	< 200	< 66	< 303
7.	< 20	< 200	< 66	< 303
8.	< 20	< 200	< 66	< 303
9.	< 20	< 200	< 66	< 303
10.	< 20	< 200	< 66	< 303
11.	< 20	< 200	< 66	< 303
12.	< 20	< 200	< 66	< 303
13.	< 20	< 200	< 66	< 303
14.	< 20	< 200	< 66	< 303
15.	< 20	< 200	< 66	< 303
16.	< 20	< 200	< 66	< 303
17.	< 20	< 200	< 66	< 303
18.	< 20	< 200	< 66	< 303
19.	< 20	< 200	< 66	< 303
20.	< 20	< 200	< 66	< 303
21.	< 20	< 200	< 66	< 303
22.	< 20	< 200	< 66	< 303
23.	< 20	< 200	< 66	< 303
24.	< 20	< 200	< 66	< 303
25.	< 20	< 200	< 66	< 303
26.	< 20	< 200	< 66	< 303
27.	< 20	< 200	< 66	< 303
28.	< 20	< 200	< 66	< 303
29.	< 20	< 200	< 66	< 303
30.	< 20	< 200	< 66	< 303
31.				
32.				
33.				
34.				
35.				
36.				
37.		N	A	
38.				
39.				
40.				
41.				
42.				
43.				
44.				

Date 150 4-1-99 RS Supervision: Greg Osborn [redacted]
Print Name Signature

180

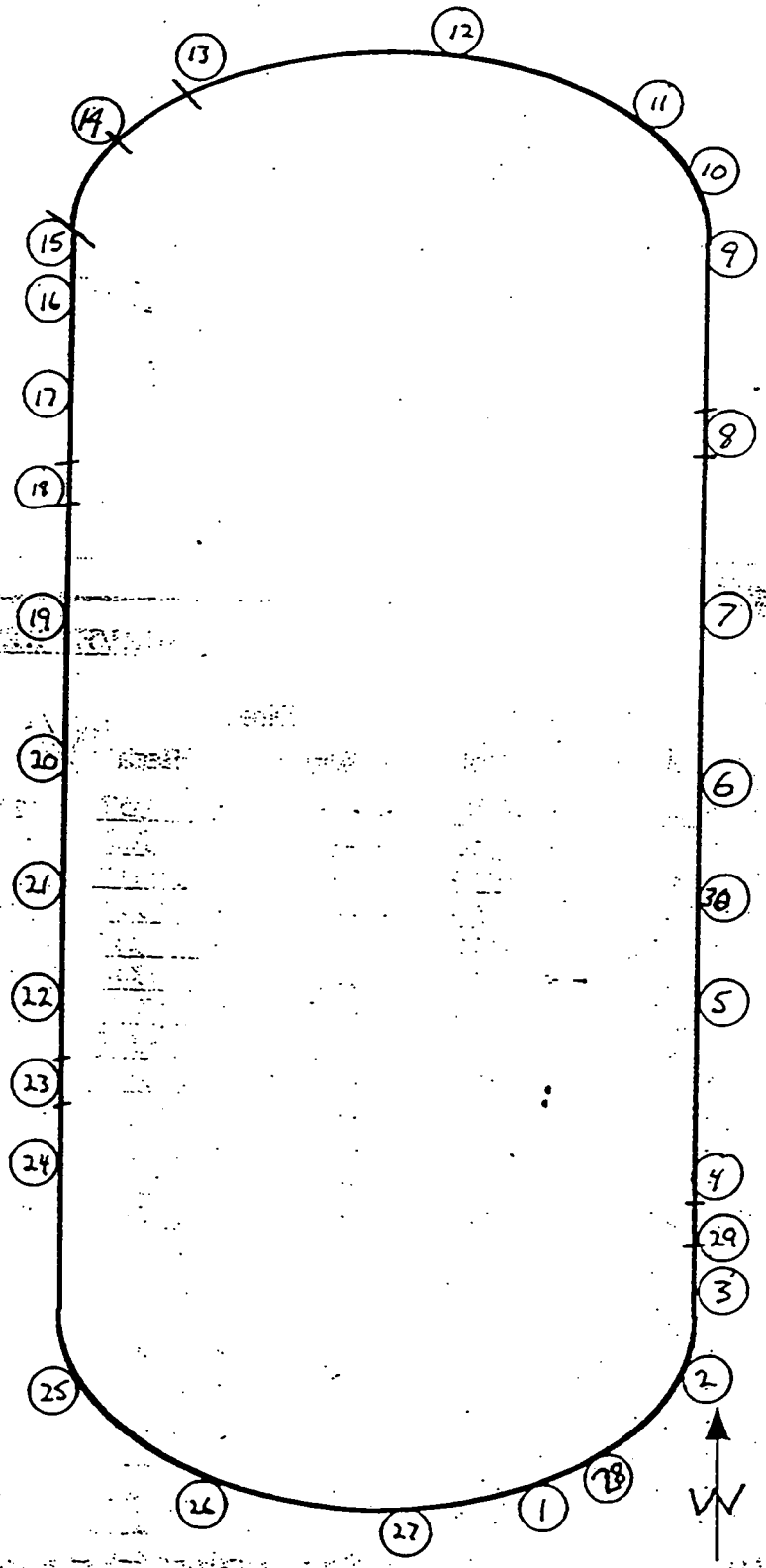
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	#10 - C - 3'
2.	#9 - C - 6'
3.	#N8 - C - 8'
4.	#N6 DOOR - C - 1'
5.	#N5 - C - 1'
6.	~~N6/N5 - C - 8'~~ #N4 - 4'
7.	#N-3 - C - 1'
8.	#N2N2 - C - 8' (over Door)
9.	#N2 - C - 4'
10.	#N1 - 2'
11.	#16 - 8'
12.	#15 - C - 3'
13.	#14 - 6'
14.	Door - C - 5'
15.	#13 - C - 1'
16.	#S1 - 4'
17.	#S2 - C - 4'
18.	#S2/S3 - DOOR - 3'
19.	#S3 - C - 1'
20.	#S4 - C - 8'
21.	#S5 - C - 4'
22.	#S6 - 12'
23.	~~#S6/S7 - C - 8'~~ (above door)
24.	#S7 - C - 1'
25.	#S8 - C - 8'
26.	#12 - C - 1'
27.	#13 - 6'
28.	#10 - C - 4'
29.	DOOR
30.	N6/N5 - C - 8'
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	

N A



C = Canvas

= Support ID

(#) = Height from Ground

181
151

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. ERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 37	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1425	Serial # 1425
Cal Due 6/16/99	Cal Due 8-25-99	Cal Due 8-25-99
Bkg. 0.1	Bkg. 7	Bkg. 480
Efficiency 33%	Efficiency 21.6%	Efficiency 31.6%
MDA <20	MDA 72	MDA 313

Survey Type: Contamination Survey

Building: TENT # 7

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 05-12-99 Time: 1600

RCT: Rex Snyder / [signature] [redacted]
Print name / Signature / Emp. #

RCT: N / A /
Print name / Signature / Emp. #

L #:

mments Tent #7 Over Head Survey Points + Vents

Results Are In dpm/100cm2

SURVEY RESULTS

Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
<20	<200	<72	<313	23.				
<20	<200	<72	<313	24.				
<20	<200	<72	<313	25.				
<20	<200	<72	<313	26.				
<20	<200	<72	<313	27.				
<20	<200	<72	<313	28.				
<20	<200	<72	<313	29.				
<20	<200	<72	<313	30.				
<20	<200	<72	<313	31.				
<20	<200	<72	<313	32.				
<20	<200	<72	<313	33.				
<20	<200	<72	<313	34.				
<20	<200	<72	<313	35.				
				36.				
				37.				
				38.				
				39.				
				40.				
				41.				
				42.				
				43.				
				44.				

5-13-99 RS Supervision: L. Sorrels / [signature] [redacted]
Print Name / Signature / Emp. #

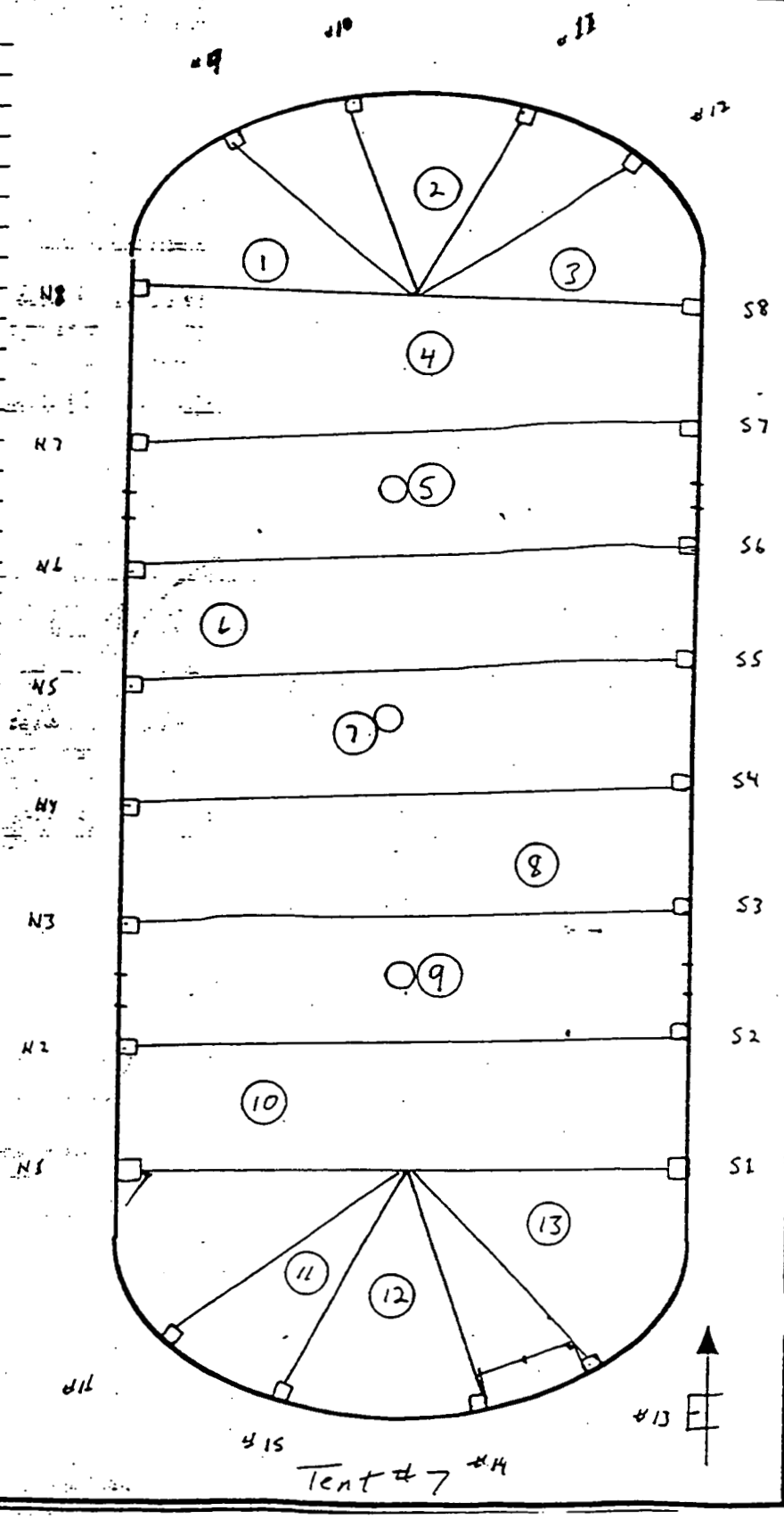
182

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Canvas
2.	↓
3.	↓
4.	Canvas
5.	Vent
6.	Canvas
7.	Vent
8.	Canvas
9.	Vent
10.	Canvas
11.	#16 Support
12.	Canvas
13.	S1 Support
14.	
15.	
16.	
17.	
18.	
19.	
20.	
21.	
22.	
23.	
24.	
25.	
26.	
27.	
28.	
29.	
30.	
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	



~~153~~ 183

APPENDIX B

TENT 8 RADIOLOGICAL DATA

B.1 HISTORICAL RADIOLOGICAL DATA

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP K OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	tent 8
DATE:	TIME:
01-07-98	0910

ITEM DESCRIPTION: Weekly Survey 1/2/99 J Hankins Forgot to Enter the Electra Data See Performance Log, this statement is true to the best of my knowledge JH 1-2-99

COMMENTS:

PERFORMED BY (PRINT NAME): J. Hankins

J Hankins [redacted] 01-07-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: THipsher

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 1/14/98

DATE

186
156

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	959	1050		
CAL DATE:	9-12-97	9-16-97		
CAL DUE DATE:	3-12-98	3-16-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 838			
CAL DATE:	1-6-98			
CAL DUE DATE:	7-6-98			

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH	NE tech		
MODEL:	ELECTRA	Electra		
SERIAL #:	134 1-7-98	1427		
CAL DATE:	1-7-98	1-7-98		
CAL DUE DATE:	5-12-98	5-12-98		
BACKGROUND:				
SFFICIENCY:	α 22.73 / β 35.49	α 22.73 / β 35.49		
MDA:	α 60 / β 455	α 60 / β 455		

MDA = CF X (2.71 + 3.29 √BKGRND COUNTS)

INFORMATION ONLY

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INFORMATION ONLY

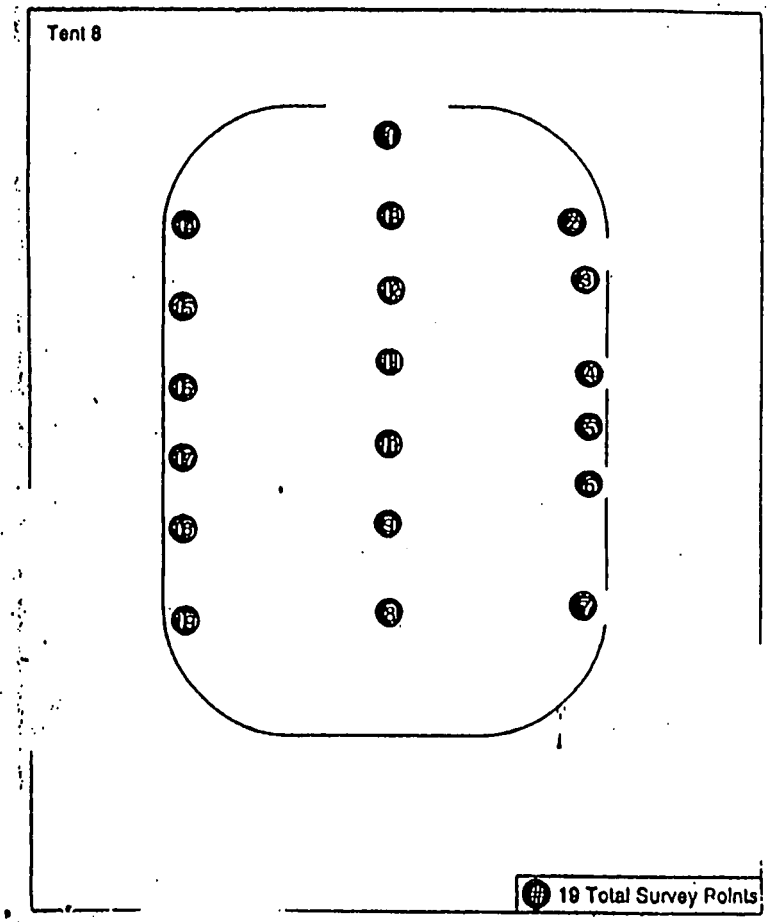
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<18	<205	<60	<455
2		<18	<205	<60	<455
3		<18	<205	<60	<455
4		<18	<205	<60	<455
5		<18	<205	<60	<455
6		<18	<205	<60	<455
7		<18	<205	<60	<455
8		<18	<205	<60	<455
9		<18	<205	<60	<455
10		<18	<205	<60	<455
11		<18	<205	<60	<455
12		<18	<205	<60	<455
13		<18	<205	<60	<455
14		<18	<205	<60	<455
15		<18	<205	<60	<455
16		<18	<205	<60	<455
17		<18	<205	<60	<455
18		<18	<205	<60	<455
19		<18	<205	<60	<455

JH 1-7-98

187

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COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 PAd

ROOM: tent 8

DATE: 01-07-98

TIME: 0910

ITEM DESCRIPTION: Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): J Hankins

J Hankins [redacted] 01-07-98

RCT SIGNATURE DATE

REVIEWED BY: T Hipsher

RO SUPERVISION PRINT NAME

[signature] 1/14/98

RO SUPERVISION SIGNATURE DATE

188

~~158~~

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	959	1050		
CAL DATE:	9-12-97	9-16-97		
CAL DUE DATE:	3-12-98	3-16-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 838			
CAL DATE:	1-6-98			
CAL DUE DATE:	7-6-98			

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:	~~[illegible]~~ 1-7-98			
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.7 [illegible]

INFORMATION ONLY

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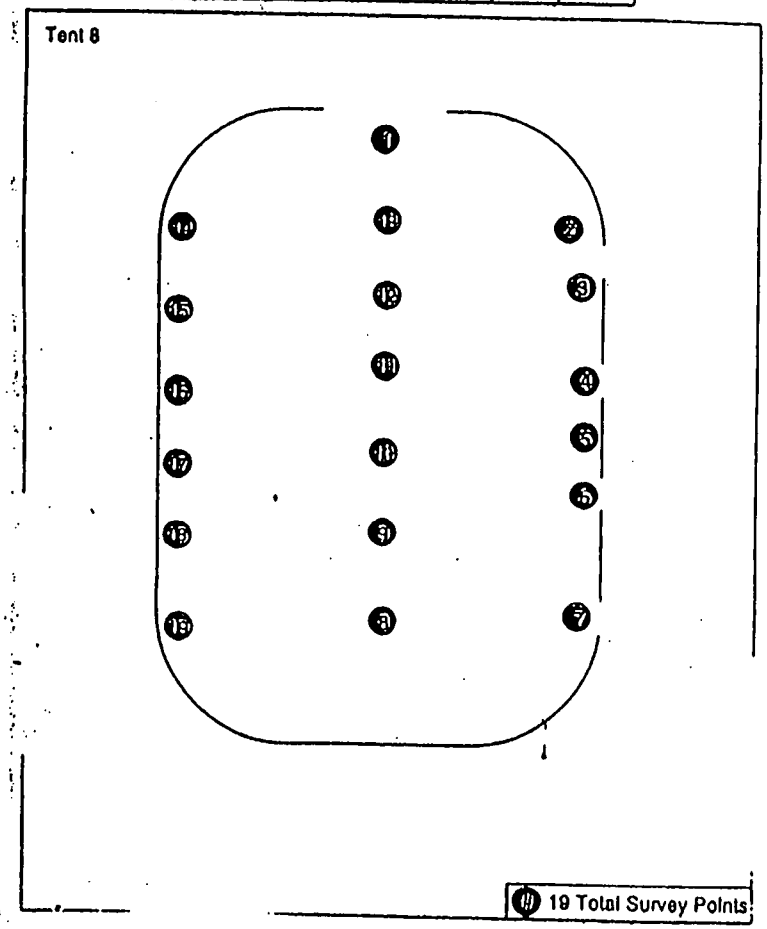
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRISK/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<18	<205	<60	<455
2		<18	<205	<60	<455
3		<18	<205	<60	<455
4		<18	<205	<60	<455
5		<18	<205	<60	<455
6		<18	<205	<60	<455
7		<18	<205	<60	<455
8		<18	<205	<60	<455
9		<18	<205	<60	<455
10		<18	<205	<60	<455
11		<18	<205	<60	<455
12		<18	<205	<60	<455
13		<18	<205	<60	<455
14		<18	<205	<60	<455
15		<18	<205	<60	<455
16		<18	<205	<60	<455
17		<18	<205	<60	<455
18		<18	<205	<60	<455
19		<18	<205	<60	<455

TH 1-7-98

189
~~154~~

COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL _____ RWP _____ OTHER Routine

BUILDING/LOCATION: 904 PAd

ROOM: Tent 8

DATE: 1-16-98

TIME: 1345

ITEM DESCRIPTION: Weekly Survey

COMMENTS: 2-2-99 I Hank I Forgot to Enter the Electra Data. I Feel the information is correct on this Date 1-16-98 See Performance test Log Copy

PERFORMED BY (PRINT NAME): Hankins L

I Hank

RCT SIGNATURE [redacted] 1-16-98 DATE

REVIEWED BY: THipsher

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 1/19/98 DATE

190

TCH

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	3-16-97	3-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	770	838		
CAL DATE:	1-7-98	1-06-98		
CAL DUE DATE:	7-7-98	9-06-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:	1290			
CAL DATE:	1-16-98			
CAL DUE DATE:	1-29-98			
BACKGROUND:				
SFFICIENCY:	A 23.4 % B 34.2 %			
MDA:	A < 60 B < 455			

MDA = CF X [2.71 + 4.65 √ BACKGROUND (CPM)]

INFORMATION ONLY

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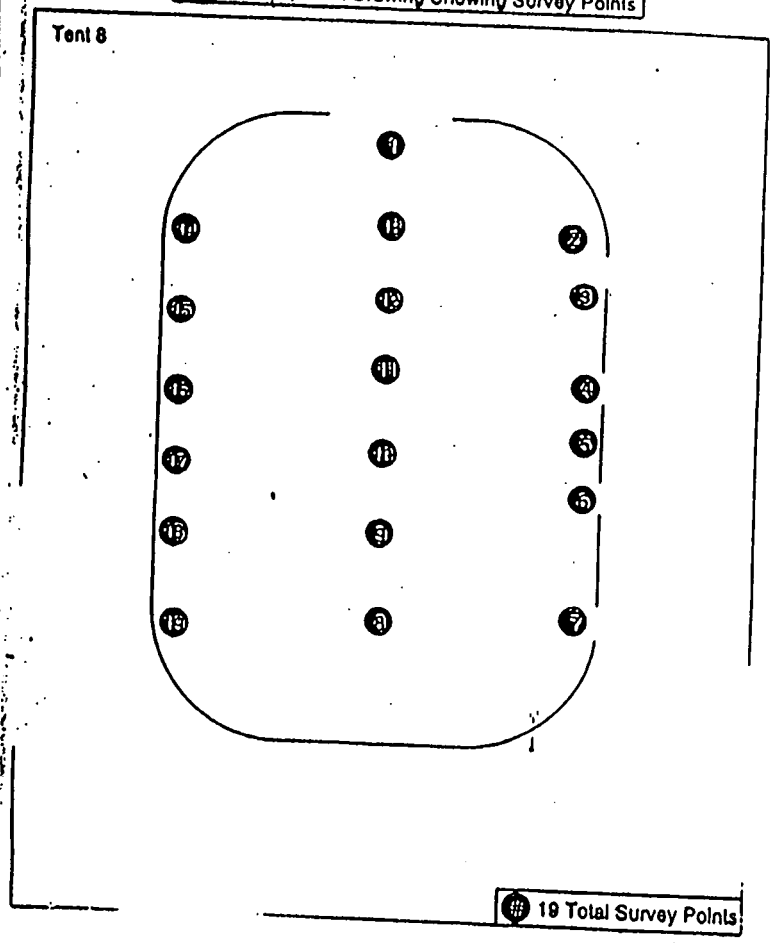
LOG NUMBER: [illegible]

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA GAMMA	TOTAL ALPHA (fixed/non fixed count)	TOTAL BETA GAMMA
1		<18	<205	<60	<455
2		<18	<205	<60	<455
3		<18	<205	<60	<455
4		<18	<205	<60	<455
5		<18	<205	<60	<455
6		<18	<205	<60	<455
7		<18	<205	<60	<455
8		<18	<205	<60	<455
9		<18	<205	<60	<455
10		<18	<205	<60	<455
11		<18	<205	<60	<455
12		<18	<205	<60	<455
13		<18	<205	<60	<455
14		<18	<205	<60	<455
15		<18	<205	<60	<455
16		<18	<205	<60	<455
17		<18	<205	<60	<455
18		<18	<205	<60	<455
19		<18	<205	<60	<455
		<18	<205	<60	<455

JH 1-16-98

191

COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: —

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE:	TIME:
1-21-98	0930

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): R Lunoz

RCT SIGNATURE / [redacted] EMP# / 1-21-98 DATE

REVIEWED BY: T Hipsher
RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 1/27/98 DATE

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REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

INFORMATION ONLY

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

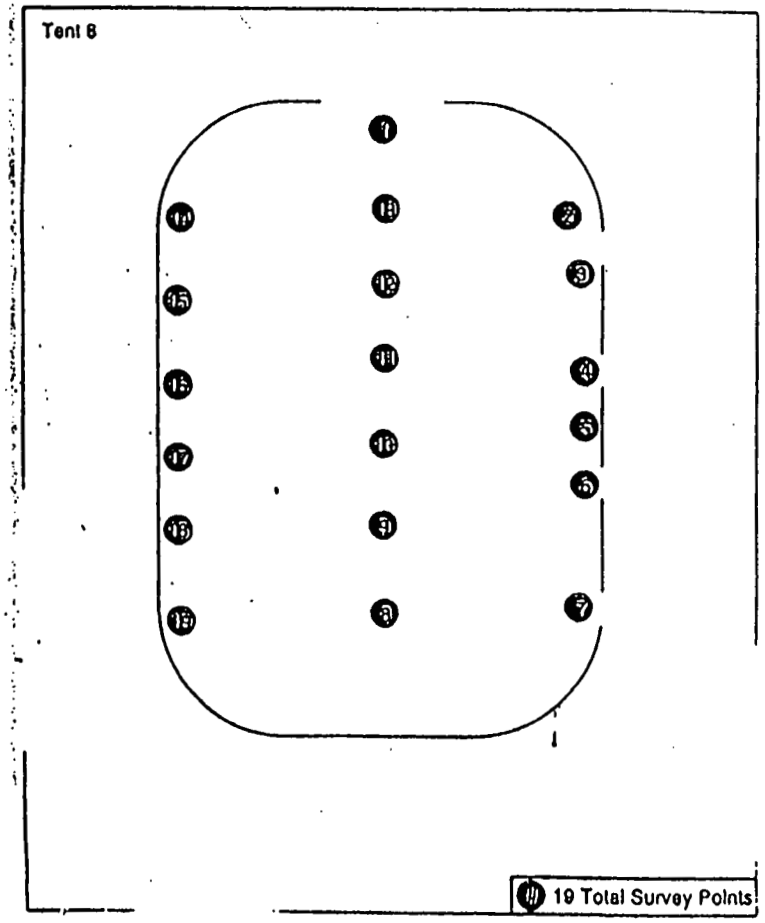
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SU SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

Jan 1-21-98

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~~163~~

COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE:	TIME:
1-29-98	1230

ITEM DESCRIPTION: Weekly Control Point Survey.

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE	EMP#	DATE
[signature]	[redacted]	1-29-98

REVIEWED BY: T Hupsher
RO SUPERVISION PRINT NAME

[signature] 12/12/98
RO SUPERVISION SIGNATURE DATE

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REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 X BACKGROUND (CPM))

INFORMATION ONLY

Printed with soy ink on recycled paper

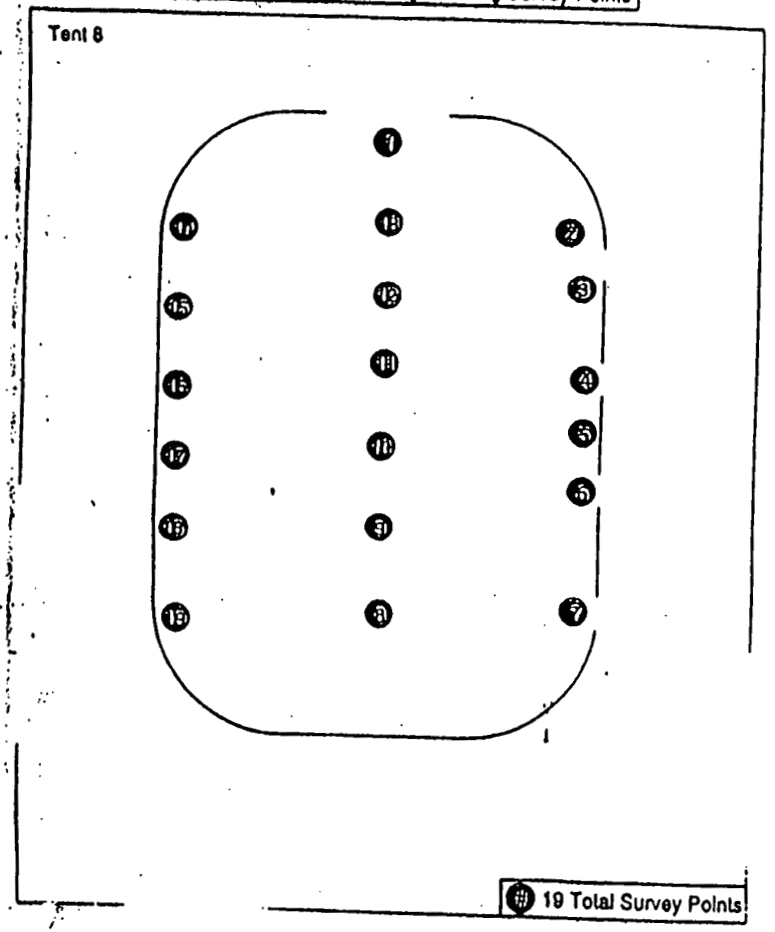
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE TOTAL BETA/GAMMA	TOTAL ALPHA (FIXED/REMOVABLE COMBINED)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

Gm 1-29-98

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B.2 RECONNAISSANCE LEVEL CHARACTERIZATION RADIOLOGICAL DATA

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 40	Bkg. 36	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1386	Serial # 1386
Cal Due 6/16/99	Cal Due 8-15-99	Cal Due 8-15-99
Bkg. 0.0	Bkg. α 4	Bkg. β 536
Efficiency 33%	Efficiency 21.8%	Efficiency 31.1%
MDA <20	MDA 56	MDA 331

Survey Type: Contamination Survey

Building: Tent # 8

Location: 904 Pad

Purpose: CHARACTERIZATION SURVEYS

RWP #: — NA —

Date: 3-30-99 Time: 1100

RCT: Rex Snyder / [signature] [redacted]

Print name Signature Emp. #

RCT: N / A /

Print name Signature Emp. #

PRL # :

Comments Exterior Survey

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 56	< 331	23.	< 20	< 200	< 56	< 331
2.	< 20	< 200	< 56	< 331	24.	< 20	< 200	< 56	< 331
3.	< 20	< 200	< 56	< 331	25.	< 20	< 200	< 56	< 331
4.	< 20	< 200	< 56	< 331	26.	< 20	< 200	< 56	< 331
5.	< 20	< 200	< 56	< 331	27.	< 20	< 200	< 56	< 331
6.	< 20	< 200	< 56	< 331	28.	< 20	< 200	< 56	< 331
7.	< 20	< 200	< 56	< 331	29.	< 20	< 200	< 56	< 331
8.	< 20	< 200	< 56	< 331	30.	< 20	< 200	< 56	< 331
9.	< 20	< 200	< 56	< 331	31.				
10.	< 20	< 200	< 56	< 331	32.				
11.	< 20	< 200	< 56	< 331	33.				
12.	< 20	< 200	< 56	< 331	34.				
13.	< 20	< 200	< 56	< 331	35.				
14.	< 20	< 200	< 56	< 331	36.				
15.	< 20	< 200	< 56	< 331	37.				
16.	< 20	< 200	< 56	< 331	38.				
17.	< 20	< 200	< 56	< 331	39.				
18.	< 20	< 200	< 56	< 331	40.				
19.	< 20	< 200	< 56	< 331	41.				
20.	< 20	< 200	< 56	< 331	42.				
21.	< 20	< 200	< 56	< 331	43.				
22.	< 20	< 200	< 56	< 331	44.				

N A

Date 4/5/99 RS Supervision: RSnyder [signature] [redacted]

Print Name Signature Emp. #

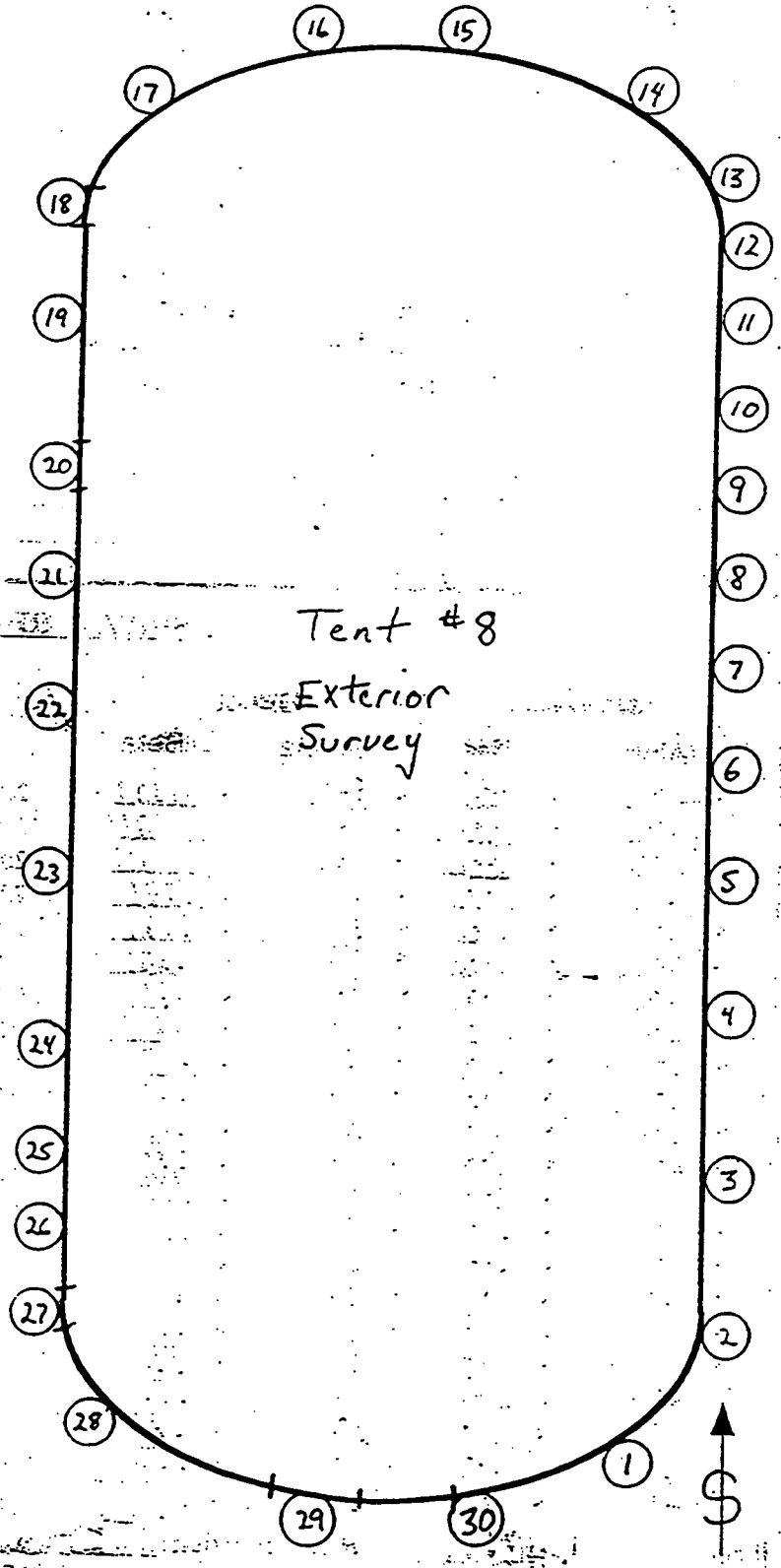
197

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	# 23/24 - C - 1'
2.	# W20 - C - 5'
3.	# W19/W18 - C - 8'
4.	# W16 - C - 1'
5.	# W15/W14 - C - 6'
6.	# W13 - 8'
7.	# W12/W11 - C - 3'
8.	# W9 - 1'
9.	# W8/W7 - C - 4'
10.	# W6/W5 - C - 8'
11.	# W4/W3 - C - 1'
12.	# W3/W2 - C - 5'
13.	# W1 - 2'
14.	# 25/26 - C - 4'
15.	# 27 - 3'
16.	# 28 - 6'
17.	# E1 - C - 4'
18.	~~# E2/E3 - C - 8' (above door~~
19.	# E4/E5 - C - 1'
20.	# E5/E6 - Door - 3'
21.	# E7/E8 - C - 8'
22.	~~# E9/E10 - C - 4'~~
23.	~~# E11 - C/C~~
24.	# E14/E13 - C - 6'
25.	~~# E16 - 7'~~
26.	~~# E17/E18 - C - 1'~~
27.	~~# E18/E19 - C - 8' (above door)~~
28.	~~# E21 - C - 4'~~
29.	Canvas Door 1'
30.	Canvas Door 4'
31.	
32.	
33.	
34.	
35.	
36.	
37.	N A
38.	
39.	
40.	
41.	
42.	
43.	
44.	



= Support ID

C = Canvas

(ft) = height from ground

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 38	Bkg. 39	Bkg. 0.2
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1685	Serial # 1685
Cal Due 6/16/99	Cal Due 6-18-99	Cal Due 6-18-99
Bkg. 0.2	Bkg. 9 6	Bkg. 8 448
Efficiency 33%	Efficiency 21.9%	Efficiency 31.3%
MDA <20	MDA 66	MDA 303

Survey Type: Contamination Survey

Building: Tent # 8

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: — NA —

Date: 03-31-99 Time: 1600

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: N / A /
Print name Signature Emp. #

PRL # :

Comments Interior Survey Plus Direct Scan 1m² at all locations < 2 meter

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 66	753	23.	< 20	< 200	< 66	< 303
2.	< 20	< 200	< 66	879	24.	< 20	< 200	< 66	< 303
3.	< 20	< 200	< 66	792	25.	< 20	< 200	< 66	< 303
4.	< 20	< 200	< 66	846	26.	< 20	< 200	< 66	< 303
5.	< 20	< 200	< 66	732	27.	< 20	< 200	< 66	< 303
6.	< 20	< 200	< 66	615	28.	< 20	< 200	< 66	< 303
7.	< 20	< 200	< 66	678	29.	< 20	< 200	< 66	< 303
8.	< 20	< 200	< 66	930	30.	< 20	< 200	< 66	< 303
9.	< 20	< 200	< 66	684	31.	< 20	< 200	< 66	< 303
10.	< 20	< 200	< 66	777	32.	< 20	< 200	< 66	< 303
11.	< 20	< 200	< 66	849	33.	< 20	< 200	< 66	< 303
12.	< 20	< 200	< 66	804	34.	< 20	< 200	< 66	< 303
13.	< 20	< 200	< 66	918	35.	< 20	< 200	< 66	< 303
14.	< 20	< 200	< 66	747	36.	< 20	< 200	< 66	< 303
15.	< 20	< 200	< 66	762	37.	< 20	< 200	< 66	< 303
16.	< 20	< 200	< 66	768	38.	< 20	< 200	< 66	< 303
17.	< 20	< 200	< 66	696	39.	< 20	< 200	< 66	< 303
18.	< 20	< 200	< 66	927	40.	< 20	< 200	< 66	< 303
19.	< 20	< 200	< 66	867	41.				
20.	< 20	< 200	< 66	807	42.			A	
21.	< 20	< 200	< 66	< 303	43.		N		
22.	< 20	< 200	< 66	< 303	44.				

Date 4/5/99 RS Supervision: R Snyder / [signature] [redacted]
Print Name Signature Emp. #

169

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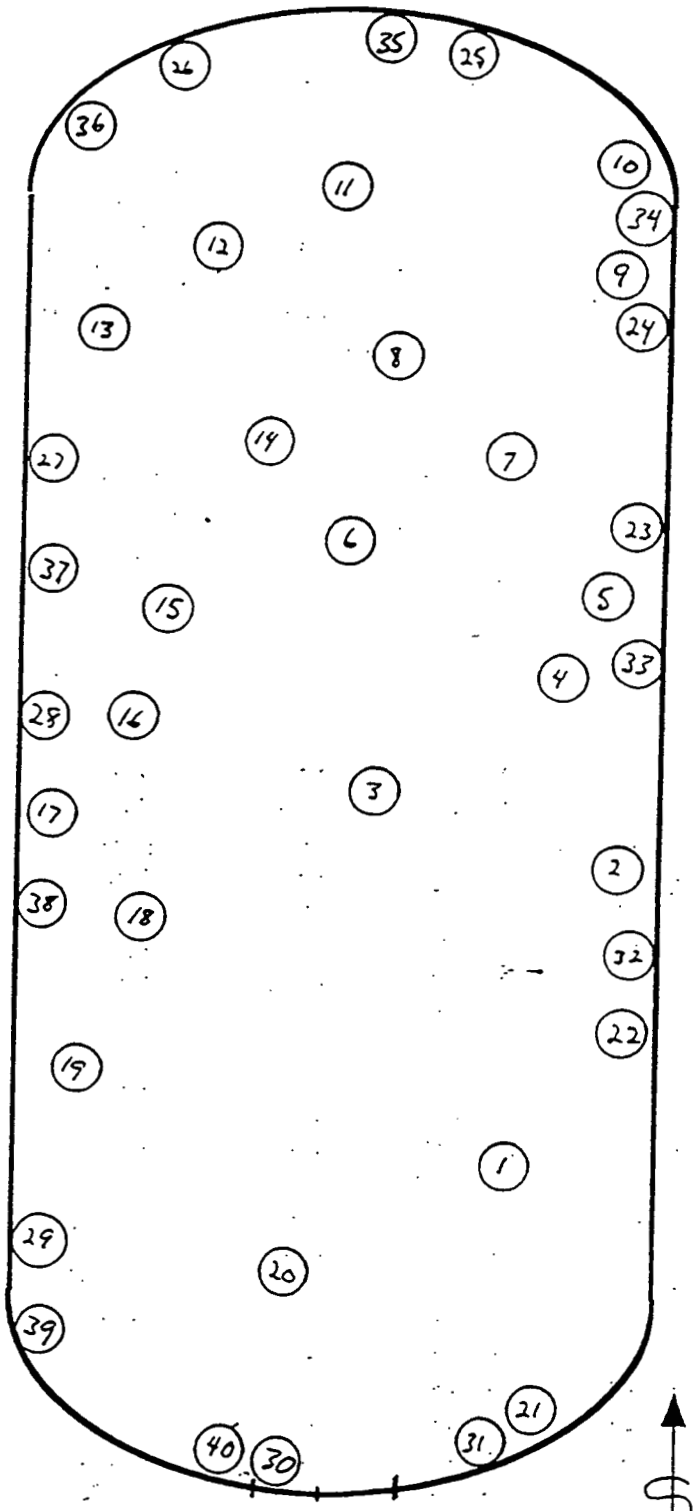
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	#W20 - F - 15'
2.	#W18 - F - 1'
3.	#W16 - F - 20'
4.	#W14 - F - 5'
5.	#W12 - F - 3'
6.	#W10 - F - 15'
7.	#W8 - F - 10'
8.	#W6 - F - 20'
9.	#W4 - F - 5'
10.	#W1 - F - 2'
11.	#27/26 - F - 25'
12.	#E2 - F - 15'
13.	#E4 - F - 4'
14.	#E6 - F - 28'
15.	#E9 - F - 10'
16.	#E11 - F - 9'
17.	#E14 - F - 2'
18.	#E17 - F - 10
19.	#E19 - F - 4'
20.	#22/23 - F - 25'
21.	#23 - Yellow Support - 4'
22.	#W16 - C - 1'
23.	#W12 - W11 - C - 5'
24.	#W6 - 3'
25.	#27/26 - C - 5'
26.	#E1 - 4'
27.	#E2/E3 - Door - 3'
28.	#E10 - C - 5'
29.	#E20/E19 - C - 5'
30.	#21 - Door - 6'
31.	#23 - Yellow Support - 8'
32.	#W17 - 8'
33.	#W11 - C - 8'
34.	#W2 - 8'
35.	#26 - C - 8'
36.	#E1 - 8'
37.	#E7 - 8'
38.	#E16 - 8'
39.	#E20 - 8'
40.	#22 - Yellow Support - 8'
41.	
42.	
43.	
44.	

N A



Tent #8

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——→

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 8

DATE: 2-4-98

TIME: 1300

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE / [redacted] EMP# / 2-4-98 DATE

REVIEWED BY: THipsher
RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 2/12/98 DATE

201
TH

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc720	Bc838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

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LOG NUMBER: _____

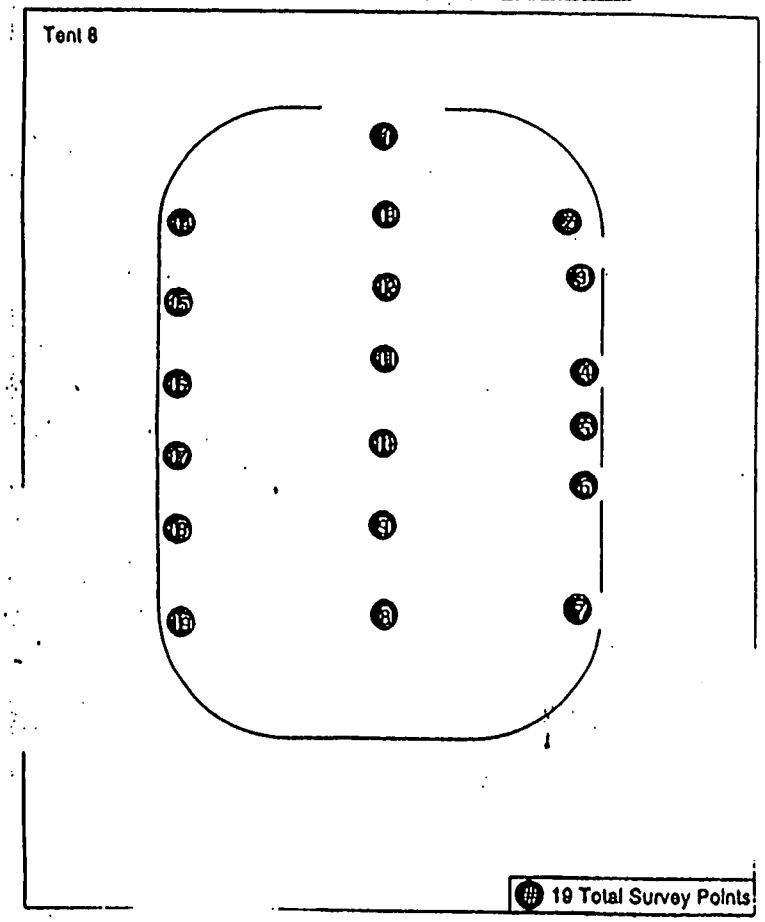
PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FINISHED DEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 2-4-98

202
TM

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: —

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 8

DATE: 2/12/98

TIME: 0930

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE / [redacted] EMP# / 2-12-98 DATE

REVIEWED BY: T Hypsher

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 2/23/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 √BACKGROUND (CPM)]

203

TR

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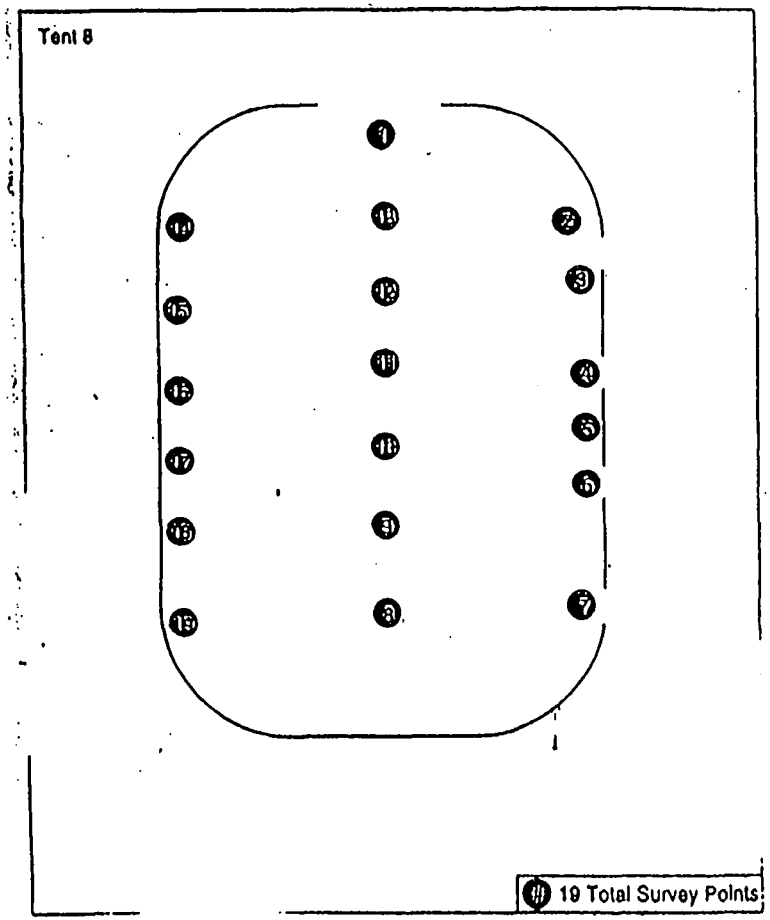
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 2-12-98

204
XX4

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE: 2-18-98	TIME: 0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

[signature] / [redacted] / 2-18-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: THypsher

RO SUPERVISION PRINT NAME

[signature] 12/23/98

RO SUPERVISION SIGNATURE / DATE

205

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	759		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

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LOG NUMBER: _____

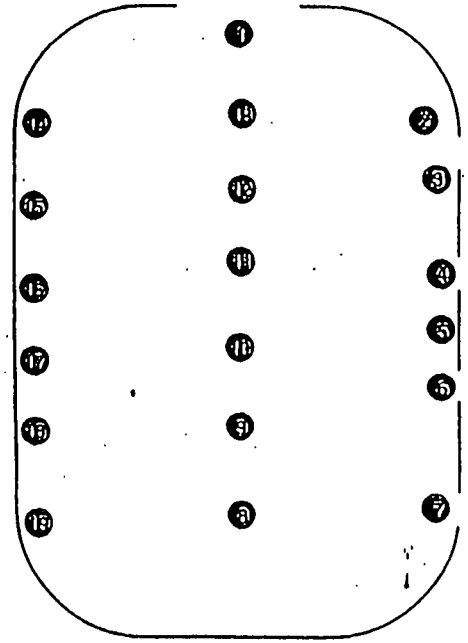
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (including removable)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

2-18-88

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INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER "Routine

BUILDING/LOCATION:	ROOM:
904 PAd	tent 8
DATE:	TIME:
02-26-98	1410

ITEM DESCRIPTION: weekly

COMMENTS:

PERFORMED BY (PRINT NAME): L Hawkins

RCT SIGNATURE [redacted] EMP # 02-26-98 DATE

REVIEWED BY: T Hipsher

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 3/4/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	959		
CAL DATE:	10-8-97	8-12-97		
CAL DUE DATE:	4-8-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

207 ~~177~~

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LOG NUMBER: _____

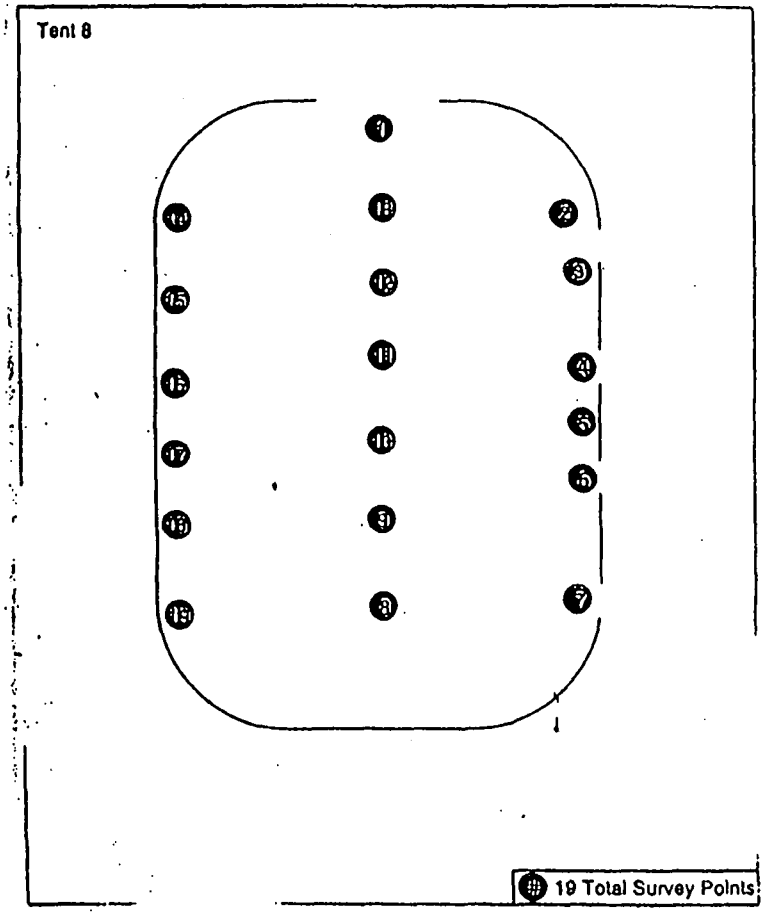
PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE EQUIV)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 02-26-98

208

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER "Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE: 3-11-98 ~~3-10-98~~ 2X	TIME: 1400

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): L Hawkins

J Hal [redacted] 3-10-98

RCT SIGNATURE DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] 3-17-98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	767		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

209
~~119~~

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LOG NUMBER: _____

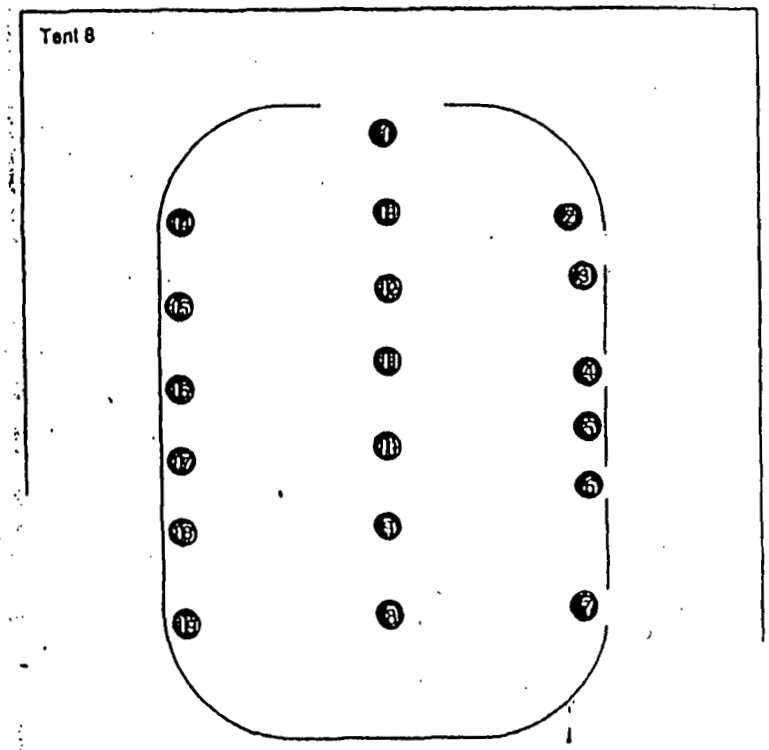
PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FINISH/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		
	JH 3-10-98				

210
182

LOC MBER:

FOR: _____ P/WRE _____ PRL

_____ RWP X OTHER Routine

BUILDING/LOCATION:	ROOM:
904 PAD	tent 8
DATE: 3-17-98	TIME: 12:30

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins

Hah — [redacted] 13-17-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: K. GARLAND

RO SUPERVISION PRINT NAME

[signature] 13/26/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	767	797		
CAL DATE:	10-10-97	10-8-97		
CAL DUE DATE:	4-10-98	4-8-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

2/1 X 8

Printed with soy ink on recycled paper

LOG NUMBER: _____

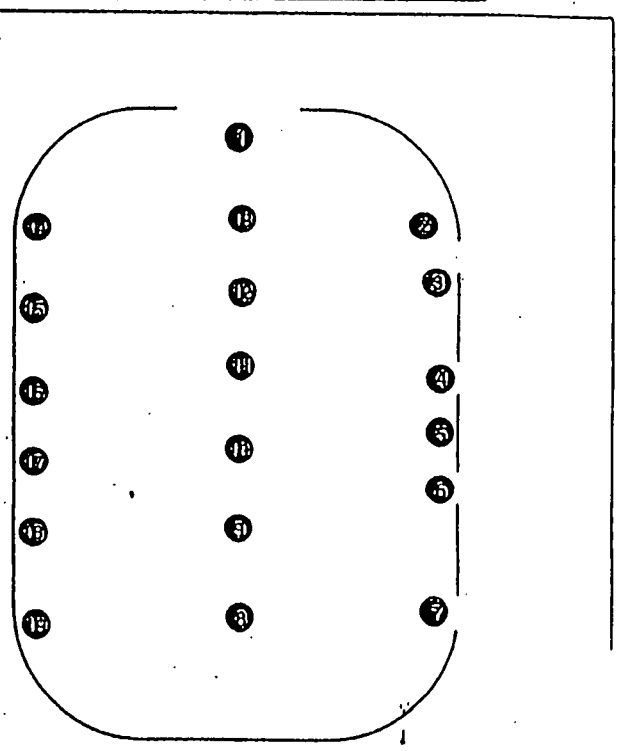
PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

J.H. 3-17-98

INFORMATION

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 PAD	tent 8
DATE: 3-25-98	TIME: 10:00

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins

RCT SIGNATURE [redacted] DATE 3-26-98

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE DATE 4-1-98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	767		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC878		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

213
X3

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LOG NUMBER: _____

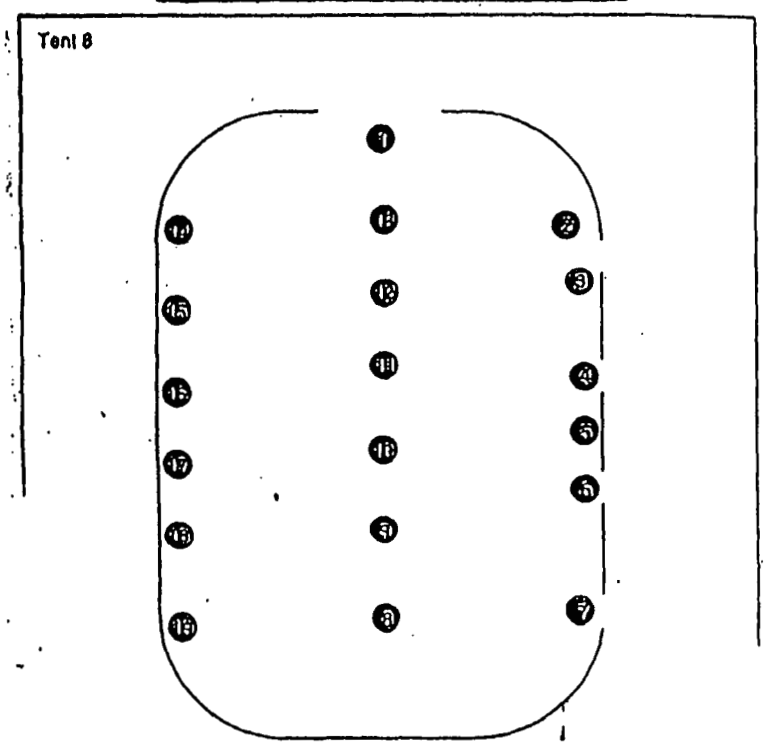
PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

DH 3-26-98

Tot 214

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE:	TIME:
4-1-98	1000

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS: * Could not complete survey due to icy & snow blocking all entrances to tent

PERFORMED BY (PRINT NAME): M Munoz

[signature] / [redacted] / 4-1-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: K-Cornelius

RO SUPERVISION PRINT NAME

[signature] 4/10/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$MDA = CF \times \{2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)}\}$

215

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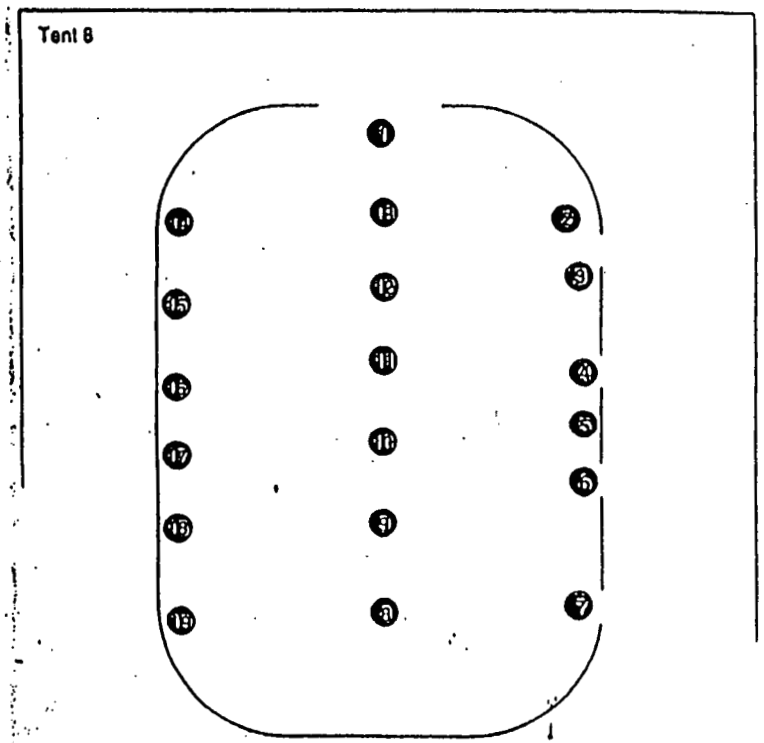
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE		TOTAL ALPHA (Fixed/Fixed Count)	TOTAL BETA/GAMMA
		ALPHA	BETA/GAMMA		

4-1-98

216

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ___ P/WRE ___ PRL ___ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	tent #8
DATE: 4-9-98	TIME: 1315

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins L

Hal — RCT SIGNATURE

[redacted] — EMP #

4-9-98 — DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

K E Garland — RO SUPERVISION SIGNATURE

5/5/98 — DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	824	767		
CAL DATE:	3-24-98	10-10-97		
CAL DUE DATE:	9-24-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 √BACKGROUND (CPM)]

217
~~187~~

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LOG NUMBER: _____

PAGE ____ OF ____

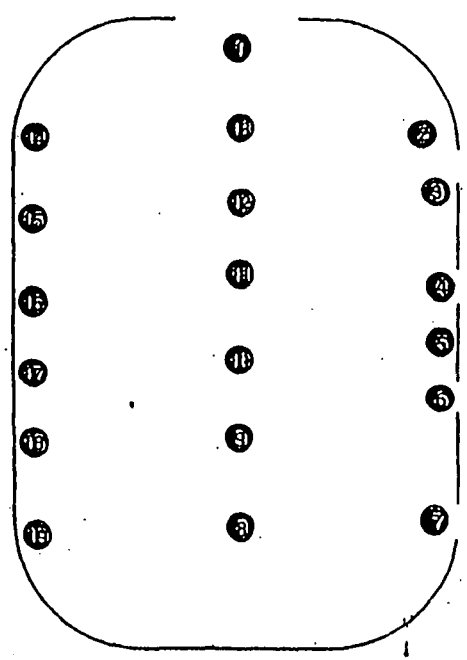
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 4-9-98

218

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 PAd

ROOM: Tent 8

DATE:

TIME: 0 830

ITEM DESCRIPTION: Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins

[signature] [redacted] 14-15-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: K. Campbell

RO SUPERVISION PRINT NAME

[signature] 15/4/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

219
~~139~~

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LOG NUMBER: _____

PAGE ____ OF ____

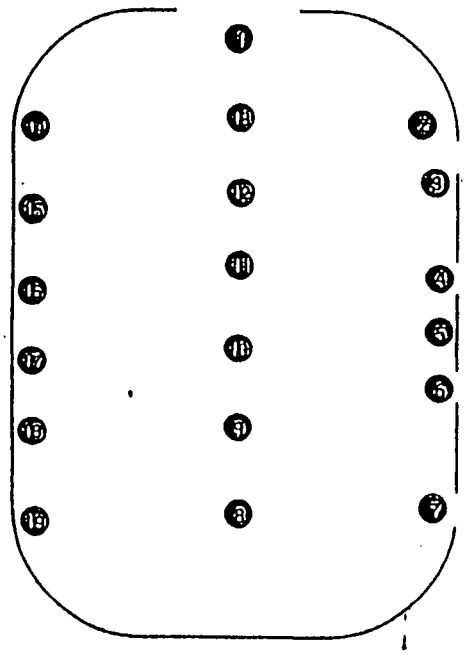
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

TH 4-15-98

220
140

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE: 4-23-98	TIME: 0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE | [redacted] EMP# | 4-23-98 DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE | 5/20/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 270	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 √BACKGROUND (CPM))

221
441

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LOG NUMBER: _____

PAGE 2 OF 2

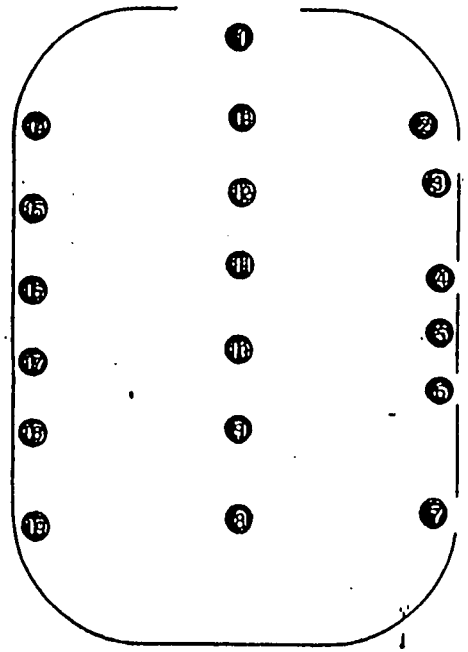
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 4.23.98

222
142

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 8

DATE: 4-28-98

TIME: 0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

[signature] / [redacted] / 4-28-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] / 5/19/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc770	Bc838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

223
~~193~~

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LOG NUMBER: _____

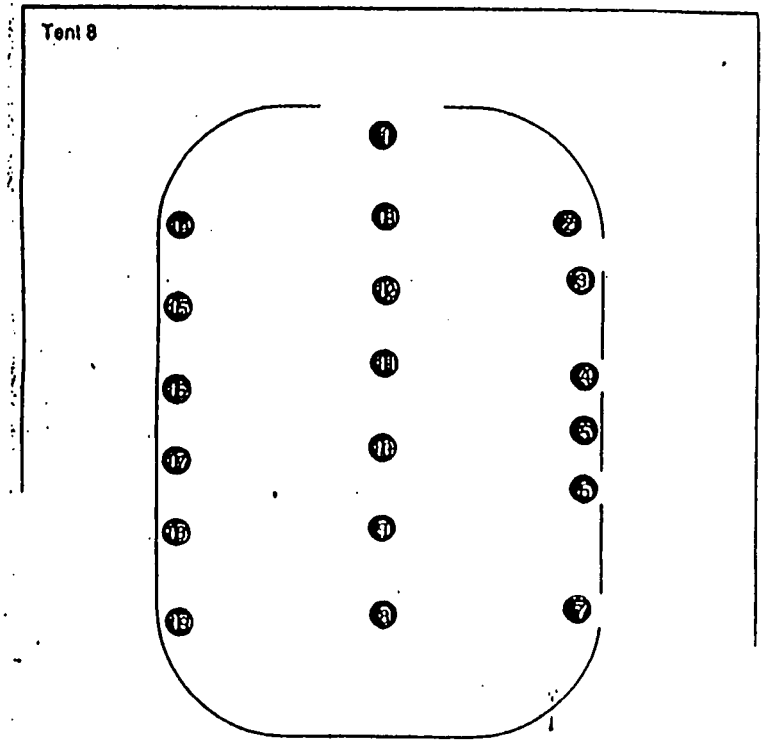
PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 4-28-98

224
194

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 8

DATE: 5-7-98

TIME: 1330

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): [signature] [redacted] / 5-7-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] 5/20/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

225

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LOG NUMBER: _____

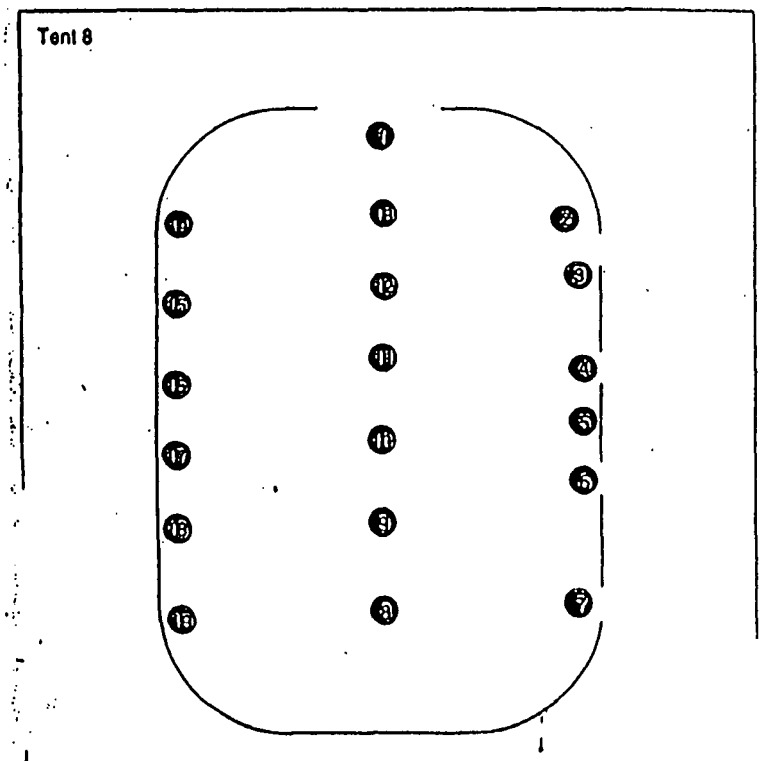
PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

5-7-98

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INFORMATION

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: TENT #5

DATE: 5-13-98

TIME: 0800

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): M. E. VAUGHN

RCT SIGNATURE | EMP# [redacted] | DATE 10-13-98

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE | DATE 6-10-98

227/197

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	799	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	720	838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 √BACKGROUND (CPM)]

Printed with soy ink on recycled paper

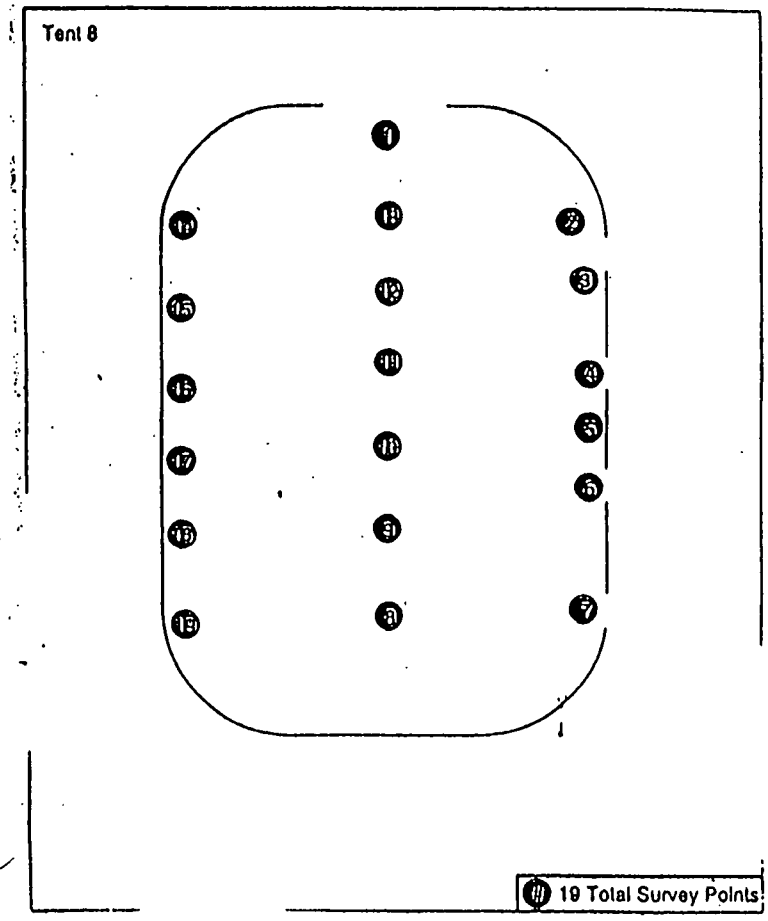
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SU SEC COUNT)	TOTAL BETA/GAMMA
1	refer to Map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

228
X98

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: ——

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE:	TIME:
5-21-98	0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins L

[signature] [redacted] 5-21-98

RCT SIGNATURE — EMP # — DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

[signature] 6-10-98

RO SUPERVISION SIGNATURE — DATE

229

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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LOG NUMBER: _____

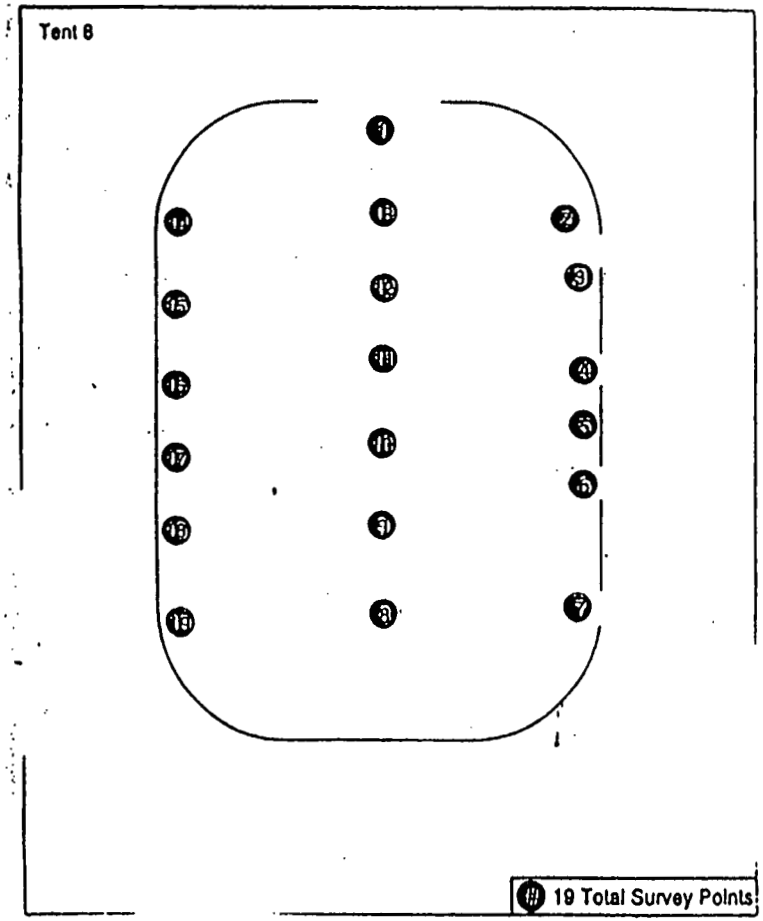
PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1	refer to map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

9-5-21-98

230
200

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 8

DATE: 5-27-98

TIME: 0930

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): [redacted]

[redacted] / 5-27-98

RCT SIGNATURE / DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

J. Stewart-Bell 6-10-98

RO SUPERVISION SIGNATURE / DATE

231
201

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

Printed with soy ink on recycled paper

LOG NUMBER: _____

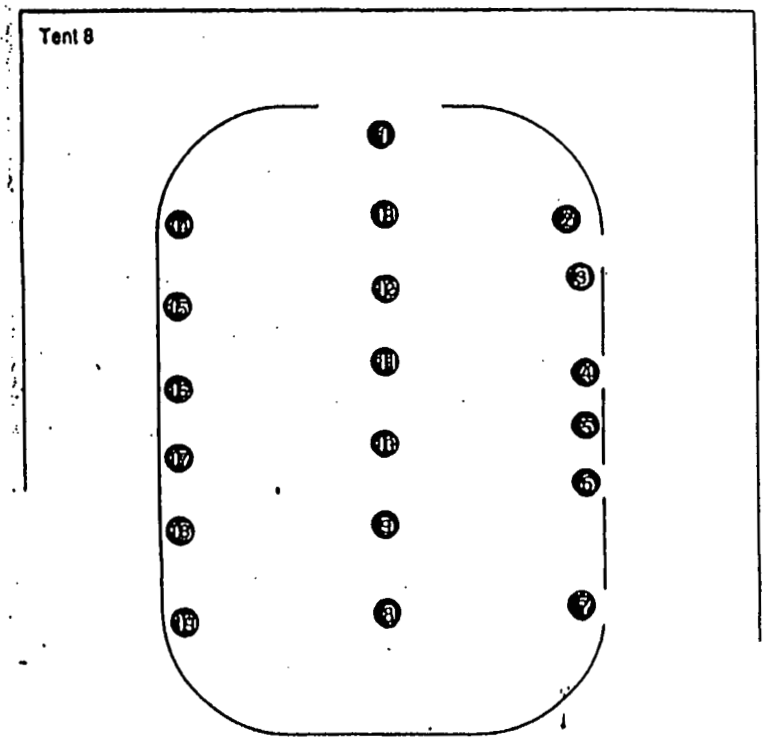
PAGE 2 OF 2

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.: _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FINISH/SURFACE COUNT)	TOTAL BETA/GAMMA
1	refer to map.	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		
	[illegible] 5-22-98				

232
202

INFORMATIONAL

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL _____ RWP _____ OTHER Routine

BUILDING/LOCATION: 504 Pad

ROOM: tent #8

DATE: 06-04-98

TIME: 1300

ITEM DESCRIPTION: Weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins L

RCT SIGNATURE | EMP# [redacted] | DATE 06-04-98

REVIEWED BY: R. Sawyer

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE | DATE 6/9/98

233

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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LOG NUMBER: _____

PAGE ____ OF ____

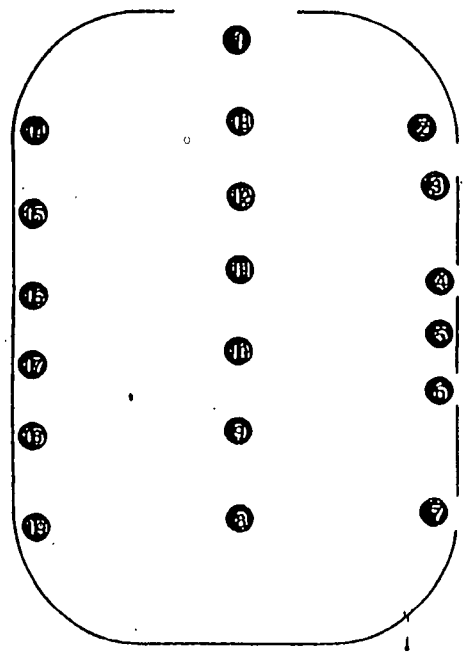
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SURFACE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 06-04-98

JH 06-04-98

234
204

IT CONTAMINATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER "Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE:	TIME:
6-9-98	0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE / [redacted] / 6-9-98
EMP# DATE

REVIEWED BY: Sawyer
RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 6/26/98
DATE

235

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc220	Bc838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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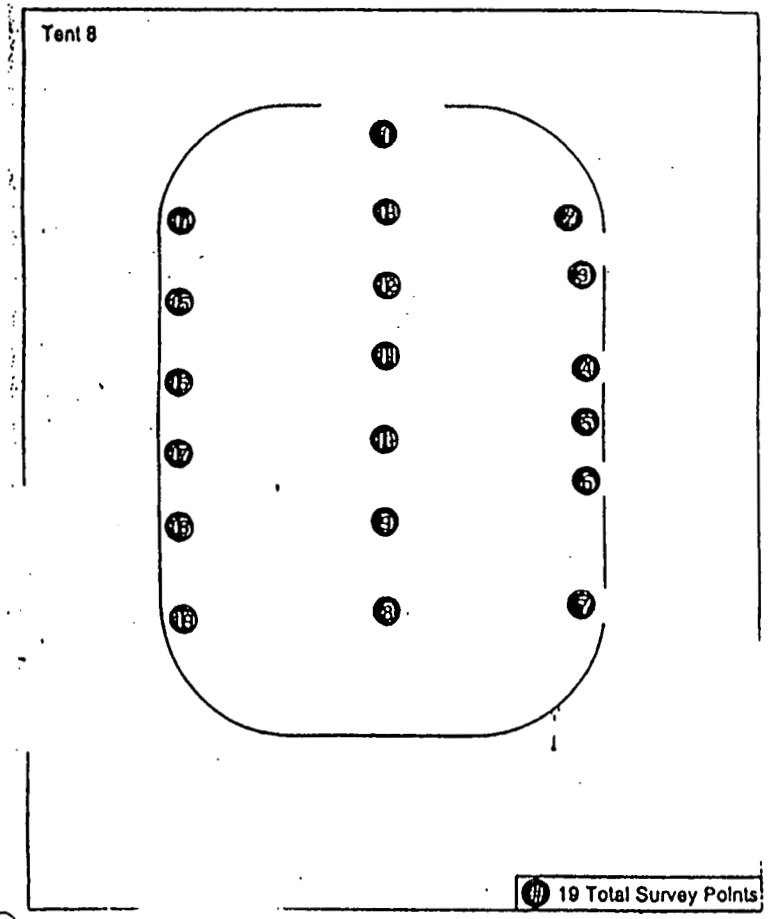
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/removable count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

6-9-98

236
266

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP X OTHER "Routine

BUILDING/LOCATION: 904 PAD	ROOM: Tent 8
DATE: 6-10-97	TIME: 0915

ITEM DESCRIPTION: weekly CC survey

COMMENTS:

PERFORMED BY (PRINT NAME): M. MACKENZIE

M. Mackenzie / [redacted] / 6-10-97

RCT SIGNATURE / EMP # / DATE

REVIEWED BY: Teresa Johnston

RO SUPERVISION PRINT NAME

Teresa Johnston / 6-12-97

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	624	1050		
CAL DATE:	3-10-97	3-11-97		
CAL DUE DATE:	9-10-97	9-11-97		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	638	770		
CAL DATE:	12-11-96	1-9-97		
CAL DUE DATE:	6-11-97	7-9-97		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

238

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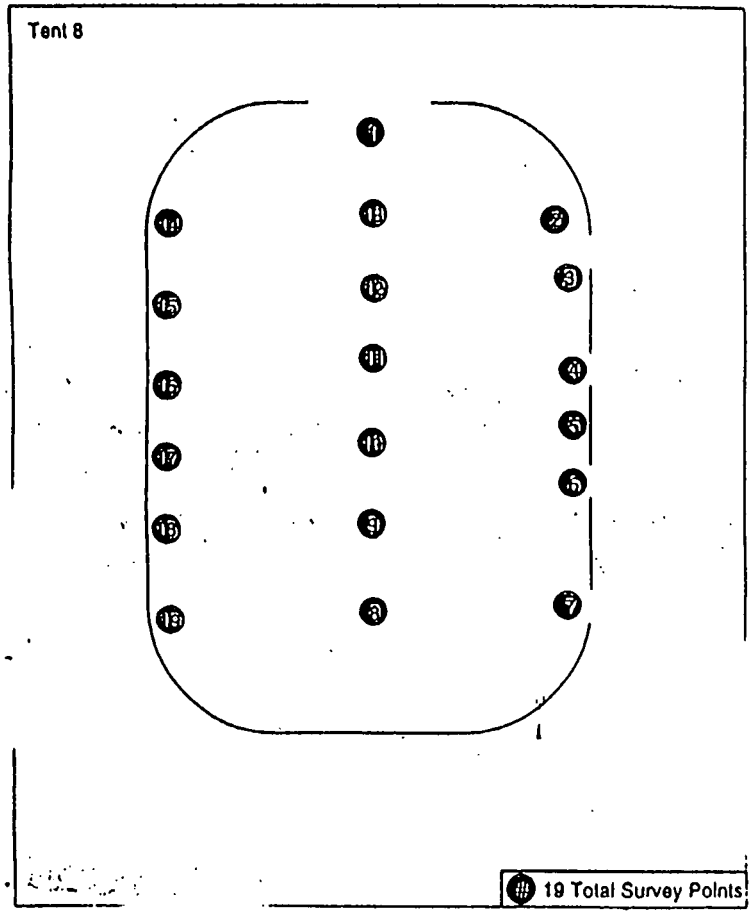
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/removable)	TOTAL BETA/GAMMA
1	SEE SKETCH	<18	<205		
2		<18	<205		
3		<18	<205		
4		<18	<205		
5		<18	<205		
6		<18	<205		
7		<18	<205		
8		<18	<205		
9		<18	<205		
10		<18	<205		
11		<18	<205		
12		<18	<205		
13		<18	<205		
14		<18	<205		
15		<18	<205		
16		<18	<205		
17		<18	<205		
18		<18	<205		
19		<18	<205		

238
208

LOG NUMBER:

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 8

DATE: ~~6-16~~ 6-17-98

TIME: 0800

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE [redacted] EMP# 6-17-98 DATE

REVIEWED BY: R. Sawyer

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 6/25/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

239

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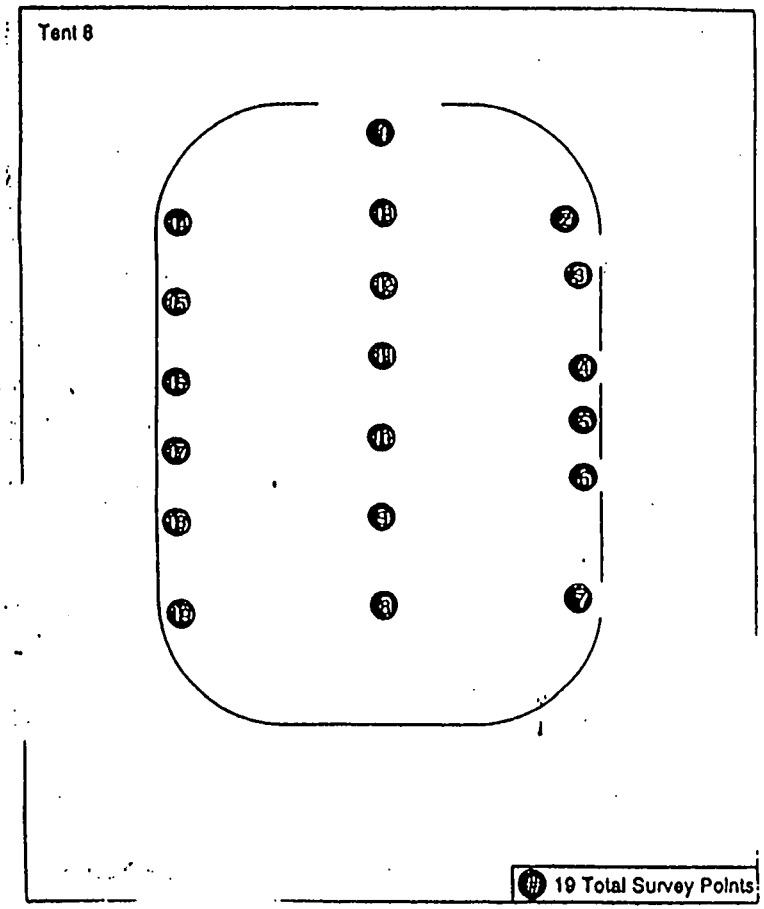
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (DPM/100 CM²)	TOTAL BETA/GAMMA
1	SEE MAP	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

6-12-98

240
240

INFORMATION

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 8
DATE: 6-24-98	TIME: 0730

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

Munoz / [redacted] / 6-24-98

RCT SIGNATURE / EMP # / DATE

REVIEWED BY: R. Sample

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 7/23/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

241

~~211~~

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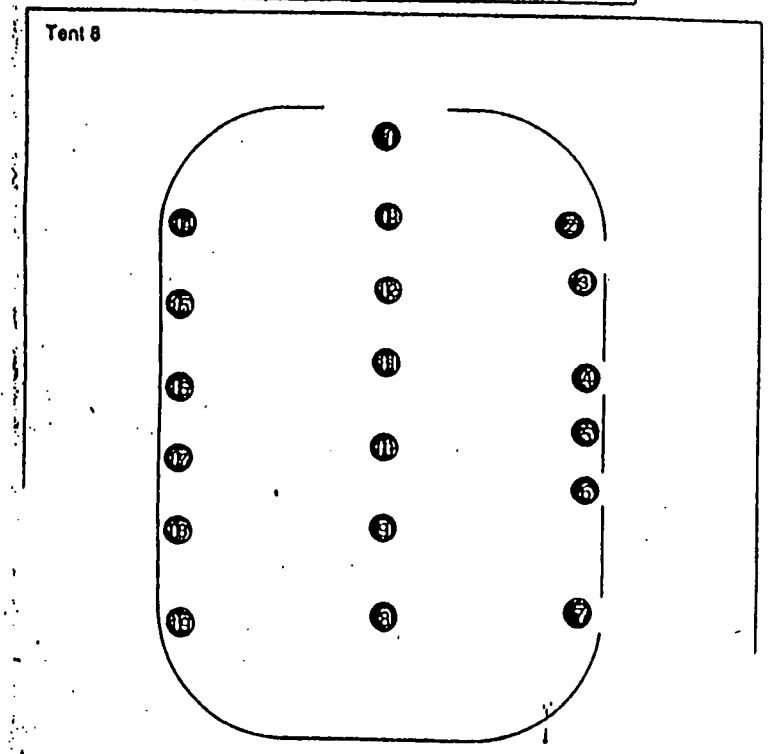
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/removable see comm)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

6-24-98

2/2

RS FORMS 07.02-01

INFORMATION ONLY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due
Bkg. 0.2	Bkg. 0.2	Bkg.
Efficiency 33%	Efficiency 33%	Efficiency
MDA <20	MDA <20	MDA
Mfg. Eberline	Mfg. Eberline	Mfg.
Model BC-4	Model BC-4	Model
Serial # BC270	Serial # BC838	Serial #
Cal Due 7-7-98	Cal Due 7-6-98	Cal Due
Bkg. 41	Bkg. 43	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA <200	MDA <200	MDA

Survey Type: Contamination Survey
Building: 904 Pad
Location: Tent 8
Purpose: Weekly Control Point Survey

~~RWP #:~~ [illegible] 7-1-98

Date: 7-1-98 Time: 0930

RCT: Munoz [illegible] [redacted]
Print name Signature Emp. #

RCT: [illegible] 7-1-98
Print name Signature Emp. #

~~PRL #:~~ [illegible] 7-1-98

Comments: See attached form for survey results

SURVEY RESULTS

[illegible] 7-1-98

D. Reviewed: 7/23/98 RS Supervision: R. Sawyer [illegible] [redacted]
Print Name Signature Emp. #

Rev. 05/98

@RAH

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

7-1-98

244
244

Printed with soy ink on recycled paper

LOG NUMBER: 2-1-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

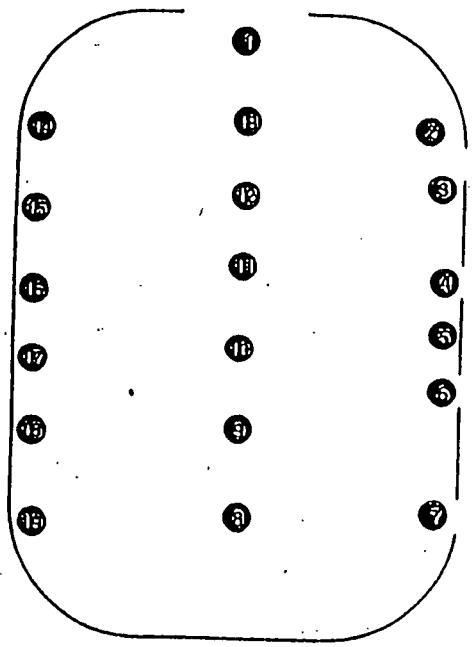
PAGE 2 OF

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/removable)	
1	See Map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

2-1-98

245

RADIOLOGICAL CONTAMINATION SURVEY FORM

7-1-98

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

Aug 31-98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 √BACKGROUND (CPM))

#246

INFORMATION ONLY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-13-98	Cal Due
Bkg. 0.1	Bkg. 0.1	Bkg.
Efficiency 33%	Efficiency 33%	Efficiency
MDA 20 dpm	MDA 20 dpm	MDA
Mfg. Eberline	Mfg. Eberline	Mfg.
Model Bc-4	Model Bc-4	Model
Serial # Bc704	Serial # Bc702	Serial #
Cal Due 12-11-98	Cal Due 12-15-98	Cal Due
Bkg. 36	Bkg. 38	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA 200 dpm	MDA 200 dpm	MDA

Survey Type: Contamination Survey
Building: 904 Pad
Location:
Purpose: Weekly Control Point Survey

RWP #: am 7-8-98

Date: 7-8-98 Time: 0800 [redacted]

RCT: Munoz [signature] [redacted]
Print name Signature

RCT: Hankins [signature] [redacted]
Print name Signature Emp. #

PRL #: am 7-8-98

TENT 8

Comments: Weekly Surveys include Source Locker, Tent 7, Locker Room, Break Room, 904 Pad, Tent 8, Tent 9, Tent 10, Tent 11

SURVEY RESULTS

* See attached sheets for weekly survey results

ate Reviewed: 7/23/98 RS Supervision: R Sawyer [signature] [redacted]
Print Name Signature Emp. #

217
247

Printed with soy ink on recycled paper

LOG NUMBER: 9-7-8-98

PAGE ____ OF ____

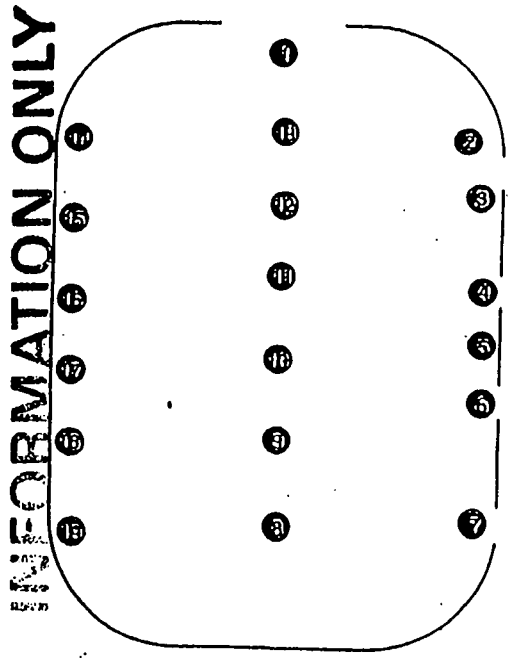
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. ____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (Fixed/Fixed Count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

9-7-8-98

248

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

249

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg. Eberline
Model SAC 4	Model SAC 4	Model BC 4
Serial # 795	Serial # 824	Serial # 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.0	Bkg. 35
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20	MDA <20	MDA <200
Mfg. Eberline	Mfg. NE tec	Mfg.
Model BC 4	Model Electra	Model
Serial # 707	Serial # 1680	Serial #
Cal Due 12-15-98	Cal Due 9-3-98	Cal Due
Bkg. 38	Bkg. α 2.0 β 398	Bkg.
Efficiency 25%	Efficiency α 24.3% β 93.3%	Efficiency
MDA <200	MDA β 455	MDA

JH 7-16-98

Survey Type: Contamination

Building: 904

Location: 904 Pad ~~office locker~~ TENT

Purpose: Weekly

~~RWP #~~ JH

Date: 7-16-98 Time: 1540

RCT: L Hankins L Hank [redacted]

Print name Signature Emp. #

RCT: / /

Print name Signature Emp. #

~~PRL #~~: JH 7-16-98

Comments: NONE

SURVEY RESULTS

See Following pages for survey results.

JH 7-16-98

Date Reviewed: 8/5/98 RS Supervision: [signature] [signature] [redacted]

Print Name Signature E

~~220~~
250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

7-16-98

251

Printed with soy ink on recycled paper

LOG NUMBER: 7-16-98

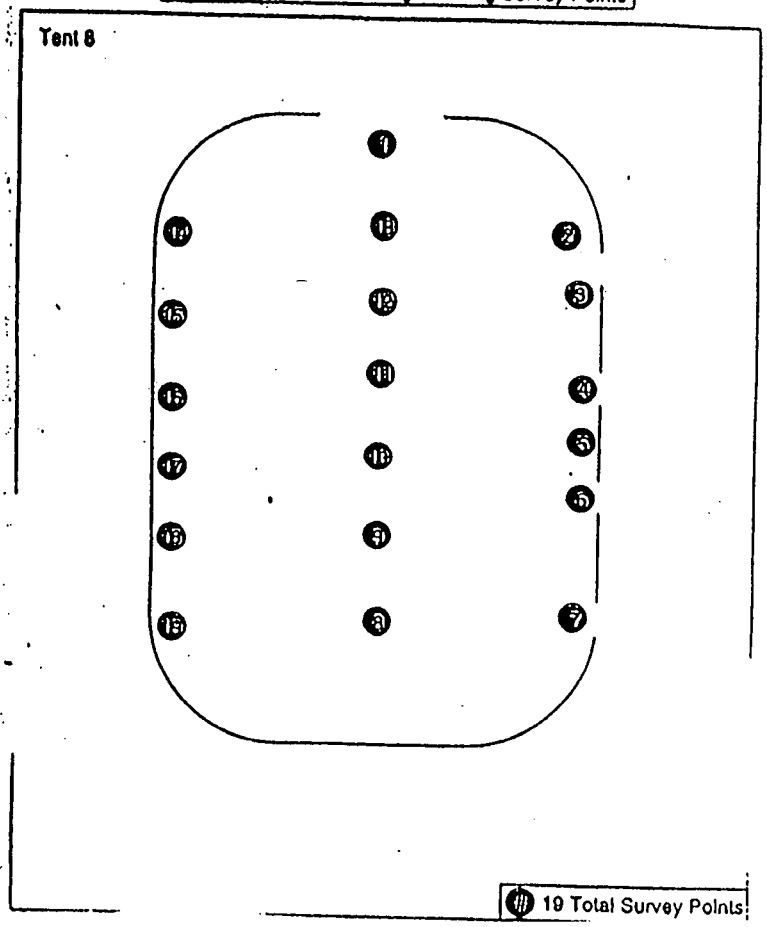
PAGE 2 OF

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SUBSEC COUNT)	TO DE GA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

252

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: ROOM:

DATE: TIME:

ITEM DESCRIPTION: _____

Cm 7-16-98

COMMENTS: _____

PERFORMED BY (PRINT NAME): _____

_____ / _____ / _____

RCT SIGNATURE EMP# DATE

REVIEWED BY: _____

RO SUPERVISION PRINT NAME

_____ / _____

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

253

223

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INFORMATION ONLY

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due
Bkg. 0.0	Bkg. 0.0	Bkg.
Efficiency ~~33%~~ 33%	Efficiency 33%	Efficiency
MDA 20 d/m	MDA 20 d/m	MDA
Mfg. Eberline	Mfg. Eberline	Mfg.
Model BC-4	Model BC-4	Model
Serial # BC704	Serial # BC702	Serial #
Cal Due 12-11-98	Cal Due 12-15-98	Cal Due
Bkg. 36	Bkg. 38	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA 200 d/m	MDA 200 d/m	MDA

7-22-98

Survey Type: Contamination Survey

Building: 904 Pad

Location: 904 Pad T-7 T8-T9 T10 T11 Break Room, Locker Room, Service Locker

Purpose: Weekly Control Point on 7-22-98

RWP #:

Date: 7-22-98 Time: 0800

RCT: HAWKINS [redacted]
Print name Signature Emp. #

RCT: MUNOZ [redacted]
Print name Signature Emp. #

PRL #: on 7-22-98

Comments:

* See attached survey forms for survey results

TENT 8

SURVEY RESULTS

on 7-22-98

Date Reviewed: 8/5/98 RS Supervision: [redacted]
Print Name Signature Emp. #

~~224~~
254

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

7-22-98

225
255

Printed with soy ink on recycled paper

LOG NUMBER: 7-22-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

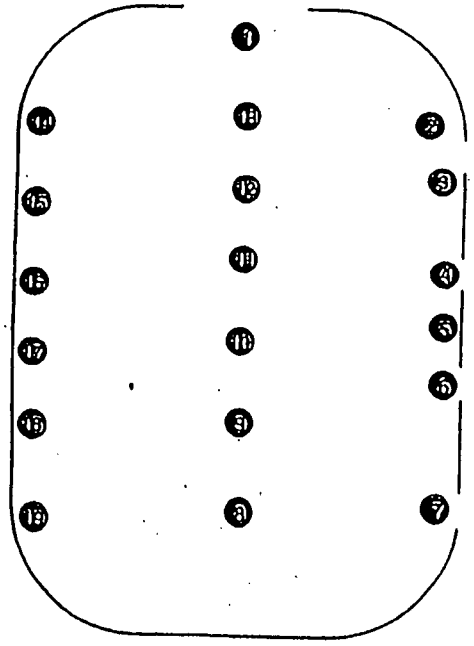
PAGE 2 OF 2

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



INFORMATION ONLY

19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRIEND/SUBSEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

7-22-98

156

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE

Aug 7-22-98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

257
227

RS FORMS 07.02-01

INFORMATION ONLY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # BC 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.0	Bkg. 38
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 d/m	MDA 20 d/m	MDA 200 d/m
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA ~~20~~ 200 d/m	MDA	MDA

Survey Type: CONTAMINATION

Building: 904 Pad

Location: T-7, Locker Room Break Room 904 Pad, T-8, T-9, T-10, T-11

Purpose: Source Locker Weekly Control Point Survey

TENT 8

~~RWP #:~~ 7-30-98

Date: 7-30-98 Time: 0900

RCT: Munoz / [signature] [redacted]

Print name Signature Emp. #

RCT: / /

Print name Signature Emp. #

~~PRL #:~~ 7-30-98

Comments: Survey results, for each survey, are located on attached sheets.

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.					23.				
2.					24.				
3.					25.				
4.					26.				
5.					27.				
6.					28.				
7.					29.				
8.					30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed 8/26/98 RS Supervision: [signature] [signature] [redacted]

Print Name Signature

~~228~~

258

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

9-30-98

229
259

Printed with soy ink on recycled paper

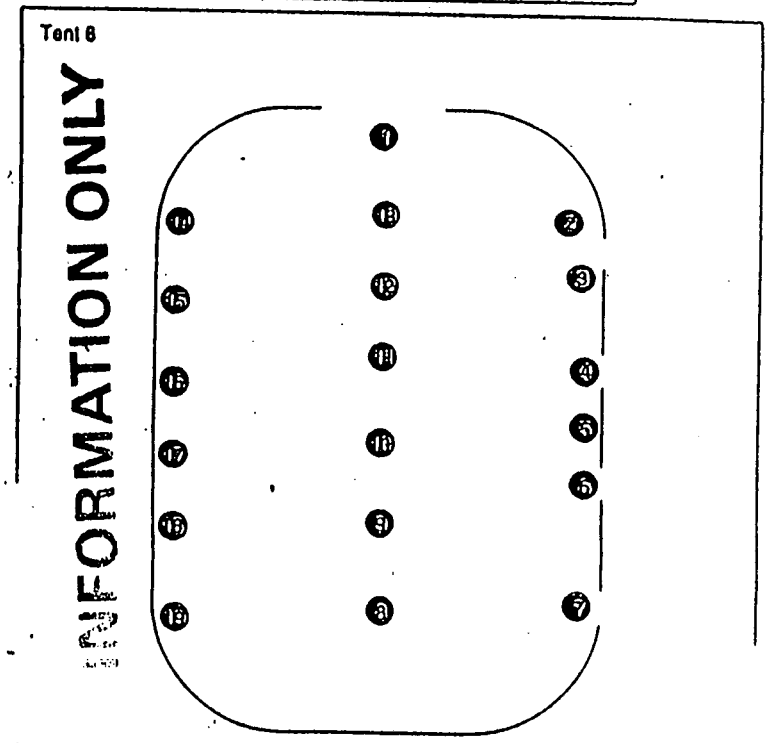
LOG NUMBER: gm 7-30-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

gm 7-30-98

260
730

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$

2761

Page 1 of 2 **INFORMATION ONLY**

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 1050	Serial # 1199	Serial # 914
Cal Due 2-26-99	Cal Due 2-14-99	Cal Due 2-4-99
Bkg. 0.0	Bkg. 0.6	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 706	Serial #	Serial #
Cal Due 12-22-98	Cal Due 10-7-98	Cal Due 10-7-98
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

~~RWP #:~~ JH 10-7-98

Date: 10-7-98 Time: 1345

RCT: Hankins L Hah [redacted]
Print name Signature Emp. #

RCT: JH 10-7-98
Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19	20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

JH 10-7-98

JH 10-7-98

JH 10-7-98

Date Reviewed: 10/12/98 RS Supervision: J. Ewell, J. Ewell [redacted]
Print Name Signature Emp. #

~~232~~
262

RS FORMS 07.02-01

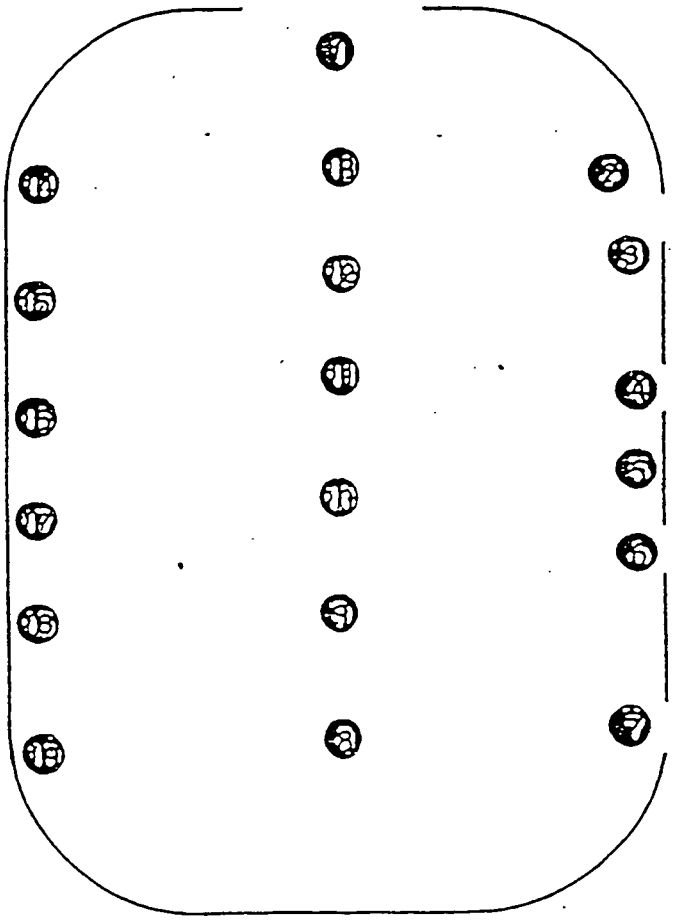
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

263
233

Page ___ of ___ **INFORMATION ONLY** RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 824	Serial # 795	Serial #
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due
Bkg. 0.0 cpm	Bkg. 0.1 cpm	Bkg.
Efficiency .33	Efficiency .33	Efficiency
MDA 20 dpm	MDA 20 dpm	MDA
	EBERLINE 10-14-98 SK	
Mfg. EBERLINE	Mfg. ~~NE.TECH~~ BE-4	Mfg. NE.TECH
Model BC-4	Model ~~ELECTRA~~	Model ELECTRA
Serial # 838	Serial # 702	Serial #
Cal Due 1-9-99	Cal Due 12-15-98	Cal Due
Bkg. 40 cpm	Bkg. 42 cpm	Bkg.
Efficiency .25	Efficiency .25	Efficiency
MDA 200 dpm	MDA 200 dpm	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY

RWP #:

Date: 10-14-98 Time: 1310

RCT: JABKOWSKI / [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL #:
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200			23.				
2.	< 20	< 200			24.				
3.	< 20	< 200			25.				
4.	< 20	< 200			26.				
5.	< 20	< 200			27.				
6.	< 20	< 200			28.				
7.	< 20	< 200			29.				
8.	< 20	< 200			30.				
9.	< 20	< 200			31.				
10.	< 20	< 200			32.				
11.	< 20	< 200			33.				
12.	< 20	< 200			34.				
13.	< 20	< 200			35.				
14.	< 20	< 200			36.				
15.	< 20	< 200			37.				
16.	< 20	< 200			38.				
17.	< 20	< 200			39.				
18.	< 20	< 200			40.				
19	< 20	< 200			41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 10/19/98 RS Supervision: B Sawyer / [redacted]
Print Name Signature Emp. #

234
264

RS FORMS 07.02-01

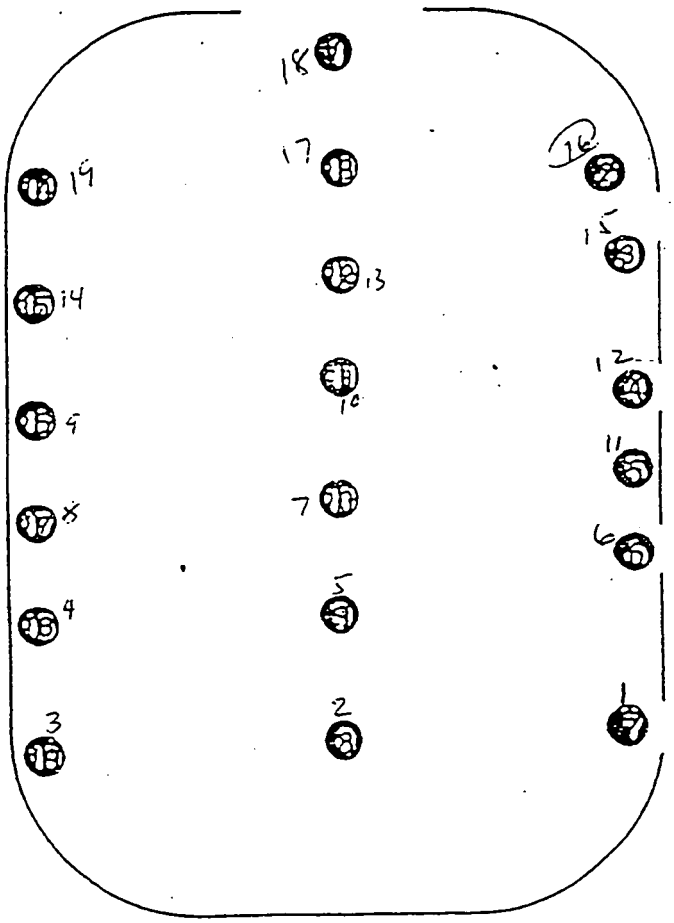
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

235
265

RS FORMS 07.02-01

INFORMATION ONLY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

10-19-98
8f.

EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
el SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
l # 824	Serial # 795	Serial # 838
Due 3-21-99	Cal Due 3-16-99	Cal Due 1-9-99
0.0 cpm	Bkg. 0.0 cpm	Bkg. 41 cpm
iency .33	Efficiency .33	Efficiency .25
20 dpm	MDA 20 dpm	MDA 200 dpm
EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
el BC-4	Model ELECTRA	Model ELECTRA
# 702	Serial #	Serial #
Due 12-15-98	Cal Due	Cal Due
36	Bkg.	Bkg.
ency .25	Efficiency	Efficiency
200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

RWP #:

Date: 10-19-98 Time: 1340

RCT: [signature] [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

:

nents:

SURVEY RESULTS

REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
20	< 200			23.				
20	< 200			24.				
20	< 200			25.				
20	< 200			26.				
20	< 200			27.				
20	< 200			28.				
20	< 200			29.				
20	< 200			30.				
20	< 200			31.				
20	< 200			32.				
20	< 200			33.				
20	< 200			34.				
20	< 200			35.				
20	< 200			36.				
20	< 200			37.				
20	< 200			38.				
20	< 200			39.				
20	< 200			40.				
20	< 200	<		41.				
				42.				
				43.				
				44.				

10-19-98 [initials]

iewed: 10/23/98 RS Supervision: J. Ewell / [signature] [redacted]
Print Name Signature Emp. #

~~236~~
266

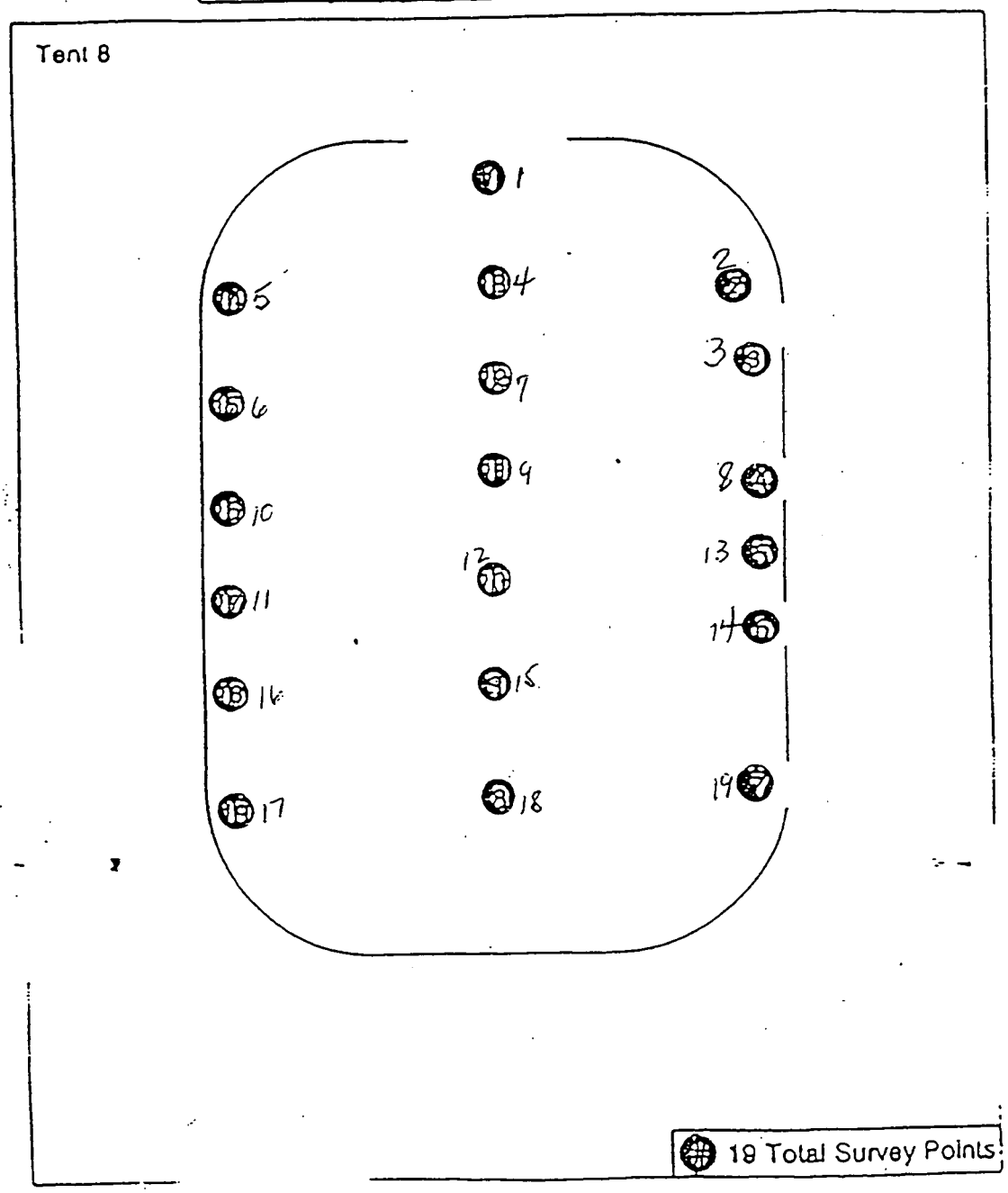
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



INFORMATION ONLY

RS FORMS 07.02.01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

BERLINE	Mfg. EBERLINE	Mfg. EBERLINE
SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
# 824	Serial # 795	Serial # 838
ue 3-21-99	Cal Due 3-16-99	Cal Due 1-9-99
6.1	Bkg. 0.2	Bkg. 40
ency .33	Efficiency .33	Efficiency .25
20 dpm	MDA 20 dpm	MDA 200 dpm
BERLINE	Mfg. NE.TECH	Mfg. NE.TECH
BC-4	Model ELECTRA	Model ELECTRA
# 702	Serial #	Serial #
ue ~~10-40~~ 12-15-98	Cal Due	Cal Due
40	Bkg.	Bkg.
ency .25	Efficiency	Efficiency
200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY

RWP #: N/A

Date: 10-29-98 Time: 0800

RCT: P Evezich / P Evezich [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

#:
ments:

SURVEY RESULTS

REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
<20	<200			23.				
<20	<200			24.				
<20	<200			25.				
<20	<200			26.				
<20	<200			27.				
<20	<200			28.				
<20	<200			29.				
<20	<200			30.				
<20	<200			31.				
<20	<200			32.				
20	<200			33.				
<20	<200			34.				
<20	<200			35.				
<20	<200			36.				
<20	<200			37.				
<20	<200			38.				
<20	<200			39.				
<20	<200			40.				
20	<200			41.				
				42.				
				43.				
				44.				

10-29-98

Reviewed: RS Supervision: / /
Print Name Signature Emp #

~~238~~ 268

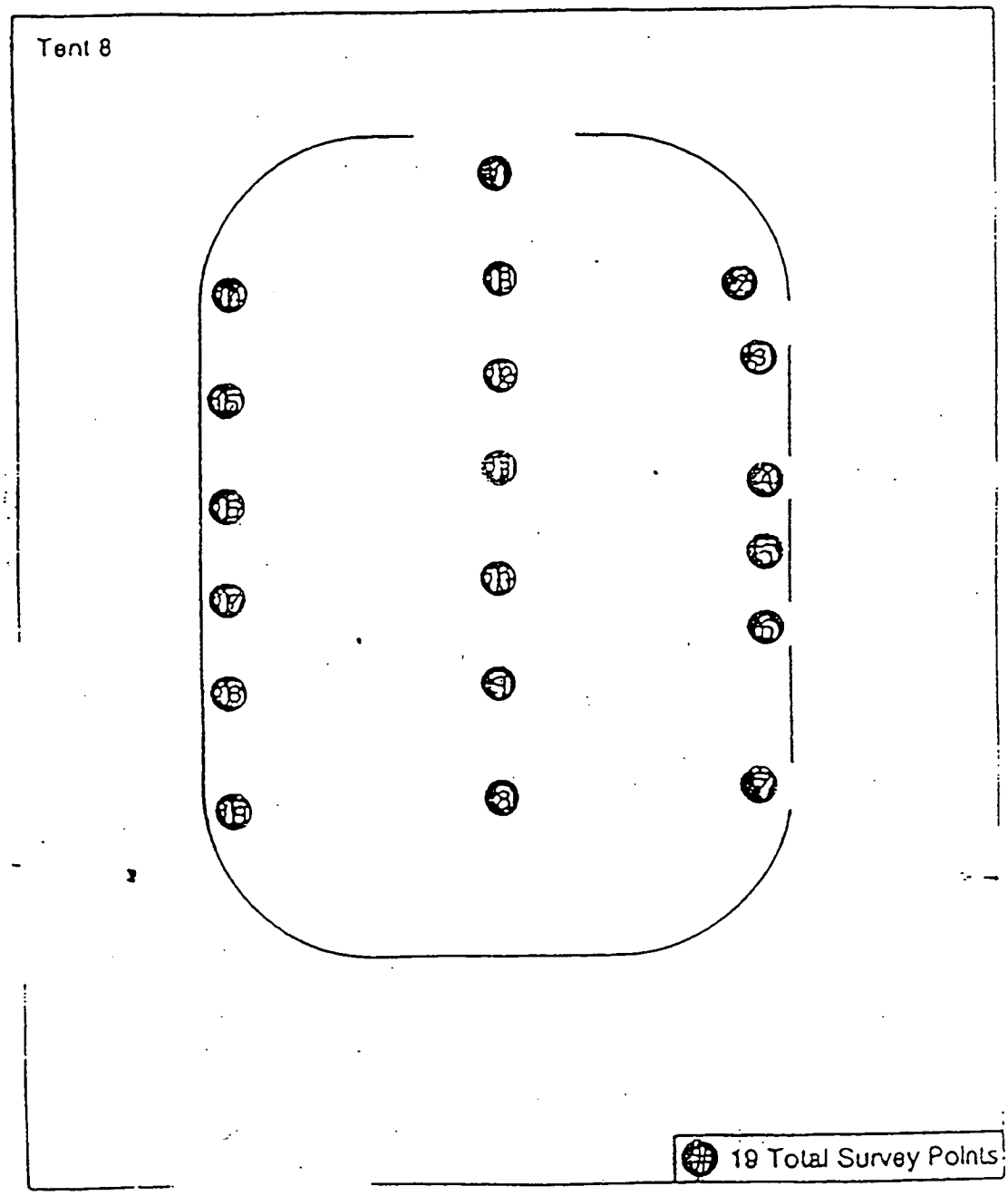
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



269
239

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

g.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
del SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
ial # 829	Serial # 795	Serial # 916
l Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
g. 0.1	Bkg. 0.2	Bkg. 43
iciency 33%	Efficiency 33%	Efficiency 25%
DA 20	MDA 20	MDA 200
g.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
del BC-4	Model ELECTRA	Model ELECTRA
ial # 838	Serial #	Serial #
Due 1-9-99	Cal Due	Cal Due
g. 36	Bkg.	Bkg.
iciency 25%	Efficiency	Efficiency
DA 200	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY

RWP #:

Date: 11-4-98 Time: 1400

RCT: Rick Muller / Rick Muller [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

L #:
mments:

SURVEY RESULTS

REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
< 20	< 200			23.				
< 20	< 200			24.				
< 20	< 200			25.				
< 20	< 200			26.				
< 20	< 200			27.				
< 20	< 200			28.				
< 20	< 200			29.				
< 20	< 200			30.				
< 20	< 200			31.				
< 20	< 200			32.				
< 20	< 200			33.				
< 20	< 200			34.				
< 20	< 200			35.				
< 20	< 200			36.				
< 20	< 200			37.				
< 20	< 200			38.				
< 20	< 200			39.				
< 20	< 200			40.				
< 20	< 200			41.				
				42.				
				43.				
				44.				

11-4-98

Reviewed: 11/17/98 RS Supervision: J. Ewell / J. Ewell / [redacted]
Print Name Signature Emp. #

240
270

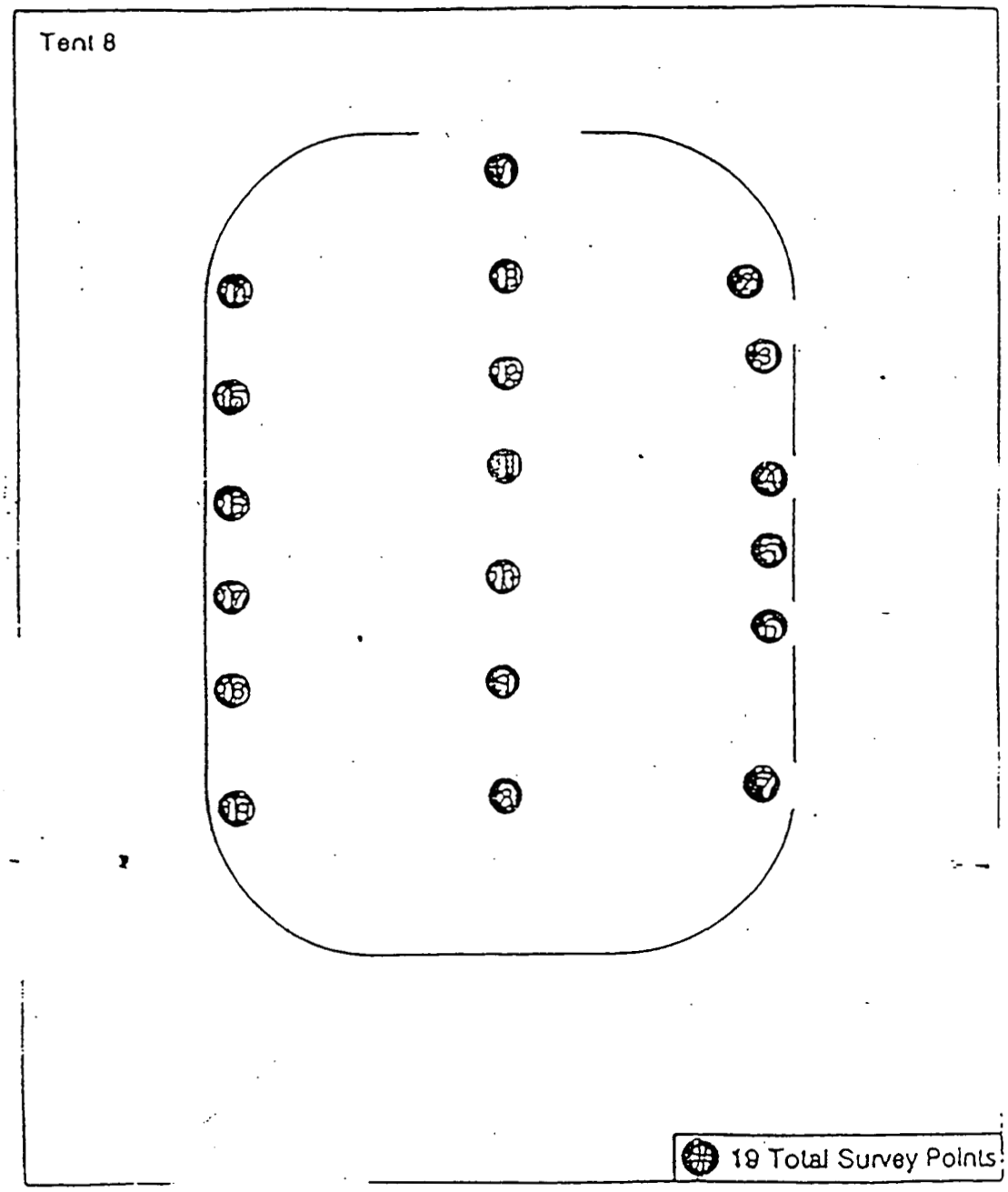
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



271
~~241~~

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 824	Serial # 785	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 60	Bkg. 60	Bkg. 41
Efficiency .33	Efficiency .33	Efficiency .25
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 42	Bkg.	Bkg.
Efficiency .25	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY

RWP #:

Date: 11-11-98 Time: 1430

RCT: P Evezich / P Evezich [redacted]
Print name Signature

RCT: / /
Print name Signature Emp. #

PRL # :
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 11/17/98 RS Supervision: J. Ewell / J. Ewell [redacted]
Print Name Signature Emp #

242272

RS FORMS 07.02-01

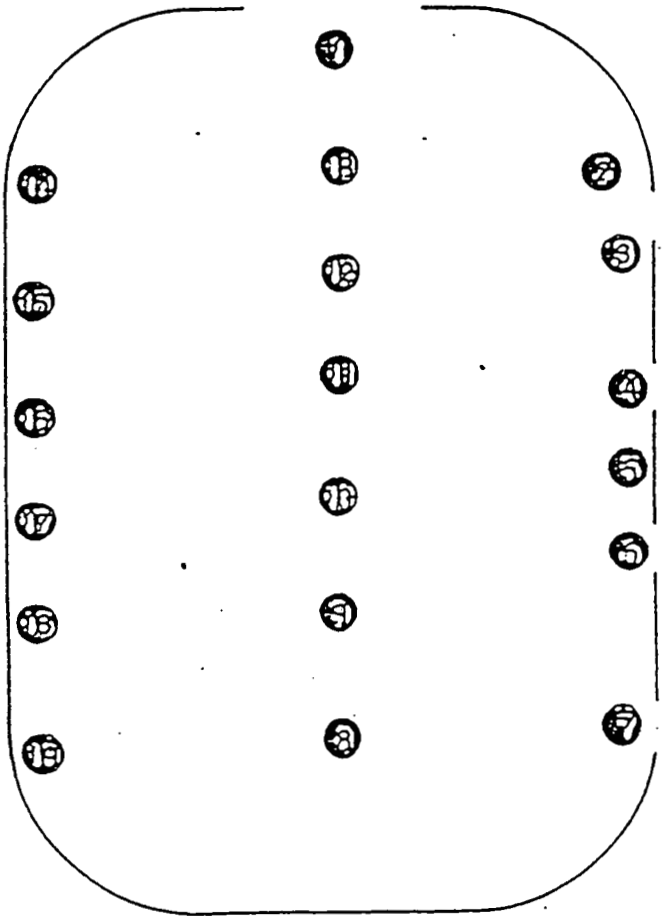
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

273
~~443~~

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.0	Bkg. 0.0	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20	MDA <20	MDA <200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 39	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

RWP #: LH 11-19-98

Date: 11/19/98 Time: ~~1100~~ 1220 JH 11-19-98

RCT: Hankins [signature] [redacted]

Print name Signature Emp. #

RCT: JH 11-19-98 / /

Print name Signature Emp. #

PRL # JH 11-19-98

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
					42.				
21.					43.				
22.					44.				

Date Reviewed: 11/19/98 RS Supervision: J. Ewell / [signature] [redacted]

Print Name Signature Emp. #

244

274

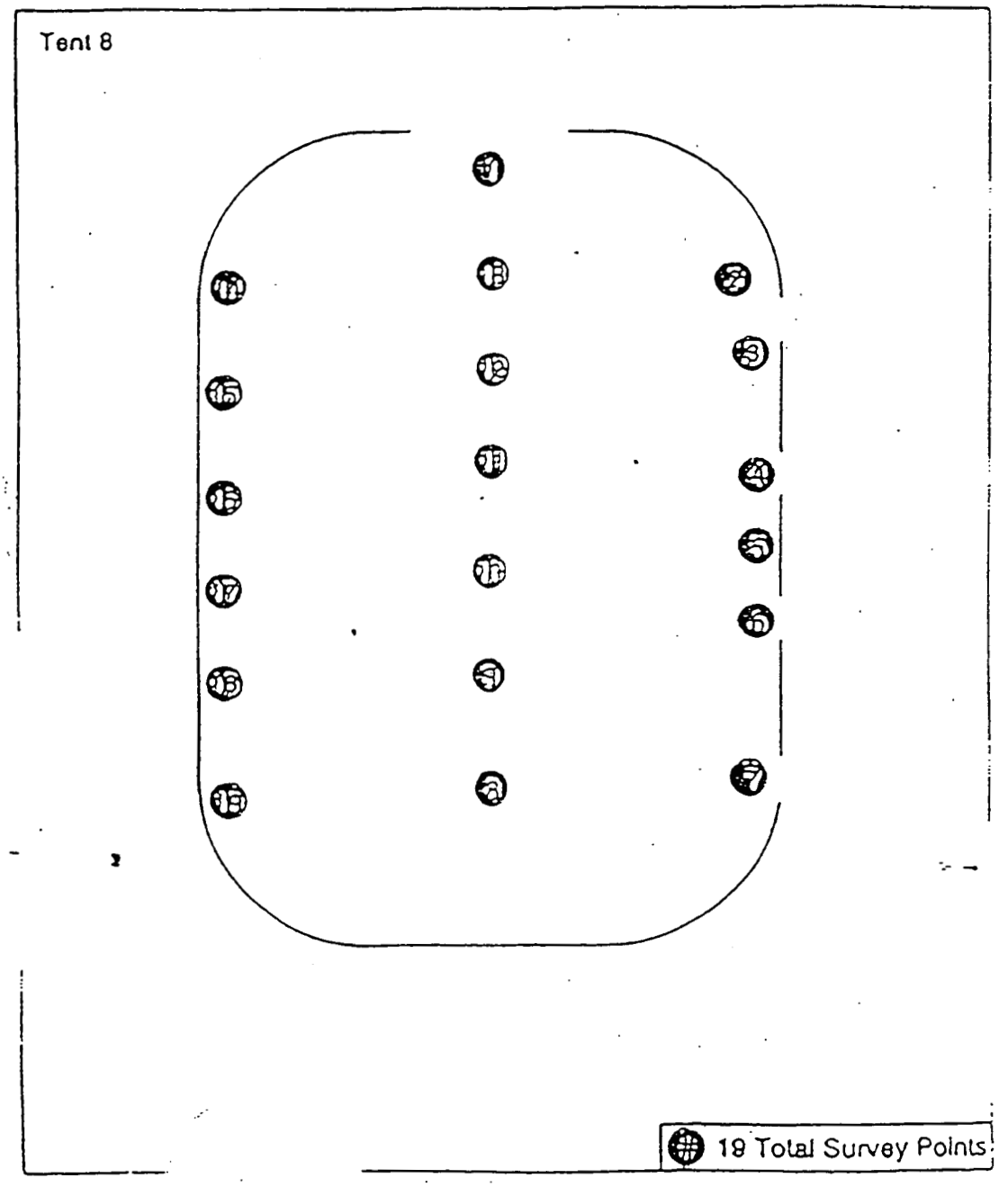
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



275
~~245~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ 82
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.1	Bkg. 0.0	Bkg. 43
Efficiency 33	Efficiency 33	Efficiency 25
MDA 20	MDA 20	MDA 200
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 858	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 57	Bkg.	Bkg.
Efficiency 25	Efficiency	Efficiency
MDA 20	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY

RWP #:

Date: 11-23-98 Time: 0930

RCT: Munoz [signature] [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL #:
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
					42.				
21.					43.				
22.					44.				

Date Reviewed: 11/24/98 RS Supervision: J. Ewell [signature] [redacted]
Print Name Signature Emp.

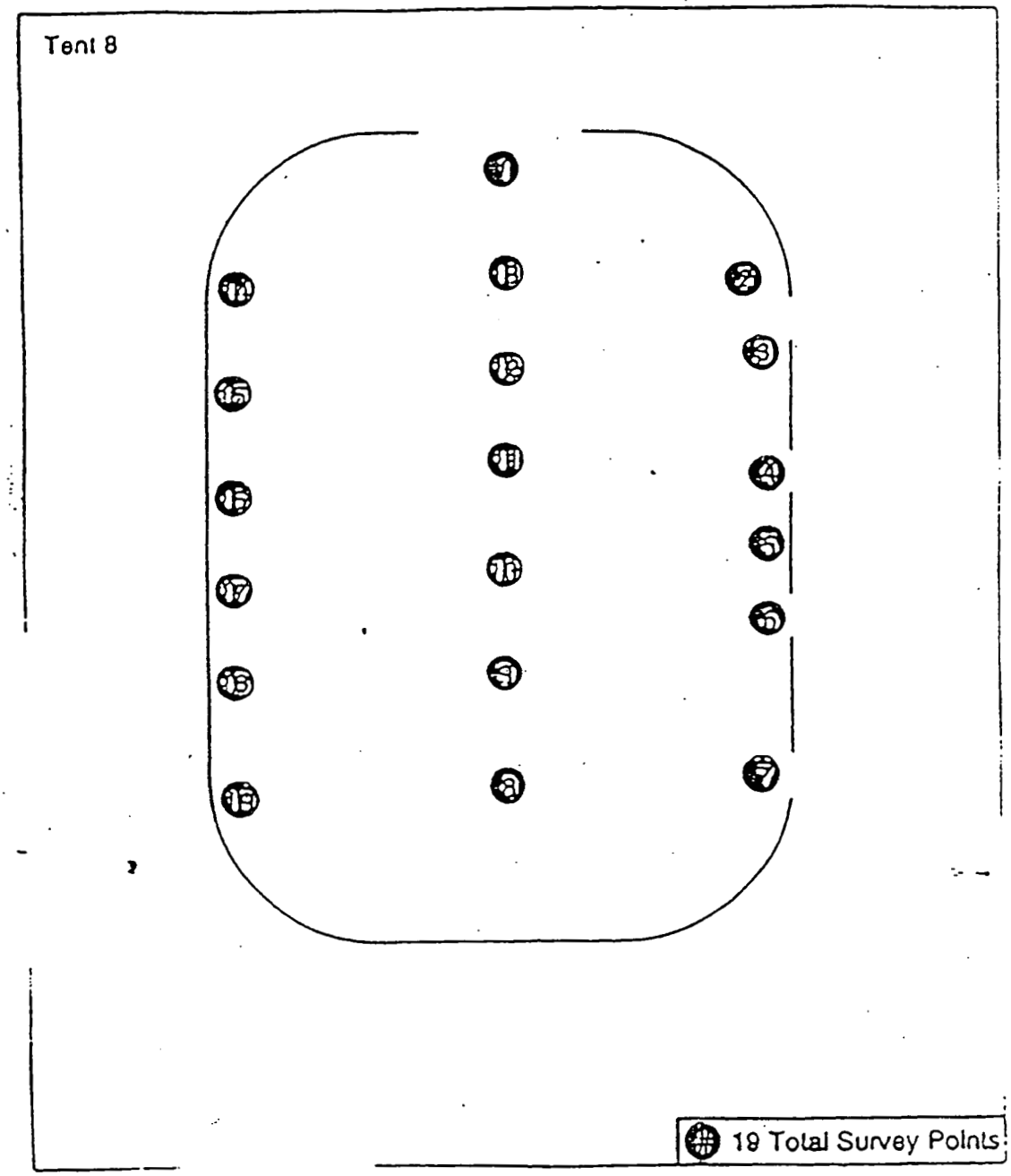
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



277
247

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model BC-4
Serial # 795	Serial # 824	Serial # BC 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.1	Bkg. 0.1	Bkg. 33
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 34	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

RWP #: 8-5-98

Date: 8-5-98 Time: 0830

RCT: Munoz / [signature] / [redacted]
Print name Signature Emp. #

RCT: 8-5-98 / / /
Print name Signature Emp. #

PRL #: 8-5-98

Comments: See Reverse side for map

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
					42.				
21.					43.				
22.					44.				

8-5-98

8-5-98

Date Reviewed: 8/26/98 RS Supervision: [signature] / [signature] / [redacted]
Print Name Signature Emp. #

278
247

RS FORMS 07.02-01

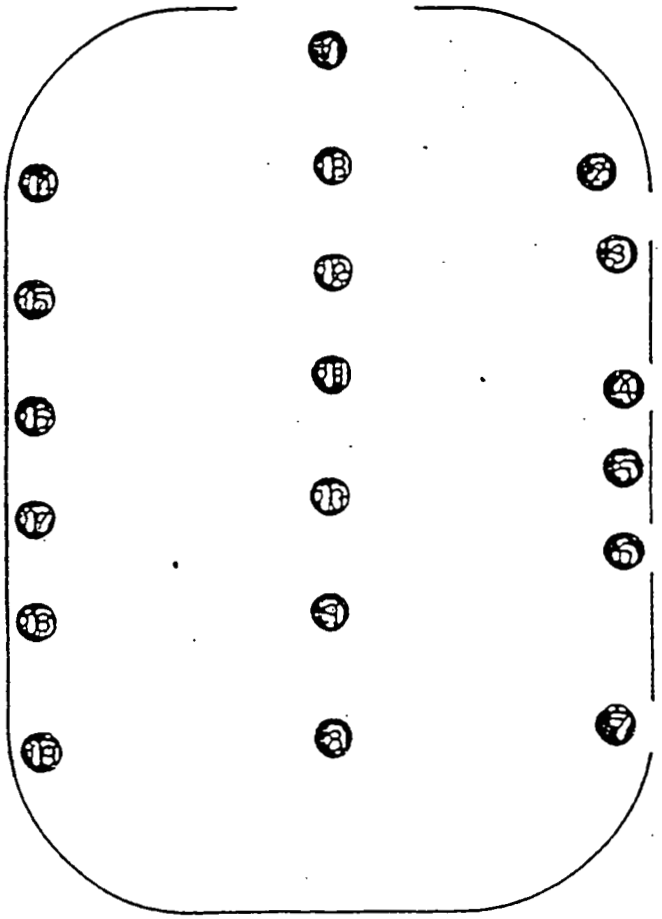
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

279
248

INFORMATION ONLY

~~INFORMATION ONLY~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 795	Serial # 824	Serial # 3C704
Cal Due 9/13/98	Cal Due 9/24/98	Cal Due 12/11/98
Bkg. 0.0	Bkg. 0.0	Bkg. 36
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20	MDA <20	MDA <200
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 3C702	Serial #	Serial #
Cal Due 12/15/98	Cal Due	Cal Due
Bkg. 38	Bkg. 8/13/98	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200	MDA	MDA

8/13/98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

RWP #: NA

Date: 8/13/98 Time: 10

RCT: [illegible] / [illegible] [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL #: NA

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

8/13/98

8/13/98

Date Reviewed: 8/20/98 RS Supervision: [illegible] [redacted]
Print Name Signature Emp. #

249 280

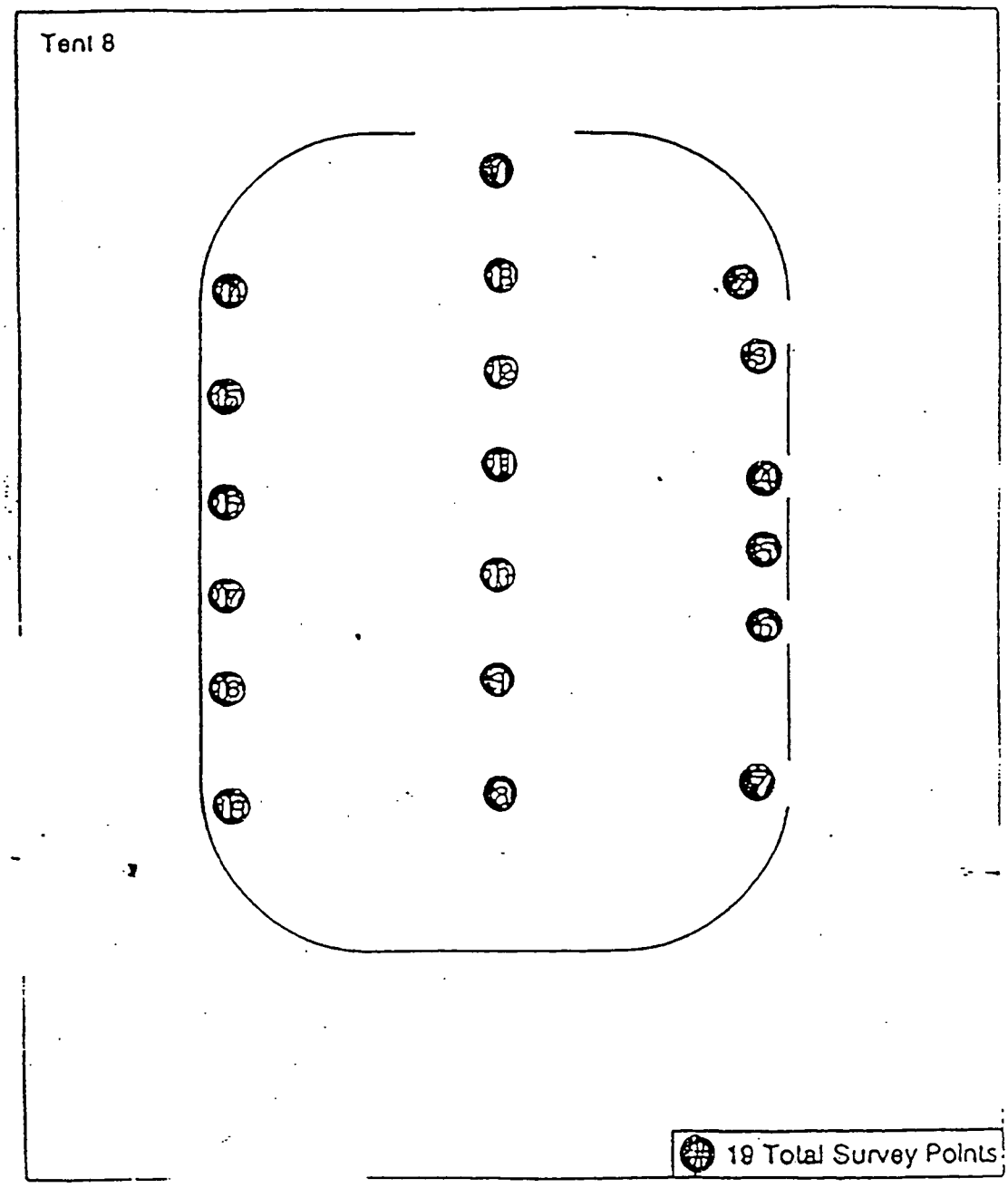
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



281
~~250~~

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BK4
Serial # 795	Serial # 824	Serial # BC704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.2	Bkg. 41
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20dpm	MDA <20dpm	MDA <200dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

RWP #: 9-8-19-98

Date: 8-19-98 Time: 0930

RCT: Monos [redacted]
Print name Signature Emp. #

RCT: 9-8-19-98 / /
Print name Signature Emp. #

PRL #: 9-8-19-98

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
2					42.				
21.					43.				
22.					44.				

Date Reviewed: 9/3/98 RS Supervision: K. Gaeland / [redacted] / [redacted]
Print Name Signature Emp #

~~751~~ 288

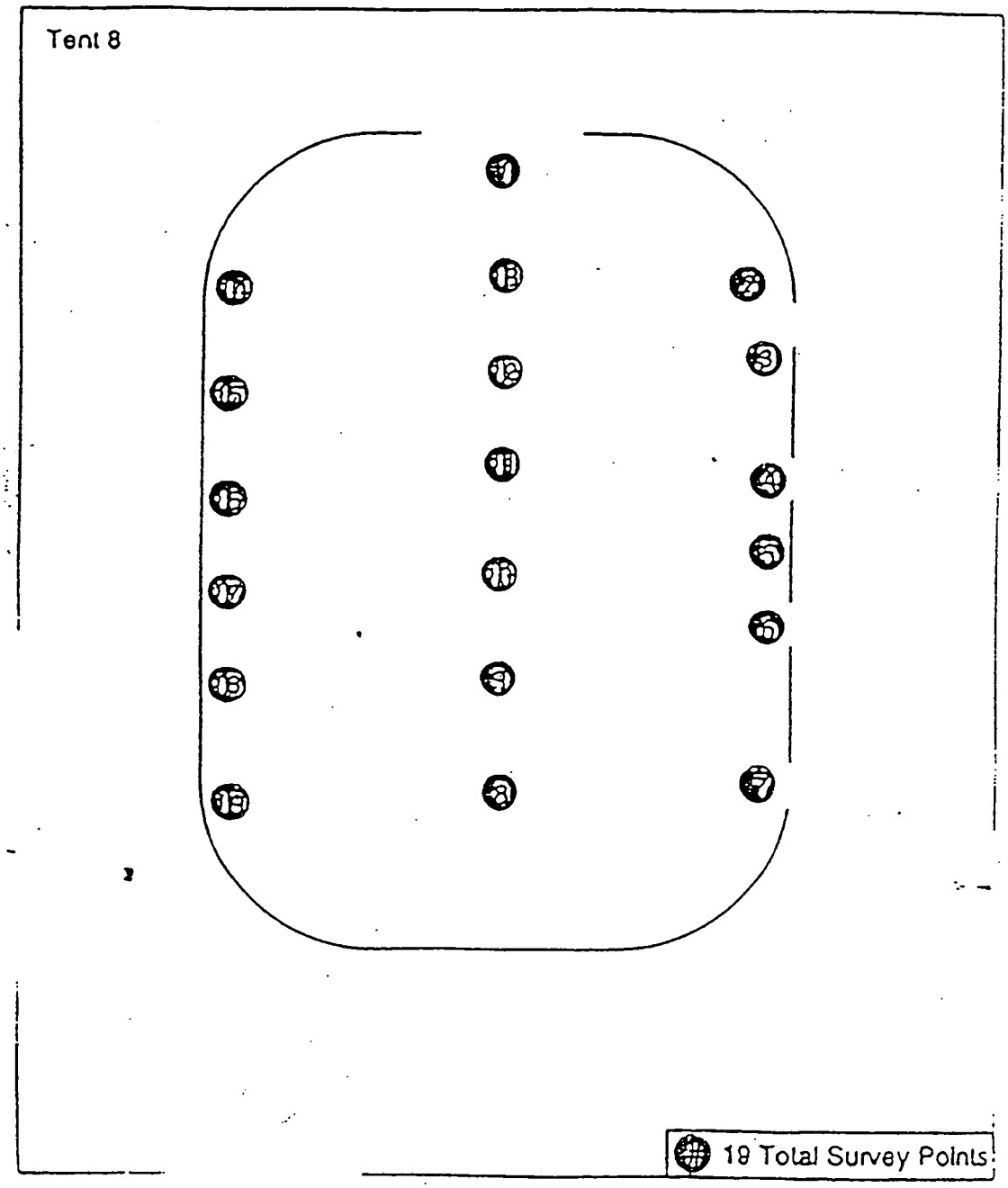
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



283

 INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # BC 204
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.2	Bkg. 36
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA ~~<~~ 200 8-27-98
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC 202	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

8-27-98 8-27-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

8-27-98

RWP #:

Date: 8-27-98 **Time:** 1030

RCT: [signature] / [signature] [redacted]

Print name Signature Emp. #

8-27-98

RCT: / /

Print name Signature Emp. #

8-27-98

PRL #:

Comments: See page 2 of 2 for survey map

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
					42.				
21.					43.				
22.					44.				

8-27-98 8-27-98

Date Reviewed: 4/3/98 RS Supervision: K. [signature] [signature] / [redacted]

Print Name Signature Emp. #

284 ~~253~~

RS FORMS 07.02-01

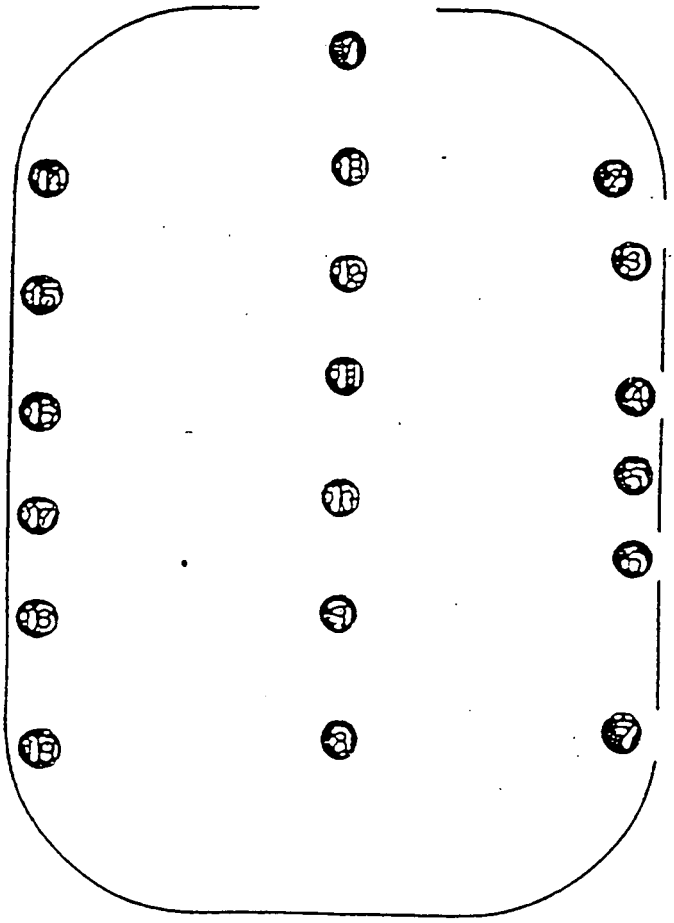
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 8



19 Total Survey Points

285
~~254~~

Page ___ of ___ **INFORMATION ONLY** RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.3	Bkg. 0.1	Bkg. 37
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 39	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY

RWP #:

Date: 9-2-98 Time: 1215

RCT: M.E. VAUGHN / M.E.V. / [redacted]
Print name / Signature / Emp. #

RCT: / / /
Print name / Signature / Emp. #

PRL #:
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.					24.				
3.					25.				
4.					26.				
5.					27.				
6.					28.				
7.					29.				
8.					30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
2					42.				
21.					43.				
22.					44.				

Date Reviewed: 9/3/98 RS Supervision: K. Gaulund / K. Eaulund / [redacted]
Print Name / Signature / Emp #

255
286

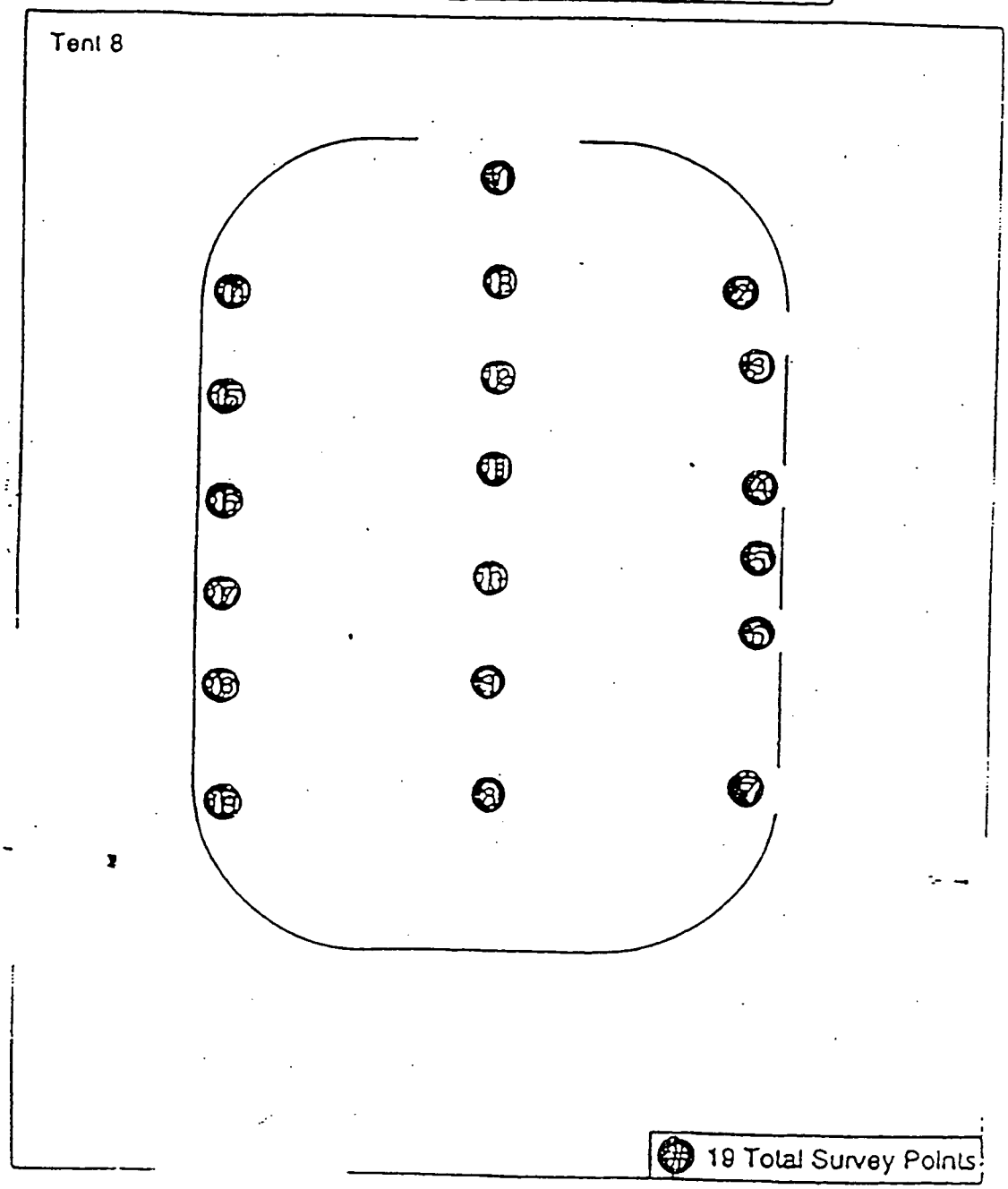
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



287
256

RS FORMS 07.02-01

INFORMATION ONLY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # Bc838
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 1-9-99
Bkg. 0.1	Bkg. 0.0	Bkg. 39
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # Bc202	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 44	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

RWP #: 9-9-98

Date: 9-9-98 Time: 1030

RCT: Munoz [signature] [redacted]
Print name Signature Emp. #

9-9-98

RCT: / /
Print name Signature Emp. #

9-9-98

PRL #: 9-9-98

Comments: See Survey Map for Survey points

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20					42.				
21.					43.				
22.					44.				

9-9-98

9-9-98

Date Reviewed: 9/15/98 RS Supervision: J. Ewell [signature] [redacted]
Print Name Signature Emp. #

288
251

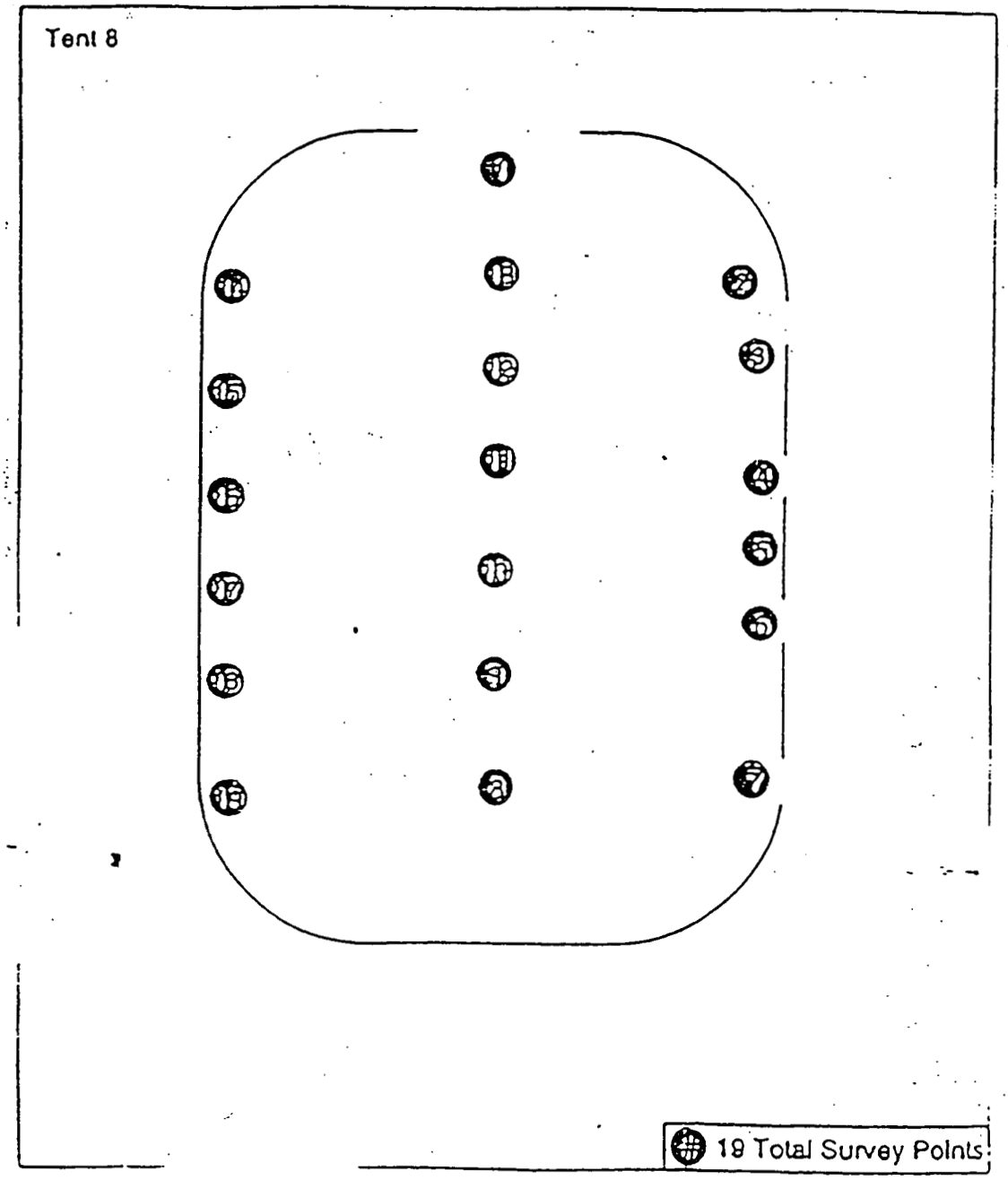
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



INFORMATION ONLY

RS FORMS 07.02.01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 767	Serial # 824	Serial # 838
Cal Due 10-14-98	Cal Due 9-24-98	Cal Due 1-9-98
Bkg. 0.0	Bkg. 0.1	Bkg. 40
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm

Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial # 16	Serial # 6
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 41	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY

~~RWP #:~~ JH 9-16-98

Date: 9-16-98 Time: 1245

RCT: Hankins / [redacted]
Print name Signature Emp. #

RCT: / JH 9-16-98
Print name Signature Emp. #

PRL #:
Comments: JH 9-16-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20					42.				
21.	JH 9-16-98				43.				
22.					44.				

Date Reviewed: 9/22/98 RS Supervision: J. Ewell / J. Ewell [redacted]
Print Name Signature Emp. #

ES 290

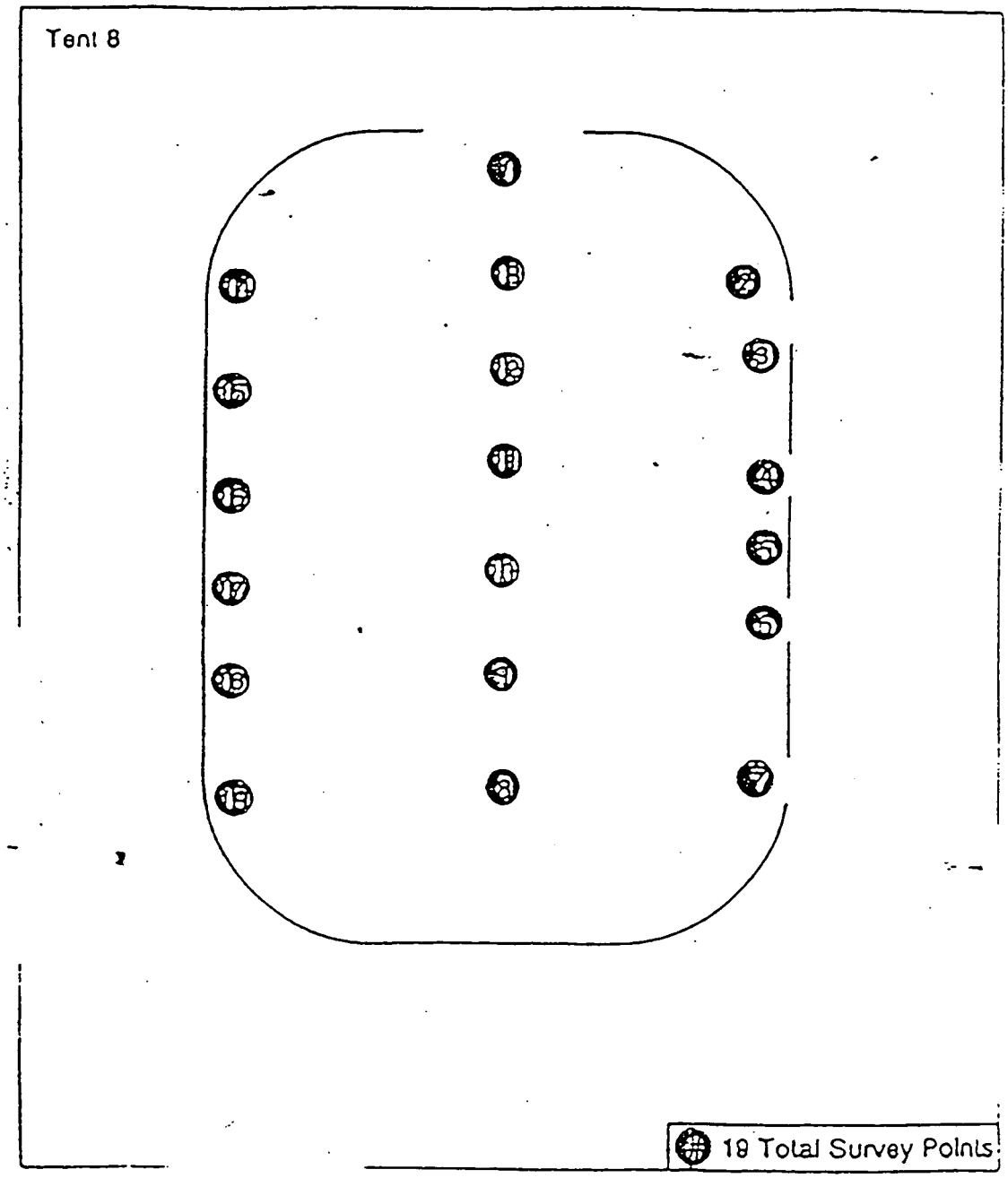
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



291
264

 INFORMATION ONLY RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 767	Serial # 795	Serial # BC838
Cal Due 10-14-98	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.1	Bkg. 0.2	Bkg. 39
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 8
Purpose: WEEKLY SURVEY
RWP #: an 9-23-98
Date: 9-23-98 Time: 1000
RCT: M Munoz / [signature] [redacted]
Print name Signature Emp. #
an 9-23-98
RCT: / /
Print name Signature Emp. #

PRL #: an 9-23-98
Comments: See Map Page 2

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

an 9-23-98

Date Reviewed: 10/5/98 RS Supervision: J. Ewell / [signature] [redacted]
Print Name Signature

24-292

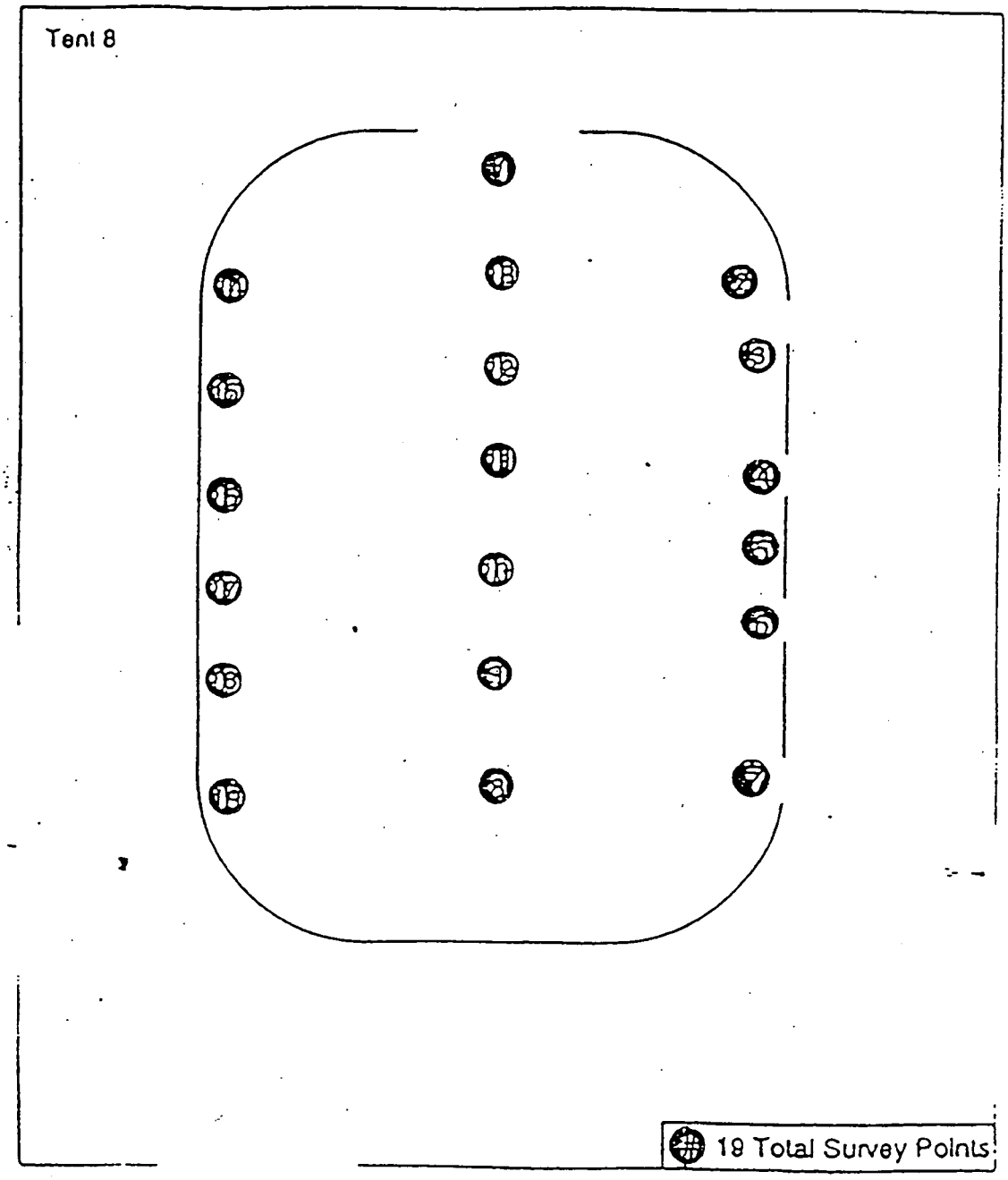
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



293
~~262~~

 INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 767	Serial # 795	Serial # Bc 838
Cal Due 10-14-98	Cal Due 3-16-99	Cal Due 1-8-99
Bkg. 0.1	Bkg. 0.7	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # Bc 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 8

Purpose: WEEKLY SURVEY

9-30-98

RWP #:

Date: 9-30-98 Time: 1000

RCT: Munoz / [signature] [redacted]
Print name Signature Emp. #

9-30-98

RCT: / /
Print name Signature Emp. #

9-30-98

PRL #:

Comments: See Survey Map Pg. 2

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

9-30-98

Date Reviewed: 10/5/98 RS Supervision: J. Ewell / [signature] [redacted]
Print Name Signature Emp. #

265294

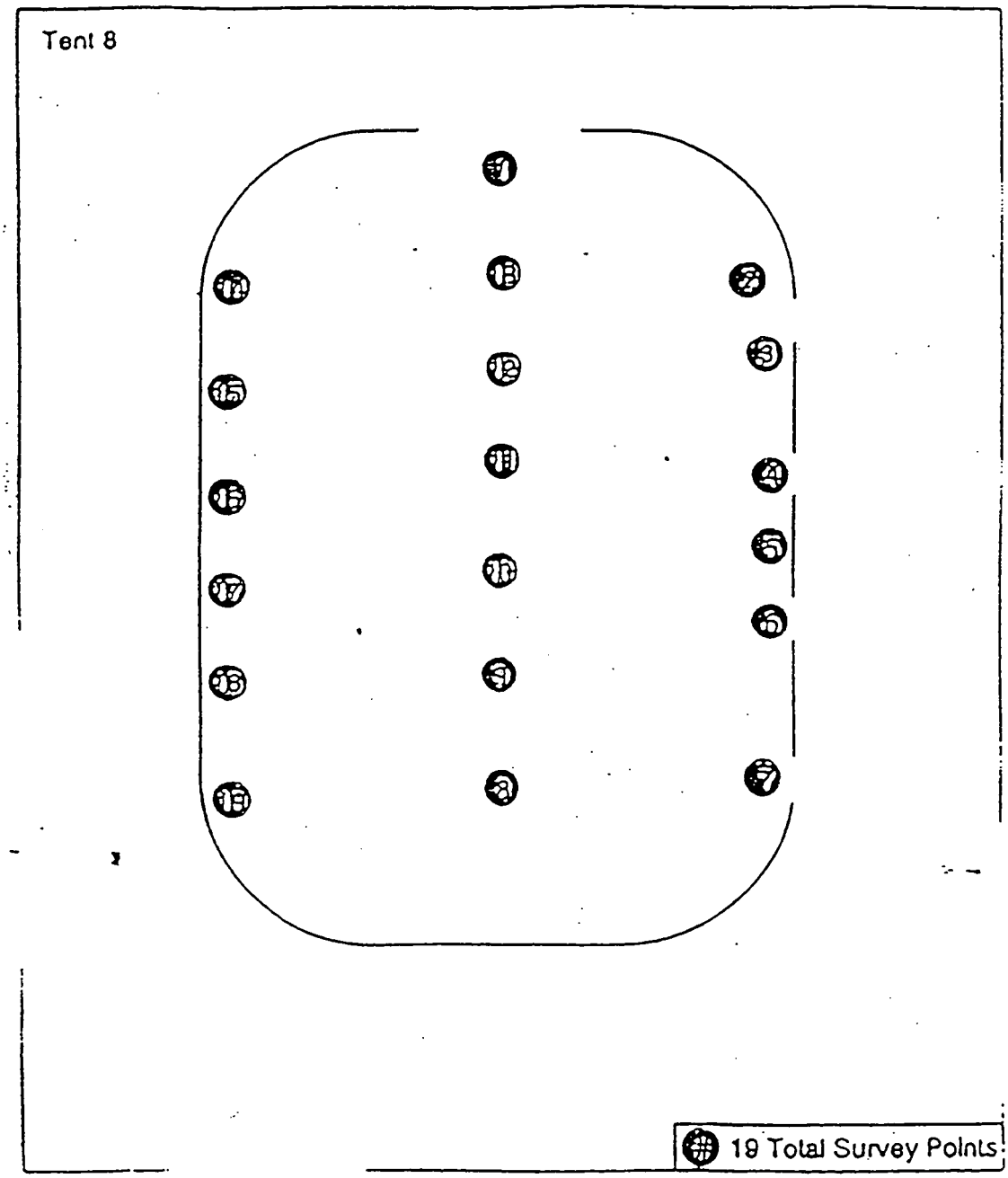
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



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~~264~~

B.3 SITE HAZARD ASSESSMENT RADIOLOGICAL DATA

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 41	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1680	Serial # 1680
Cal Due 6/16/99	Cal Due 8-10-99	Cal Due 8-10-99
Bkg. 0.1	Bkg. 4	Bkg. 504
Efficiency 33%	Efficiency 21.9%	Efficiency 34.7%
MDA <20	MDA 54	MDA 321

Survey Type: Contamination Survey
Building: TENT # 8
Location: 904 PAD
Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 05-08-99 Time: 1500

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: / A /
Print name Signature Emp. #

PRL #:

Comments: Survey Points on Canvas Panels also perform 10% scan on canvas panels direct < 8 ft

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 54	< 321	23.	< 20	< 200	108	< 321
2.	< 20	< 200	< 54	< 321	24.	< 20	< 200	228	648
3.	< 20	< 200	< 54	< 321	25.	< 20	< 200	< 54	< 321
4.	< 20	< 200	< 54	< 321	26.	< 20	< 200	< 54	390
5.	< 20	< 200	< 54	< 321	27.	< 20	< 200	< 54	< 321
6.	< 20	< 200	< 54	< 321	28.	< 20	< 200	< 54	< 321
7.	< 20	< 200	< 54	< 321	29.	< 20	< 200	< 54	< 321
8.	< 20	< 200	< 54	< 321	30.	< 20	< 200	< 54	< 321
9.	< 20	< 200	< 54	< 321	31.	< 20	< 200	< 54	< 321
10.	< 20	< 200	< 54	< 321	32.	< 20	< 200	< 54	< 321
11.	< 20	< 200	< 54	< 321	33.	< 20	< 200	< 54	< 321
12.	< 20	< 200	< 54	< 321	34.	< 20	< 200	< 54	< 321
13.	< 20	< 200	< 54	< 321	35.	< 20	< 200	< 54	< 321
14.	< 20	< 200	< 54	< 321	36.	< 20	< 200	< 54	< 321
15.	< 20	< 200	< 54	< 321	37.	< 20	< 200	< 54	< 321
16.	< 20	< 200	< 54	< 321	38.	< 20	< 200	< 54	< 321
17.	< 20	< 200	< 54	< 321	39.	< 20	< 200	< 54	< 321
18.	< 20	< 200	< 54	< 321	40.	< 20	< 200	< 54	< 321
	20	< 200	< 54	< 321	41.	< 20	< 200	< 54	396
20.	< 20	< 200	< 54	< 321	42.	< 20	< 200	< 54	< 321
21.	< 20	< 200	< 54	< 321	43.	< 20	< 200	< 54	< 321
22.	< 20	< 200	< 54	< 321	44.	< 20	< 200	< 54	< 321

Date: 5/10/99 RS Supervision: L.N. Cooper / [signature] [redacted]
Print Name Signature Emp. #

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Location

1. Canvas
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
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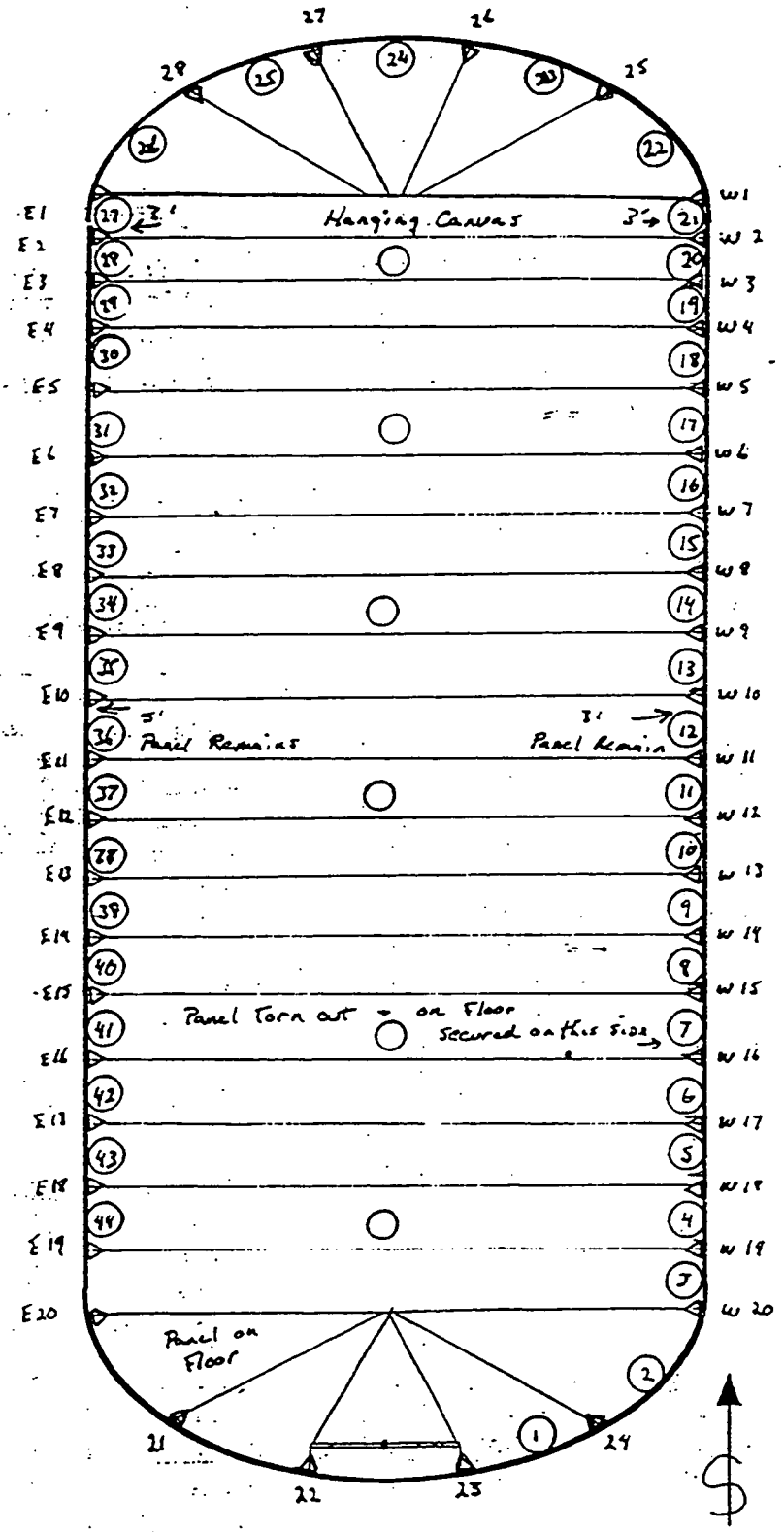
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.
40.
41.
42.
43.
44. Canvas

298
~~297~~

Tent # 8



RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 959	Serial # 1188	Serial # 835
Cal Due 7-5-99	Cal Due 6-16-99	Cal Due 10-26-99
Bkg. 0.2	Bkg. 0.5	Bkg. 0.3
Efficiency 33%	Efficiency 33%	Efficiency 33%
MDA 20	MDA 20	MDA 20
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial # 1680	Serial # 1680
Cal Due 7-13-99	Cal Due 8-10-99	Cal Due 8-10-99
Bkg. 45	Bkg. 4	Bkg. 504
Efficiency 25%	Efficiency 22.9%	Efficiency 34.7%
MDA 200	MDA 54	MDA 321

Survey Type: CONTAMINATION

Building: Tent # 8

Location: 904 Pad

Purpose: Characterization Survey

RWP #: - NA -

Date: 05-10-99 Time: 1000

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: N / A
Print name Signature Emp. #

PRL #:

Comments: Survey Points on Canvas, plus 10% direct scan on canvas < 8 FT

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200	96	378	23.				
2.	< 20	< 200	228	648	24.				
3.	< 20	< 200	120	< 321	25.				
4.	< 20	< 200	168	< 321	26.				
5.	< 20	< 200	216	< 321	27.				
6.	< 20	< 200	144	< 321	28.				
7.	< 20	< 200	< 54	< 321	29.			N/A	
8.	< 20	< 200	< 54	< 321	30.				
9.					31.				
10.					32.		N/A		
11.					33.				
12.					34.				
13.					35.				
14.			N/A		36.				
15.					37.				
16.		N/A			38.				
17.					39.				
18.					40.				
					41.				
20.					42.				
21.					43.				
22.					44.				

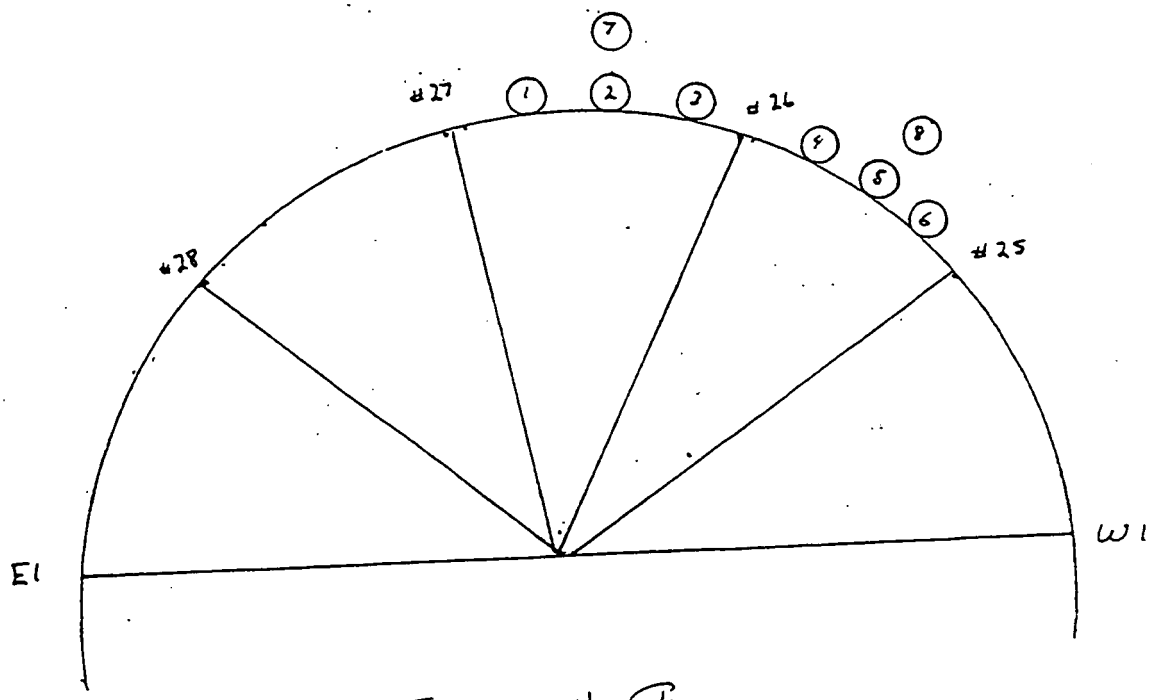
Date Reviewed: 5/10/99 RS Supervision: LN Cooper / [signature] [redacted]
Print Name Signature Emp. #

299

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points



Tent # 8

7 + 8 = 4' High

1 through 6 = Floor line where Canvas Had Been Secured down

264 300

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 41	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1680	Serial # 1680
Cal Due 6/16/99	Cal Due 8-10-99	Cal Due 8-10-99
Bkg. 0.1	Bkg. 1	Bkg. 446
Efficiency 33%	Efficiency 22.9%	Efficiency 34.7%
MDA <20	MDA 33	MDA 302

Survey Type: Contamination Survey

Building: TENT # 8

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 05-06-99 Time: 1800

RCT: Rex Snyder / [signature] [redacted]
Print name / Signature / Emp. #

RCT: N / A /
Print name / Signature / Emp. #

PRL # :

Comments: Survey Points - every Fifth Support + Remaining Canvas Panels plus 10% Direct Scan on canvas < 8 FT.

/ Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	42	< 302
2.	< 20	< 200	< 33	< 302
3.	< 20	< 200	60	< 302
4.	< 20	< 200	< 33	< 302
5.	< 20	< 200	90	< 302
6.	< 20	< 200	< 33	< 302
7.	< 20	< 200	< 33	< 302
8.	< 20	< 200	< 33	< 302
9.	< 20	< 200	< 33	< 302
10.	< 20	< 200	< 33	< 302
11.	< 20	< 200	< 33	< 302
12.	< 20	< 200	< 33	489
13.	< 20	< 200	< 33	< 302
14.	< 20	< 200	< 33	< 302
15.	< 20	< 200	< 33	< 302
16.	< 20	< 200	< 33	< 302
17.				
20.			A	
21.		N		
22.				

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				
31.			A	
32.		N		
33.				
34.				
35.				
36.				
37.				
38.				
39.				
40.				
41.				
42.				
43.				
44.				

Date 170 6/10/99 RS Supervision: (N) Cooper / [signature] [redacted]
Print Name / Signature / Emp. #

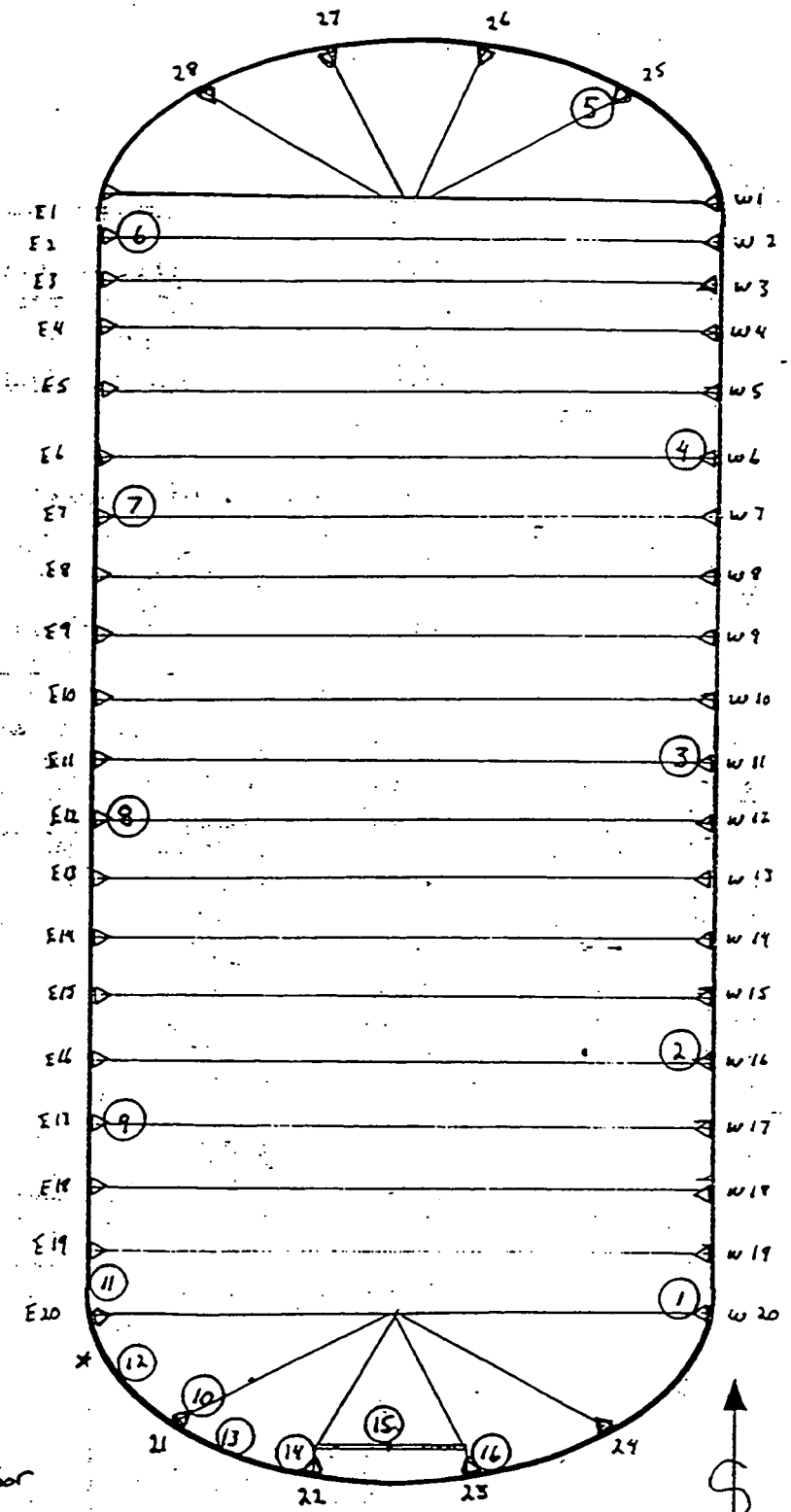
301

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location	
1.	Support	W 20
2.		W 16
3.		W 11
4.		W 6
5.		# 25
6.		E 2
7.		E 7
8.		E 12
9.		E 17
10.	Support	# 21
11.	Canvas	
12.		
13.		
14.		
15.		
16.	Canvas	
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
31.		
32.		
33.		
34.		
35.		
36.		
37.		
38.		
39.		
40.		
41.		
42.		
43.		
44.		



Tent # 8

* Panel is torn out and on floor

302
271

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 40	Bkg. 36	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1386	Serial # 1386
Cal Due 6/16/99	Cal Due 8-15-99	Cal Due 8-15-99
Bkg. 0.0	Bkg. 4	Bkg. B 536
Efficiency 33%	Efficiency 21.8%	Efficiency 31.1%
MDA <20	MDA 56	MDA 331

Survey Type: Contamination Survey

Building: Tent # 8

Location: 904 Pad

Purpose: CHARACTERIZATION SURVEYS

RWP #: — NA —

Date: 3-30-99 Time: 1100

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: N / A /
Print name Signature Emp. #

PRL # :

Comments Exterior Survey

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 56	< 331	23.	< 20	< 200	< 56	< 331
2.	< 20	< 200	< 56	< 331	24.	< 20	< 200	< 56	< 331
3.	< 20	< 200	< 56	< 331	25.	< 20	< 200	< 56	< 331
4.	< 20	< 200	< 56	< 331	26.	< 20	< 200	< 56	< 331
5.	< 20	< 200	< 56	< 331	27.	< 20	< 200	< 56	< 331
6.	< 20	< 200	< 56	< 331	28.	< 20	< 200	< 56	< 331
7.	< 20	< 200	< 56	< 331	29.	< 20	< 200	< 56	< 331
8.	< 20	< 200	< 56	< 331	30.	< 20	< 200	< 56	< 331
9.	< 20	< 200	< 56	< 331	31.				
10.	< 20	< 200	< 56	< 331	32.				
11.	< 20	< 200	< 56	< 331	33.				
12.	< 20	< 200	< 56	< 331	34.				
13.	< 20	< 200	< 56	< 331	35.				
14.	< 20	< 200	< 56	< 331	36.				
15.	< 20	< 200	< 56	< 331	37.				
16.	< 20	< 200	< 56	< 331	38.				
17.	< 20	< 200	< 56	< 331	39.				
18.	< 20	< 200	< 56	< 331	40.				
	< 20	< 200	< 56	< 331	41.				
	< 20	< 200	< 56	< 331	42.				
21.	< 20	< 200	< 56	< 331	43.				
22.	< 20	< 200	< 56	< 331	44.				

N A

Date 4/5/99 RS Supervision: R. SOUMER [signature] [redacted]
Print Name Signature Emp. #

272

303

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

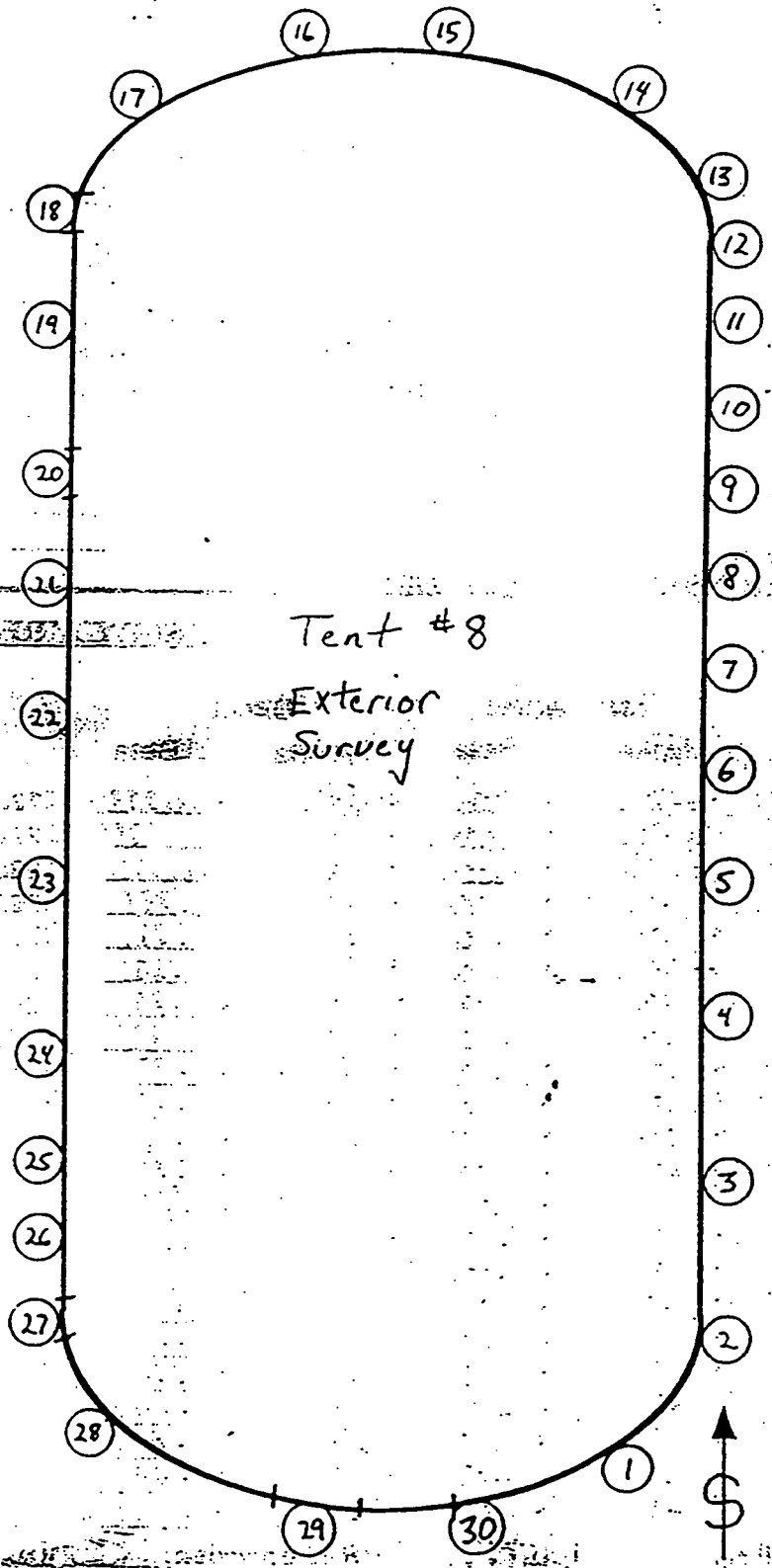
	Location
1.	# 23/24 - C - 1'
2.	# W20 - C - 5'
3.	# W19/W18 - C - 8'
4.	# W16 - C - 1'
5.	# W15/W14 - C - 6'
6.	# W13 - 8'
7.	# W12/W11 - C - 3'
8.	# W9 - 1'
9.	# W8/W7 - C - 4'
10.	# W6/W5 - C - 8'
11.	# W4/W3 - C - 1'
12.	# W3/W2 - C - 5'
13.	# W1 - 2'
14.	# 25/26 - C - 4'
15.	# 27 - 3'
16.	# 28 - 6'
17.	# E1 - C - 4'
18.	~~# E2/E3 - C - 8' (above door~~
19.	# E4/E5 - C - 1'
20.	# E5/E6 - Door - 3'
21.	~~# E7/E8 - C - 8'~~
22.	~~# E9/E10 - C - 4'~~
23.	~~# E11/E12~~
24.	~~# E14/E13 - C - 6'~~
25.	~~# E16 - 7'~~
26.	~~# E17/E18 - C - 1'~~
27.	~~# E18/E19 - C - 8' (above door)~~
28.	~~# E21 - C - 4'~~
29.	- Canvas Door 1'
30.	- Canvas Door 4'
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	

N A

= Support ID

C = Canvas

(ft) = height from ground



ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 37	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1425	Serial # 1425
Cal Due 6/16/99	Cal Due 8-25-99	Cal Due 8-25-99
Bkg. 0.1	Bkg. 7	Bkg. 480
Efficiency 33%	Efficiency 21.0%	Efficiency 31.6%
MDA <20	MDA 72	MDA 313

Survey Type: Contamination Survey

Building: TENT # 8

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 5-13-99 Time: 1000

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL #:

Comments: TENT #8 10 overhead survey points + vents

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 72	< 313
2.	< 20	< 200	< 72	< 313
3.	< 20	< 200	< 72	< 313
4.	< 20	< 200	< 72	< 313
5.	< 20	< 200	< 72	< 313
6.	< 20	< 200	< 72	< 313
7.	< 20	< 200	< 72	< 313
8.	< 20	< 200	< 72	< 313
9.	< 20	< 200	< 72	< 313
10.	< 20	< 200	< 72	< 313
11.	< 20	< 200	< 72	< 313
12.	< 20	< 200	< 72	< 313
13.	< 20	< 200	< 72	< 313
14.	< 20	< 200	< 72	< 313
15.	< 20	< 200	< 72	< 313
16.	< 20	< 200	< 72	< 313
17.	< 20	< 200	< 72	< 313
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				
31.				
32.				
33.				
34.				
35.				
36.				
37.				
38.				
39.				
40.				
41.				
42.				
43.				
44.				

Date 5-13-99 RS Supervision: B Bird / [signature] [redacted]
Print Name Signature

274
305

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Vent
2.	↓
3.	
4.	
5.	
6.	Vent
7.	Support # 22
8.	Canvas E20/21
9.	Canvas W20/24
10.	Canvas E17/E18
11.	Support # 15
12.	Canvas 14/13
13.	Support # 5
14.	Canvas 1/2
15.	Canvas 1/26
16.	Support # 27
17.	Canvas 26/25
18.	
19.	
20.	
21.	
22.	
23.	
24.	
25.	
26.	
27.	
28.	
29.	
30.	
31.	
32.	
33.	
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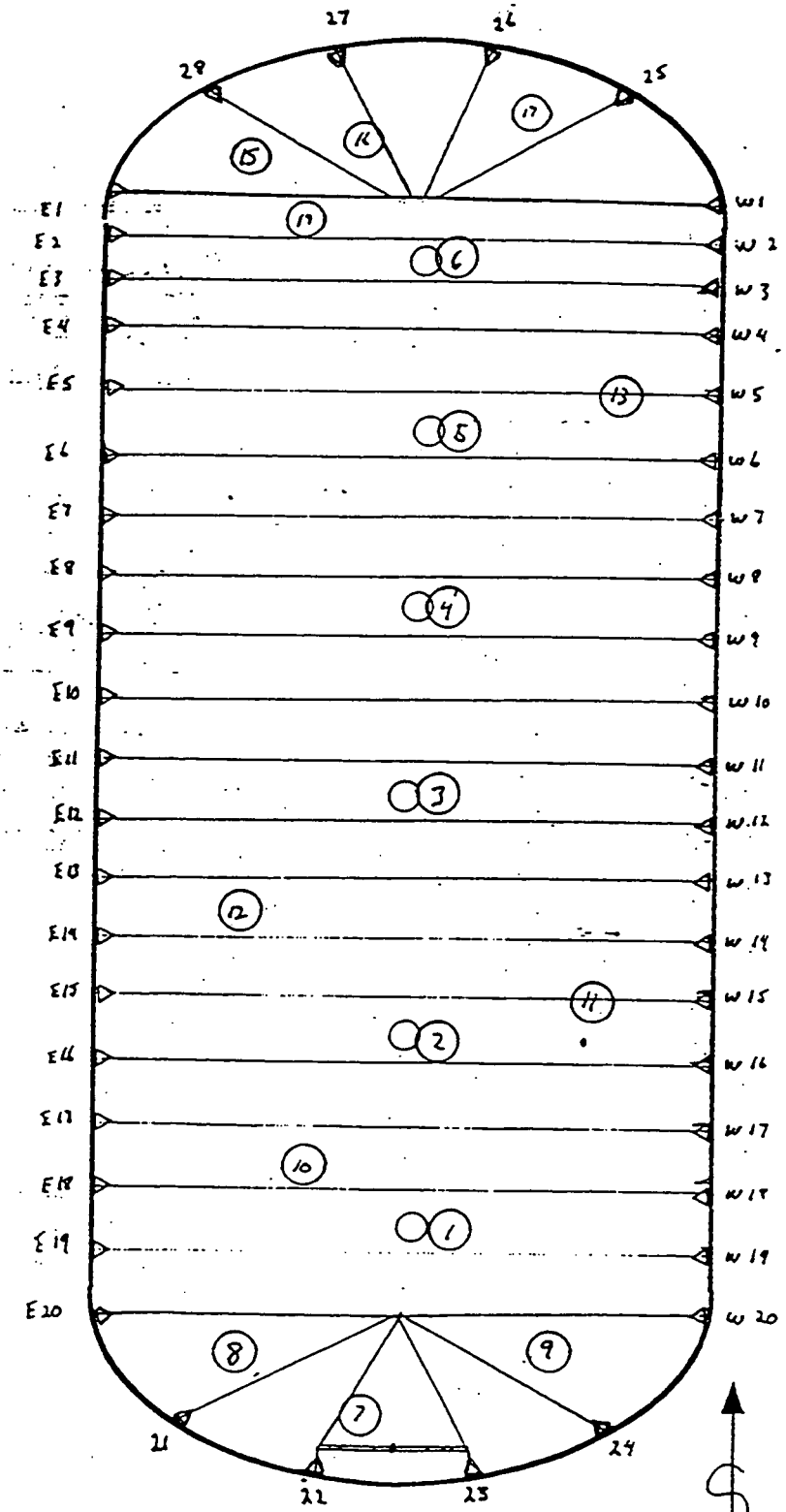
38.	
39.	
40.	
41.	
42.	
43.	
44.	



Tent # 8

386
275

APPENDIX C

TENT 9 RADIOLOGICAL DATA

C.1 HISTORICAL RADIOLOGICAL DATA

COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER "Routine

BUILDING/LOCATION:	ROOM:
994 PAD	tent 9
DATE: 01-07-98	TIME: 0815

ITEM DESCRIPTION: weekly survey

COMMENTS:

PERFORMED BY (PRINT NAME): L Hankins

L Hankins [redacted] 01-07-98

RCT SIGNATURE DATE

REVIEWED BY: THipsher

RO SUPERVISION PRINT NAME

[signature] 1/14/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	956	1050		
CAL DATE:	9-12-97	9-16-97		
CAL DUE DATE:	3-12-98	3-16-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 838			
CAL DATE:	1-6-98			
CAL DUE DATE:	7-6-98			

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 √ BACKGROUND (CPM))

INFORMATION

309

~~278~~

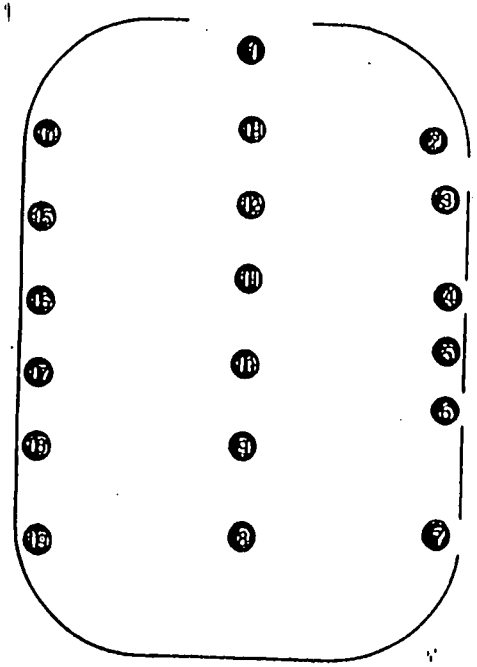
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<18	<205	<60	<455
2		<18	<205	<60	<455
3		<18	<205	<60	<455
4		<18	<205	<60	<455
5		<18	<205	<60	<455
6		<18	<205	<60	<455
7		<18	<205	<60	<455
8		<18	<205	<60	<455
9		<18	<205	<60	<455
10		<18	<205	<60	<455
11		<18	<205	<60	<455
12		<18	<205	<60	<455
13		<18	<205	<60	<455
14		<18	<205	<60	<455
15		<18	<205	<60	<455
16		<18	<205	<60	<455
17		<18	<205	<60	<455
18		<18	<205	<60	<455
19		<18	<205	<60	<455

LR 01-07-98

310
~~279~~

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: —

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 9
DATE: 1-21-98	TIME: 1000

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): [illegible]

[signature] [redacted] 1-21-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: T Hipsher

RO SUPERVISION PRINT NAME

[signature] 1/27/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 X √BACKGROUND (CPM)]

INFORMATION ONLY

311

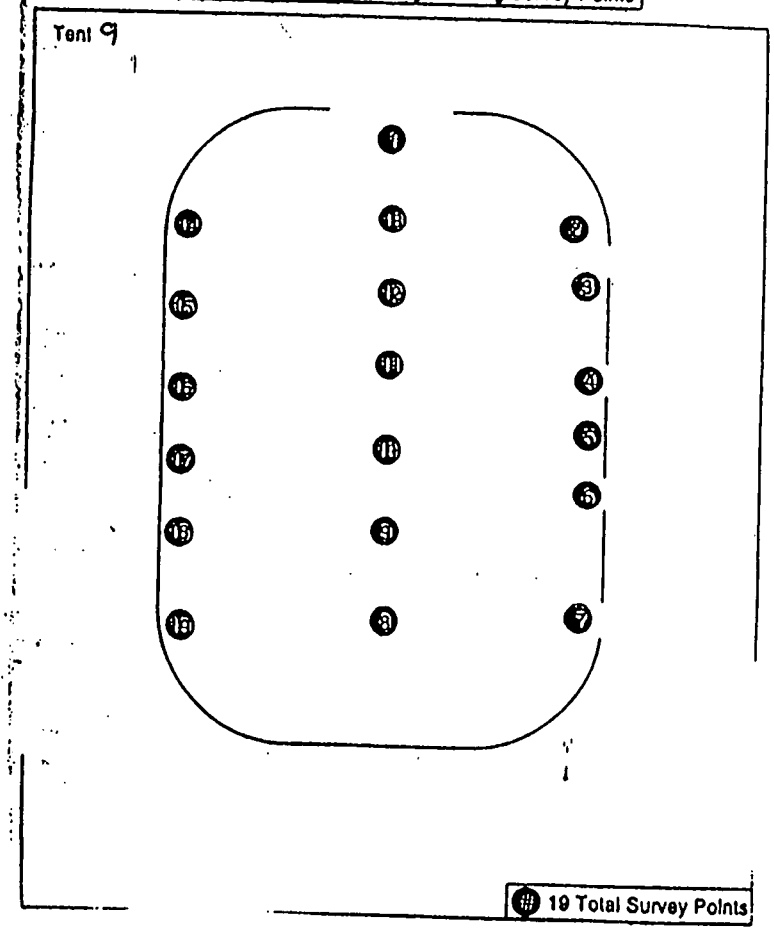
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED & REMOVABLE)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

1-21-98

~~231~~
312

COPY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 1-29-98

TIME: 1300

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE [redacted] EMP# 1-29-98 DATE

REVIEWED BY: T Hipsher

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 1/2/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 3.65 X BACKGROUND (CPM))

INFORMATION ONLY

3/3

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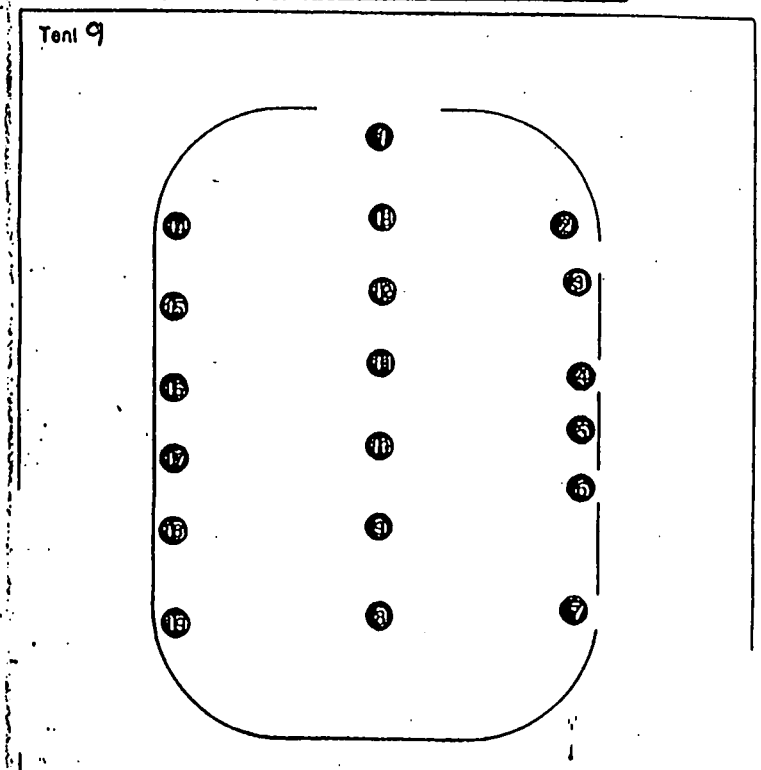
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

G.N. 1-29-98

2x3
314

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER Routine

BUILDING/LOCATION: 904 PAD

ROOM: tent 9

DATE: 2-5-98

TIME: 0830

ITEM DESCRIPTION: Weekly Control Point

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins L

RCT SIGNATURE / EMP# [redacted] / DATE 2-5-98

REVIEWED BY: THrosher

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE 2/12/98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

3/5 284

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LOG NUMBER: _____

PAGE ____ OF ____

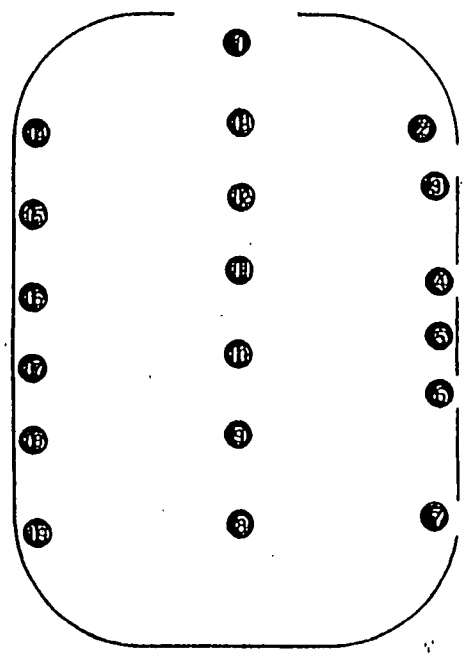
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIORIZED SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		
	LH 2-5-98				

316

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 9
DATE:	TIME:
2/12/98	0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE	EMP#	DATE
Munoz	[redacted]	2-12-98

REVIEWED BY: T Hupsher
RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE: 2/23/98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC720	BC838		
CAL DATE:	1-2-98	1-6-98		
CAL DUE DATE:	7-2-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

317

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LOG NUMBER: ——

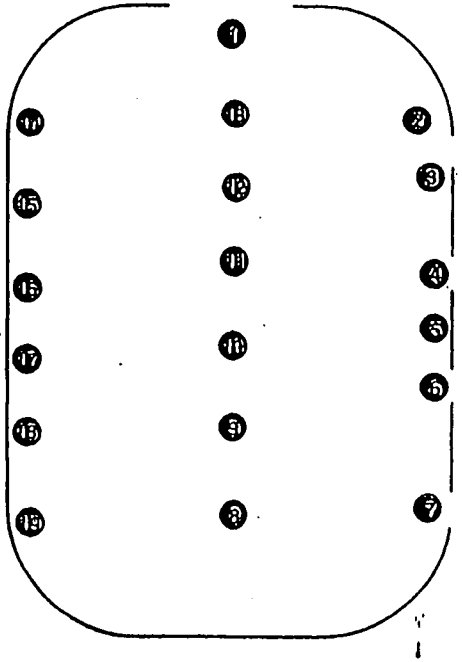
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED & REMOVABLE)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

2-12-98

3/8

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 2-18-98

TIME: 0930

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

[signature] [redacted] / 2-18-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: T Hopsher

RO SUPERVISION PRINT NAME

[signature] / 2/23/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	1050	959		
CAL DATE:	9-16-97	9-12-97		
CAL DUE DATE:	3-16-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 270	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

3/9

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LOG NUMBER: _____

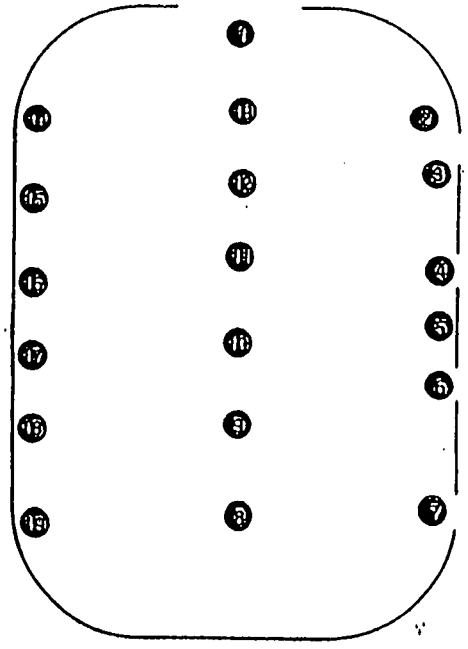
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed + removable)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		
	GA 2-18-98				

320

IN. ORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER "Routine

BUILDING/LOCATION:	ROOM:
904 PAd	Tent 9
DATE: 02-26-98	TIME: 1030

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): L Hankins

[signature] / [redacted] / 02-26-98

RCT SIGNATURE EMI # DATE

REVIEWED BY: THypsher

RO SUPERVISION PRINT NAME

[signature] / 3/4/98

RO SUPERVISION SIGNATURE DATE

321

240

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	959		
CAL DATE:	10-8-97	9-12-97		
CAL DUE DATE:	4-8-98	3-12-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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LOG NUMBER: _____

PAGE 2 OF 2

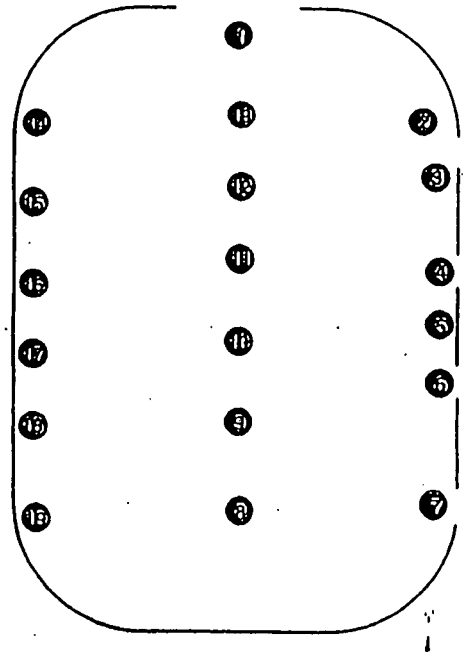
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FINISHING SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 02-26-98

191
322

IN. ORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER Routine

BUILDING/LOCATION: 904 PAd

ROOM: tent 9

DATE: 3-11-98 ~~3-10-98~~ JH

TIME: 13:30

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): J Hankins

J Hankins [redacted] 3-10-98

RCT SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	767		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

K E Garland 3-17-98

RO SUPERVISION SIGNATURE DATE

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

323
~~242~~

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LOG NUMBER: _____

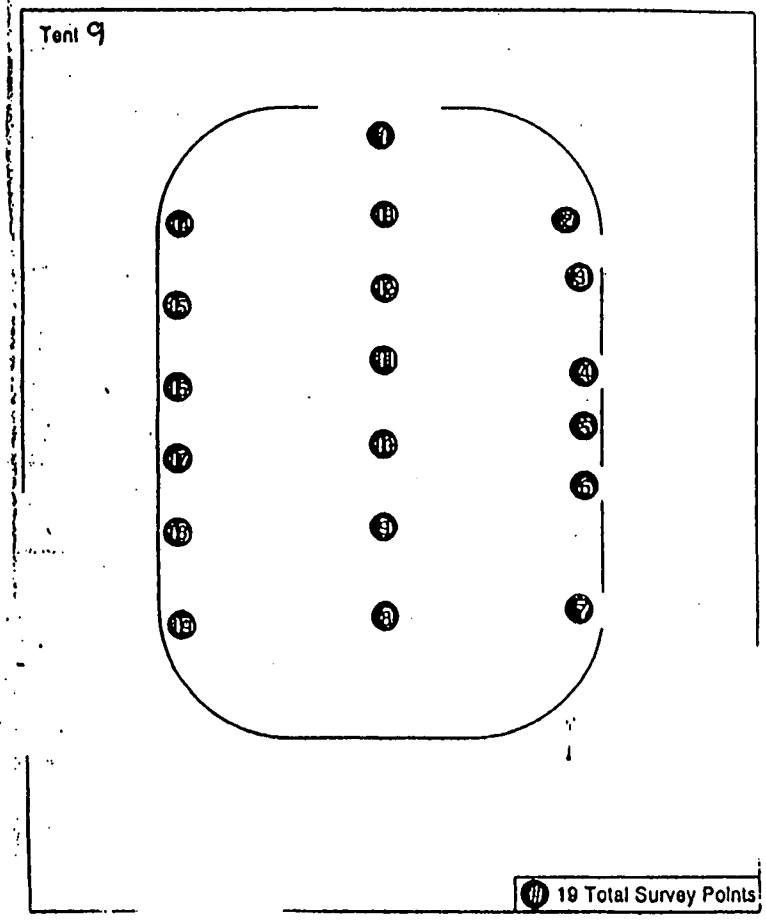
PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRIENDS/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 3-10-98

324
243

INFORMATION ONLY RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP X OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 3-17-98

TIME: 13:20

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins

[signature] [redacted] 13-17-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] 3/26/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	767	797		
CAL DATE:	10-10-97	10-8-97		
CAL DUE DATE:	4-10-98	4-8-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

325 ~~294~~

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LOG NUMBER: _____

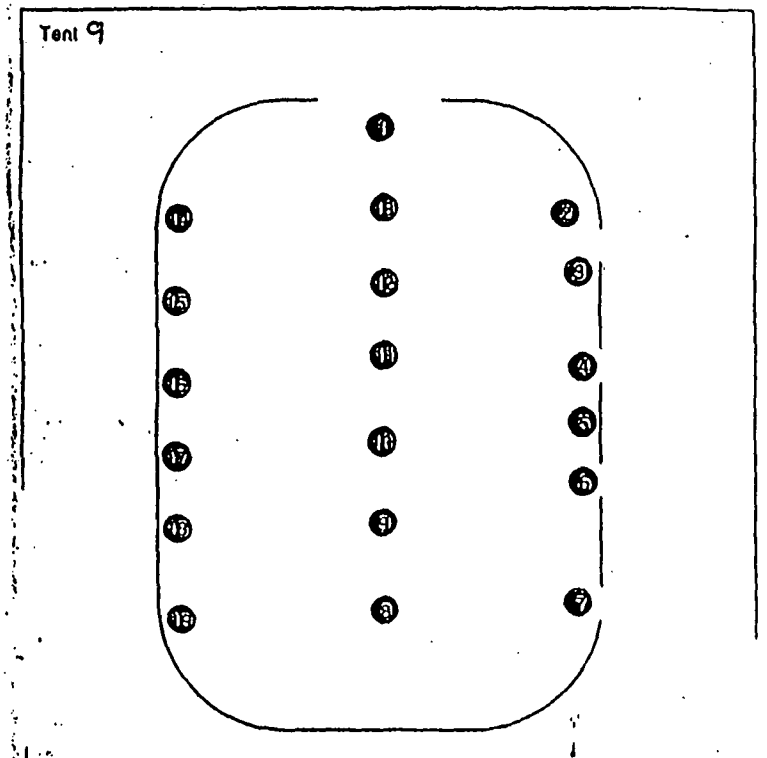
PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRESENT/NO SEE COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 3-17-98

~~246~~
326

INFORMATION ONLY RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 PAd	tent 9
DATE:	TIME:
3-26-98	0945

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): HAWKINS L

Hab [redacted] 3-26-98

RCT SIGNATURE DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] 4-1-98

RO SUPERVISION SIGNATURE DATE

327

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	767		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC720	BC878		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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LOG NUMBER: _____

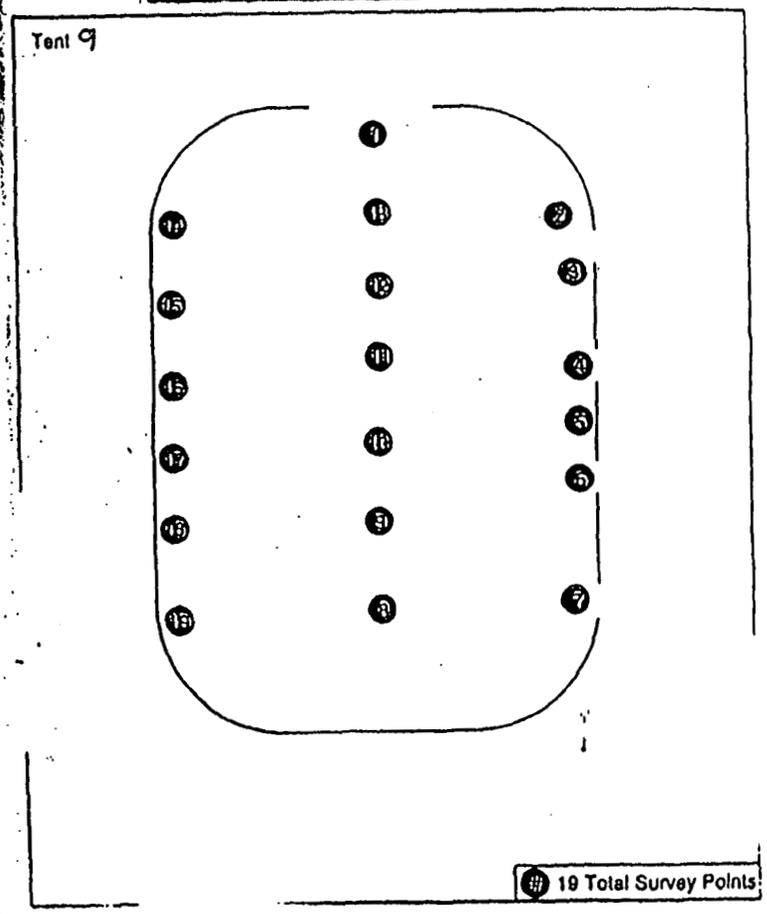
PAGE ____ OF ____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FREQUENCY PER COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 3-26-98

328
247

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER "Routine

BUILDING/LOCATION:	ROOM:
904 PA01	tent 9
DATE: 4-1-98	TIME: 1315

ITEM DESCRIPTION: weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hankins

RCT SIGNATURE [redacted] EMP# 4-1-98 DATE

REVIEWED BY: K. Gatlin

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE 4/10/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	797	767		
CAL DATE:	10-8-97	10-10-97		
CAL DUE DATE:	4-8-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC 770	BC 828		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$MDA = CF \times [2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)}]$

329

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LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

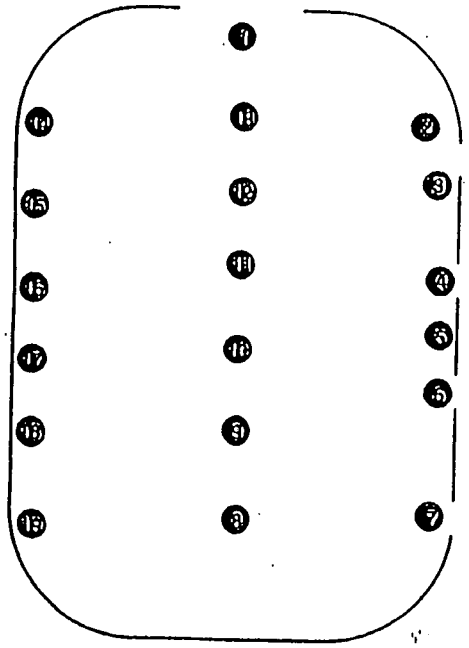
PAGE ____ OF ____

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed/removable count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

4-1-98

38

INF RMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent #9

DATE: 4-9-98

TIME: 1245

ITEM DESCRIPTION: Weekly

COMMENTS:

PERFORMED BY (PRINT NAME): Hawkins L

RCT SIGNATURE | EMP# [redacted] | DATE 4-9-98

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE | DATE 5/5/98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	824	767		
CAL DATE:	3-24-98	10-10-97		
CAL DUE DATE:	9-24-98	4-10-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

33

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LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

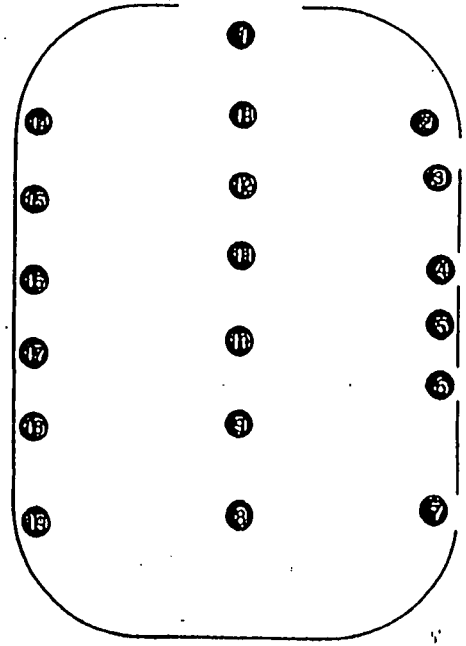
PAGE ____ OF ____

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 4-9-98

332

INFORMATIONAL ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP X OTHER "Routine

BUILDING/LOCATION: 904 PAd

ROOM: tent 9

DATE: 4-15-98

TIME: 0930

ITEM DESCRIPTION: weekly Survey

COMMENTS:

PERFORMED BY (PRINT NAME): HANKINS L

Hal. L [redacted] 14-15-98

RCT SIGNATURE DATE

REVIEWED BY: K. Casalman

RO SUPERVISION PRINT NAME

[signature] 1 8/4/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

333

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LOG NUMBER: _____

PAGE ____ OF ____

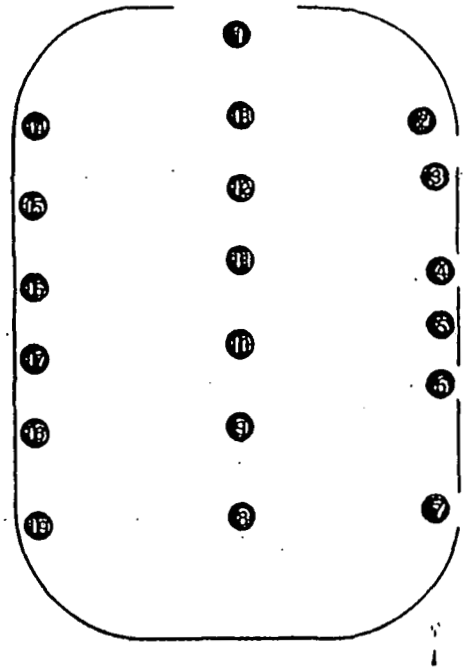
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (including rad count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

JH 4-15-98

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INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 4-23-98

TIME: 0830

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): [illegible]

[illegible] / [redacted] / 4-23-98

RCT SIGNATURE / EMP # / DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[illegible] / 5/20/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

335 ~~314~~

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LOG NUMBER: _____

PAGE 2 OF 2

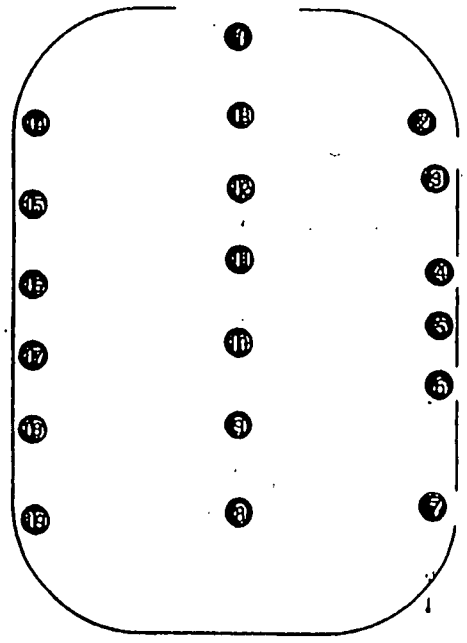
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FINISHED SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 4-23-98

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RADIOLOGICAL CONTAMINATION SURVEY FORM

INFORMATION ONLY

LOG NUMBER: ——

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 4-28-98

TIME: 0930

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

[signature] / [redacted] / 4-28-98

RCT SIGNATURE EMP# DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] / 5/19/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-~~98~~ 98	3-24-98		
CAL DUE DATE:	9-13-93	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

337 [illegible]

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LOG NUMBER: _____

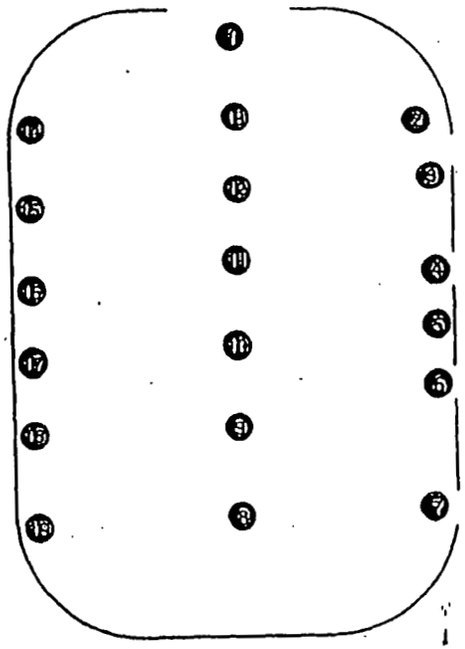
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRESENTED SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 4-28-98

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INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 5-7-98

TIME: 1300

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

[signature] / [redacted] / 5-7-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: K. Garland

RO SUPERVISION PRINT NAME

[signature] / 5/20/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc770	Bc838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

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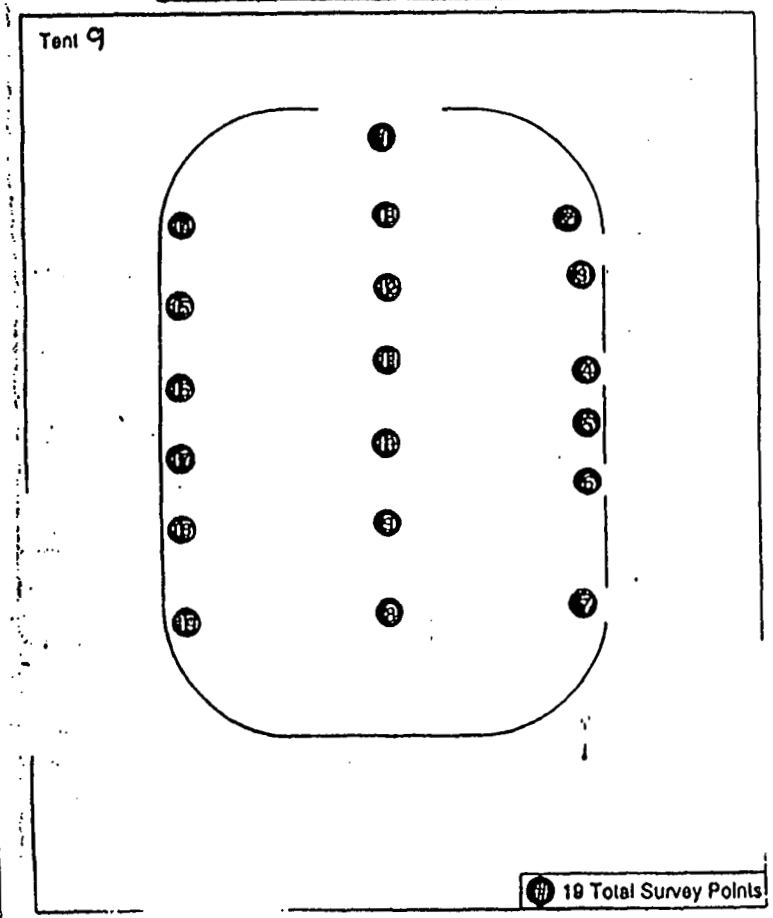
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

5-7-98

340

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL _____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: TENT #9

DATE: 5-13-98

TIME: 0830

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): M.E. VAUGHN

M.E. V [redacted] 1 05-13-98

RCT SIGNATURE DATE

REVIEWED BY: J. Stewart Bell

RO SUPERVISION PRINT NAME

J. Stewart Bell 16-10-98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	799	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	720	838		
CAL DATE:	1-2-98	1-4-98		
CAL DUE DATE:	7-2-98	7-4-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 √BACKGROUND (CPM)]

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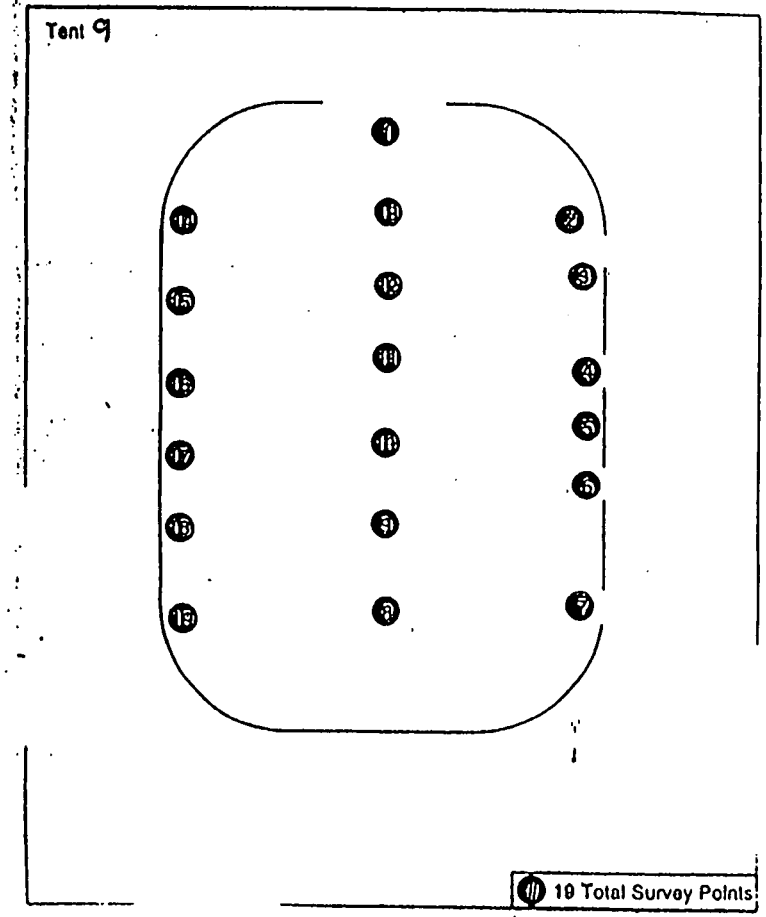
LOG NUMBER: _____

RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points



SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (DPM/100 CM² FIXED COUNT)	TOTAL BETA/GAMMA
1	refer to map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

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NFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 5-21-98

TIME: 0830

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE / [redacted] EMP# / 5-21-98 DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 6-10-98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	BC770	BC838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

343 ~~312~~

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LOG NUMBER: _____

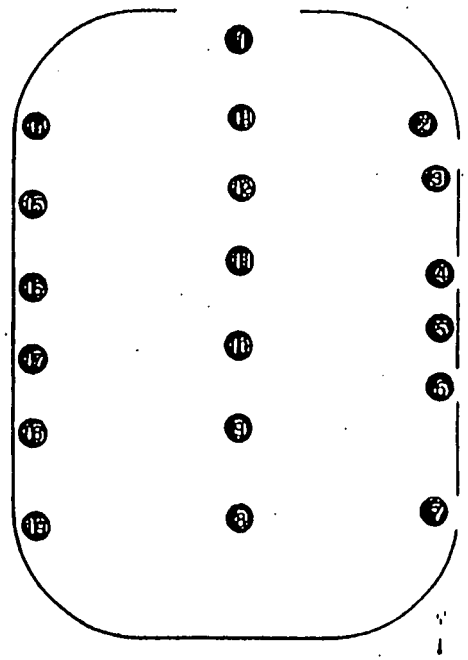
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SEC COUNT)	TOTAL BETA/GAMMA
1	refer to map	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 5-21-98

~~313~~
344

INFORMATION ONLY

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: ____ P/WRE ____ PRL ____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Tent 9

DATE: 5-27-98

TIME: 0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE / [redacted] EMP# / 5-27-98 DATE

REVIEWED BY: J. Stewart-Bell

RO SUPERVISION PRINT NAME

J. Stewart Bell 6/10/98

RO SUPERVISION SIGNATURE DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X (2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$)

314

9/8

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LOG NUMBER: _____

PAGE 2 OF 2

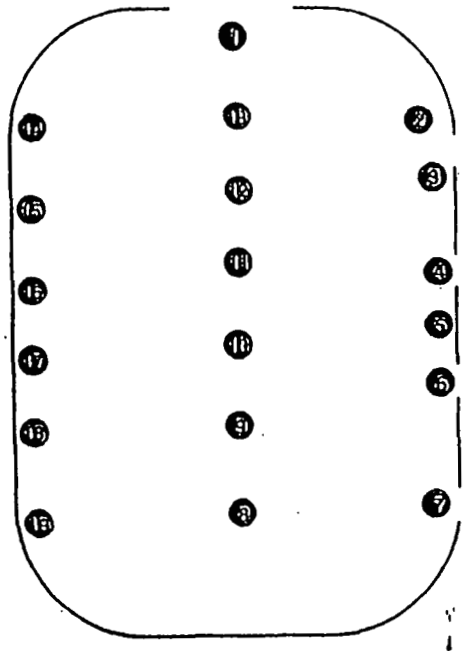
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIMARY SEC COUNT)	TOTAL BETA/GAMMA
1	refer to map.	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 5-27-98

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL

_____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 9
DATE: 6-3-98	TIME: 0900

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): W Munoz

[signature] / [redacted] / 6-3-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: R. SAUYER

RO SUPERVISION PRINT NAME

[signature] / 6/9/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 770	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 $\sqrt{\text{BACKGROUND (CPM)}}$]

347
~~316~~

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LOG NUMBER: _____

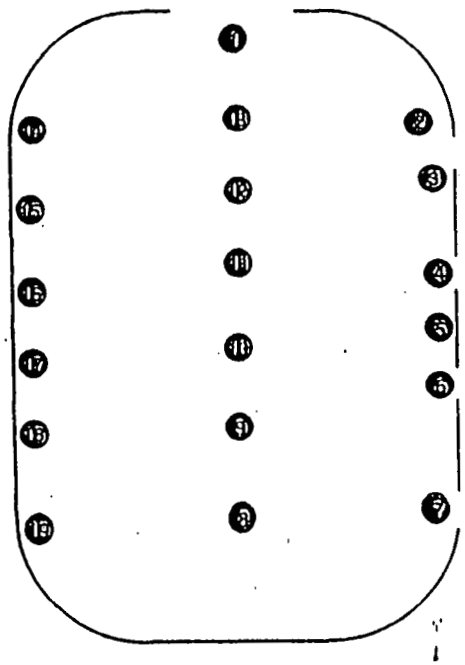
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

348

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIMARY SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 6 3-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

INFORMATION ONLY

LOG NUMBER:

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 9
DATE:	TIME:
6-9-98	0930

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): [illegible]

[illegible] / [redacted] / 6-9-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: R Sawyer

RO SUPERVISION PRINT NAME

[illegible] 6/26/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc770	Bc838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

MDA = CF X [2.71 + 4.65 √BACKGROUND (CPM)]

3/9

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LOG NUMBER: _____

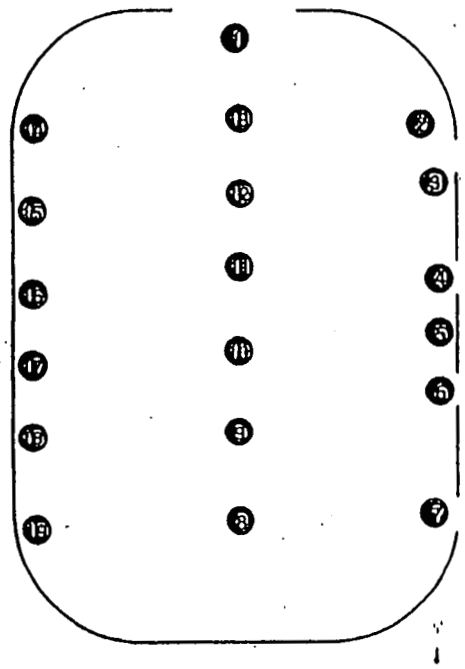
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

350

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (removable fixed count)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

6-9-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

INFORMATION ONLY

LOG NUMBER:

FOR: ____ P/WRE ____ PRL

____ RWP ✓ OTHER Routine

BUILDING/LOCATION: 904 Pad

ROOM: Test 9

DATE: 6-17-98

TIME: 0830

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): Munoz

RCT SIGNATURE / [redacted] / 6-17-98 DATE

REVIEWED BY: R Bowyer

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / 6/25/98 DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 220	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$MDA = CF \times [2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)}]$

35/
~~320~~

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LOG NUMBER: _____

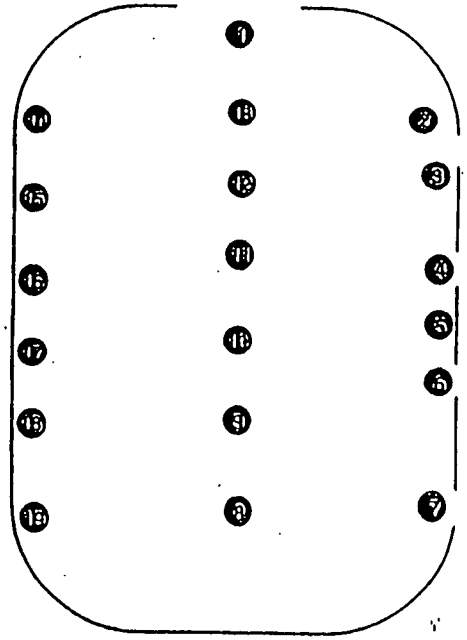
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

352

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIORIZED PER COUNT)	TOTAL BETA/GAMMA
1	SEE MAP	<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 6-17-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER: _____

FOR: _____ P/WRE _____ PRL _____ RWP ✓ OTHER Routine

BUILDING/LOCATION:	ROOM:
904 Pad	Tent 9
DATE: 6-24-98	TIME: 0800

ITEM DESCRIPTION: Weekly Control Point Survey

COMMENTS:

PERFORMED BY (PRINT NAME): WMUNOZ

[signature] / [redacted] / 6-24-98

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: R. SAWYER

RO SUPERVISION PRINT NAME

[signature] 7/23/98

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:	795	824		
CAL DATE:	3-13-98	3-24-98		
CAL DUE DATE:	9-13-98	9-24-98		

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:	Bc 720	Bc 838		
CAL DATE:	1-7-98	1-6-98		
CAL DUE DATE:	7-7-98	7-6-98		

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

353

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LOG NUMBER: _____

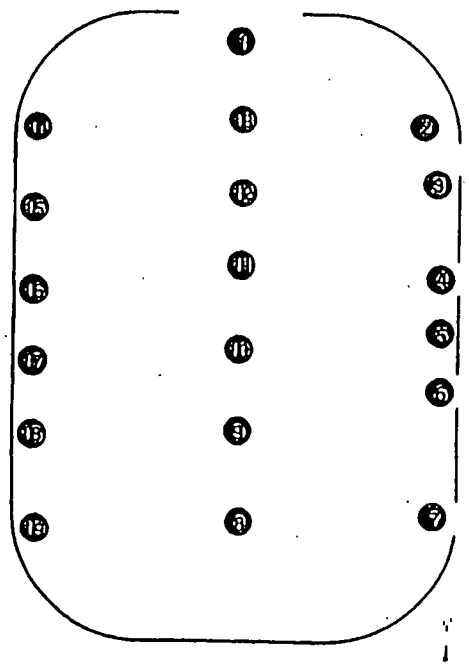
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. _____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FINISHED SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

6-24-98

6-24-98

354

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INFORMATION ONLY

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due
Bkg. 0.2	Bkg. 0.2	Bkg.
Efficiency 33%	Efficiency 33%	Efficiency
MDA <20	MDA <20	MDA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model BC-4	Model BC-4	Model
Serial # BC770	Serial # BC838	Serial #
Cal Due 7-7-98	Cal Due 7-6-98	Cal Due
Bkg. 41	Bkg. 43	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA <200	MDA <200	MDA

Survey Type: Contamination Survey
Building: 904 Pad
Location: Tent 9
Purpose: Weekly Control Point Survey

~~RWP #:~~ 7-1-98

Date: 7-1-98 Time: 0900

RCT: Munoz [signature] [redacted]
Print name Signature Emp. #

~~RCT:~~ 7-1-98
Print name Signature Emp. #

~~PRL #:~~ 7-1-98

Comments: See attached form for survey results

SURVEY RESULTS

7-1-98

Date Reviewed: 7/23/98 RS Supervision: R. Sawyer [signature] [redacted]
Print Name Signature Emp. #

~~324~~ 355

Rev 05/98

@RAH

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Cancel 7-1-98

326
356

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LOG NUMBER: ac 7-1-98

RADIOLOGICAL CONTAMINATION SURVEY FORM

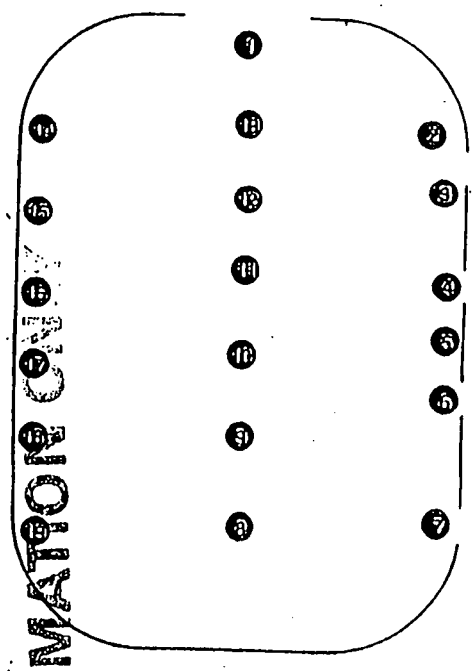
PAGE 2 OF 3

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



ORMATION ONLY

19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRIEDLY/SO SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

ac 7-1-98

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RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-13-98	Cal Due
Bkg. 0.1	Bkg. 0.1	Bkg.
Efficiency 33%	Efficiency 33%	Efficiency
MDA 20 dpm	MDA 20 dpm	MDA
Mfg. Eberline	Mfg. Eberline	Mfg.
Model BC-4	Model BC-4	Model
Serial # BC704	Serial # BC702	Serial #
Cal Due 12-11-98	Cal Due 12-15-98	Cal Due
Bkg. 36	Bkg. 38	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA 200 dpm	MDA 200 dpm	MDA

Survey Type: Contamination Survey
Building: 904 Pad
Location:
Purpose: Weekly Control Point Survey
RWP #: 7-8-98
Date: 7-8-98 Time: 0800
RCT: Munoz / [signature] / [redacted]
Print name Signature Emp. #
RCT: Hawkins / [signature] / [redacted]
Print name Signature Emp. #

PRL #: 7-8-98
Comments: Weekly Surveys include Source Locker, Tent 7, Locker Room, Break Room, 904 Pad, Tent 8, Tent 9, Tent 10, Tent 11 Tent 9

SURVEY RESULTS

* See attached sheets for weekly survey results

Date Reviewed: 7/23/98 RS Supervision: R Sawyer / [signature] / [redacted]
Print Name Signature Emp. #

~~329~~ 359

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LOG NUMBER: 7-8-98

PAGE ____ OF ____

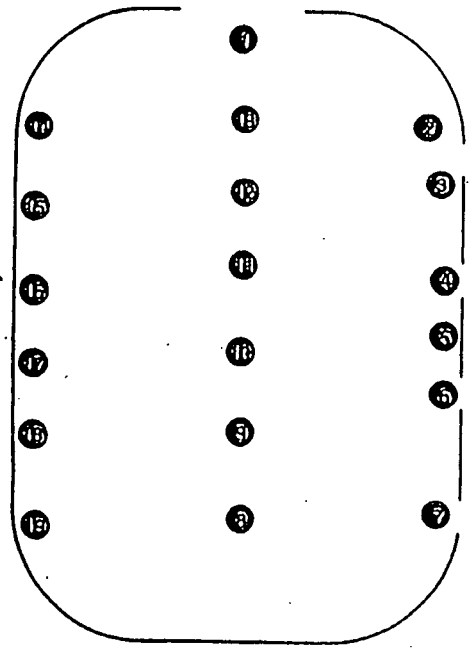
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No. ____

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FIXED/SQ. SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

7-8-98

360

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times (2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)})$$

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FORMATION ONLY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg. Eberline
Model SAC 4	Model SAC 4	Model BC 4
Serial # 795	Serial # 824	Serial # 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.0	Bkg. 35
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 120	MDA 120	MDA 1200
Mfg. Eberline	Mfg. NE tec	Mfg.
Model BC 4	Model Electra	Model
Serial # 702	Serial # 1680	Serial #
Cal Due 12-15-98	Cal Due 9-3-98	Cal Due
Bkg. 38	Bkg. α 2.0 β 399	Bkg.
Efficiency 25%	Efficiency α 24.3% β 30.3%	Efficiency
MDA 1200	MDA α 93.3 β 455	MDA

Survey Type: Contamination
Building: 904
Location: 904 Pad ~~office~~ ~~Locker~~ TENT 9
Purpose: Weekly

~~RWP #~~ JH

Date: 7-16-98 Time: 1540

RCT: L Hankins L Hah [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

~~PRL #~~: JH 7-16-98

Comments: NONE

SURVEY RESULTS

See Following pages for survey results

JH 7-16-98

Date Reviewed: 8/5/98 RS Supervision: [redacted]
Print Name Signature

362
331

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LOG NUMBER: 7-6-98

PAGE 2 OF 2

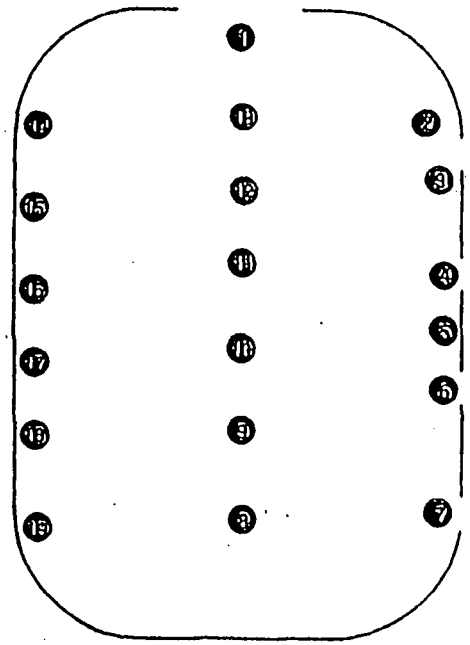
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



INFORMATION

19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (PRIMARY SEC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

7-16-98

363

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME): _____

_____ / _____ / _____

RCT SIGNATURE | EMP# | DATE

REVIEWED BY: _____

RO SUPERVISION PRINT NAME

_____ / _____

RO SUPERVISION SIGNATURE | DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times [2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)}]$$

364

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model SAC-4	Model SAC-4	Model
Serial # 795	Serial # 824	Serial #
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due
Bkg. 0.0	Bkg. 0.0	Bkg.
Efficiency ~~33%~~ 33%	Efficiency 33%	Efficiency
MDA 200 d/m	MDA 200 d/m	MDA

Mfg. Eberline	Mfg. Eberline	Mfg.
Model BC-4	Model BC-4	Model
Serial # BC704	Serial # BC702	Serial #
Cal Due 12-11-98	Cal Due 12-15-98	Cal Due
Bkg. 36	Bkg. 38	Bkg.
Efficiency 25%	Efficiency 25%	Efficiency
MDA 200 d/m	MDA 200 d/m	MDA

on 7-22-98

Survey Type: Contamination Survey
Building: 904 Pad
Location: 904 Pad T-7 T8-T9 T10 T11 Break Room Locker Room, Service Locker
Purpose: Weekly Control Point
RWP #: on 7-22-98

Date: 7-22-98 Time: 0800

RCT: HAWKINS [signature] [redacted]
Print name Signature Emp. #

RCT: MUNOZ [signature] [redacted]
Print name Signature Emp. #

PRL #: on 7-22-98

Comments:
* See attached survey forms for survey results
TENT 9

SURVEY RESULTS

INFORMATION ONLY

on 7-22-98

Date Reviewed: 8/5/98 RS Supervision: [signature] [signature] [redacted]
Print Name Signature Emp. #

~~334~~
365

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

7-22-98

335
366

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LOG NUMBER: 7-22-98

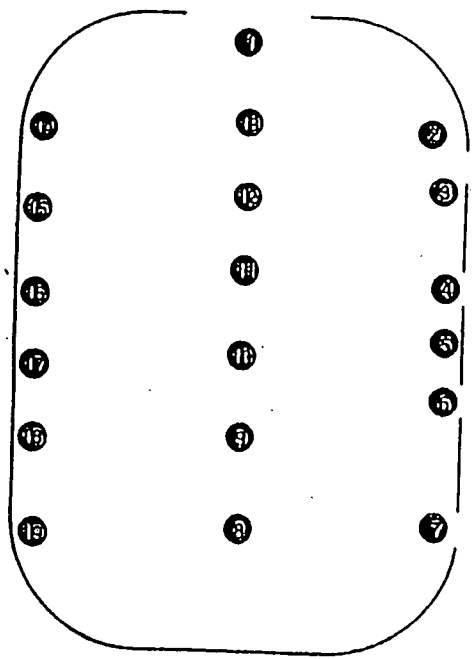
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



INFORMATION ONLY

19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (fixed + removable)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

7-22-98

0367

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY: _____

RO SUPERVISION PRINT NAME

_____ / _____

RO SUPERVISION SIGNATURE DATE

Cm 7-22-98

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times [2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)}]$$

368
~~331~~

RS FORMS 07.02.01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # BC 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.0	Bkg. 38
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 d/m	MDA 20 d/m	MDA 200 d/m
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA ~~20~~ 200 d/m	MDA	MDA

Survey Type: CONTAMINATION

Building: 904 Pad

Location: T-7, Locker Room, Break Room, 904 Pad, T-8, T-9, T-10, T-11

Purpose: Source Locker Weekly Control Point Survey

TSNT 9

~~RWP #:~~ cm 7-30-98

Date: 7-30-98 Time: 0900

RCT: Munoz / [signature] [redacted]
Print name / Signature / Emp. #

RCT: / /
Print name / Signature / Emp. #

~~PRL #:~~ cm 7-30-98

Comments: Survey results, for each survey, are located on attached sheets.

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.					23.				
2.					24.				
3.					25.				
4.					26.				
5.					27.				
6.					28.				
7.					29.				
8.					30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

cm 7-30-98

Date Reviewed 8/26/98 RS Supervision: [signature] [signature] [redacted]
Print Name / Signature / Emp. #

~~338~~
369

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

9-30-98

370

~~334~~

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LOG NUMBER: [illegible] 7-30-98

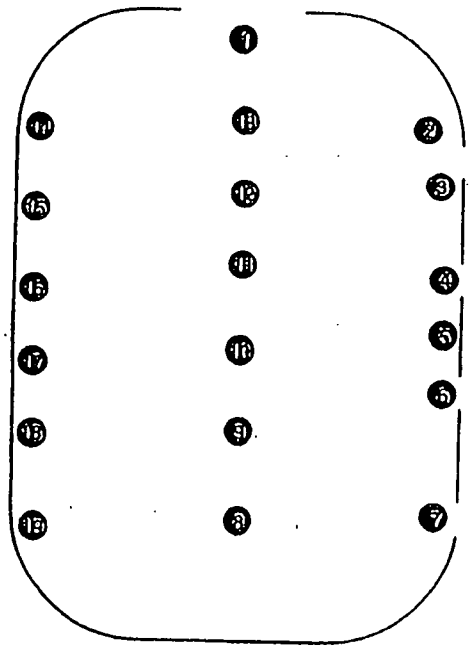
RADIOLOGICAL CONTAMINATION SURVEY FORM

SKETCH

Control No.

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

SURVEY RESULTS (DPM/100 CM²)

SWIPE #	LOCATION/DESCRIPTION	REMOVABLE ALPHA	REMOVABLE BETA/GAMMA	TOTAL ALPHA (FRIENDED FLC COUNT)	TOTAL BETA/GAMMA
1		<20	<200		
2		<20	<200		
3		<20	<200		
4		<20	<200		
5		<20	<200		
6		<20	<200		
7		<20	<200		
8		<20	<200		
9		<20	<200		
10		<20	<200		
11		<20	<200		
12		<20	<200		
13		<20	<200		
14		<20	<200		
15		<20	<200		
16		<20	<200		
17		<20	<200		
18		<20	<200		
19		<20	<200		

[illegible] 7-30-98

~~340~~ 371

RADIOLOGICAL CONTAMINATION SURVEY FORM

LOG NUMBER:

FOR: _____ P/WRE _____ PRL

_____ RWP _____ OTHER _____

BUILDING/LOCATION: | ROOM:

DATE: | TIME:

ITEM DESCRIPTION:

Gen 7-30-88

COMMENTS:

PERFORMED BY (PRINT NAME):

RCT SIGNATURE / EMP# / DATE

REVIEWED BY:

RO SUPERVISION PRINT NAME

RO SUPERVISION SIGNATURE / DATE

REMOVABLE CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4	S.A.C. - 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

MFR:	EBER.	EBER.	EBER.	EBER.
MODEL:	B.C. 4	B.C. 4	B.C. 4	B.C. 4
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				

TOTAL CONTAMINATION SURVEY INSTRUMENT DATA

MFR:	N.E. TECH			
MODEL:	ELECTRA			
SERIAL #:				
CAL DATE:				
CAL DUE DATE:				
BACKGROUND:				
SFFICIENCY:				
MDA:				

$$MDA = CF \times [2.71 + 4.65 \sqrt{BACKGROUND\ (CPM)}]$$

3411

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # BC204
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.1	Bkg. 0.1	Bkg. 33
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC202	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 34	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY
RWP #: ~~a~~ 8-5-98
Date: 8-5-98 Time: 0900
RCT: Munoz / [signature] / [redacted]
Print name Signature Emp. #
RCT: ~~a~~ 8-5-98 / /
Print name Signature Emp. #

PRL #: ~~a~~ 8-5-98
Comments: INFORMATION ONLY
See reverse side for map.

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

~~a~~ 8-5-98 ~~a~~ 8-5-98 ~~a~~ 8-5-98

Date Reviewed: 8/26/98 RS Supervision: [signature] / [signature] [redacted]
Print Name Signature Emp. #

~~342~~ 373

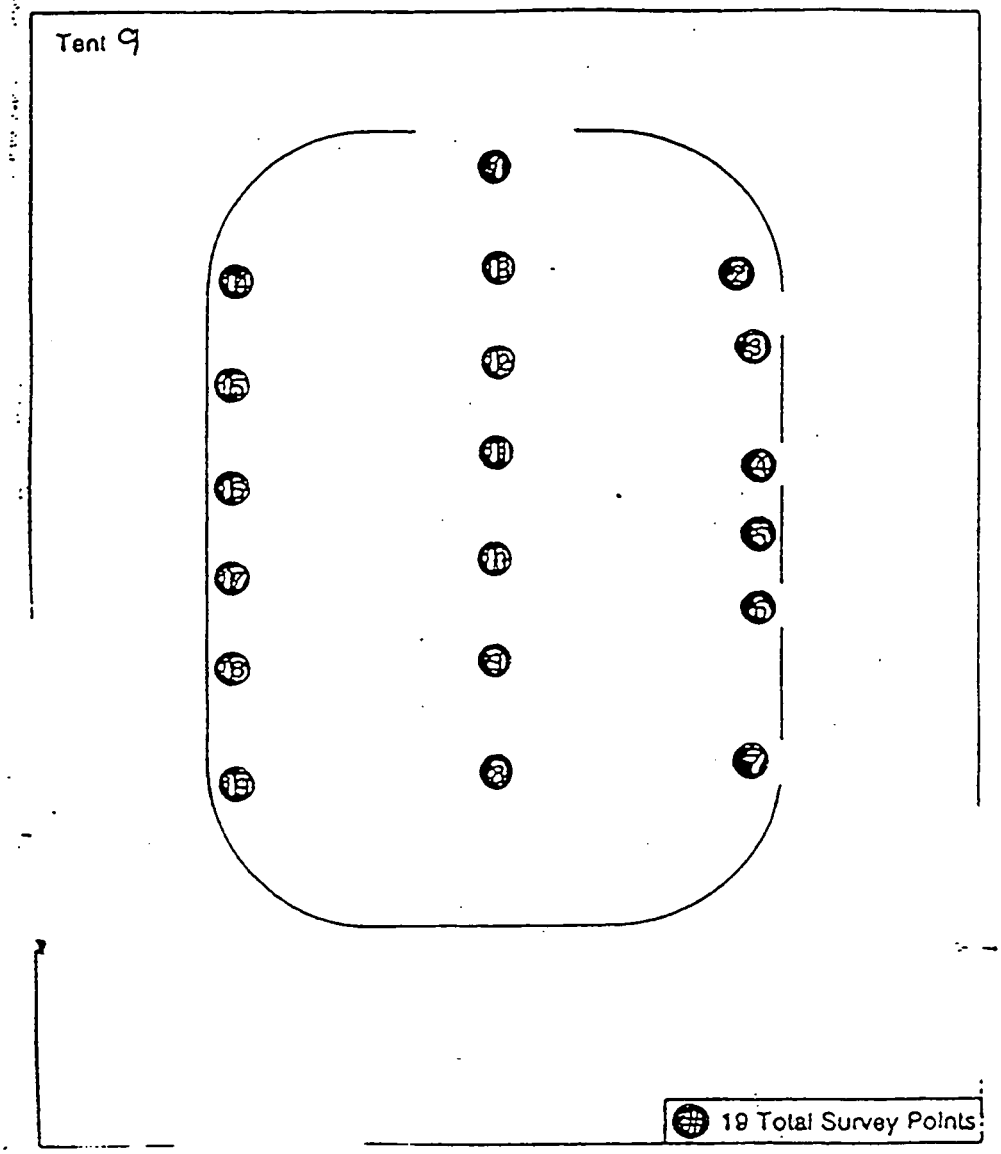
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



374
343

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC4
Serial # 795	Serial # 824	Serial # BC704
Cal Due 9/13/98	Cal Due 9/24/98	Cal Due 12/11/98
Bkg. 0.0	Bkg. 0.0	Bkg. 36
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20	MDA <20	MDA <200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial #	Serial #
Cal Due 12/15/98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200	MDA	MDA

TF 8/13/98

TF 8/13/98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

RWP #: NA

Date: 8/13/98 Time: 10

RCT: [signature] / [signature] [redacted]

Print name Signature

RCT: / /

Print name Signature Emp. #

PRL #: NA

Comments: INFORMATION ONLY

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

TF 8/13/98

TF 8/13/98

Date Reviewed: 8/26/98 RS Supervision: RSamper [signature] [redacted]

Print Name Signature Emp. #

~~344~~ 375

RS FORMS 07.02-01

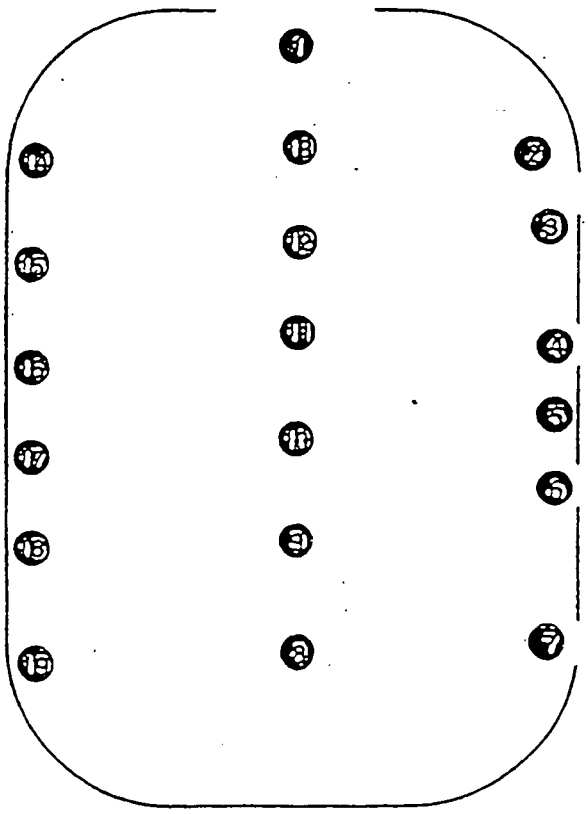
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

376
~~345~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC4~~ BC4
Serial # 795	Serial # 824	Serial # BC204
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.2	Bkg. 41
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20dpm	MDA <20dpm	MDA <200dpm

Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC202	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY

RWP #: 8-19-98

Date: 8-19-98 Time: 0900

RCT: Munoz [signature] [redacted]
Print name Signature Emp. #

RCT: 8-19-98
Print name Signature Emp. #

PRL #: 8-19-98

Comments:

FOR DECONTAMINATION ONLY

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

8-19-98

8-19-98

Date Reviewed: 9/3/98 RS Supervision: K. Gaylord [signature] [redacted]
Print Name Signature Emp. #

377
~~346~~

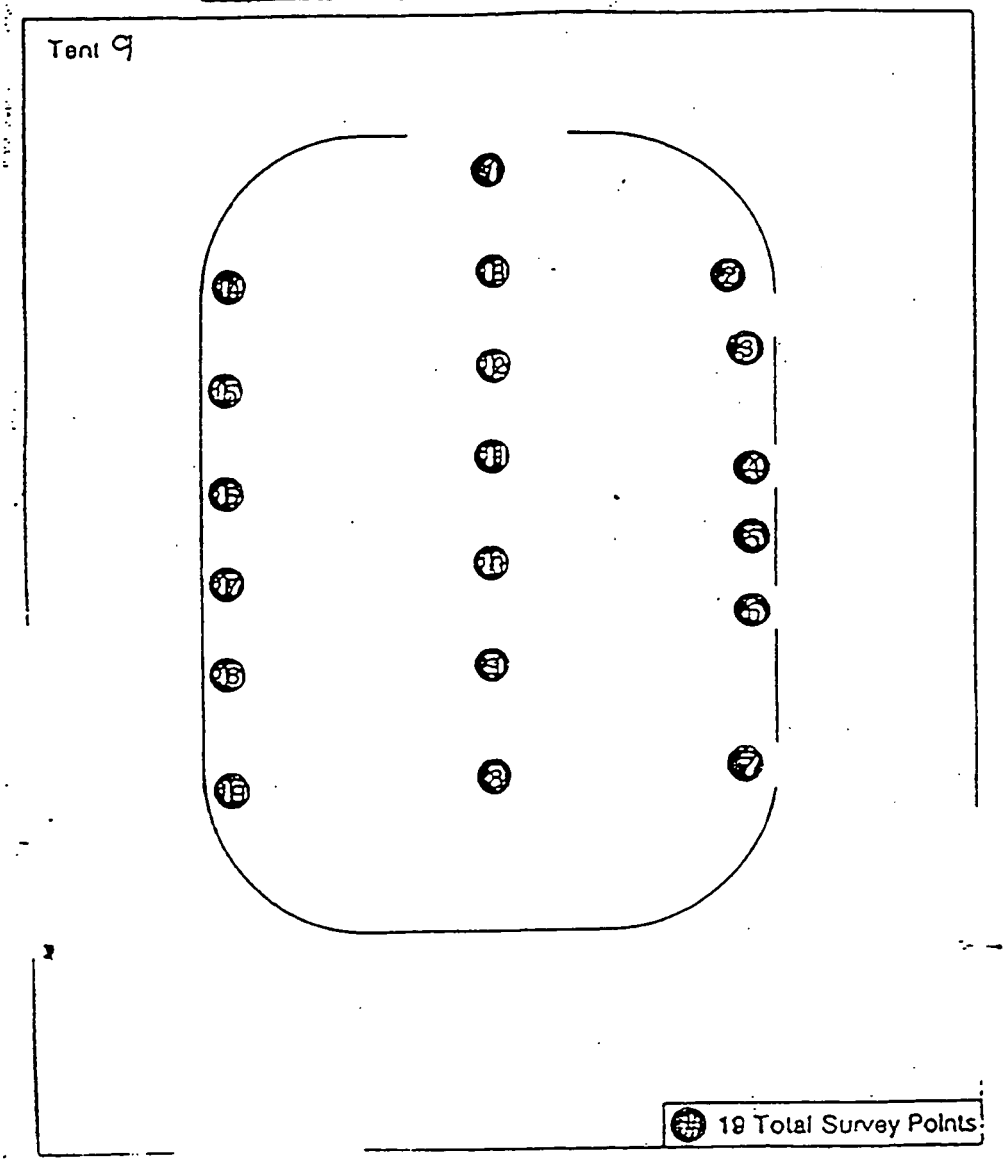
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



378
~~347~~

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # BC204
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.0	Bkg. 0.2	Bkg. 36
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC202	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY
RWP #: 8-27-98
Date: 8-27-98 Time: 1000
RCT: [redacted] (Print name / Signature / Emp. #)
RCT: 8-27-98 (Print name / Signature / Emp. #)

PRL #: 8-27-98
Comments: See page 2 of 2 for survey map

INFORMATION ONLY

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

8-27-98

Date Reviewed: 9/3/98 RS Supervision: K. Gaulmes (Print Name) [signature] (Signature) [redacted] (Emp. #)

379
3418

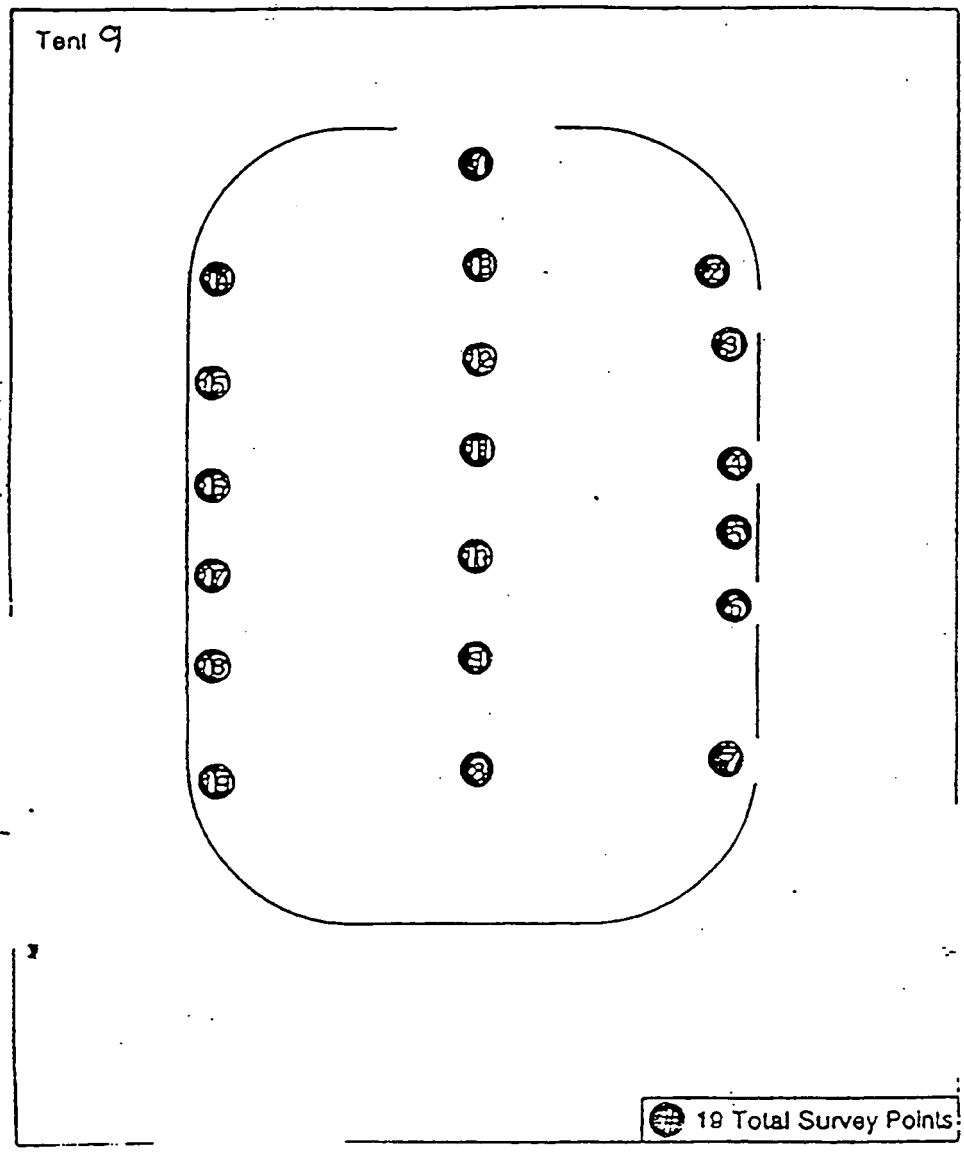
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



380
349

Page ___ of ___ **INFORMATION ONLY** RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # 704
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 12-11-98
Bkg. 0.3	Bkg. 0.1	Bkg. 37
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20dpm	MDA 20dpm	MDA 200dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 39	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY

RWP #:

Date: 9-2-98 Time: 1040

RCT: M.E. VAUGHN / [signature] / [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL #:
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<20			23.				
2.					24.				
3.					25.				
4.					26.				
5.					27.				
6.					28.				
7.					29.				
8.					30.				
9.					31.				
10.					32.				
11.					33.				
12.					34.				
13.					35.				
14.					36.				
15.					37.				
16.					38.				
17.					39.				
18.					40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 9/3/98 RS Supervision: K Garland / [signature] / [redacted]
Print Name Signature Emp. #

381
350

RSFORMS 07.02-01

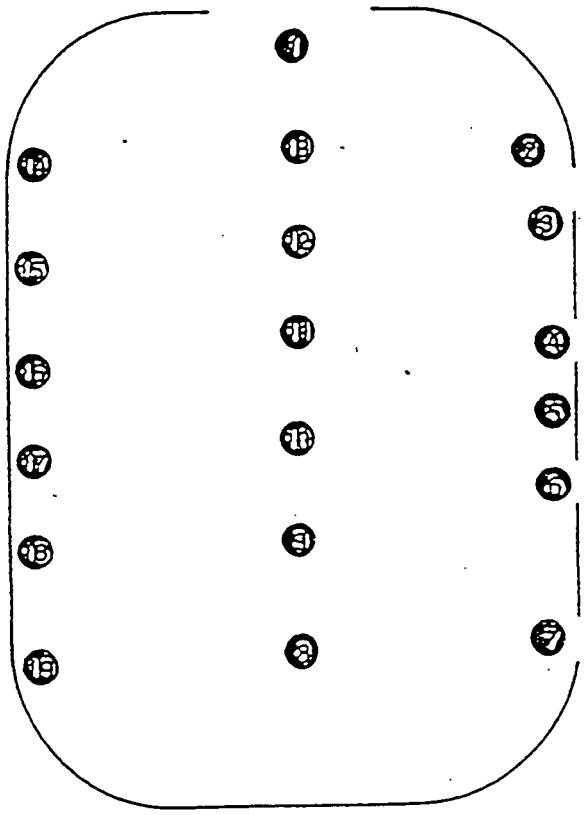
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

382

 INFORMATION ONLY RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 795	Serial # 824	Serial # BC838
Cal Due 9-13-98	Cal Due 9-24-98	Cal Due 1-9-99
Bkg. 0.1	Bkg. 0.0	Bkg. 39
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm

Mfg. EBERLINE	Mfg. NE. TECH	Mfg. NE. TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 44	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY
am 9-9-98
RWP #:
Date: 9-9-98 **Time:** 1000
RCT: Munoz [redacted]
Print name Signature Emp. #
am 9-9-98
RCT: / /
Print name Signature Emp. #

PRL #: am 9-9-98
Comments: See Survey Map for survey points

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 9/15/98 RS Supervision: J. Ewell [redacted]
Print Name Signature Emp. #

352383

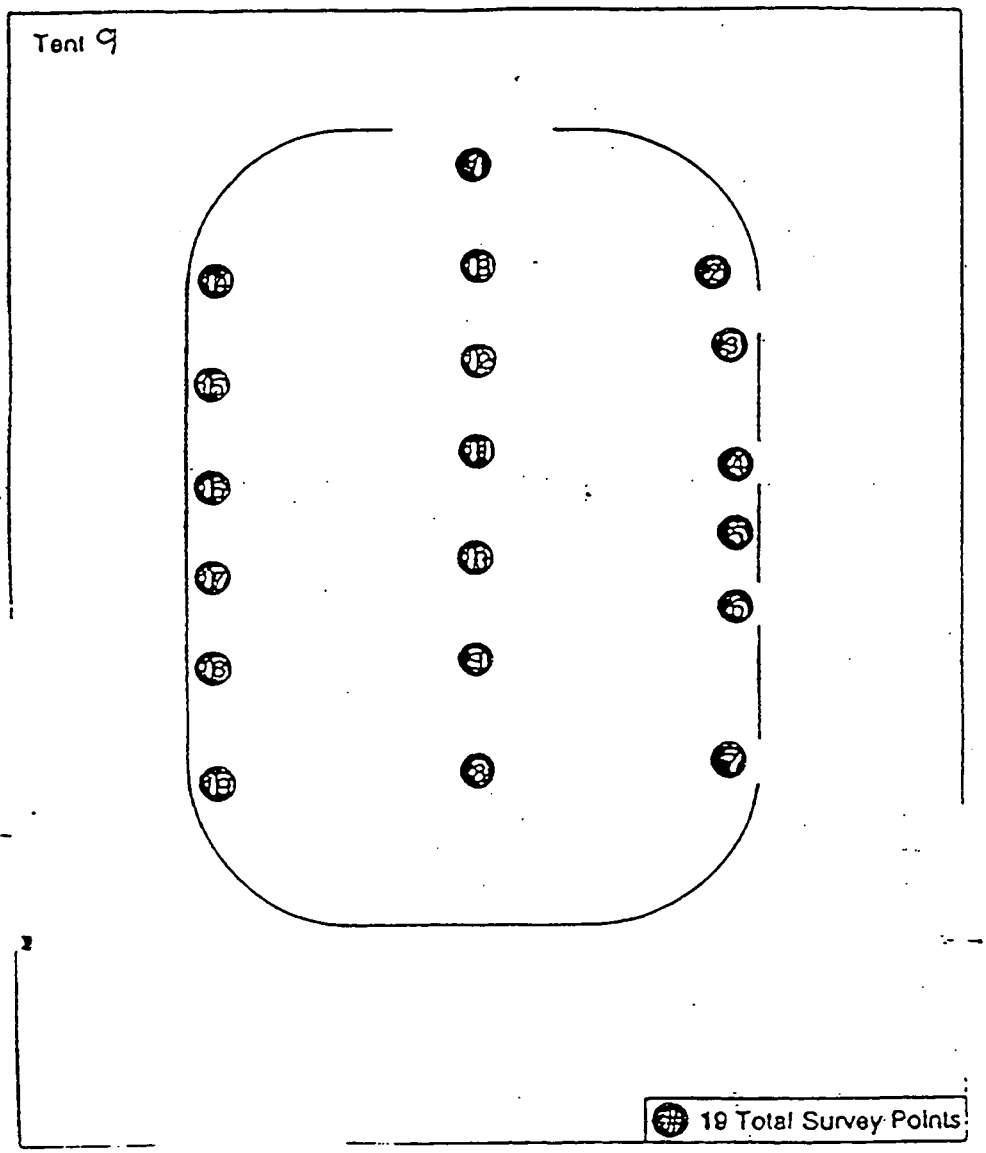
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



384
~~353~~

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 767	Serial # 824	Serial # 838
Cal Due 10-14-98	Cal Due 9-24-98	Cal Due 1-9-98
Bkg. 0.0	Bkg. 0.1	Bkg. 40
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20 dpm	MDA <20 dpm	MDA <200 dpm

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 41	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

~~RWP #:~~ JH 9-16-98

Date: 9-16-98 Time: 1240

RCT: Hankins L [redacted]
Print name Signature Emp. #

RCT: JH 9-16-98
Print name Signature Emp. #

PRL #: JH 9-16-98

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

JH 9-16-98

Date Reviewed: 5/27/98 RS Supervision: J. Ewell J. Ewell [redacted]
Print Name Signature Emp. #

385
384

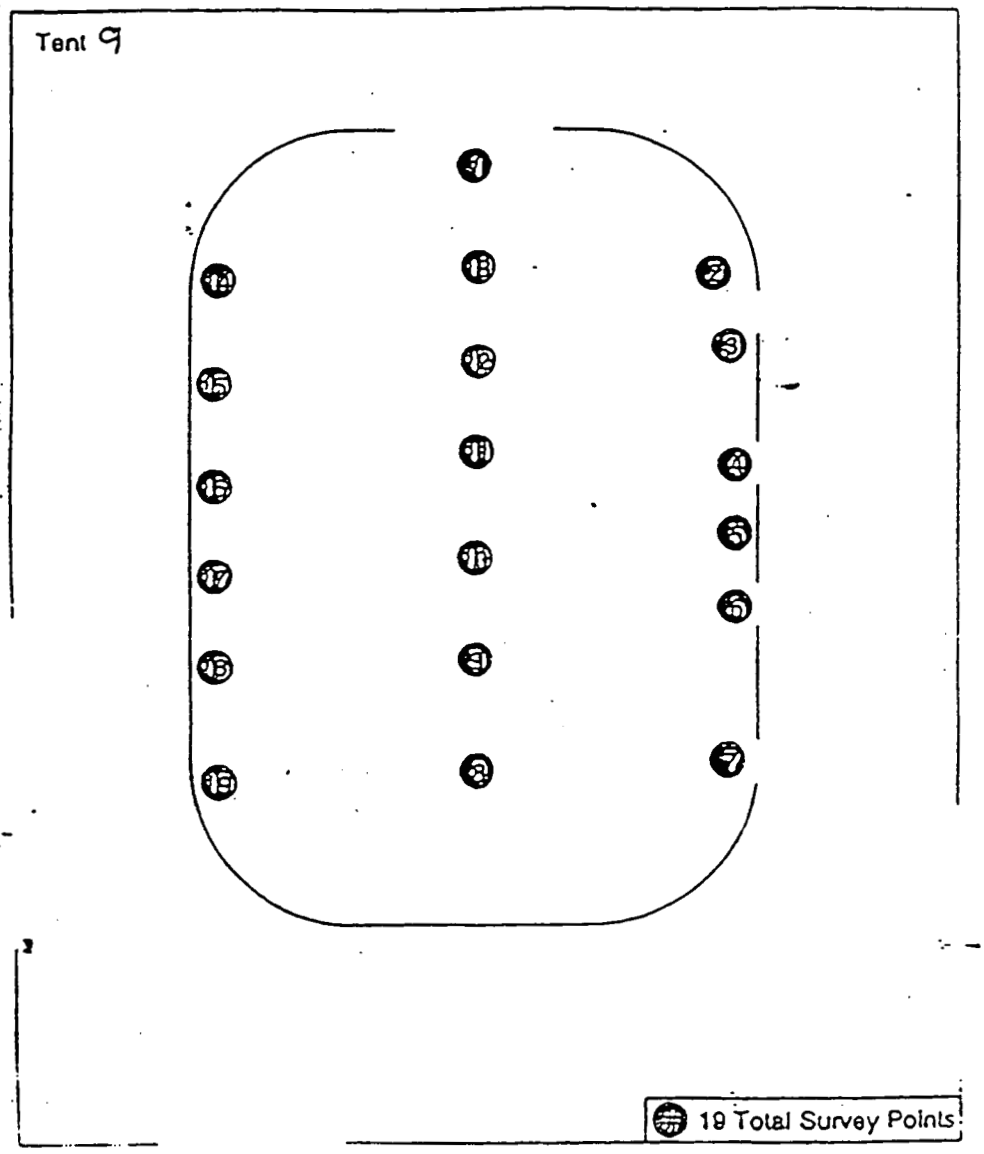
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



386
~~355~~

 INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 767	Serial # 795	Serial # BC 838
Cal Due 10-14-98	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.1	Bkg. 0.2	Bkg. 39
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY
an 9-23-98
RWP #:
Date: 9-23-98 Time: 0930
RCT: Munoz / [signature] [redacted]
Print name Signature Emp. #
an 9-23-98
RCT: / /
Print name Signature Emp. #

an 9-23-98
PRL #:
Comments: See Map Page 2

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
					42.				
21.					43.				
22.					44.				

an 9-23-98

Date Reviewed: 10/5/98 RS Supervision: J. Fewell / [signature] [redacted]
Print Name Signature Emp.

387

RS FORMS 07.02-01

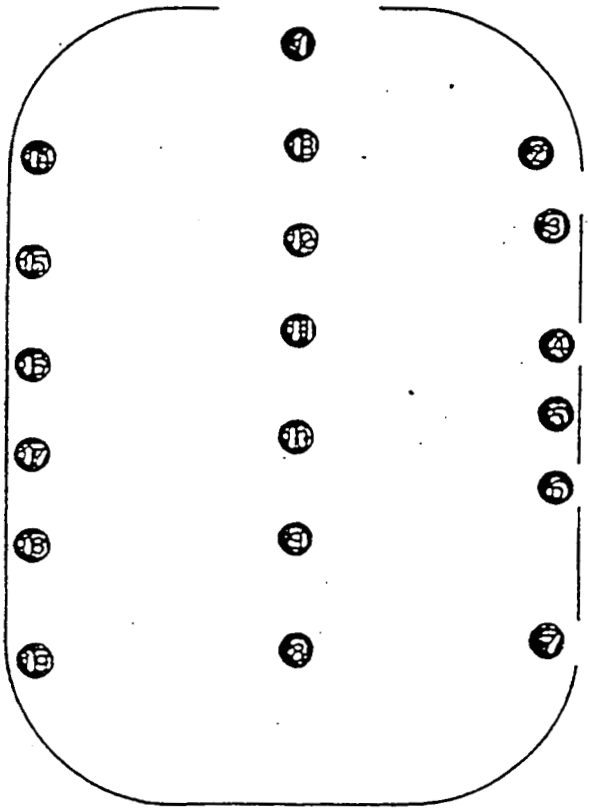
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

388
357

 INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 767	Serial # 795	Serial # BC838
Cal Due 10-14-98	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.1	Bkg. 0.7	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 200dpm	MDA 200dpm	MDA 200dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # BC702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY

RWP #: a 9-30-98

Date: 9-30-98 Time: 0930

RCT: Muñoz / [signature] [redacted]
Print name Signature Emp. #

RCT: a 9-30-98 / /
Print name Signature Emp. #

PRL #: a 9-30-98

Comments: See Survey Map Pg. 2

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

9-30-98

Date Reviewed: 10/5/98 RS Supervision: J. Ewell / [signature] [redacted]
Print Name Signature

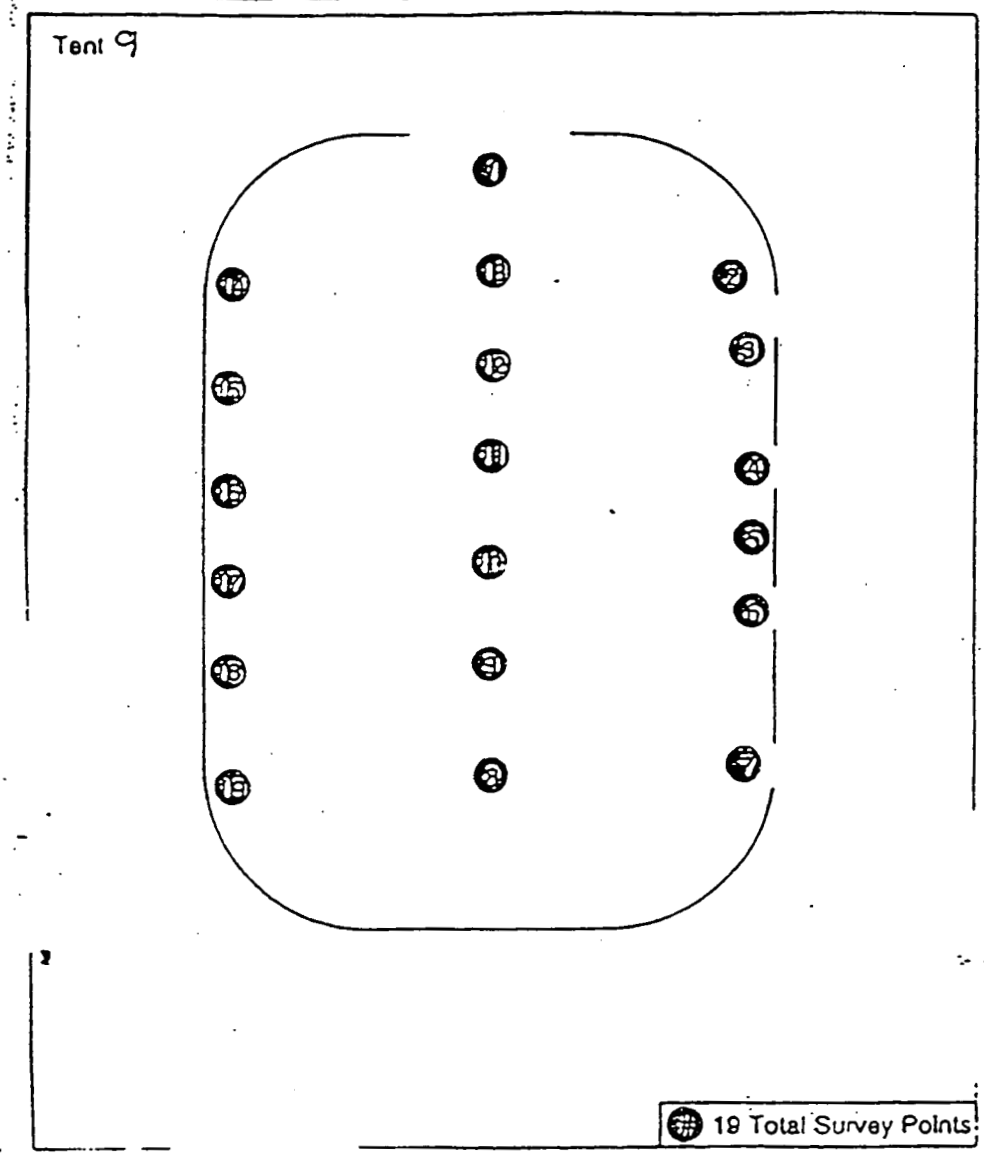
38
~~358~~

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



390
~~359~~

 ORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 1050	Serial # 1199	Serial # 914
Cal Due 2-26-99	Cal Due 2-14-99	Cal Due 2-4-99
Bkg. 0.0	Bkg. 0.6	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20dpm	MDA <20 dpm	MDA <200dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 706	Serial #	Serial #
Cal Due 12-22-98	Cal Due	Cal Due
Bkg. 38	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200 dpm	MDA	MDA

JH 10-7-98

JH 10-7-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

~~RWP #:~~ JH 10-7-98

Date: 10-7-98 Time: 1400

RCT: HANKINS L Hank [redacted]

Print name Signature Emp. #

RCT: JH 10-7-98

Print name Signature Emp. #

PRL #: JH

Comments: 10-7-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

JH 10-7-98

JH 10-7-98

Date Reviewed: 10/12/98 RS Supervision: S. J. Ewell / J. Ewell [redacted]

Print Name Signature Emp. #

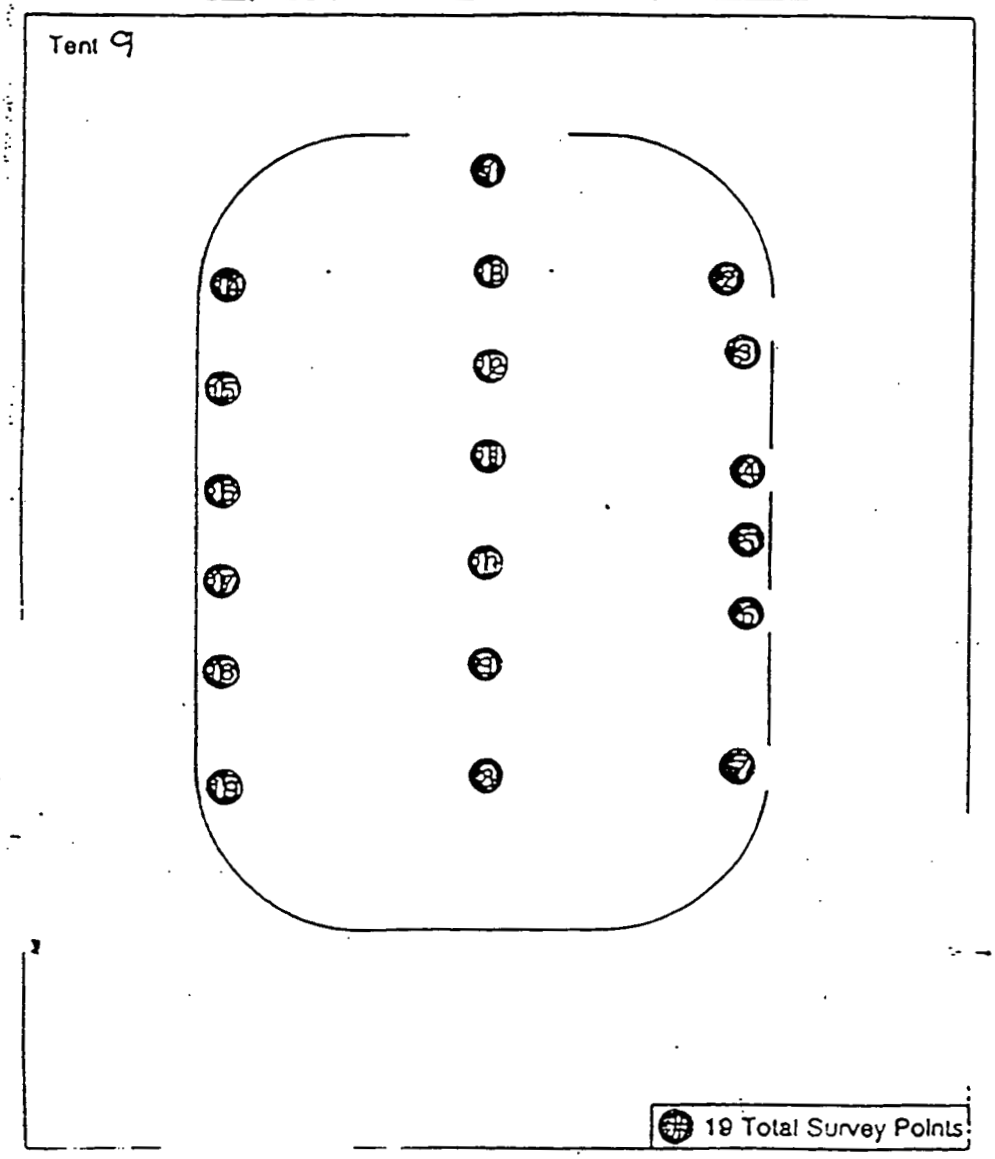
~~360~~ 391

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



392
244

Page ___ of ___ INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 824	Serial # 795	Serial #
Cal Due 3/21/99	Cal Due 3/16/99	Cal Due
Bkg. 0.0 cpm	Bkg. 0.1 cpm	Bkg.
Efficiency .33	Efficiency .33	Efficiency
MDA 20 dpm	MDA 20 dpm	MDA
	EBERLINE 10.14.98	
Mfg. EBERLINE	Mfg. ~~NE TECH~~ 804	Mfg. NE TECH
Model BC-4	Model ~~ELECTRA~~	Model ELECTRA
Serial # 838	Serial # 702	Serial #
Cal Due 1-9-99	Cal Due 12-15-98	Cal Due
Bkg. 40 cpm	Bkg. 42 cpm	Bkg.
Efficiency .25	Efficiency .25	Efficiency
MDA 200 dpm	MDA 200 dpm	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

RWP #:

Date: 10-14-98 Time: 1310

RCT: Jankowski [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200			23.				
2.	< 20	< 200			24.				
3.	< 20	< 200			25.				
4.	< 20	< 200			26.				
5.	< 20	< 200			27.				
6.	< 20	< 200			28.				
7.	< 20	< 200			29.				
8.	< 20	< 200			30.				
9.	< 20	< 200			31.				
10.	< 20	< 200			32.				
11.	< 20	< 200			33.				
12.	< 20	< 200			34.				
13.	< 20	< 200			35.				
14.	< 20	< 200			36.				
15.	< 20	< 200			37.				
16.	< 20	< 200			38.				
17.	< 20	< 200			39.				
18.	< 20	< 200			40.				
19.	< 20	< 200			41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 10/19/98 RS Supervision: [redacted]
Print Name Signature Emp. #

~~362~~ 393

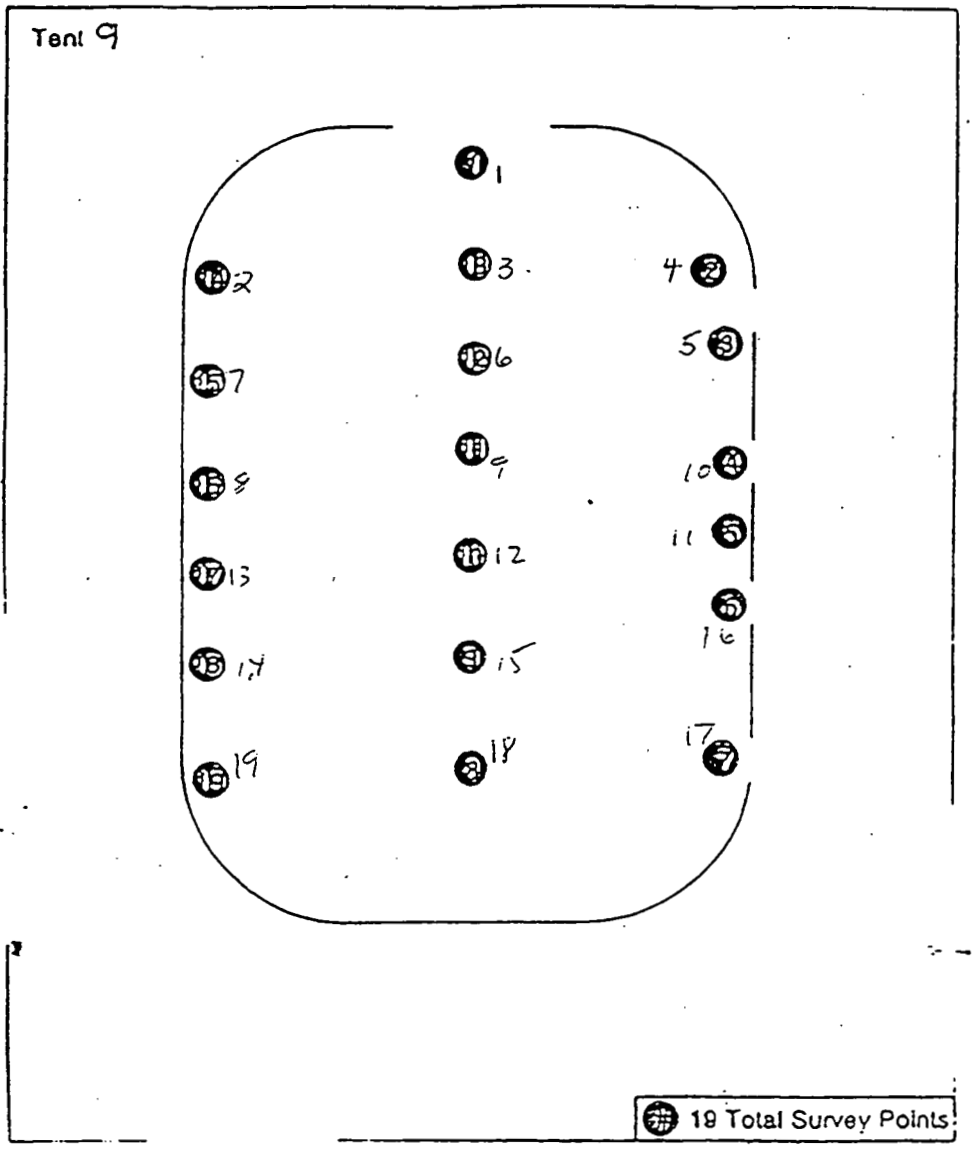
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



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~~263~~

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

10-19-98

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 824	Serial # 795	Serial # 838
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.0 cpm	Bkg. 0.0 cpm	Bkg. 41 cpm
Efficiency .33	Efficiency .33	Efficiency .25
MDA 26 dpm	MDA 26 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 36 cpm	Bkg.	Bkg.
Efficiency .25	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

RWP #:

Date: 10-19-98 Time: 1340

RCT: Jaszkowski [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200			23.				
2.	< 20	< 200			24.				
3.	< 20	< 200			25.				
4.	< 20	< 200			26.				
5.	< 20	< 200			27.				
6.	< 20	< 200			28.				
7.	< 20	< 200			29.				
8.	< 20	< 200			30.				
9.	< 20	< 200			31.				
10.	< 20	< 200			32.				
11.	< 20	< 200			33.				
12.	< 20	< 200			34.				
13.	< 20	< 200			35.				
14.	< 20	< 200			36.				
15.	< 20	< 200			37.				
16.	< 20	< 200			38.				
17.	< 20	< 200			39.				
18.	< 20	< 200			40.				
19.	< 20	< 200	<		41.				
20.					42.				
21.					43.				
22.					44.				

Date Reviewed: 10/23/98 RS Supervision: J. Ewell / [redacted]
Print Name Signature Emp. #

364 395

RS FORMS 07.02-01

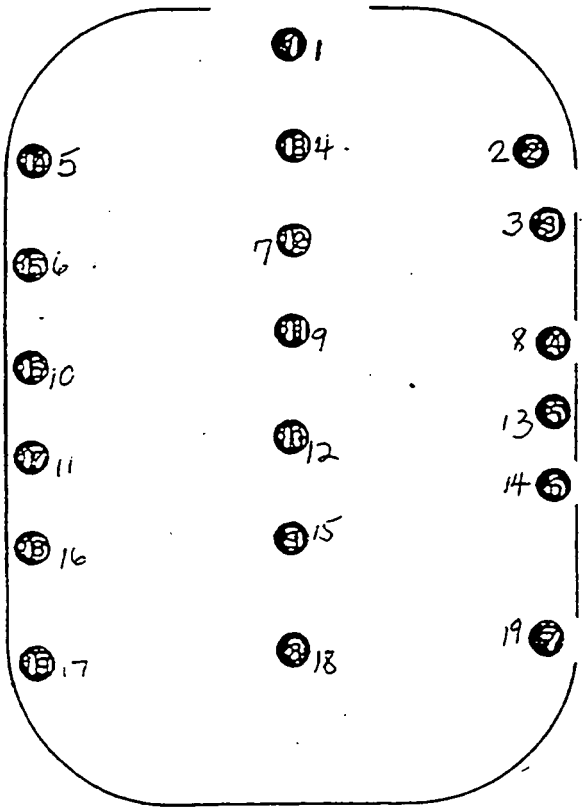
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

396
362

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC~~ BC-4
Serial # 824	Serial # 795	Serial # 838
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 1-9-99
Bkg. 0.1	Bkg. 0.2	Bkg. 40
Efficiency .33	Efficiency .33	Efficiency .25
MDA 20dpm	MDA 20dpm	MDA 200dpm
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 702	Serial #	Serial #
Cal Due 12-15-98	Cal Due	Cal Due
Bkg. 40	Bkg.	Bkg.
Efficiency .25	Efficiency	Efficiency
MDA 200dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

RWP #: N/A

Date: 10-29-98 Time: 0900

RCT: P Everich / P Everich [redacted]

Print name Signature Emp. #

RCT: / /

Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<210			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
					42.				
21.					43.				
22.					44.				

DOE 10-29-98

Date Reviewed: RS Supervision: S

Print Name / Signature / Emp. #

[redacted]

RS FORMS 07.02-01

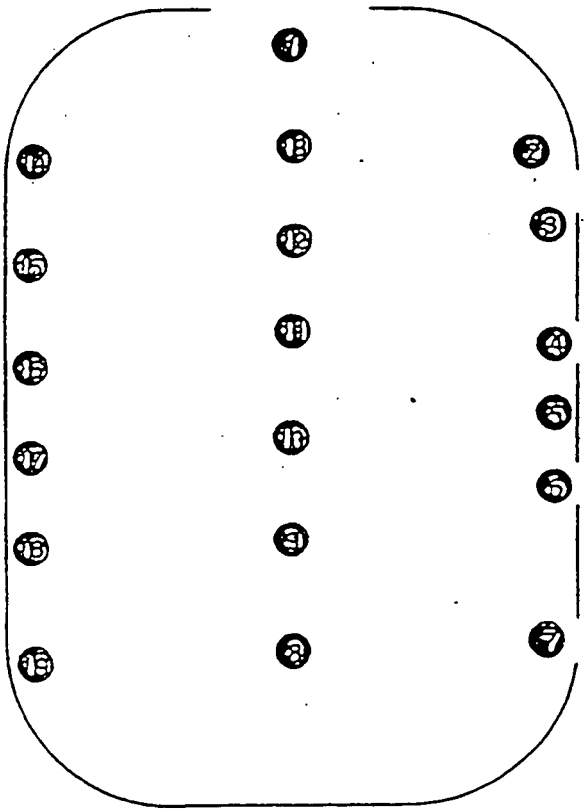
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

398
~~367~~

Page 1 of 2 **INFORMATION ONLY** RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4 RT 11-4-98
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.1	Bkg. 0.2	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA 20	MDA 20	MDA 200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 36	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA 200	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY

RWP #:

Date: 11-4-98 Time: 1400

RCT: Rick Muller / Rick Muller [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL # :
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	< 20	< 200			23.				
2.	< 20	< 200			24.				
3.	< 20	< 200			25.				
4.	< 20	< 200			26.				
5.	< 20	< 200			27.				
6.	< 20	< 200			28.				
7.	< 20	< 200			29.				
8.	< 20	< 200			30.				
9.	< 20	< 200			31.				
10.	< 20	< 200			32.				
11.	< 20	< 200			33.				
12.	< 20	< 200			34.				
13.	< 20	< 200			35.				
14.	< 20	< 200			36.				
15.	< 20	< 200			37.				
16.	< 20	< 200			38.				
17.	< 20	< 200			39.				
18.	< 20	< 200			40.				
19.	< 20	< 200			41.				
					42.				
21.					43.				
22.					44.				

N/A

RM 11-4-98

Date Reviewed: 11/17/98 RS Supervision: J. Ewell / J. Ewell [redacted]
Print Name Signature Emp. #

~~368~~ 399

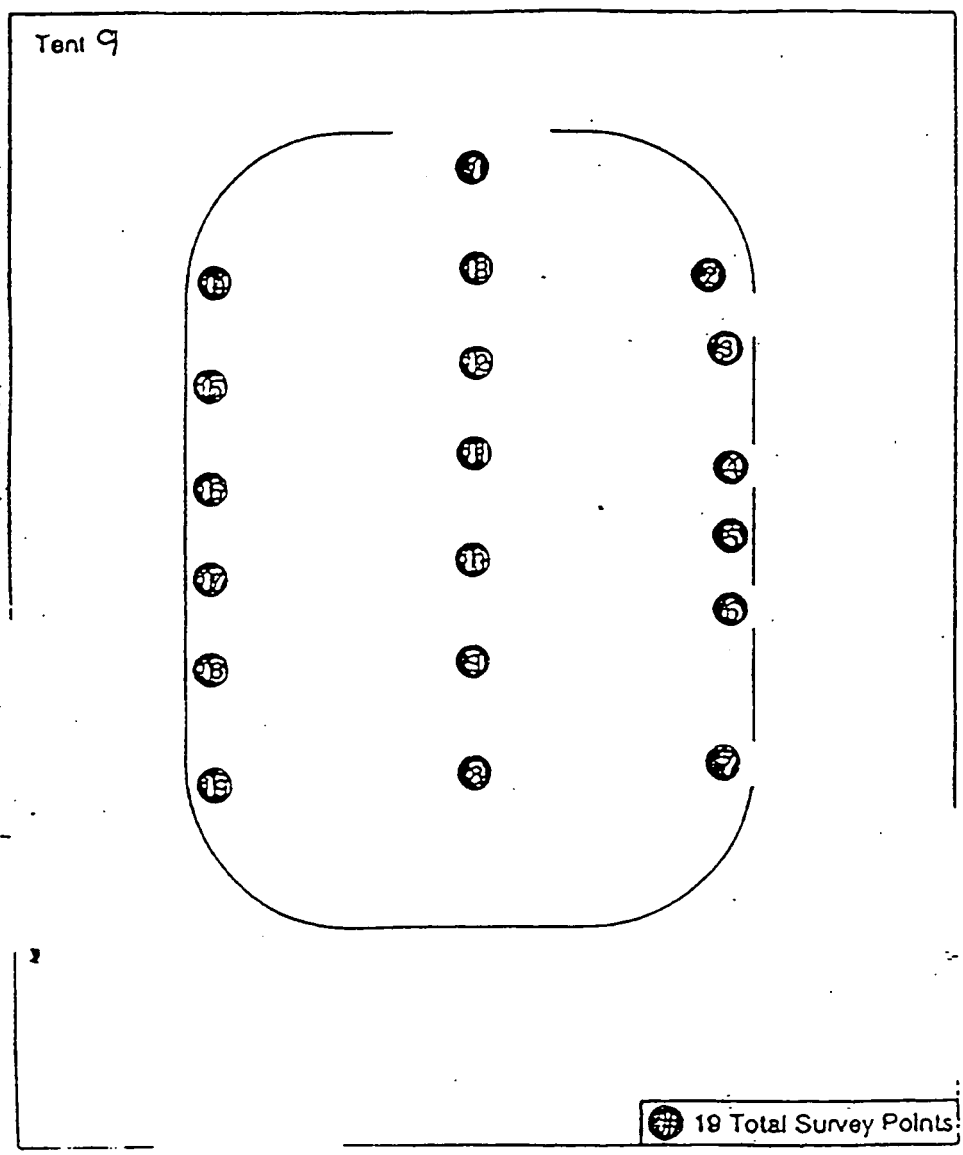
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



400
~~249~~

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC-4
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 8-16-99
Bkg. 6.0	Bkg. 6.0	Bkg. 41
Efficiency .33	Efficiency .33	Efficiency .25
MDA 20 dpm	MDA 20 dpm	MDA 200 dpm
Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 42	Bkg.	Bkg.
Efficiency .25	Efficiency	Efficiency
MDA 200 dpm	MDA	MDA

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

RWP #:

Date: 11-11-98 Time: 1500

RCT: P Fuezich / P Fuezich [redacted]
Print name Signature Emp. #

RCT: / /
Print name Signature Emp. #

PRL # :

Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
					42.				
21.					43.				
22.					44.				

MDA 11-18-98

Date Reviewed: 11/17/98 RS Supervision: J. Ewell / J. Ewell [redacted]
Print Name Signature Emp. #

~~B70~~ 401

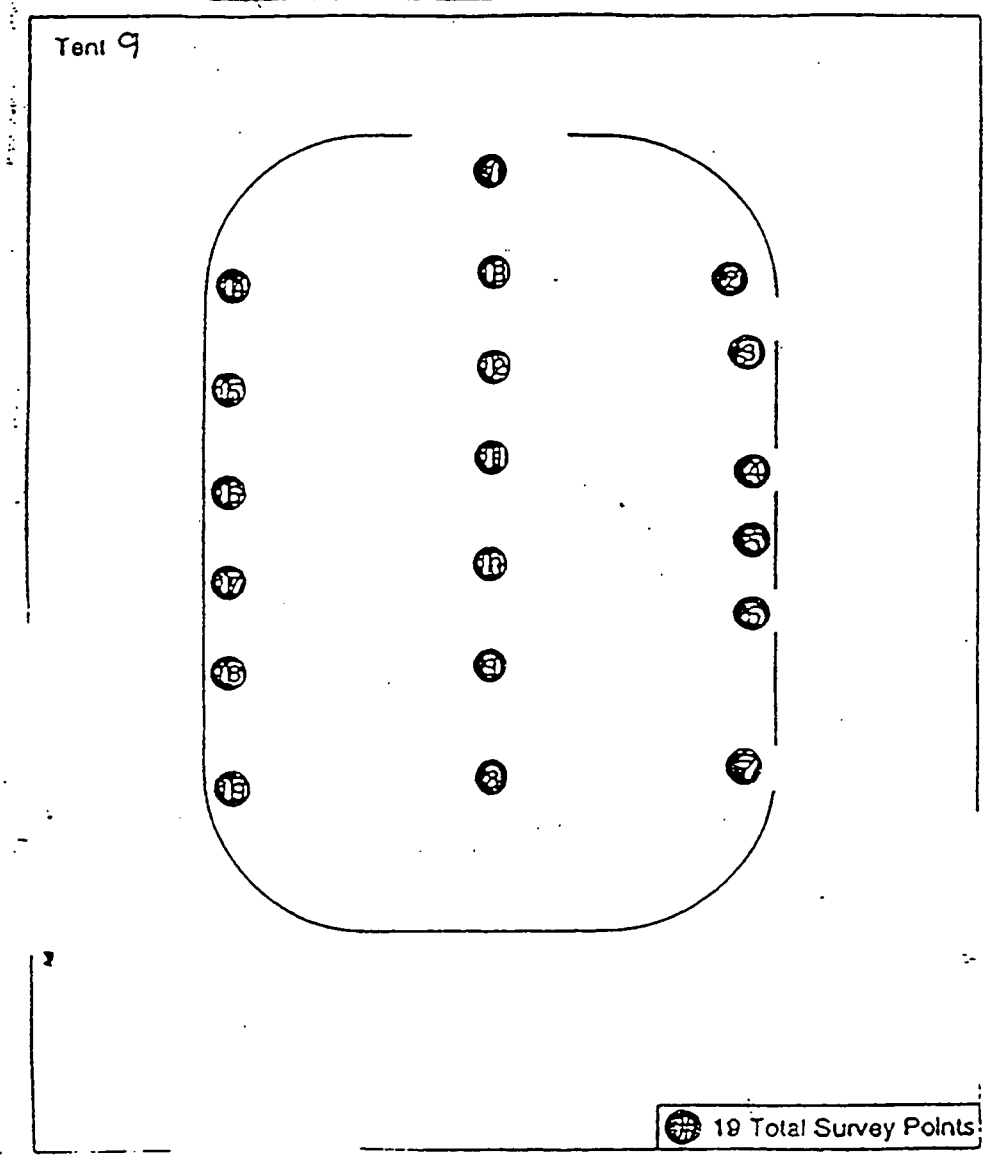
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



402
271

RS FORMS 07.02-01

INFORMATION ONLY

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.EBERLINE	Mfg.EBERLINE	Mfg.EBERLINE
Model SAC-4	Model SAC-4	Model ~~SAC-4~~ BC
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.0	Bkg. 0.0	Bkg. 43
Efficiency 33%	Efficiency 33%	Efficiency 25%
MDA <20	MDA <20	MDA <200
Mfg.EBERLINE	Mfg.NE.TECH	Mfg.NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 39	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200	MDA	MDA

JH 11-19-98

Survey Type: CONTAMINATION

Building: 904

Location: TENT 9

Purpose: WEEKLY SURVEY

RWP #: JH 11-19-98

Date: 11-19-98 Time: ~~1100~~ 1315 JH 11-19-98

RCT: Hankins L Hol [redacted]
Print name

RCT: JH 11-19-98
Print name Signature Emp. #

PRL #:

Comments: JH 11-19-98

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20.					42.				
21.					43.				
22.					44.				

JH 11/19/98

JH 11/19/98

Date Reviewed: 11/19/98 RS Supervision: J. Ewell
Print Name

J. Ewell
Signature

[redacted]
Emp. #

~~372~~ 403

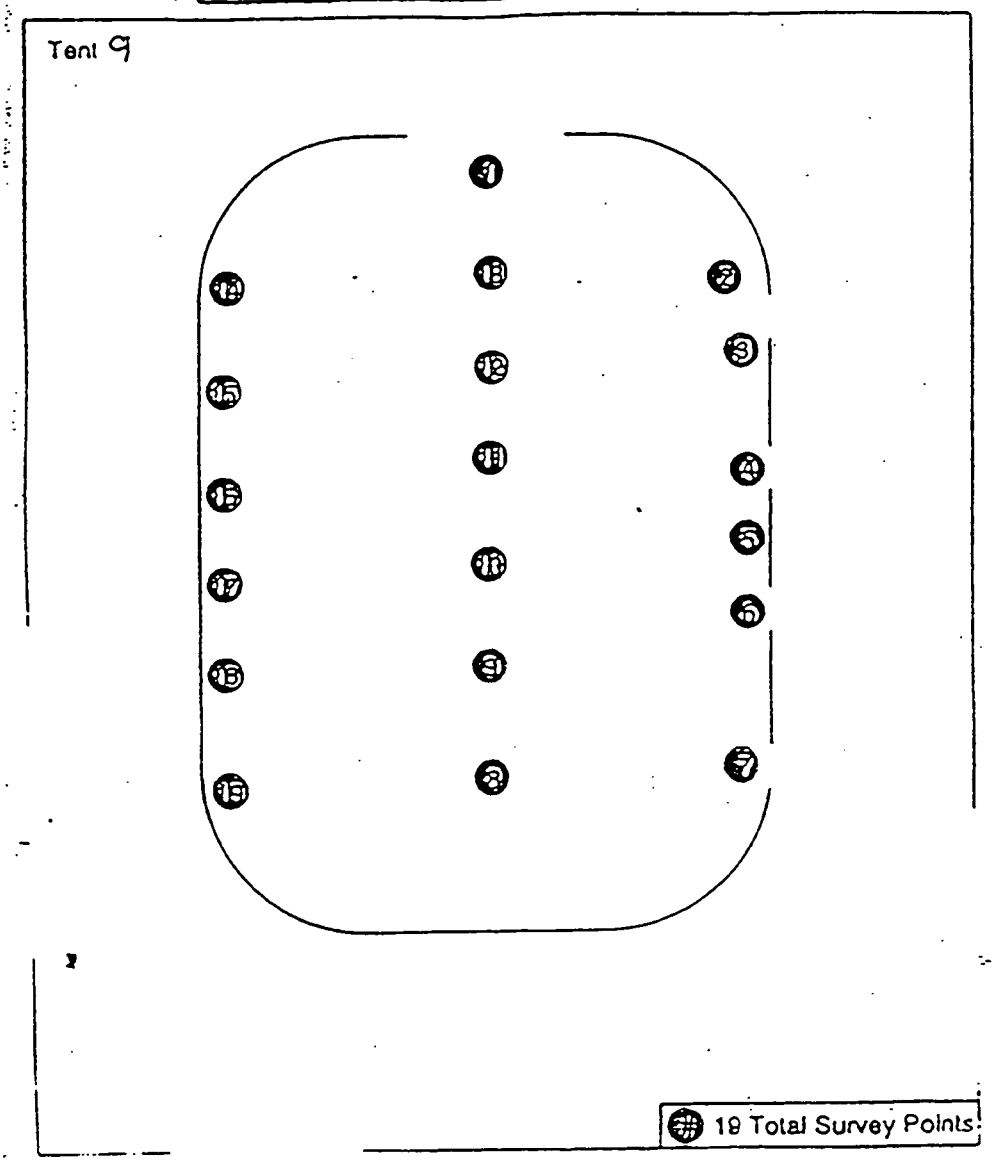
RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points



404
375

INFORMATION ONLY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. EBERLINE
Model SAC-4	Model SAC-4	Model SAC-4
Serial # 824	Serial # 795	Serial # 916
Cal Due 3-21-99	Cal Due 3-16-99	Cal Due 3-16-99
Bkg. 0.1	Bkg. 0.0	Bkg. 43
Efficiency 23%	Efficiency 35%	Efficiency 25%
MDA <20	MDA <20	MDA <200

Mfg. EBERLINE	Mfg. NE.TECH	Mfg. NE.TECH
Model BC-4	Model ELECTRA	Model ELECTRA
Serial # 838	Serial #	Serial #
Cal Due 1-9-99	Cal Due	Cal Due
Bkg. 37	Bkg.	Bkg.
Efficiency 25%	Efficiency	Efficiency
MDA <200	MDA	MDA

Survey Type: CONTAMINATION
Building: 904
Location: TENT 9
Purpose: WEEKLY SURVEY

RWP #:

Date: 11-23-98 Time: 1000

RCT: Muñoz [signature] [redacted]
Print name Signature Emp. #

RCT: [signature]
Print name Signature Emp. #

PRL #:
Comments:

SURVEY RESULTS

	REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA		REMOVABLE ALPHA	REMOVABLE BETA	DIRECT ALPHA	DIRECT BETA
1.	<20	<200			23.				
2.	<20	<200			24.				
3.	<20	<200			25.				
4.	<20	<200			26.				
5.	<20	<200			27.				
6.	<20	<200			28.				
7.	<20	<200			29.				
8.	<20	<200			30.				
9.	<20	<200			31.				
10.	<20	<200			32.				
11.	<20	<200			33.				
12.	<20	<200			34.				
13.	<20	<200			35.				
14.	<20	<200			36.				
15.	<20	<200			37.				
16.	<20	<200			38.				
17.	<20	<200			39.				
18.	<20	<200			40.				
19.	<20	<200			41.				
20					42.				
2.					43.				
22.					44.				

Date Reviewed: 11/24/98 RS Supervision: J. Ewell [signature] [redacted]
Print Name Signature Emp. #

~~374~~
405

RS FORMS 07.02-01

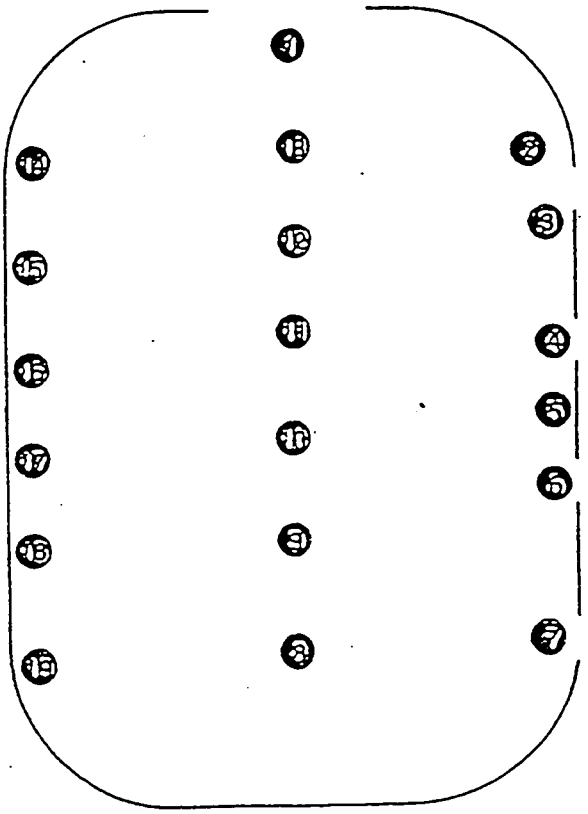
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

Radiological Operations
Area or Equipment Drawing Showing Survey Points

Tent 9



19 Total Survey Points

406
375

C.2 RECONNAISSANCE LEVEL CHARACTERIZATION RADIOLOGICAL DATA

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 43	Bkg. 40	Bkg. 0.0
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2343	Serial # 2343
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.0	Bkg. α 4	Bkg. β 491
Efficiency 33%	Efficiency 22.0%	Efficiency 22.0%
MDA <20	MDA 55	MDA 317

Survey Type: – Contamination Survey

Building: Test # 9

Location: 904 Pad

Purpose: CHARACTERIZATION SURVEYS

RWP #: — NA —

Date: 03-31-99 Time: 1400

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: N / A /
Print name Signature Emp. #

PRL # :

Comments Exterior Survey

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 55	< 317	23.	< 20	< 200	< 55	< 317
2.	< 20	< 200	< 55	< 317	24.	< 20	< 200	< 55	< 317
3.	< 20	< 200	< 55	< 317	25.	< 20	< 200	< 55	< 317
4.	< 20	< 200	< 55	< 317	26.	< 20	< 200	< 55	< 317
5.	< 20	< 200	< 55	< 317	27.	< 20	< 200	< 55	< 317
6.	< 20	< 200	< 55	< 317	28.	< 20	< 200	< 55	< 317
7.	< 20	< 200	< 55	< 317	29.	< 20	< 200	66	< 317
8.	< 20	< 200	< 55	< 317	30.	< 20	< 200	< 55	< 317
9.	< 20	< 200	< 55	< 317	31.				
10.	< 20	< 200	< 55	< 317	32.				
11.	< 20	< 200	< 55	465	33.				
12.	< 20	< 200	< 55	< 317	34.				
13.	< 20	< 200	< 55	< 317	35.				
14.	< 20	< 200	< 55	< 317	36.				
15.	< 20	< 200	< 55	< 317	37.				
16.	< 20	< 200	< 55	< 317	38.				
17.	< 20	< 200	< 55	< 317	39.				
18.	< 20	< 200	< 55	< 317	40.				
19.	< 20	< 200	< 55	< 317	41.				
20.	< 20	< 200	66	< 317	42.				
21.	< 20	< 200	< 55	< 317	43.				
22.	< 20	< 200	< 55	< 317	44.				

N A

Date 4/5/99 RS Supervision: K Sawyer / [signature] [redacted]
Print Name Signature Emp. #

317
408

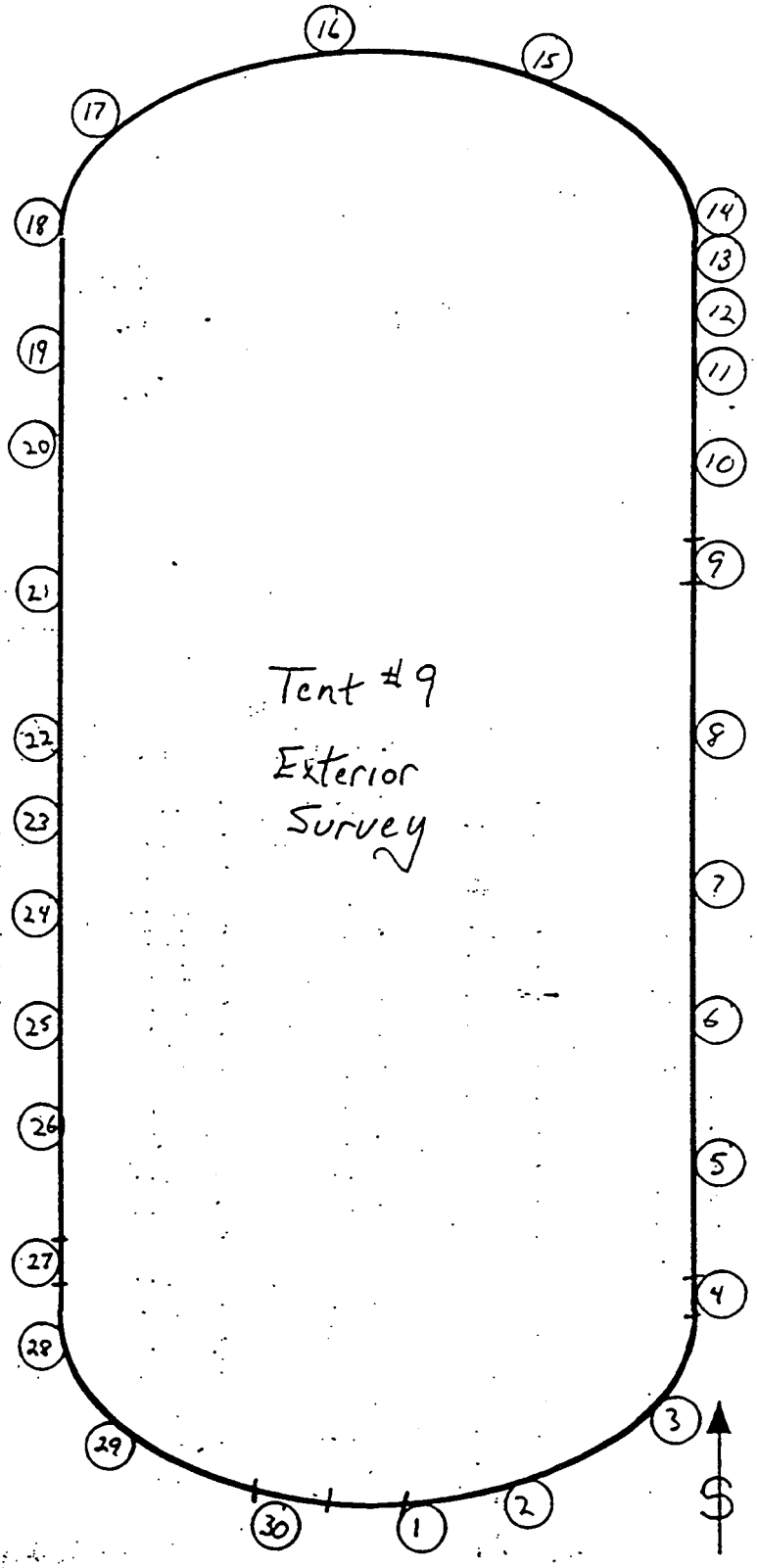
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	#22 - C - 5'
2.	# C - 6'
3.	# W12 - C - 4'
4.	#W19/W18 - C - 8' (above door)
5.	#W17 - 4'
6.	#W16/W15 - C - 10'
7.	#W14 - C - 5'
8.	#W13/W12 - C - 1'
9.	# W12/W11 - Door - 4'
10.	# W10 - 2'
11.	# W8/W7 - C - 10'
12.	# W5/W4 - C - 4'
13.	# W3/W2 - C - 3'
14.	# W1 - 5'
15.	# 25/26 - C - 5'
16.	# 27 - C - 1'
17.	# 28 - C - 8'
18.	# E1/E2 - C - 10'
19.	# E3 - 4'
20.	# E4/E5 - C - 3'
21.	# E8 - C - 8'
22.	# E10 - C - 2'
23.	# E11/E12 - Door - 3'
24.	# E14 - 4'
25.	# E16/E17 - C - 6'
26.	# E18 - C - 1'
27.	# E19/E18 - C - 8' (above door)
28.	# E20 - 4'
29.	# 21/22 - C - 1'
30.	Door - C - 4'
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	

N A



# = Support Location ID
C = Canvas
'(ft) = height from ground

409
378

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 43	Bkg. 40	Bkg. 0.0
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2343	Serial # 2343
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.0	Bkg. NB 2.04	Bkg. B 491
Efficiency 33%	Efficiency 22.0%	Efficiency 32.0%
MDA <20	MDA 55	MDA 317

Survey Type: Contamination Survey

Building: Tent # 9

Location: 904 Pad

Purpose: CHARACTERIZATION SURVEYS

RWP #: — NA

Date: 03-31-99 Time: 1600

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: N / A /
Print name Signature Emp. #

PRL #:

Comments Interior Survey Plus Direct Scan 1m² at all points < 2 meter

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 55	606	23.	< 20	< 200	< 55	< 317
2.	< 20	< 200	< 55	660	24.	< 20	< 200	< 55	< 317
3.	< 20	< 200	< 55	807	25.	< 20	< 200	< 55	< 317
4.	< 20	< 200	< 55	870	26.	< 20	< 200	< 55	< 317
5.	< 20	< 200	< 55	729	27.	< 20	< 200	< 55	< 317
6.	< 20	< 200	< 55	696	28.	< 20	< 200	< 55	< 317
7.	< 20	< 200	< 55	933	29.	< 20	< 200	< 55	< 317
8.	< 20	< 200	< 55	843	30.	< 20	< 200	< 55	< 317
9.	< 20	< 200	< 55	1230	31.	< 20	< 200	< 55	< 317
10.	< 20	< 200	< 55	1044	32.	< 20	< 200	< 55	< 317
11.	< 20	< 200	< 55	912	33.	< 20	< 200	< 55	< 317
12.	< 20	< 200	< 55	990	34.	< 20	< 200	< 55	< 317
13.	< 20	< 200	< 55	891	35.	< 20	< 200	< 55	< 317
14.	< 20	< 200	< 55	915	36.	< 20	< 200	< 55	< 317
15.	< 20	< 200	< 55	825	37.	< 20	< 200	< 55	< 317
16.	< 20	< 200	< 55	708	38.	< 20	< 200	< 55	< 317
17.	< 20	< 200	< 55	744	39.	< 20	< 200	< 55	< 317
18.	< 20	< 200	< 55	837	40.	< 20	< 200	< 55	< 317
19.	< 20	< 200	< 55	816	41.				
20.	< 20	< 200	< 55	987	42.			A	
21.	< 20	< 200	< 55	< 317	43.		N		
22.	< 20	< 200	< 55	< 317	44.				

Date 4/5/99 **RS Supervision:** K Bauer [signature] [redacted]
Print Name Signature Emp. #

379 410

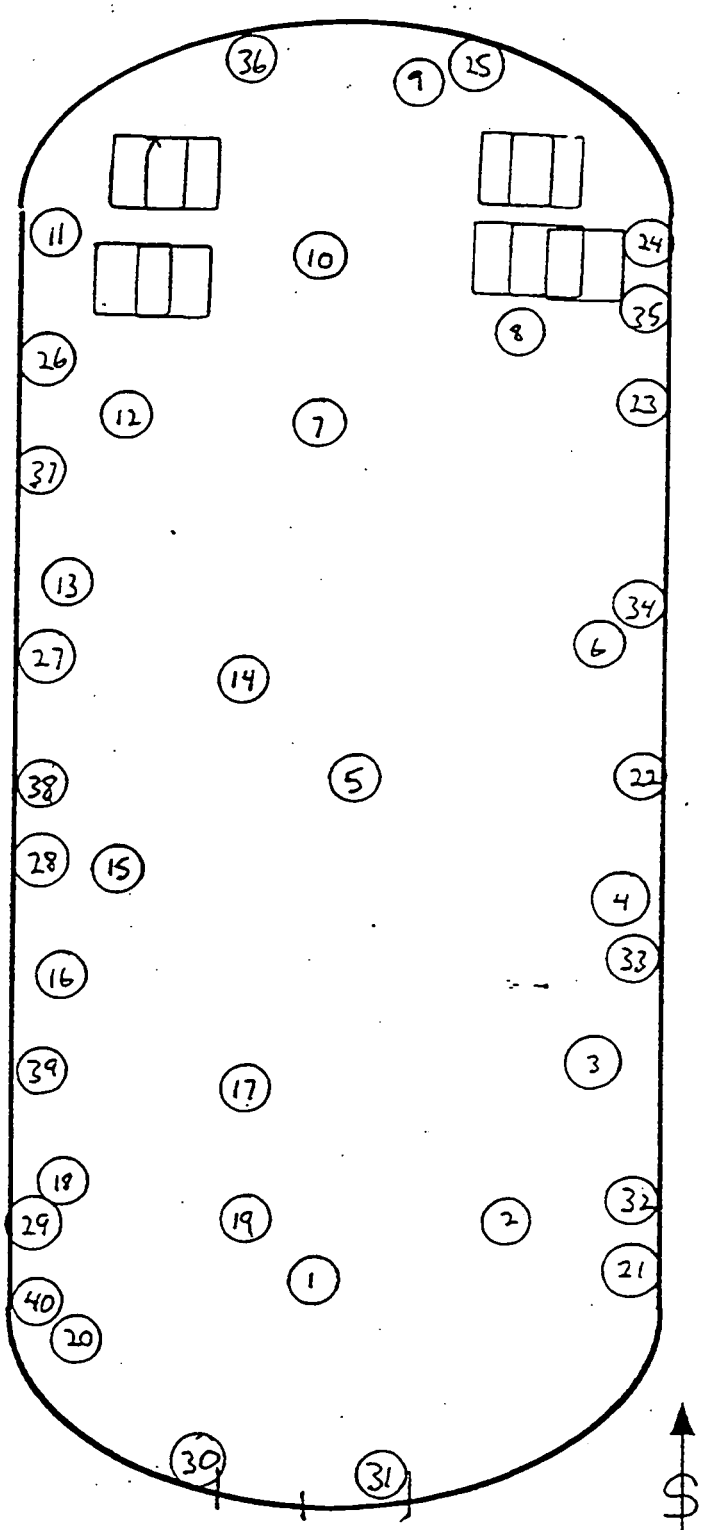
Page ____ of ____

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Door - F - 20'
2.	# W19 - F - 15'
3.	# W17 - F - 10'
4.	# W15 - F - 5'
5.	# W13 - F - 25'
6.	# W11 - F - 4'
7.	# W6 - F - 35'
8.	# W4 - F - 10'
9.	# W4/26 - F - 5'
10.	# 26/25 - F - 30'
11.	# E1 - F - 3'
12.	# E3 - F - 10'
13.	# E5 - F - 5'
14.	# E-7 - F - 25'
15.	# E-10 - F - 15'
16.	# E-12 - F - 5'
17.	# E14 - F - 20'
18.	# E16 - F - 5'
19.	# E18 - F - 30'
20.	# E-20 - F - 5'
21.	# W18 - W - 4'
22.	# W10 - W - 6'
23.	# W4 - W - 1'
24.	# W1 - W - 2'
25.	# 26 - W - 6'
26.	# E3 - W - 1'
27.	# E-9 - W - 4'
28.	# E-13 - W - 5'
29.	# E-18 - W - 2'
30.	# 22 - W - 1'
31.	# Door - HW - 8'
32.	# W19 - HW - 8'
33.	# W16/W15 - HW - 10'
34.	# W10 - HW - 8'
35.	# W1 - HW - 8'
36.	# 27 - HW - 8'
37.	# E7 - HW - 8'
38.	# E12 - HW - 8'
39.	# E16/E15 - HW - C - 10'
40.	# E20 - HW - 8'
41.	
42.	
43.	
44.	



Tent # 9

F = Floor
W = W < 2 meter
# = Support ID

HW = above 2 meter
C = CANVAS
' (ft) = height or distance

C.3 SITE HAZARD ASSESSMENT RADIOLOGICAL DATA

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 41	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2343	Serial # 2343
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.1	Bkg. 2	Bkg. 496
Efficiency 33%	Efficiency 22.0%	Efficiency 32.0%
MDA <20	MDA 43	MDA 318

Survey Type: Contamination Survey

Building: TENT # 9

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 05-11-99 Time: 1500

RCT: Rex Snyder Rex Snyder [redacted]

Print name Signature Emp. #

RCT: N / A /

Print name Signature Emp. #

PRL #:

Comments Survey Points on Canvas Panels + 10% Scan on Canvas up to approx 8 ft.

Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 43	< 318	23.	< 20	< 200	< 43	< 318
2.	< 20	< 200	< 43	< 318	24.	< 20	< 200	< 43	< 318
3.	< 20	< 200	< 43	< 318	25.	< 20	< 200	144	732
4.	< 20	< 200	< 43	< 318	26.	< 20	< 200	216	936
5.	< 20	< 200	< 43	< 318	27.	< 20	< 200	< 43	< 318
6.	< 20	< 200	< 43	< 318	28.	< 20	< 200	< 43	< 318
7.	< 20	< 200	< 43	< 318	29.	< 20	< 200	< 43	< 318
8.	< 20	< 200	< 43	< 318	30.	< 20	< 200	< 43	< 318
9.	< 20	< 200	60	< 318	31.	< 20	< 200	< 43	642
10.	< 20	< 200	< 43	< 318	32.	< 20	< 200	< 43	< 318
11.	< 20	< 200	< 43	< 318	33.	< 20	< 200	< 43	< 318
12.	< 20	< 200	< 43	< 318	34.	< 20	< 200	< 43	< 318
13.	< 20	< 200	< 43	< 318	35.	< 20	< 200	< 43	< 318
14.	< 20	< 200	< 43	< 318	36.	< 20	< 200	< 43	< 318
15.	< 20	< 200	< 43	< 318	37.	< 20	< 200	< 43	< 318
16.	< 20	< 200	< 43	< 318	38.	< 20	< 200	66	861
17.	< 20	< 200	84	729	39.	< 20	< 200	< 43	696
	< 20	< 200	84	654	40.	< 20	< 200	< 43	< 318
19.	< 20	< 200	< 43	< 318	41.	< 20	< 200	< 43	615
20.	< 20	< 200	< 43	< 318	42.	< 20	< 200	< 43	600
21.	< 20	< 200	< 43	< 318	43.	< 20	< 200	< 43	< 318
22.	< 20	< 200	< 43	< 318	44.	< 20	< 200	< 43	< 318

Date 5-13-99 RS Supervision: B. Sorrels / PD [redacted]

413 382

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Canvas
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
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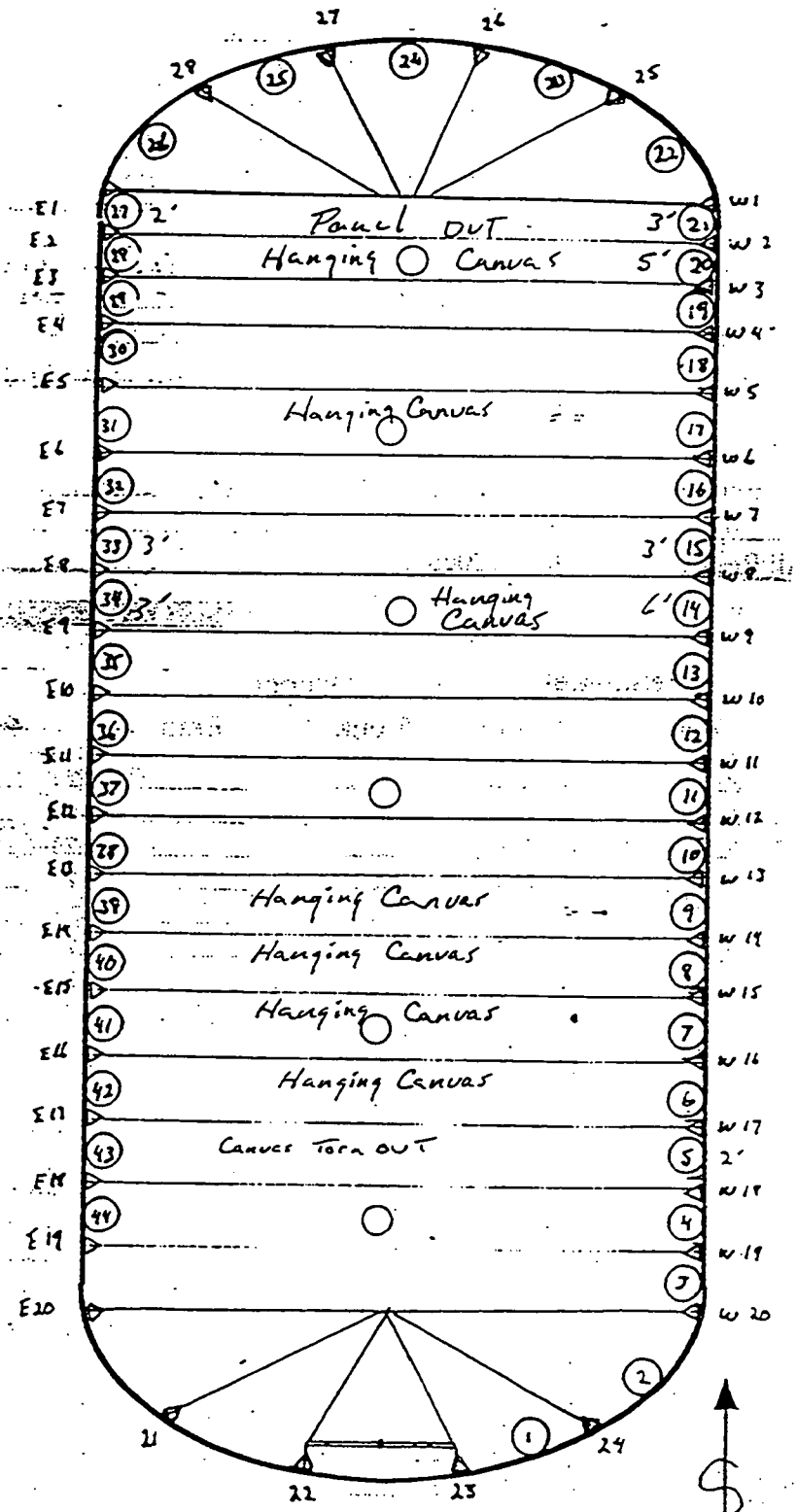
29.	
30.	
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	Canvas



414
383

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 41	Bkg. 0.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1680	Serial # 1680
Cal Due 6/16/99	Cal Due 8-10-99	Cal Due 8-10-99
Bkg. 0.1	Bkg. 1	Bkg. 446
Efficiency 33%	Efficiency 22.9%	Efficiency 34.7%
MDA <20	MDA 33	MDA 302

Survey Type: Contamination Survey

Building: TENT # 9

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 05-07-99 Time: 1300

RCT: Rex Snyder [signature] [redacted]
Print name Signature Emp. #

RCT: N / A /
Print name Signature Emp. #

PRL #:

Comments Survey Points (every fifth support) + Remaining Canvas Panels Plus 10% Direct Scan on Canvas Panels

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 33	< 302	23.				
2.	< 20	< 200	< 33	< 302	24.				
3.	< 20	< 200	< 33	< 302	25.				
4.	< 20	< 200	< 33	< 302	26.				
5.	< 20	< 200	< 33	< 302	27.				
6.	< 20	< 200	< 33	< 302	28.				
7.	< 20	< 200	< 33	< 302	29.				
8.	< 20	< 200	< 33	< 302	30.				
9.	< 20	< 200	< 33	< 302	31.				
10.	< 20	< 200	< 33	< 302	32.				
11.	< 20	< 200	< 33	< 302	33.				
12.	< 20	< 200	< 33	462	34.				
13.	< 20	< 200	< 33	< 302	35.				
14.	< 20	< 200	< 33	< 302	36.				
15.	< 20	< 200	< 33	< 302	37.				
16.	< 20	< 200	< 33	< 302	38.				
17.					39.				
18.					40.				
9.			A		41.				
20.		N			42.				
21.					43.				
22.					44.				

Date 5/10/99 RS Supervision: LN Cooper / LN Cooper [redacted]
Print Name Signature Emp. #

41 384

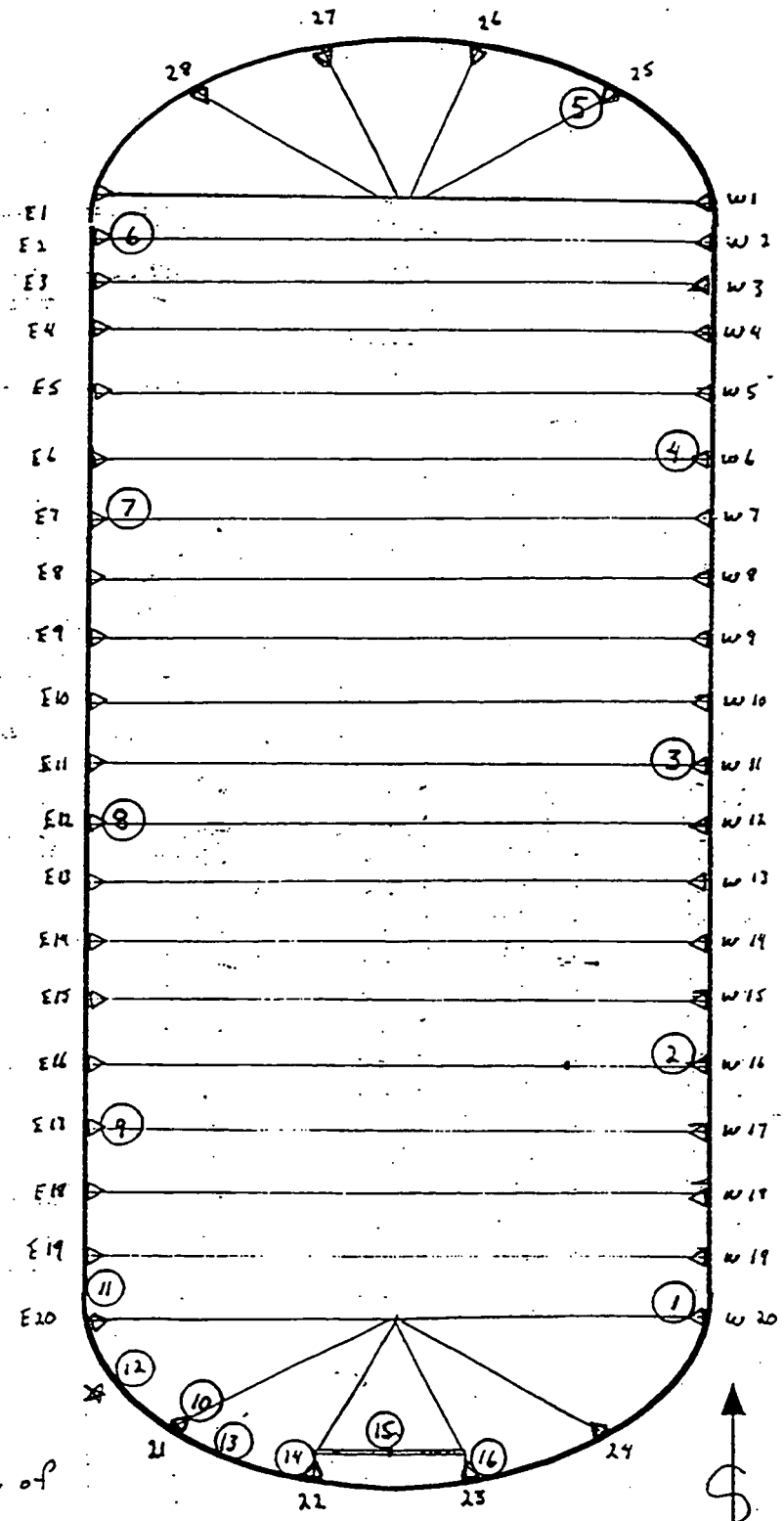
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location	
1.	Support	W 20
2.		W 16
3.		W 11
4.		W 6
5.		# 25
6.		E 2
7.		E 7
8.		E 12
9.		E 17
10.	Support	# 21
11.	Canvas	
12.		
13.		
14.		
15.		
16.	Canvas	
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
31.		
32.		
33.		
34.		
35.		
36.		
37.		
38.		
39.		
40.		
41.		
42.		
43.		
44.		

N A



Tent # 9

4160
~~3565~~

* Panel is torn and the majority of it is on the Floor

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 43	Bkg. 40	Bkg. 0.0
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20

Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 2343	Serial # 2343
Cal Due 6/16/99	Cal Due 8-12-99	Cal Due 8-12-99
Bkg. 0.0	Bkg. 9 4	Bkg. B 49/
Efficiency 33%	Efficiency 22.0%	Efficiency 22.0%
MDA <20	MDA 55	MDA 317

Survey Type: Contamination Survey

Building: Tent # 9

Location: 904 Pad

Purpose: CHARACTERIZATION SURVEYS

RWP #: — NA —

Date: 03-31-99 Time: 1400

RCT: Rex Snyder / [signature] [redacted]
Print name / Signature / Emp. #

RCT: N / A /
Print name / Signature / Emp. #

PRL # :

Comments Exterior Survey

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 55	< 317	23.	< 20	< 200	< 55	< 317
2.	< 20	< 200	< 55	< 317	24.	< 20	< 200	< 55	< 317
3.	< 20	< 200	< 55	< 317	25.	< 20	< 200	< 55	< 317
4.	< 20	< 200	< 55	< 317	26.	< 20	< 200	< 55	< 317
5.	< 20	< 200	< 55	< 317	27.	< 20	< 200	< 55	< 317
6.	< 20	< 200	< 55	< 317	28.	< 20	< 200	< 55	< 317
7.	< 20	< 200	< 55	< 317	29.	< 20	< 200	66	< 317
8.	< 20	< 200	< 55	< 317	30.	< 20	< 200	< 55	< 317
9.	< 20	< 200	< 55	< 317	31.				
10.	< 20	< 200	< 55	< 317	32.				
11.	< 20	< 200	< 55	465	33.				
12.	< 20	< 200	< 55	< 317	34.				
13.	< 20	< 200	< 55	< 317	35.				
14.	< 20	< 200	< 55	< 317	36.				
15.	< 20	< 200	< 55	< 317	37.		N	A	
16.	< 20	< 200	< 55	< 317	38.				
17.	< 20	< 200	< 55	< 317	39.				
18.	< 20	< 200	< 55	< 317	40.				
19.	< 20	< 200	< 55	< 317	41.				
20.	< 20	< 200	66	< 317	42.				
21.	< 20	< 200	< 55	< 317	43.				
22.	< 20	< 200	< 55	< 317	44.				

Date 4/5/99 RS Supervision: R Sawyer / [signature] [redacted]
Print Name / Signature / Emp. #

417

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SIT

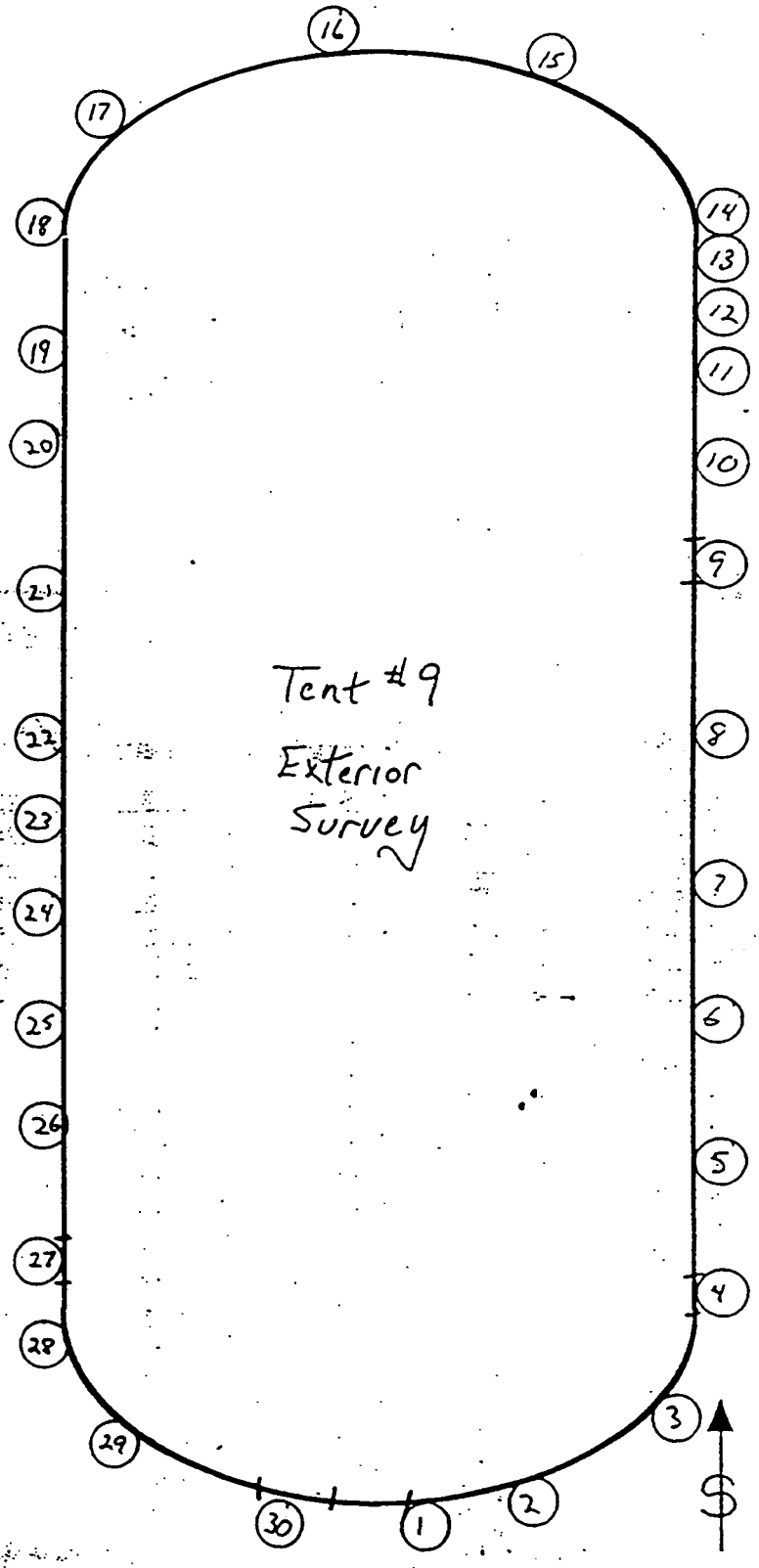
RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	#27 - C - 5'
2.	# C - 6'
3.	# W12 - C - 4'
4.	#W19/W18 - C - 8' (above door)
5.	#W17 - 4'
6.	#W16/W15 - C - 10'
7.	#W14 - C - 5'
8.	#W13/W12 - C - 1'
9.	# W12/W11 - Door - 4'
10.	# W10 - 2'
11.	# W8/W7 - C - 10'
12.	# W5/W4 - C - 4'
13.	# W3/W2 - C - 3'
14.	# W1 - 5'
15.	# 25/26 - C - 5'
16.	# 27 - C - 1'
17.	# 28 - C - 8'
18.	# E1/E2 - C - 10'
19.	# E3 - 4'
20.	# E4/E5 - C - 3'
21.	# E8 - C - 8'
22.	# E10 - C - 2'
23.	# E11/E12 - Door - 3'
24.	# E14 - 4'
25.	# E16/E17 - C - 6'
26.	# E18 - C - 1'
27.	# E19/E18 - C - 8' (above door)
28.	# E20 - 4'
29.	# 21/22 - C - 1'
30.	Door - C - 4'
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
41.	
42.	
43.	
44.	

N A

# = Support Location ID
C = Canvas
'(ft) = height from ground



ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg EBERLINE
Model BC-4	Model BC-4	Model SAC-4
Serial # 838	Serial # 874	Serial # 959
Cal Due 7/13/99	Cal Due 6/7/99	Cal Due 7/5/99
Bkg. 44	Bkg. 37	Bkg. 6.1
Efficiency 25%	Efficiency 25%	Efficiency 33%
MDA <200	MDA <200	MDA <20
Mfg. EBERLINE	Mfg. NE TECH	Mfg. NE TECH
Model SAC-4	Model ELECTRA	Model ELECTRA
Serial # 1188	Serial # 1425	Serial # 1425
Cal Due 6/16/99	Cal Due 8-25-99	Cal Due 8-25-99
Bkg. 0.1	Bkg. 7	Bkg. 480
Efficiency 33%	Efficiency 21.0%	Efficiency 31.6%
MDA <20	MDA 72	MDA 313

Survey Type: Contamination Survey

Building: TENT # 9

Location: 904 PAD

Purpose: CHARACTERIZATION SURVEYS

RWP #: NA

Date: 05-13-99 Time: 1100

RCT: Rex Snyder / [signature] [redacted]
Print name Signature Emp. #

RCT: N / A /
Print name Signature Emp. #

PRL #:

Comments Tent # 9 Overhead Survey Points + Vents

All Results Are In dpm/100cm2

SURVEY RESULTS

	Removable Alpha	Removable Beta	Direct Alpha	Direct Beta		Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1.	< 20	< 200	< 72	< 313	23.				
2.	< 20	< 200	< 72	< 313	24.				
3.	< 20	< 200	< 72	< 313	25.				
4.	< 20	< 200	< 72	< 313	26.				
5.	< 20	< 200	< 72	< 313	27.				
6.	< 20	< 200	< 72	< 313	28.				
7.	< 20	< 200	< 72	< 313	29.				
8.	< 20	< 200	< 72	< 313	30.				
9.	< 20	< 200	< 72	< 313	31.				
10.	< 20	< 200	< 72	< 313	32.				
11.	< 20	< 200	< 72	< 313	33.				
12.	< 20	< 200	< 72	< 313	34.				
13.	< 20	< 200	< 72	< 313	35.				
14.	< 20	< 200	< 72	< 313	36.				
15.	< 20	< 200	< 72	< 313	37.				
16.	< 20	< 200	< 72	< 313	38.				
17.	< 20	< 200	< 72	< 313	39.				
18.	< 20	< 200	< 72	< 313	40.				
19.					41.				
20.					42.				
21.					43.				
22.					44.				

Date 5-13-99 RS Supervision: [signature] / [signature] [redacted]

414

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Vent
2.	
3.	
4.	
5.	
6.	Vent
7.	Support 21
8.	Support 24
9.	Support 18
10.	Support 17
11.	Canvas 11/12
12.	Support 9
13.	Canvas 8/9
14.	Support W3
15.	Support E1
16.	Canvas 1/28
17.	Canvas 27/26
18.	Canvas 25/W1
19.	
20.	
21.	
22.	
23.	
24.	
25.	
26.	
27.	
28.	
29.	
30.	
31.	
32.	
33.	
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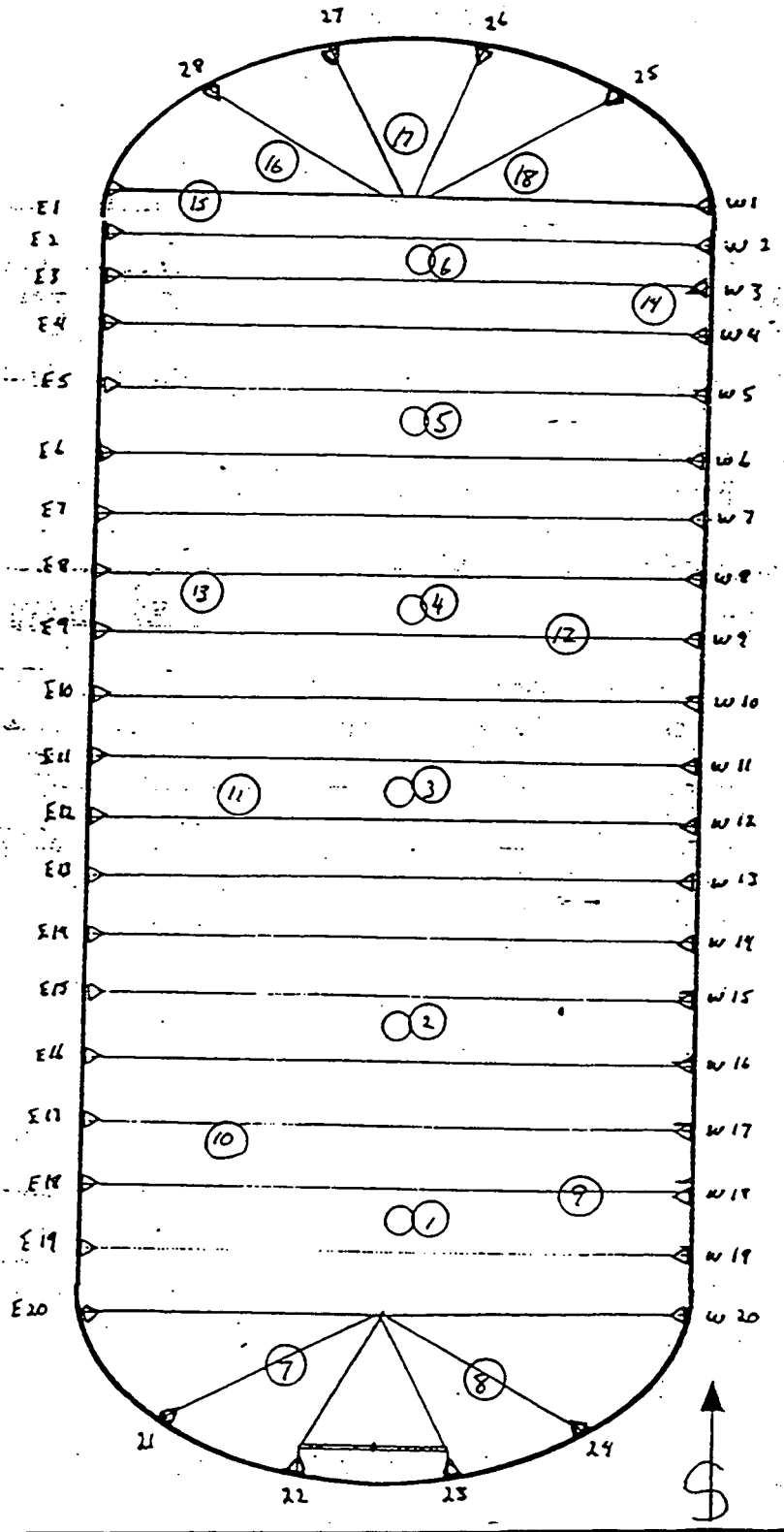

4209389

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	NE	Mfg.	Ludlum	Mfg.	
Model	Electra	Model	Ludlum 2929	Model	
Serial #	3100	Serial #	147244	Serial #	N
Cal Due	11-3-99	Cal Due	11-17-99	Cal Due	A
Bkg.	3	557	0.5	79.1	
Eff.	0.22	0.332	0.347	0.413	
MDA	49	337	18	205	

Mfg.		Mfg.		Mfg.	
Model		Model		Model	
Serial #	N	Serial #	N	Serial #	N
Cal Due	A	Cal Due	A	Cal Due	A
Bkg.		Bkg.		Bkg.	
Eff.		Eff.		Eff.	
MDA		MDA		MDA	

Survey Type: Contamination Page 1 of 2

Building: Tent # 9

Location: 904 Pad

Purpose: Characterization Survey

RWP #: -NA-

Date: 5-21-99 Time: 1330

RCT: Rex Snyder | Rex Snyder | [redacted]
Print Name | Signature | Emp. #

RCT: N | N
Print Name | Signature | Emp. #

PRL #:

Comments: Resurvey of Tent panels that were previously well above MDA

SURVEY RESULTS

#	Description	REMOVABLE DPM/100 CM² ALPHA	REMOVABLE DPM/100 CM² BETA	DIRECT DPM/100 CM² ALPHA	DIRECT DPM/100 CM² BETA
1	Highest Rates on Lower Tent Panel	< 18	< 205	72	< 337
2	Highest Rates on Lower Tent Panel	< 18	< 205	66	< 337
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Post-it® Fax Note 7671

To Rick Roberts	Date 05/25/99 # of pages ▶ 2
Co./Dept.	From Paul Cooper
Phone # 4869	Co.
Fax # 3029	Phone # 3125
	Fax # 4046

Date Reviewed: 5/24/99 RS Supervision: LN Cooper | LNCooper | [redacted]
Print Name | Signature | Emp. #

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421

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Drawing Showing Survey Points

	Location
1.	Behind Seam on Canvas
2.	Below Seam on Canvas
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
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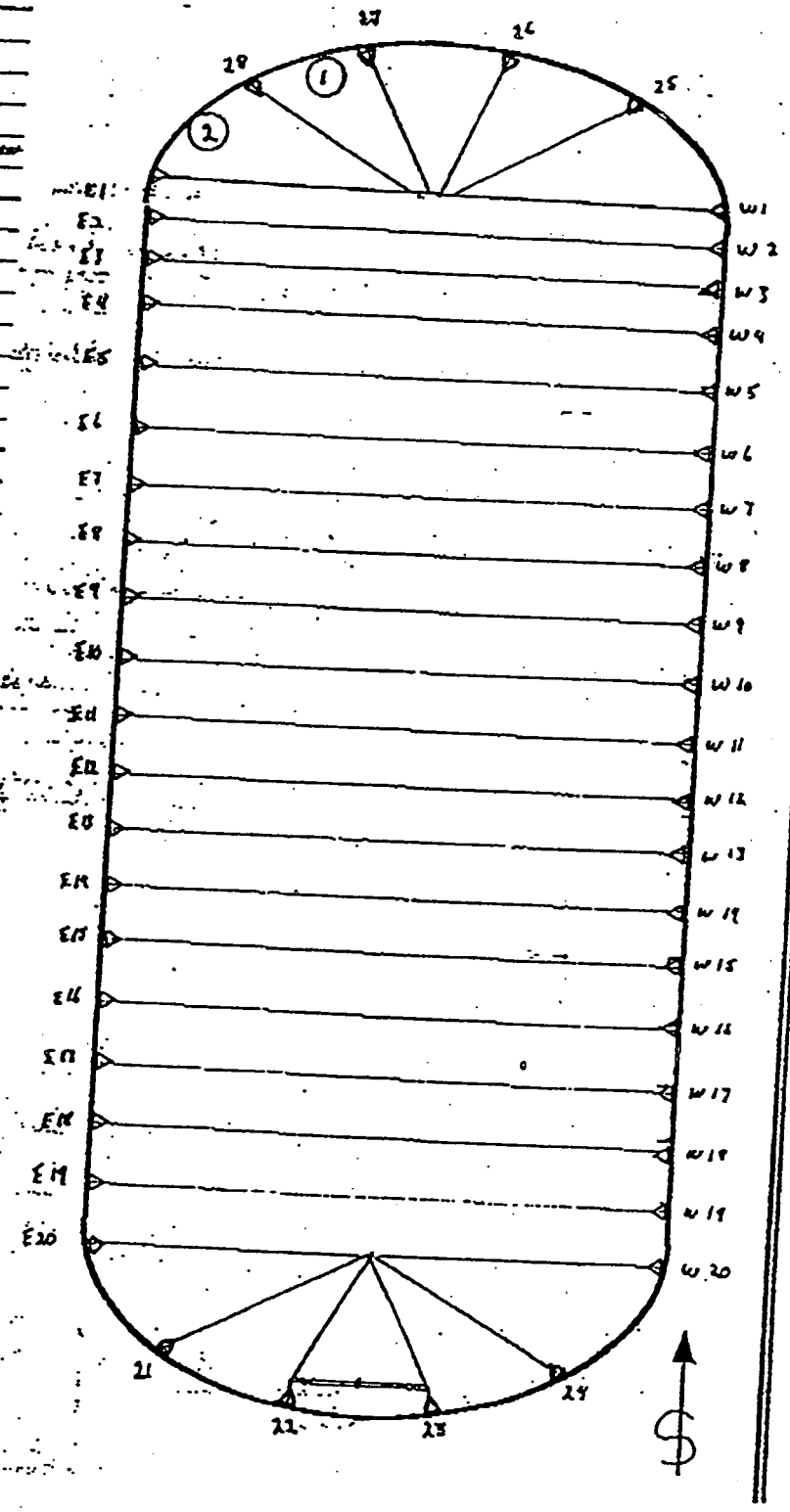
43.	
44	

N/A



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422

APPENDIX D
BERYLLIUM CONCENTRATIONS IN TENTS 7, 8 & 9

S. LE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm²
904-04061999-35-001	904	Tent 7	1	Asphalt floor	L	0.1	0.1
904-04061999-35-002	904	Tent 7	2	Asphalt floor	L	0.1	0.1
904-04061999-35-003	904	Tent 7	3	Asphalt floor	L	0.1	0.1
904-04061999-35-004	904	Tent 7	4	Canvas bag	L	0.1	0.1
904-04061999-35-005	904	Tent 7	5	Asphalt floor	L	0.1	0.1
904-04061999-35-006	904	Tent 7	6	Drum top	L	0.1	0.1
904-04061999-35-007	904	Tent 7	6	Pallet	L	0.1	0.1
904-04061999-35-008	904	Tent 7	6	Drum top	L	0.1	0.1
904-04061999-35-009	904	Tent 7	6	Pallet	L	0.1	0.1
904-04061999-35-010	904	Tent 7	7	Asphalt floor	L	0.1	0.1
904-04061999-35-011	904	Tent 7	8	Drum	L	0.1	0.1
904-04061999-35-012	904	Tent 7	8	Pallet	L	0.1	0.1
904-04061999-35-013	904	Tent 7	8	Drum	L	0.1	0.1
904-04061999-35-014	904	Tent 7	8	Pallet	L	0.1	0.1
904-04061999-35-015	904	Tent 7	9	Asphalt floor	L	0.1	0.1
904-04061999-35-016	904	Tent 7	10	Asphalt floor	L	0.1	0.1
904-04061999-35-017	904	Tent 7	12	Asphalt floor	L	0.1	0.1
904-04061999-35-018	904	Tent 7	13	Asphalt floor	L	0.1	0.1
904-04061999-35-019	904	Tent 7	14	Drum	L	0.1	0.1
904-04061999-35-020	904	Tent 7	14	Pallet	L	0.1	0.1
904-04061999-35-021	904	Tent 7	14	Drum	L	0.1	0.1
904-04061999-35-022	904	Tent 7	14	Pallet	L	0.1	0.1
904-04061999-35-023	904	Tent 7	15	Asphalt floor	L	0.1	0.1
904-04061999-35-024	904	Tent 7	16	Asphalt floor	L	0.1	0.1
904-04061999-35-025	904	Tent 7	17	Drum	L	0.1	0.1
904-04061999-35-026	904	Tent 7	17	Pallet	L	0.1	0.1
904-04061999-35-027	904	Tent 7	17	Drum	L	0.1	0.1
904-04061999-35-028	904	Tent 7	17	Pallet	L	0.1	0.1
904-04061999-35-029	904	Tent 7	18	Table top	L	0.1	0.1
904-04061999-35-030	904	Tent 7	18	Asphalt floor	L	0.1	0.1
904-04061999-35-031	904	Tent 7	19	Asphalt floor	L	0.1	0.1
904-04061999-35-032	904	Tent 7	20	Asphalt floor	L	0.1	0.1

BERYLLIUM SAMPLE RESULTS-
904 PAD TENTS 7-9

SAMPLE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm²
904-04061999-35-033	904	Tent 7	21	Pallet	L	0.1	0.1
904-04061999-35-034	904	Tent 7	21	Asphalt floor	L	0.1	0.1
904-04061999-35-035	904	Tent 7	22	Asphalt floor	L	0.1	0.1
904-04061999-35-036	904	Tent 7	23	Drum	L	0.1	0.1
904-04061999-35-037	904	Tent 7	23	Pallet	L	0.1	0.1
904-04061999-35-038	904	Tent 7	23	Drum	L	0.1	0.1
904-04061999-35-039	904	Tent 7	23	Pallet	L	0.1	0.1
904-04061999-35-040	904	Tent 7	24	Asphalt floor	L	0.1	0.1
904-04061999-35-041	904	Tent 7	25	Asphalt floor	L	0.1	0.1
904-04061999-35-042	904	Tent 7	27	Asphalt floor	L	0.1	0.1
904-04061999-35-043	904	Tent 7	29	Pallet	L	0.1	0.1
904-04061999-35-044	904	Tent 7	29	Refrigerator top	L	0.1	0.1
904-04061999-35-045	904	Tent 7	30	Portable scaffold	L	0.1	0.1
904-04061999-35-046	904	Tent 7	30	Portable scaffold	L	0.1	0.1
904-04061999-35-047	904	Tent 7	32	Asphalt floor	L	0.1	0.1
904-04061999-35-048	904	Tent 7	33	Asphalt floor	L	0.1	0.1
904-04061999-35-049	904	Tent 7	34	Crate	L	0.1	0.1
904-04061999-35-050	904	Tent 7	35	Drum	L	0.1	0.1
904-04061999-35-051	904	Tent 7	35	Pallet	L	0.1	0.1
904-04061999-35-052	904	Tent 7	35	Drum	L	0.1	0.1
904-04061999-35-053	904	Tent 7	35	Pallet	L	0.1	0.1
904-04061999-35-054	904	Tent 7	36	Asphalt floor	L	0.1	0.1
904-04061999-35-055	904	Tent 7	37	Canvas bag	L	0.1	0.1
904-04061999-35-056	904	Tent 7	38	Asphalt floor	L	0.1	0.1
904-04061999-35-057	904	Tent 7	39	Drum	L	0.1	0.1
904-04061999-35-058	904	Tent 7	39	Pallet	L	0.1	0.1
904-04061999-35-059	904	Tent 7	39	Drum	L	0.1	0.1
904-04061999-35-060	904	Tent 7	39	Pallet	L	0.1	0.1
904-04061999-35-061	904	Tent 7	40	Asphalt floor	L	0.1	0.1
904-04061999-35-062	904	Tent 7	41	Asphalt floor	L	0.1	0.1
904-04061999-35-063	904	Tent 7	42	Asphalt floor	L	0.1	0.1
904-04061999-35-064	904	Tent 7	43	Asphalt floor	L	0.1	0.1

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~~394~~

SAMPLE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm²
904-04061999-35-065	904	Tent 7	44	Asphalt floor	L	0.1	0.1
904-04061999-35-066	904	Tent 7	45	Asphalt floor	L	0.1	0.1
904-04061999-35-067	904	Tent 7	46	Asphalt floor	L	0.1	0.1
904-04061999-35-068	904	Tent 7	47	Asphalt floor	L	0.1	0.1
904-04061999-35-069	Blank				L	0.1	0.1
904-04061999-35-070	Blank				L	0.1	0.1
904-04061999-35-071	Blank				L	0.1	0.1
904-04061999-35-072	Blank				L	0.1	0.1
904-04061999-35-073	Blank				L	0.1	0.1
904-04061999-35-074	Blank				L	0.1	0.1
904-04061999-35-075	Blank				L	0.1	0.1
904-03081999-35-001	904	Tent 8	1	Asphalt pad	L	0.1	0.1
904-03081999-35-002	904	Tent 8	2	Asphalt pad	L	0.1	0.1
904-03081999-35-003	904	Tent 8	3	Asphalt pad	L	0.1	0.1
904-03081999-35-004	904	Tent 8	4	Asphalt pad	L	0.1	0.1
904-03081999-35-005	904	Tent 8	5	Asphalt pad	L	0.1	0.1
904-03081999-35-006	904	Tent 8	6	Asphalt pad	L	0.1	0.1
904-03081999-35-007	904	Tent 8	7	Asphalt pad	L	0.1	0.1
904-03081999-35-008	904	Tent 8	8	Asphalt pad	L	0.1	0.1
904-03081999-35-009	904	Tent 8	9	Asphalt pad	L	0.1	0.1
904-03081999-35-010	904	Tent 8	10	Asphalt pad	L	0.1	0.1
904-03081999-35-011	904	Tent 8	11	Asphalt pad	L	0.1	0.1
904-03081999-35-012	904	Tent 8	12	Asphalt pad	L	0.1	0.1
904-03081999-35-013	904	Tent 8	13	Asphalt pad	L	0.1	0.1
904-03081999-35-014	904	Tent 8	14	Asphalt pad	L	0.1	0.1
904-03081999-35-015	904	Tent 8	15	Asphalt pad	L	0.1	0.1
904-03081999-35-016	904	Tent 8	16	Asphalt pad	L	0.1	0.1
904-03081999-35-017	904	Tent 8	17	Asphalt pad	L	0.1	0.1
904-03081999-35-018	904	Tent 8	18	Asphalt pad	L	0.1	0.1
904-03081999-35-019	904	Tent 8	19	Asphalt pad	L	0.1	0.1
904-03081999-35-020	904	Tent 8	20	Asphalt pad	L	0.1	0.1
904-03081999-35-021	904	Tent 8	21	Asphalt pad	L	0.1	0.1

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SAMPLE NUMBER	BLDG	RM	SAMPLE COORDINATE NUMBER	LOCATION/DESCRIPTION	L = LESS THAN DETECTABLE LIMIT	CONCENTRATION ON FILTER (µg)	µg/100cm²
904-03081999-35-022	904	Tent 8	22	Asphalt pad	L	0.1	0.1
904-03081999-35-023	904	Tent 8	23	Asphalt pad	L	0.1	0.1
904-03081999-35-024	904	Tent 8	24	Asphalt pad	L	0.1	0.1
904-03081999-35-025	904	Tent 8	25	File cabinet top	L	0.1	0.1
904-03081999-35-026	904	Tent 9	1	Crate	L	0.1	0.1
904-03081999-35-027	904	Tent 9	2	Crate	L	0.1	0.1
904-03081999-35-028	904	Tent 9	3	Asphalt pad	L	0.1	0.1
904-03081999-35-029	904	Tent 9	4	Asphalt pad	L	0.1	0.1
904-03081999-35-030	904	Tent 9	5	Crate	L	0.1	0.1
904-03081999-35-031	904	Tent 9	6	Crate	L	0.1	0.1
904-03081999-35-032	904	Tent 9	7	Crate	L	0.1	0.1
904-03081999-35-033	904	Tent 9	8	Crate	L	0.1	0.1
904-03081999-35-034	904	Tent 9	9	Crate	L	0.1	0.1
904-03081999-35-035	904	Tent 9	10	Crate	L	0.1	0.1
904-03081999-35-036	904	Tent 9	11	Asphalt pad	L	0.1	0.1
904-03081999-35-037	904	Tent 9	12	Crate	L	0.1	0.1
904-03081999-35-038	904	Tent 9	13	Crate	L	0.1	0.1
904-03081999-35-039	904	Tent 9	14	Asphalt pad	L	0.1	0.1
904-03081999-35-040	904	Tent 9	15	Crate	L	0.1	0.1
904-03081999-35-041	904	Tent 9	16	Crate	L	0.1	0.1
904-03081999-35-042	904	Tent 9	17	Crate	L	0.1	0.1
904-03081999-35-043	904	Tent 9	18	Crate	L	0.1	0.1
904-03081999-35-044	904	Tent 9	19	Crate	L	0.1	0.1
904-03081999-35-045	904	Tent 9	20	Asphalt pad	L	0.1	0.1
904-03081999-35-046	904	Tent 9	21	Asphalt pad	L	0.1	0.1
904-03081999-35-047	904	Tent 9	22	Asphalt pad	L	0.1	0.1
904-03081999-35-048	904	Tent 9	23	Asphalt pad	L	0.1	0.1
904-03081999-35-049	904	Tent 9	24	Asphalt pad	L	0.1	0.1
904-03081999-35-050	904	Tent 9	25	Asphalt pad	L	0.1	0.1

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Coordinate Sheet Number: 94

Sample Locations Specification

Building Number: 904 Pad Room Number: Tent 7 Room Dimensions: East/West: 140 ft. North/South: 60 ft.

Sample Number	Generated Random Numbers E/W	Generated Random Numbers N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)	Sample Number	Generated Random Numbers E/W	Generated Random Numbers N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)
1	0.807	0.517	(113, 2)	26	0.399	0.431	(56, 11) inaccessable
2	0.917	0.018	(128, 1)	27	0.796	0.398	(111, 24)
3	0.288	0.175	(12, 11)	28	0.752	0.856	(105, 51) inaccessable
4	0.166	0.841	(23, 50)	29	0.443	0.922	(62, 55)
5	0.537	0.516	(75, 31)	30	0.097	0.162	(14, 10)
6	0.860	0.940	(120, 56)	31	0.530	0.179	(39, 11) inaccessable
7	0.055	0.304	(8, 18)	32	0.981	0.844	(137, 43)
8	0.754	0.280	(106, 17)	33	0.470	0.776	(46, 47)
9	0.214	0.616	(30, 37)	34	0.281	0.073	(39, 4)
10	0.180	0.004	(25, 24)	35	0.786	0.165	(110, 10) inaccessable
11	0.615	0.138	(86, 8) inaccessable	36	0.690	0.744	(97, 45)
12	0.589	0.817	(82, 49)	37	0.143	0.698	(20, 42)
13	0.429	0.590	(60, 35)	38	0.310	0.500	(43, 30)
14	0.436	0.275	(61, 17)	39	0.641	0.280	(90, 17)
15	0.999	0.359	(140, 22)	40	0.959	0.519	(134, 31)
16	0.261	0.383	(37, 23)	41	0.157	0.989	(22, 39)
17	0.794	0.706	(111, 44)	42	0.187	0.431	(26, 26)
18	0.038	0.699	(12, 42)	43	0.697	0.361	(98, 22)
19	0.598	0.366	(53, 22)	44	0.886	0.611	(123, 37)
20	0.580	0.987	(81, 59)	45	0.296	0.680	(41, 41)
21	0.304	0.759	(43, 46)	46	0.023	0.203	(3, 12)
22	0.427	0.046	(60, 3)	47	0.593	0.035	(83, 2)
23	0.938	0.203	(131, 12)	48	0.766	0.624	(,)
24	0.629	0.611	(88, 37)	49	0.403	0.723	(,)
25	0.000	0.890	(0, 53)	50	0.436	0.143	(,)

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~~347~~

Beryllium Characterization Program

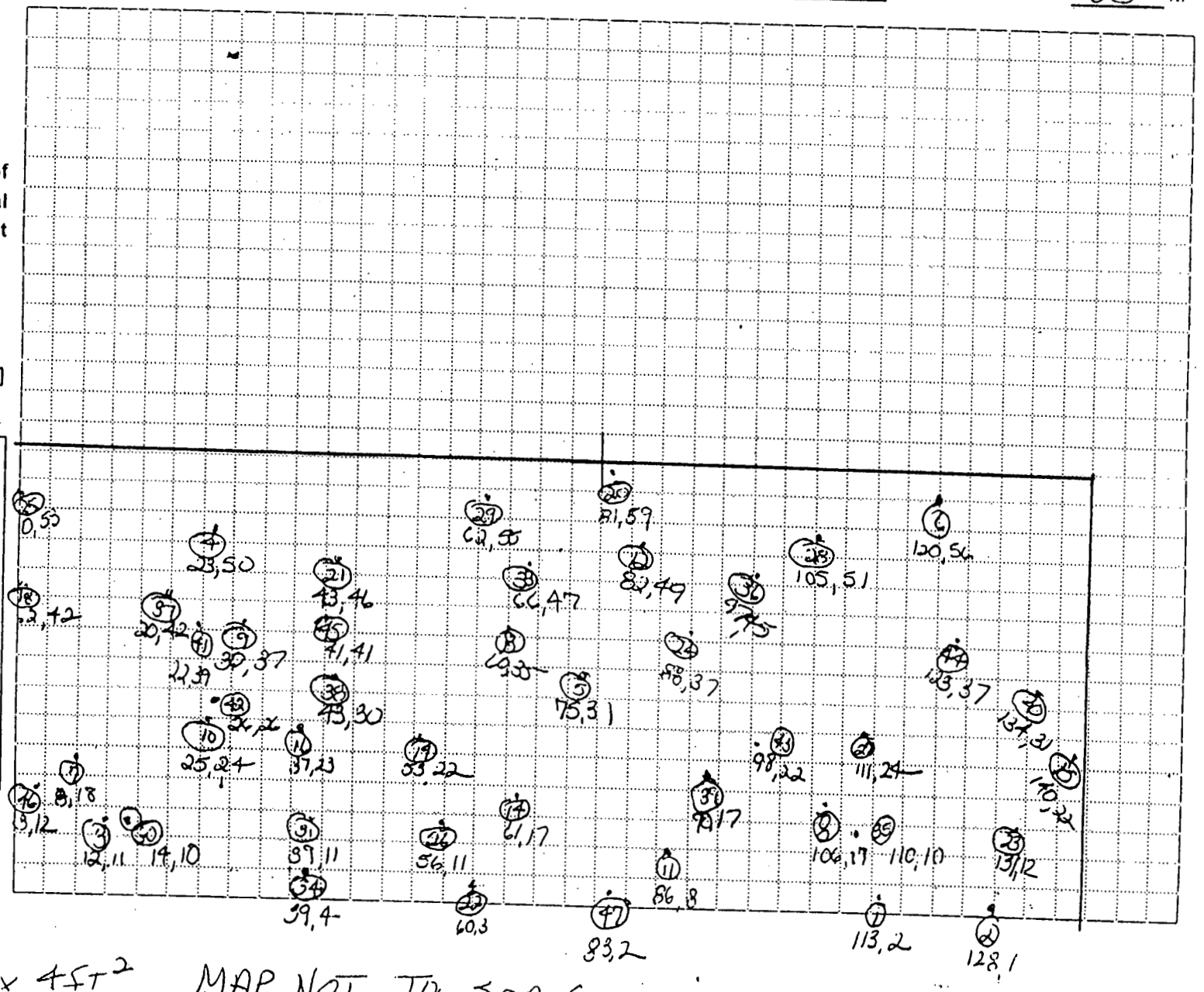
Sample Locations Specification

Building Number: 904 Pad Room Number:: Tent 7 Room Dimensions: East/West: 140 ft. North/South: 60 ft.

Using Coordinate Sheet Number: 94

Sketch of General Room Layout
[Indicating coordinate origin, ●, point (0, 0), and approximate location of doors.]

Indicate approximate direction of North for sketch.



☐ = approx 4 ft² MAP NOT TO SCALE

~~348~~
429

Beryllium Characterization Program | Coordinate Sheet Number: 111 | Sample Locations Specification

Building Number: 104 Pad Room Number:: Tent 8 Room Dimensions: East/West: 60 ft. North/South: 325 ft.

Sample Number	Generated Random Numbers E/W	N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)	Sample Number	Generated Random Numbers E/W	N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)
1	0.150	0.513	(9 , 167)	26	0.125	0.587	(,)
2	0.313	0.119	(19 , 39)	27	0.149	0.142	(,)
3	0.837	0.301	(50 , 98)	28	0.738	0.382	(,)
4	0.752	0.754	(45 , 245)	29	0.723	0.905	(,)
5	0.507	0.546	(30 , ~~165~~ 177)	30	0.431	0.629	(,)
6	0.241	0.911	(14 , 296)	31	0.296	0.013	(,)
7	0.420	0.362	(25 , 118)	32	0.590	0.315	(,)
8	0.627	0.089	(38 , 29)	33	0.886	0.759	(,)
9	0.928	0.647	(56 , 210)	34	0.026	0.826	(,)
10	0.361	0.811	(22 , 264)	35	0.455	0.077	(,)
11	0.065	0.313	(4 , 102)	36	0.973	0.337	(,)
12	0.915	0.031	(55 , 10)	37	0.623	0.785	(,)
13	0.952	0.939	(57 , 305)	38	0.207	0.774	(,)
14	0.314	0.566	(19 , 184)	39	0.334	0.274	(,)
15	0.018	0.153	(1 , 50)	40	0.689	0.186	(,)
16	0.570	0.397	(34 , 129)	41	0.587	0.538	(,)
17	0.737	0.552	(44 , 179)	42	0.098	0.725	(,)
18	0.119	0.794	(7 , 258)	43	0.053	0.396	(,)
19	0.196	0.263	(12 , 85)	44	0.741	0.494	(,)
20	0.946	0.484	(57 , 157)	45	0.687	0.674	(,)
21	0.515	0.920	(31 ~~46~~ , 299)	46	0.480	0.649	(,)
22	0.066	0.999	(4 , 325)	47	0.328	0.349	(,)
23	0.285	0.419	(17 , 25)	48	0.600	0.028	(,)
24	0.821	0.165	(49 , 54)	49	0.923	0.855	(,)
25	0.617	0.688	(37 , 224)	50	0.182	0.543	(,)

56X24

430 ~~344~~ 294

Beryllium Characterization Program

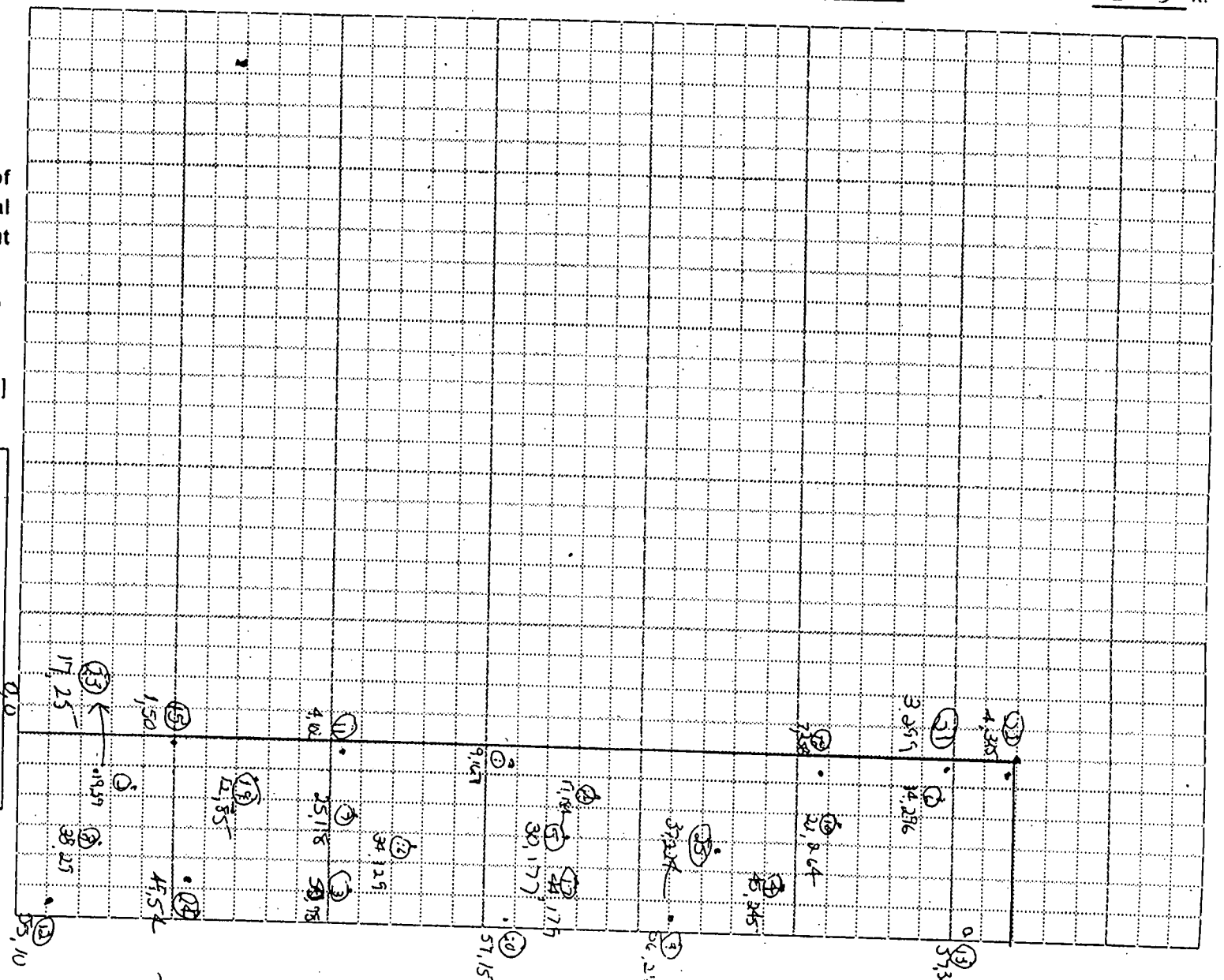
Sample Locations Specification

Building Number: 904 Pad Room Number:: Int 8 Room Dimensions: East/West: 60 ft. North/South: 325 ft.

Using Coordinate Sheet Number: 111

Sketch of General Room Layout
[Indicating coordinate origin, ●, point (0, 0), and approximate location of doors.]

Indicate approximate direction of North for sketch.



□ = approx 10 ft²

Map Not To Scale

431

Beryllium Characterization Program

Coordinate Sheet Number: 112

Sample Locations Specification

Building Number: 904Pad Room Number: Cont 9 Room Dimensions: East/West: 40 ft. North/South: 325 ft.

Sample Number	Generated Random Numbers E/W	Generated Random Numbers N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)	Sample Number	Generated Random Numbers E/W	Generated Random Numbers N/S	Corresponding Random Sample Location Coordinates (East/West, North/South)
1.	0.934	0.516	(56 , 168)	26	0.722	0.766	(,)
2	0.641	0.148	(38 , 48)	27	0.566	0.499	(,)
3	0.108	0.313	(6 , 102)	28	0.162	0.433	(,)
4	0.347	0.884	(21 , 287)	29	0.488	0.715	(,)
5	0.476	0.539	(29 , 175)	30	0.818	0.600	(,)
6	0.604	0.714	(36 , 232)	31	0.745	0.221	(,)
7	0.833	0.239	(50 , 78)	32	0.399	0.146	(,)
8	0.273	0.046	(16 , 15)	33	0.242	0.568	(,)
9	0.114	0.742	(7 , 241)	34	0.646	0.992	(,)
10	0.784	0.942	(47 , 306)	35	0.590	0.332	(,)
11	0.679	0.377	(41 , 123)	36	0.291	0.418	(,)
12	0.382	0.236	(23 , 77)	37	0.239	0.967	(,)
13	0.085	0.940	(5 , 305)	38	0.711	0.521	(,)
14	0.878	0.710	(53 , 231)	39	0.598	0.208	(,)
15	0.930	0.002	(56 , ~~56~~ 1)	40	0.194	0.198	(,)
16	0.396	0.447	(24 , 145)	41	0.485	0.801	(,)
17	0.276	0.711	(17 , 231)	42	0.692	0.918	(,)
18	0.569	0.897	(34 , 291)	43	0.979	0.109	(,)
19	0.776	0.476	(47 , 155)	44	0.356	0.078	(,)
20	0.065	0.164	(4 , 53)	45	0.033	0.596	(,)
21	0.108	0.554	(6 , 180)	46	0.772	0.686	(,)
22	0.974	0.829	(58 , 269)	47	0.527	0.411	(,)
23	0.765	0.099	(46 , 32)	48	0.037	0.353	(,)
24	0.285	0.217	(17 , 70)	49	0.235	0.839	(,)
25	0.014	0.788	(1 , 256)	50	0.190	0.271	(,)

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~~401~~

Beryllium Characterization Program

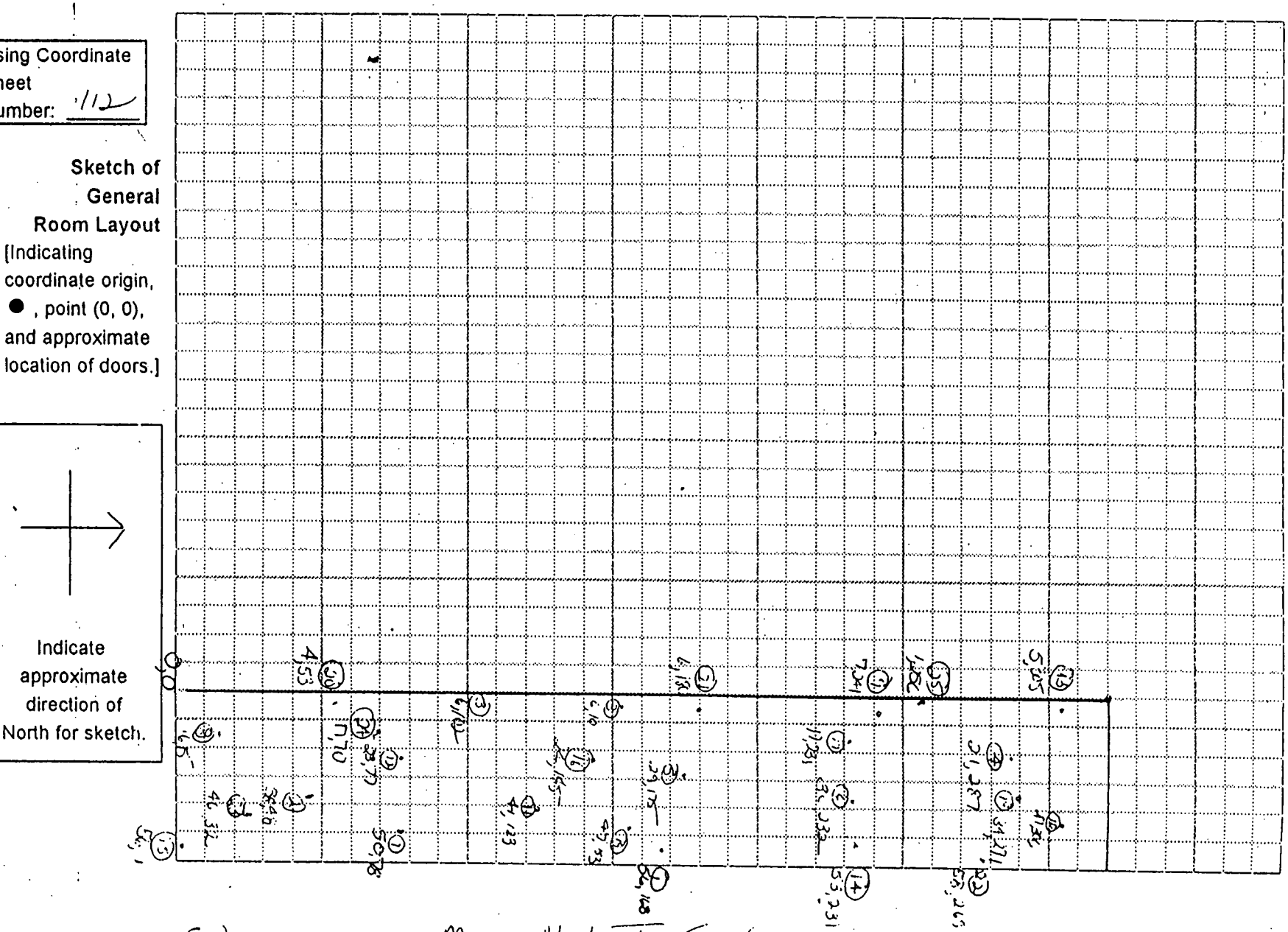
Sample Locations Specification

Building Number: 904 Pad Room Number:: Tent 9 Room Dimensions: East/West: 60 ft. North/South: 325 ft.

Using Coordinate Sheet Number: 112

Sketch of General Room Layout

[Indicating coordinate origin, ●, point (0, 0), and approximate location of doors.]



Indicate approximate direction of North for sketch.

4331 - approx 10 ft²

Map Not To Scale

APPENDIX E
ASBESTOS INSPECTION DOCUMENTATION

ASBESTOS INSPECTION REPORT

BUILDING 709
BUILDING 662
BUILDING 551
BUILDING 910
904 PAD Tents

JUNE 30, 1999

Prepared for:

Rocky Mountain Remediation Services, L.L.C.

Prepared by:

FOOTHILLS ENVIRONMENTAL, INC.
2801 Youngfield Street, Suite 300
Golden, CO 80401
(303) 275-3470

~~404~~
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1. EXECUTIVE SUMMARY

Asbestos assessment surveys were conducted by Foothills Environmental, Inc. at the Rocky Flats Environmental Technology Site (RFETS) west of Denver, CO. The surveys were performed for Rocky Mountain Remediation Services (RMRS) during the months of April and May 1999. The intent of the surveys was to sample suspect asbestos containing materials (ACM) in specified locations of five different buildings/structures at the RFETS site. All samples were collected by Andre Gonzalez, a licensed Asbestos Inspector/Management Planner by the State of Colorado and the Environmental Protection Agency. A copy of the analytical results is provided in Appendix A for reference. Radiological survey maps are provided in Appendix B and depict sample locations.

The assessment surveys were performed in the following structures/buildings:

- Building 551 - Roof
- Building 910 - Roof
- Building 662 - Comprehensive survey
- Building 709 - Roof and associated pipe insulation
- 904 Pad – Black tar

2. SCOPE OF WORK

The scope of work for this assessment included the following:

1. Visual inspection of the specified areas to identify suspect ACM;
2. Collection of bulk samples of suspect materials in each specified area for analysis by Polarized Light Microscopy (PLM);
3. Describe sample results of all sampled materials;
4. Provide laboratory results from an accredited laboratory.

3. SAMPLING AND ANALYTICAL PROCEDURES

Suspect materials were identified based on a physical assessment of the target structures. Suspect building materials were grouped onto homogeneous areas based on their physical characteristics, color, texture, and application. Suspect materials were divided into one of three categories based on the following homogeneous area classification scheme recognized by regulatory agencies (e.g., EPA, Colorado Department of Public Health and Environment):

1. Thermal systems insulation (TSI); any type of pipe, boiler, tank or flue insulation.
2. Surfacing material: sprayed or troweled onto a structural building member.
3. Miscellaneous: all other suspect materials, including flooring, ceiling tiles, floor coverings, other insulations, finishing materials, etc.

Random bulk samples were collected according to the guidelines published as the Environmental Protection Agency's Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC,

Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and the Colorado Department of Public Health and Environment (CDPHE) Regulation #8. At least three samples of each suspect material were collected for analysis by an NVLAP-accredited laboratory. Core samples collected were placed in sealable bags for delivery to Building 881 for analysis by Reservoirs Environmental Services. Samples collected were given unique identification numbers assigned by the accredited Asbestos Inspector for tracking purposes. For the purposes of this report, Foothills Environmental has considered a material to be asbestos containing if any one of the samples in a sample set (i.e., homogeneous area sample sets) collected were found to contain greater than or equal to 1% asbestos.

All bulk samples collected were analyzed by Reservoirs Environmental utilizing the Environmental Protection Agency's Interim Method for the Detection of Asbestos in Bulk Insulation Samples (EPA 600/M4-82020, December 1982) and the McCrone Research Institute's The Asbestos Particle Atlas as method references. Reservoirs Environmental Inc. is accredited by NVLAP (#1896) and participates in the NVLAP and AIHA Bulk Asbestos Sample Quality Assurance Programs.

4. SURVEY RESULTS

4.1 Building 709

Building 709 is a cooling tower constructed primarily of wood. Fiberglass boarding was also used for specific components, but the majority of the structure is composed of wood. No suspect ACM was present on the Building 709 structure. Adjacent to the structure are several large insulated water lines and a pump station with insulated pipelines. Samples were collected from the insulation on the pipelines. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
709-99-05-24-05-01	TSI: Brown painted large water line on North side of B709	10% Chrysotile in brown resinous layer; None detected in other layers
709-99-05-24-05-02	TSI: 2" line exiting electrical shack on West end of B709	None Detected
709-99-05-24-05-03	TSI: Large water line on West end of B709	10% Chrysotile and a trace Amosite asbestos in brown resinous layer; None detected in other layers
709-99-05-24-05-04	TSI: 2" line from a pump generator into ground on West end of B709	None Detected
709-99-05-24-05-05	TSI: 2" line from a generator into a water basin on West end of B709	10% Chrysotile and a trace Amosite asbestos in the white fibrous plaster; None detected in other layers

All lines were wrapped in protective metal shrouds which made it difficult to differentiate homogeneous materials. For the purpose of this assessment, all materials were considered one homogeneous material. Three of the five samples had positive detections for asbestos. Based on the results, all thermal systems insulation (TSI) should be considered asbestos containing.

4.2 Building 910

The roof of Building 910 was sampled for asbestos containing materials. Three core samples were collected. The results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
910-99-04-27-05-01	Roof Material: East end - Center	None Detected
910-99-04-27-05-02	Roof Material: Center of roof	None Detected
910-99-04-27-05-03	Roof Material: West end - Center	None Detected

The roof is flat with a slight pitch and is composed of an underlying base board covered by tar and gravel. No flashing material exists on the roof. Each layer was analyzed for asbestos content with no asbestos detected in any of the samples. The analytical results indicate the roofing material may be considered asbestos free.

4.3 Building 551

The roof of Building 551 is flat with drainage ports along the perimeter of the roof. The roof perimeter is built up approximately two feet with flashing along the entire length. Flashing is also present around all roof ventilation components, access hatches, and other roof structures. The roof is composed of an underlying base board covered by tar and gravel. Four samples of the roof system were collected and three samples of the flashing were collected. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
551-99-04-27-05-01	Core roof sample adjacent to access ladder on east side of roof	10% Chrysotile in the black tar layer
551-99-04-27-05-02	North end of roof - Center; 4 feet from east exhaust vent	None Detected
551-99-04-27-05-03	Southwest roof section; 6 feet from water drain	None Detected
551-99-04-27-05-04	South end of roof - Center; 8 feet east of round exhaust	None Detected
551-99-04-27-05-05	Roof flashing; northeast sky hatch	10% Chrysotile in black tar (painted silver)
551-99-04-27-05-06	Roof flashing; northwest section - second sky hatch from the north	10% Chrysotile in black tar (painted silver)
551-99-04-27-05-07	Roof flashing: northeast section - second sky hatch from the north	25% Chrysotile in black tar (painted silver)

Of the four roof samples one was positive for asbestos. Asbestos inspection rules require the roof be considered asbestos containing despite no asbestos detection in three of the four samples. All three of the roof flashing samples detected asbestos and must be considered asbestos containing.

4.4 Building 662

Building 662 is steel structure built on a concrete slab with sheet metal siding and metal roof panels. Three suspect asbestos containing materials were identified within the interior – floor tile, ceiling tile and drywall. The drywall did not have tape or joint compound on any seams and therefore was not sampled. Insulation was not present on any of the water lines or the heating system. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
662-99-05-13-05-01	1' x 1' floor tile with yellow mastic; Floor entering locker room	None Detected
662-99-05-13-05-02	1' x 1' floor tile (mastic not present on sample); Near south door	None Detected
662-99-05-13-05-03	1' x 1' floor tile with yellow mastic; Floor drain outside bathroom	None Detected
662-99-05-13-05-04	2' x 4' white ceiling tile; North end of central office	None Detected
662-99-05-13-05-05	2' x 4' white ceiling tile; Northeast end of central office	None Detected
662-99-05-13-05-06	2' x 4' white ceiling tile; Center of central office	None Detected
662-99-05-13-05-07	Drywall	None Detected
662-99-05-13-05-08	Drywall	None Detected
662-99-05-13-05-09	Drywall	None Detected

No asbestos was detected in any of the samples collected from suspect materials in Building 662. Building 662 may be considered asbestos free, based on the analytical results of the samples collected.

4.5 904 Pad

The 904 Pad consists of several fabricated tents consisting of metal frames with a high density covers. The tents are resting on an asphalt pad with black tar along the perimeters. The black tar acts as a caulking material between the tent and the asphalt pad and is considered part of the tent. The tent construction materials did not contain any suspect asbestos containing materials with the exception of the black tar. Fiberglass insulation was observed on some of the pipe, but it was clearly identified as fiberglass and was not sampled. Analytical results are as follows:

Sample Number	Material Sampled & Location	Analytical Results
904-99-06-17-05-01	904 Pad – Tent 8 – Northwest Corner	None Detected
904-99-06-17-05-02	904 Pad – Tent 9 – Northwest Corner	None Detected
904-99-06-17-05-03	904 Pad – Tent 10 – Northwest Corner	None Detected
904-99-06-17-05-04	904 Pad – Tent 11 – Northwest Corner	None Detected

Wojtaszek, Paul

From: Gonzalez, Andre
Sent: Thursday, July 22, 1999 10:40 AM
To: Wojtaszek, Paul
Subject: 904 pad

Paul,

Asphaltic tar samples were collected around tents 8, 9, 10, &11 at the 904 Pad. The asphaltic tar around tent 7 was not sampled because it is considered the same homogeneous material as around the other tents. For this reason, the asbestos results reported should include tent 7. If you have any questions, please do not hesitate to call me.

Thanks,

Andre

RESERVOIRS ENVIRONMENTAL SERVICES, INC.

NVLAP Accredited Laboratory #1896

TABLE I. PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: RES 61274-1
Client: Kaiser-Hill Company, LLC
Client Project: 99Z8273, On Site Sample Analysis, Andre Gonzalez
Date Samples Received: June 24, 1999
Analysis Type: PLM Short Report, Bulk
Turnaround: 24 Hour

Note: The US EPA requires use of stratified analysis for NESHAP and AHERA compliance. Composite results only apply for specific exceptions.

Client Sample Number	Lab ID Number	Layer	Physical Description	Portion of Total Sample (%)	ASBESTOS CONTENT BY LAYER: Mineral	ASBESTOS CONTENT BY LAYER: Visual Estimate (%)	Non-Asbestos Fibrous Components (%): CELL	GLASS	SYNTH	HAIR	WOLL	TALC	OTHER	Non-Fibrous Components (%)
904-99061705-01	EM 417879	A	Black tar	100		ND	0	0	0	0	0	0	0	100
904-99061705-02	EM 417880	A	Black tar	100		ND	0	0	0	0	0	0	0	100
904-99061705-03	EM 417881	A	Black tar	100		ND	0	0	0	0	0	0	0	100
904-99061705-04	EM 417882	A	Black tar	100		ND	0	0	0	0	0	0	0	100

ND = None Detected CELL = Cellulose ORG = Organic WOLL = Wollastonite GYP = Gypsum Analyst: PDL
TR = Trace, < 1% Visual Estimate Trem-Act = Tremolite-Actinolite BRUC = Brucite SYNTH = Synthetic Data QA

441/440

RFP F 3791.32 (7/95)
Formerly RF-47530

Rocky Flats Environmental Technology Site

Golden, CO 80402-0464

Safety and Hygiene Chain of Custody Record and Analysis Request

RC861274

9928273

Name of Originator: A. Gonzalez Title: IH&S Bldg/Ext: 444/X6727 Date: 6/18/99 Page 1 of 1

SAMPLE NUMBER Bldg/Y/M/D/P#/S#	ANALYZE FOR asbestos	VOLUME liters	SAMPLE TIME/	MEDIA	P A B	Personal Area Bulk	REMARKS	Lab Number
904-99-06-17-05-01	~~[illegible]~~	NA	NA	NA	X		IH02B001	
904-99-06-17-05-02	↓	↓	↓	↓	↓		↓	
904-99-06-17-05-03								
904-99-06-17-05-04								

6/18/99

Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date
[signature]	Roger S. Miller	8:45 a.m. 6/18/99			
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date
881 Asbestos Cabinet	Paul D. LeBlanc	1245P 6-24-99			
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date
Relinquished by	Received by	Time/Date	Relinquished by	Received by	Time/Date

Report and Billing Instruction

- Kaiser-Hill ☐
- RMRS ☒
- SSOC ☐
- DynCorp ☐
- WSI ☐

Verbal To: A. Gonzalez
Fax To: 5513
Report To: KH
Bill To: KH
P.O.#/Release:
Lab: Reservoirs

Analysis Request

Industrial Hygiene Sample: ☐ Standard Service ☐ Rush ☐ Other

Asbestos Samples: ☒ Standard Service ☐ 24 Rush ☐ 2 Rush ☐ Other

Seal# (Release #)

Condition of Seal: ☐ Broken ☐ Unbroken

Signature:

Comments:

White - Return to Originator Yellow - Lab Copy Green - Sample Custodian Blue - Originator

442

06/25/99 FRI 08:45 FAX 303 863 9196 RES. ENV. SERV. 003

COPY

RS FORMS 07.02-01

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSRUMENT DATA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg.
Model SAC-4	Model SAC-4	Model
Serial# 1042	Serial# 797	Serial#
Cal Due 11-15-99	Cal Due 10-26-99	Cal Due
Bkg. 0.0	Bkg. 0.2	Bkg.
Efficiency 53%	Efficiency 33%	Efficiency
MDA 20	MDA 20	MDA

Mfg. EBERLINE	Mfg. EBERLINE	Mfg. NE TEC
Model BC-4	Model BC-4	Model ELETTRA
Serial# 922	Serial# 914	Serial# 1545
Cal Due 7-27-99	Cal Due 8-9-99	Cal Due 11-19-99
Bkg. 40	Bkg. 36	Bkg. α=2 β=555
Efficiency 25%	Efficiency 25%	Efficiency α=21.6 β=33.1
MDA 200	MDA 200	MDA α=56 β=340

Survey Type:

Building: 904

Location: PAD

Purpose: SURVEY OF TAR AROUND TENTS

RWP #: N/A

Date: 6-17-99 Time: 14:00

RCT: CP Jepp / CP Jepp [redacted]
Print name Signature Emp. #

RCT: L Hankins / Hank [redacted]
Print name Signature Emp. #

PRL #: N/A

Comments: N/A

SURVEY RESULTS

Swipe #	Location/Description Results in DPM/100CM²	Removable Alpa	Removable Beta	Total Alpa	Total Beta	Swipe #	Location/Description Results in DPM/100CM²	Removable Alpa	Removable Beta	Total Alpa	Total Beta
1	TENT 8	<20	<200	<56	<340	16					
2	TENT 9	<20	<200	<56	<340	17					
3	TENT 10	<20	<200	<56	<340	18					
4	TENT 11	<20	<200	<56	<340	19					
5						20					
6						21					
7						22					
8						23					
9						24					
10						25					
11						26					
12						27					
13						28					
						29					
15						30					

CP 6-17-99

CP 6-17-99

Date Reviewed: 6-17-99 RS Supervision: CN Cooper / L Cooper [redacted]
Print Name Signature Emp. #

~~412~~ 443|443