

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

800 AREA TYPE 1 CLUSTER CLOSURE PROJECT (Buildings 830, 863, 864, 885, T883D, & Tanks Slabs 020, 021, and 026)

REVISION 0

June 15, 2001

Reviewed by:


Steve Luker, Quality Assurance

Date: 6/18/01

Reviewed by:


Michael Chritton, RISS ESH&Q Manager

Date: 6/18/01

Approved by:


Kent Dorr, K-H Project Manager

Date: 6/19/01

2

TABLE OF CONTENTS

ABBREVIATIONS/ACRONYMS	IV
1 INTRODUCTION.....	1
1.1 PURPOSE.....	1
1.2 SCOPE.....	1
1.3 DATA QUALITY OBJECTIVES	1
2 HISTORICAL SITE ASSESSMENT.....	2
3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS.....	2
3.1 RADIOLOGICAL CHARACTERIZATION	2
3.2 RADIOLOGICAL HAZARDS SUMMARY.....	3
4 CHEMICAL CHARACTERIZATION AND HAZARDS	3
4.1 CHEMICAL CHARACTERIZATION.....	3
4.1.1 <i>Asbestos</i>	4
4.1.2 <i>Beryllium (Be)</i>	4
4.1.3 <i>RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]</i> ..	4
4.1.4 <i>Polychlorinated Biphenyls (PCBs)</i>	4
4.2 CHEMICAL HAZARDS SUMMARY	5
4.2.1 <i>Asbestos</i>	5
4.2.2 <i>Beryllium</i>	6
4.2.3 <i>RCRA/CERCLA Constituents</i>	6
4.2.4 <i>PCBs</i>	6
5 PHYSICAL HAZARDS.....	6
6 DATA QUALITY ASSESSMENT	7
7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES.....	7
8 FACILITY CLASSIFICATION AND CONCLUSIONS	7
9 REFERENCES.....	8

ATTACHMENTS

A	Facility Location Map
B	Historical Site Assessment Reports
C	Radiological Characterization Package
D	Chemical Characterization Package
E	Radiological Data Summaries and Survey Maps
F	Chemical Data Summaries and Sample Maps
G	Decommissioning Waste Types And Volume Estimates
H	Data Quality Assessment (DQA) Detail

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 _{LW}	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
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

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 facilities 830, 863, 864, 885, T883D, and Tanks Slabs 020, 021, and 026 (a.k.a. 800 Area Type 1 Cluster). Because these facilities were anticipated to be Type 1 facilities, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facilities (i.e., floors (slabs), walls, ceilings and roofs). Environmental media beneath and surrounding the facilities were not within the scope of this RLC Report (RLCR) and will be addressed using the Soil Disturbance Permit process.

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 built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Reports.

Results indicate that no radiological contamination exists in excess of the prescribed release limits of DOE Order 5400.5. Asbestos containing materials were identified in Buildings 864, T883D and 885 in both friable and non-friable form. Fluorescent light ballasts may contain PCBs. PCB ballasts and asbestos containing materials will be removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. Painted facility surfaces may contain PCBs and lead-based paints. All demolition debris will be managed in compliance with regulations governing PCBs (40 CFR 761), and Environmental Compliance Guidance #27, *Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal* as applicable.

Based upon this RLCR and subject to concurrence by the Colorado Department of Public Health and Environment (CDPHE), the 800 Area Type 1 Cluster facilities are hereby formally categorized as Type 1 facilities. To ensure that the facilities remain free of contamination and that RLC data remain valid, isolation controls have been established, and the facilities will be posted accordingly.

1 INTRODUCTION

A Reconnaissance Level Characterization (RLC) was performed to enable compliant disposition and waste management of facilities 830, 863, 864, 885, T883D, and Tanks Slabs 020, 021, and 026 (a.k.a. 800 Area Type 1 Cluster). Because these facilities were anticipated to be Type 1 facilities, a PDS characterization was performed. All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facilities (i.e., floors (slabs), walls, ceilings and roofs). Environmental media beneath and surrounding the facilities were not within the scope of this RLC Report (RLCR) and will be addressed using the Soil Disturbance Permit process.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these are the 800 Area Type 1 Cluster 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 facilities can be removed, a Pre-Demolition Survey (PDS) must be conducted; this document presents the PDS results. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Reports.

1.1 Purpose

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

1.2 Scope

This report presents the final radiological and chemical conditions of the 800 Area Type 1 Cluster facilities. 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. Both facilities and environmental media will be dispositioned pursuant to the Rocky Flats Cleanup Agreement (RFCA).

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used for decisions in this report are consistent with DQOs in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP 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 walkdowns, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). 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 800 Area Type 1 Cluster HSARs. In summary, the HSARs identified some potential radiological or chemical hazards.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

The 800 Area Type 1 Cluster was characterized for radiological hazards per the PDSP. Section 3.1 describes the radiological characterization process that was performed, and Section 3.2 summarizes the radiological hazards that were identified, if any.

3.1 Radiological Characterization

Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on or in the facilities and slabs. Measurements were performed to evaluate the contaminants of concern. Based on facility histories, building walkdowns, and MARSSIM guidance, the facilities and slabs were broken down into survey areas, survey units, and classifications. A Radiological Characterization Package (refer to Attachment C) was developed during the planning phase that describes how the facilities and slabs were broken-down into survey units, the justification for the survey unit classifications, and the minimum measurement requirements per survey unit.

Radiological survey unit packages were developed for each survey unit in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total Surface Activity (TSA), removable and scan measurements were collected in accordance with RSP 16.02, *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality Control measures were implemented throughout the survey and sampling process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

Radiological data, statistical analysis results, and survey locations are presented in Attachment E, Radiological Data Summaries and Survey Maps. Radiological survey packages are maintained in the 800 Area Type 1 Cluster Characterization Project files.

3.2 Radiological Hazards Summary

The RLC (serving also as the Pre-Demolition Survey) confirmed that the 800 Area Type 1 Cluster facilities and slabs (i.e., all interior and exterior facility surfaces) do not contain radiological contamination above the surface contamination guidelines provided in DOE Order 5400.5 and the RFETS Radiological Control Manual.

An elevated total surface activity (TSA) measurement result was observed on the B885 metal roof (sample location #11 = 109.6 dpm/100cm²). An investigation was performed to verify the presence of Po-210 versus DOE-added radioactivity on the metal roof. Po-210 is a radon progeny that selectively oxidizes to metal surfaces. This phenomenon has been observed on other structures at RFETS, and has been demonstrated at other nuclear facilities. The elevated roof activity was dispositioned per RFETS Technical Basis Document TBD-00156, *Using Graphical Data Distribution Analysis to Distinguish between Background and DOE-Added Materials in Environmental Data Sets*, which provides a method of statistically evaluating the data collected from the affected surfaces. In addition to the initial TSA measurement survey unit locations, an additional fifteen (15) TSA measurements were collected at random locations across the roof surface. The additional 15 TSA measurements were then plotted, and a statistical test performed to verify that the activity represented a single log-normal distribution with 95% confidence. The statistical evaluation concluded that the elevated activity was due to a single log-normal distribution, as would be expected for natural occurring radioactive material, therefore, the roof surface of this building is acceptable for unrestricted release.

Radiological data, statistical analysis results, survey location maps, and the B885 elevated roof activity investigation results are presented in Attachment E, Radiological Data Summaries and Survey Maps. Isolation control postings are displayed at all entrances to the 800 Area Type 1 Cluster facilities to ensure no radioactive materials are introduced.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

The 800 Area Type 1 Cluster was characterized for chemical hazards per the PDSP. Section 4.1 describes the chemical characterization process that was performed, and Section 4.2 summarizes the chemical hazards that were identified.

4.1 Chemical Characterization

Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in the 800 Area Type 1 Cluster facilities and slabs. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Package (refer to Attachment D) was developed during the planning phase that describes sampling requirements and the justification for the sample locations and estimated sample numbers. Contaminants of concern included asbestos, beryllium, RCRA/CERCLA constituents, and PCBs. Refer to Attachment F, Chemical Summary Data and Sample Maps, for details on sample results and sample locations.

4.1.1 Asbestos

Based on limited historical asbestos inspection data, an asbestos inspection and sampling of suspect asbestos containing material (ACM) was required for the PDS. A CDPHE-certified asbestos inspector conducted the inspection and sampling in accordance with PRO-563-ACPR *Asbestos Characterization Protocol*, Revision 1. Potential ACM was identified for sampling at the discretion of the inspector.

4.1.2 Beryllium (Be)

Based on the HSARs, there was no record of beryllium operations in the facilities, nor was there adequate information to conclude the absence of beryllium in the facilities, therefore limited biased sampling was performed in each facility.

All three tank slabs are on the exterior of the Buildings 883 and 865 and exposed to weather year round. The tank slab areas were not considered beryllium process areas, and there is no reason to suspect contamination on the outdoor tank slabs.

4.1.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on the HSARs and facility walkdowns, there was no record of RCRA/CERCLA constituent operations, storage or spills in B863, B864, T883D, and tank slabs 020, 021, and 026; therefore RCRA/CERCLA constituent sampling was not performed in these facilities and slabs. Based on the HSARs and facility walkdowns, there were cases of RCRA/CERCLA constituent operations, storage or spills in Buildings 830 and 885; therefore RCRA/CERCLA constituent sampling was performed in these facilities.

Sampling for lead in paint in the 800 Area Type 1 Cluster was not required. 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)

Based on the HSARs and facility walkdowns of B863, T883D, B864 and the tank slabs, there was no record of PCB operations or storage, therefore PCB sampling was not performed in these facilities. Based on the HSARs and facility walkdowns of B830 and B885, there was evidence of potential PCB operations, storage or spills, therefore, PCB sampling was performed in these facilities. The 800 Area Type 1 Cluster facilities contain fluorescent light ballasts that may contain PCBs. Therefore, fluorescent light fixtures will be inspected to identify PCB ballasts during removal operations. PCB ballasts will be identified based on factors such as labeling (e.g., PCB-containing and non-PCB-containing), manufacturer, and date of manufacturing. All ballasts that do not indicate non-PCB-containing are assumed to be PCB-containing.

9

Due to the age of construction of Buildings 830, 864, and 885 (prior to 1980) all demolition debris from these buildings will be managed in accordance with Environmental Waste Compliance Guidance #25, *Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition*, which directs that applied dried paints, varnishes, waxes, or other similar coatings or sealants are acceptable for disposal (with notification) in a non-hazardous solid waste landfill as PCB Bulk Product Waste under 40 CFR 761.3 and 40 CFR 761.62 paragraph (b), and therefore, need not be sampled as long as restrictions outlined in 40 CFR 761.62 regarding their disposition are met.

All other buildings in this Cluster were constructed after 1980, and therefore concerns with PCB coatings are not necessary for these facilities. The demolition debris from these facilities will be managed as sanitary waste debris.

4.2 Chemical Hazards Summary

The following sections summarize the chemical hazards identified during the PDS.

4.2.1 Asbestos

ACM is present in B864, B885 and T883D. Asbestos sample data and sample location maps are contained in Attachment F, Chemical Summary Data and Sample Maps. ACM will be removed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. Estimated quantities of ACM are presented in Attachment G, Decommissioning Waste Types and Volume Estimates.

Building 864

Building 864 had several different suspect ACM including pipe insulation, drywall, exterior texture, window caulk, and two different types of floor tile. Analytical results of bulk samples indicate the pipe insulation and drywall tape joint compound are ACM. All other materials do not contain ACM.

Building 885

Building 885 did not have any suspect ACM with the exception of a five-foot section of pipe insulation. The pipe insulation was sampled and analytical results indicate the pipe section is ACM. The remaining pipe insulation in the building is fiberglass and/or foam and was not considered suspect ACM by the asbestos inspector.

Trailer T883D

Trailer 883D interior walls are wood covered with vinyl. The walls are insulated with fiberglass insulation, and pipes beneath the trailer are insulated with fiberglass and black foam. Suspect ACM in Trailer 883D included baseboard and two different types of floor

linoleum. Analytical results of the baseboard mastic indicate a trace of tremolite and actinolite asbestos is present. No other ACM is present.

Buildings 830 and 863, and Tank Slabs 020, 021 & 026

No suspect ACM was identified in Buildings 830, 863 or the tank slabs.

4.2.2 Beryllium

Beryllium sample results of the 800 Area Type 1 Cluster facilities were all less than 0.1 $\mu\text{g}/100\text{cm}^2$. Beryllium sample data and sample location maps are contained in Attachment F, Chemical Summary Data and Sample Maps.

4.1.1 RCRA/CERCLA Constituents

Based on the HSARs and facility walkdowns of B830 and B885, core samples were taken from both building floors. In B830, six samples with two duplicates were taken to analyze for TCLP metals and TCLP volatile organic compounds (VOCs) in accordance with the approved analytical methods from EPA Solid Waste SW-846 Test Methods, revision 5, April 1998. In B885, nine samples with three duplicates were taken to analyze for metals and VOCs. All sample results were less than the regulatory limits in 6CCR 1007-3, Part 261.

4.2.4 PCBs

Based on the HSARs and facility walkdowns of B830 and B885, core samples were taken from both building floors. In both buildings there was evidence of oil spills from unknown sources. In B830, three samples with one duplicate were taken to analyze for PCBs. In B885, three samples with one duplicate were taken to analyze for PCBs. Two of the samples from each building were biased at the spill locations. All sample results were less than the regulatory limit.

PCB ballasts may be found in the 800 Area Type 1 Cluster and will be removed and disposed of in accordance with site procedures prior to building demolition. Plans are to dispose of demolition debris from Buildings 830, 864 and 885 in an off-site, non-hazardous solid waste landfill as PCB Bulk Product Waste.

5 PHYSICAL HAZARDS

Physical hazards associated with the 800 Area Type 1 Cluster facilities consist of those common to standard industrial environments and include hazards associated with energized systems, utilities, and trips and falls. There are no unique hazards associated with the facilities. The facilities have been relatively well maintained and are in good physical condition, and therefore, do not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

5 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of the 800 Area Type 1 Cluster, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments A – H) 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 H.

6 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of the 800 Area Type 1 Cluster will generate a variety of wastes. Attachment G presents the estimated waste volumes and waste type by facility. All wastes can be disposed of as sanitary waste, except asbestos containing material and PCB Bulk Product Waste. There is no radioactive or hazardous waste. Asbestos and PCB ballasts will be managed pursuant to Site asbestos and PCB abatement and waste management procedures.

7 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, the 800 Area Type 1 Cluster facilities (i.e., B830, B863, B864, B885, T883D, and Tanks Slabs 020, 021, and 026) are classified as RFCA Type 1 facilities pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). The Type 1 classification is based on a review of historical and process knowledge, 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 800 Area Type 1 Cluster was performed in accordance with the DDCP and PDSP; all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. These facilities do not contain radiological or hazardous wastes. All demolition debris will be managed in compliance with regulations governing PCBs (40 CFR 761), as applicable, in accordance with the Decommissioning Program Plan, Section 3.3.5. PCB ballasts and asbestos containing material will be removed and disposed of in compliance with EPA and CDPHE regulations. Environmental media beneath and surrounding the facilities will be addressed using the Soil Disturbance Permit process.

To ensure that the Type 1 facilities remain free of contamination and that RLC data remain valid, isolation controls have been established, and the facilities are posted accordingly.

12

8 REFERENCES

- ANSI-N323A-1997, Radiation Protection Instrumentation Test and Calibration.
- DOE/RFEO, CDPHE, EPA, 1996. Rocky Flats Cleanup Agreement (RFCA), July 19, 1996.
- DOE Order 5400.5, "Radiation Protection of the Public and the Environment."
- DOE Order 414.1A, "Quality Assurance."
- EPA, 1994. "The Data Quality Objective Process," EPA QA/G-4.
- K-H, 1997. "Kaiser-Hill Team Quality Assurance Program", Rev. 5, December, 1997.
- K-H, 1998. Facility Disposition Program Manual, MAN-076-FDPM, Rev. 1, September 1999.
- K-H, 1999. Decontamination and Decommissioning Characterization Protocol, MAN-077-DDCP, Rev. 1, June 19, 2000.
- K-H, 1999. Decommissioning Program Plan, June 21, 1999.
- K-H, 2000. Pre-Demolition Survey Plan, MAN-127-PDSP, Rev. 0, March 26, 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, September 30, 1999.
- PRO-476-RSP-16.02, Radiological Surveys of Surfaces and Structures, September 30, 1999.
- PRO-477-RSP-16.03, Radiological Samples of Building Media, September 30, 1999.
- PRO-478-RSP-16.04, Radiological Survey/Sample Data Analysis, September 30, 1999.
- PRO-479-RSP-16.05, Radiological Survey/Sample Quality Control, September, 30, 1999
- RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.
- RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.
- RFETS, Historical Site Assessment Reports for Buildings 830, 863, 864, 885, T883D, & Tanks Slabs 020, 021, and 026.

B

ATTACHMENT A

Facility Location Map

14

ATTACHMENT B

Historical Site Assessment Reports

HISTORICAL FACILITY OVERVIEW FOR BUILDING 830, AN ISOLATED POWER SUPPLY BUILDING

Building 830 was constructed in 1975 and it is a prefabricated metal structure located approximately 60 yards directly east of Building 881. The dimensions of the building are 12 feet wide, 32 feet long, and 9 feet 6 inches high at the eaves. The concrete slab on grade is 5 inches thick and the concrete pad is 2 feet 6 inches thick. Building 830 has an attached 12' wide X 14' long X 8' high prefabricated metal storage shed on the south side of the facility. The square footage of Building 830 and its attached storage shed is approximately 550 square feet. The building's double swing-out door has metal louvers and two ridge vents. Lead-based paints may have been used to paint areas in Building 830, Asbestos containing materials (ACM) may have been used during the construction of Building 830. The Plant Projects Facility List does not show Building 830 as being heated. Building 830 has interior/exterior lighting. Building 830 and the attached storage shed was a "posted" Radiation Materials Area (RMA) or a Radiation Materials Management Area (RMMA) because of equipment from Building 881 being store there and because of a Respirator Cabinet being stored there. Building 830 and the attached storage shed was "down posted" January 19, 2000. Historical Release Report (HRR) information does not identify Building 830 as being on or near an IHSS/PACs. Information does not indicate Building 830 was ever a RCRA storage or RCRA 90-day accumulation area. It is not known if any of the Building 881 equipment stored in Building 830 contained any PCBs and/or beryllium. No known chemical or radioactive materials were ever stored in Building 830. A WSRIC, either current or deleted, could not be found for Building 830.

At one time the structure housed a 60-Kilo-Watt motor generator as a dedicated power supply for a Building 881 process. The motor generator has been removed from Building 830. Building 830 does not have automatic fire detection or fire suppression system in the facility, but manual fire extinguishers are available. The electrical power systems for lighting are an explosion proof design. Photographs of Building 830 have been taken. This building is typically empty, but it was some times used to store maintenance material and equipment. Currently Building 830 is approximately 85 percent empty and appears to be inactive or unused. Building 830 appears to be filled to approximately 15 percent building capacity with miscellaneous junk, trash, storage racks, etc.

HISTORICAL FACILITY OVERVIEW FOR BUILDING 863, AN ELECTRICAL SWITCHGEAR/TRANSFORMER FACILITY

Building 863 was constructed in 1982 and it is a prefabricated metal structure located approximately 40 feet southeast of Building 865. The dimensions of the building are 14' wide X 14' long X 14 high at the roof peak. The square footage of Building 863 and its attached power transformer is approximately 400 square feet. The transformer sits on a bermed concrete pad to the south of the building with a covered buss bar connecting to the switchgear in the building. The building has double swing-out doors on the west side of the building. Lead-based paints may have been used to paint areas in Building 863. Asbestos containing materials (ACM) may have been used during the construction of Building 863. Building 863 or its attached outside transformer never contained any PCBs according to Paul Hepner, a knowledgeable Plant PCB individual. There is no information to indicate that any beryllium was every in or stored in Building 863. No known chemical or radioactive materials were ever stored in Building 863. A WSRIC, either current or deleted, could not be found for Building 863. Historical Release Report (HRR) information does not identify Building 863 as being on or near an IHSS/PACs. Information does not indicate Building 863 was ever a RCRA storage or RCRA 90-day accumulation area.

The Plant Projects Facility List does not show Building 863 as being a heated facility. Building 863 has interior/exterior lighting. Building 863 does not have automatic fire detection or fire suppression system in the facility, but manual fire extinguishers are available. Building 863 houses dedicated power and switchgear supply for the Building 865 extrusion press. Exterior photographs of Building 863 have been taken. The Building 863 2400-volt switchgear and 13,800-volt transformer is listed as "Operational" on the Projects Facility List; the combined switchgear/transformer facility is currently de-energized and Out of Service.

18

HISTORICAL FACILITY OVERVIEW FOR BUILDING 864, GUARD POST

Building 864 was constructed in approximately 1953. Building 864 was designed and constructed as a Guard Post and it is located at Eighth Street and Cedar Avenue, west of Building 881 and northeast of Building 850. The building has a 4" poured concrete floor and roof/deck. The building's outer walls and one partition wall are 8" thick poured steel reinforced concrete construction. The Building 864 outer walls and the one poured concrete partition wall extend 24" below grade or ground level and they sit on an 18" X 1' thick footer the entire length of all the concrete walls. The size of Building 864 is approximately 32' - 0" wide by 36' - 2" long for approximately 1160 square feet of floor space. The roof of Building 864 is approximately 10' - 3" feet above ground at the top of the concrete parapet (a low wall or concrete rail above the roof/deck to protect the roof). The parapet is covered with metal flashing for approximately the top 2" and has a barbed-wire outrigger all around the roof perimeter. The roof/deck is at approximately 9'-3" height above the ground level. Lead-based paints may have been used during the construction of Building 864. There is no information to indicate that PCB containing equipment was ever installed or stored in Building 864.

Building 864 has a Men's and a Women's Restroom. Building 864 has a roof-mounted heating and cooling unit and it also has two add-on window-mounted swamp coolers. Building 864 also has a hot water heater located in the Janitor's Closet. Building 864 does not have automatic fire detection or fire suppression system in the facility, but manual fire extinguishers are available. Building 864 has alarmed security hardware on its doors, but the system is deactivated. Asbestos containing materials (ACM) were used during the construction of Building 864. The north and west entrance covers are made of corrugated Transite®, known ACM. There is no information to indicate that any beryllium was ever in or stored in Building 864. A WSRIC, either current or deleted, could not be found for Building 864. Known or historical information does not indicate Building 864 was ever a RCRA storage or RCRA 90-day accumulation area. No known chemical or radioactive materials were ever stored in Building 864. Plant "old timers" have said that they thought radioactive lab samples and parts were moved through and in some cases temporarily stored in the south section of Building 864, but we do not have any documentation to support this. Lou C. Richmond, a Team Lead for Security Operations, worked in Building 864 from 1971 to 1977 and was responsible for Building 864 from 1977 to 1995, has no knowledge of radioactive lab samples moving through and/or be temporarily be stored in Building 864. Building 864 sits on the edge of IHSS 162, as per, Nick Demos, ER Characterization/HRR Manager, X4606.

Building 864 itself does not have CERCLA concerns, but the land it sits on does (note the referenced IHSS above). The walls and foundation/footings for Building 864 extend 36" below grade or ground level, therefore total demolition of the facility including the walls and footings would disturb the land/soil of IHSS 162.

Building 864, a former Guard Post, most recently has been used as Guard Union Office and Guard Break Room Facility.

HISTORICAL FACILITY OVERVIEW

BUILDING 885 – DRUM, PAINT AND OIL STORAGE FACILITY

Building 885 is a single-story, prefabricated metal building constructed on a reinforced concrete slab approximately 50 yards south of Building 881. Building 885 was designed in 1961, constructed in 1961-1962, and put into service in 1962. The facility was used for maintenance painting and storage of small quantities of paint used for specific maintenance projects. Lead-based paints may have been stored in Building 885. Lead-based may have been used to paint areas in Building 885. The building was not used for long-term storage of paints, thinners or solvents. The enclosed main structure measures approximately 20 feet by 24 feet, and there are semi-enclosed carport-type wings on each end. The east wing is 20 feet by 12 feet, and the west wing is 20 feet by 8 feet. Building 885 has approximately 960 square feet of floor space. Asbestos containing materials (ACM) may have been used during the construction of Building 885; Building 885 is posted with signs regarding ACM within. There is no automatic fire detection or fire suppression system in the facility, but manual fire extinguishers are available. Building 885 has a sump that drains the floor of the building. The electrical power systems for lighting are an explosion proof design. Building 885 is heated by steam from the Plant Steam, Building 443, via Building 881 underground steam and condensate return lines.

Records indicate that containers of radioactive contaminated oil sludges were inadvertently dumped into an open-top dumpster located outside Building 885. Historical Release Report (HRR) information identifies Building 885 as IHSS/PAC 800-177 "Building 885 Drum and Paint Storage Building". According to the HRR, the IHSS/PAC was used in 1953 for drum storage. Building 885 was built in 1952-1953. Starting in 1953, Building 885 was used to store drummed waste from Building 881. Building 885 was a RCRA 90-day accumulation area. Based on HRR information, drums of waste oil, waste paints, waste solvents, and low level radioactive waste may have been stored in all three sections of Building 885. It is not known if any of the stored waste drums contained either PCBs and/or beryllium. No other known chemical or radioactive materials were ever stored in Building 885. The three sections of Building 885 are the open covered areas of the east and west ends of the building and the center or walled-in section of the facility. Both the east and west covered sections of Building 885 were used as satellite collection stations with drums stored on pallets. Currently Building 885 is not a RCRA 90-day accumulation area and currently no part of Building 885 is a satellite collection station or area. A WSRIC, either current or deleted, could not be found for Building 885. The west wing currently stores two cylinders of gas. Photographs of Building 885 have been taken. Building 885 is currently empty and inactive.

HISTORICAL FACILITY OVERVIEW FOR TRAILER/MODULAR T-883D FACILITY

Trailer/Modular T-883D is a Portable Restroom Facility. The T-883D Unit appears to be in good condition. The T-883D location is Cedar Avenue and Eighth Street, east of Building 883. The T-883D Unit was put into service in May 1984. The building has been a Men and Women restroom facility since the 1984 installation date. The modular building's foundation/footers could not be observed because of the 24" high aluminum skirting around the base of the building. The modular building has 2 entry doors with steps and deck entry, which is approximately 5' X 15' including the four steps, is constructed from wood with a painted surface. The covered entryway has two storage cabinets approximately 4' X 8' X 18" for janitor supplies. The physical size of the modular building is approximately 10' X 20' for approximately 200 square feet of floor space; the covered entryway accounts for another 75 square feet of floor space. Lead-based paints and asbestos may have been used during the construction of this facility. The T-883D Unit is hooked up to the Plant Sewer System and there are probably 3 sewer vents extending up through the roof, but the sewer vents are not visible from the ground. Cleaning chemicals used by the Janitors are the only known chemicals used in this Restroom Facility. There is no information to indicate that PCB containing equipment was ever installed or stored in T-883D. No other known chemicals or radioactive materials were ever stored in T-883D. A WSRIC, either current or deleted, could not be found for Building T-883D. Known or historical information does not indicate T-883D was ever a RCRA storage or RCRA 90-day accumulation area. T-883D, the Portable Restroom Facility, was not constructed on any known IHSS/PAC land or soils, but it is very close to IHSS/PAC 800-147.2, Building Conversion Activity Contamination Area, land or soils

T-883D has always been used as a Trailer/Modular Portable Restroom. T-883D is not currently in use.

22

HISTORICAL FACILITY OVERVIEW FOR TANK 020, NITRIC ACID STORAGE

Tank 020, Nitric Acid Storage Tank, was installed in 1957 in the Nitric Acid Tank Farm west of Building 883. Tank 020 is a Portable Nitric Acid Dumpster that sits on concrete pillars approximately 2' high in a concrete berm approximately 10' square X 2' deep. Tank 020 holds approximately 500 gallons of nitric acid (HNO_3). The tank is horizontally mounted stainless steel tank approximately 3.5' in diameter and 6' long, mounted on concrete pillars which places the tank approximately 2' above the floor of the concrete berm. The Building 883 Nitric Acid Tank Farm has drain lines, fill lines, transfer line to Building 883, and a stainless steel Chemical Pump to allow for refilling Tank 021. Tank 021 was refilled from a Portable Nitric Acid Dumpster Tank 020, which was transported back and forth for filling at the Plant Nitric Acid 218 Tank Farm at Sixth Street and Cottonwood. The stainless steel Chemical Pump was also used to pump the nitric acid from Tank 020 into the Building 883 Nitric Acid Supply Tank, Tank 021. Tank 020 and its concrete berm do not have any paint on them, therefore lead-based paints would not have been used. The Chemical Pump, the pump control electrical box, and part of the Portable Nitric Acid Dumpster lifting saddle have paint on them and lead-based paints may have been used during the painting of these items. The Building 883 Nitric Acid Tank Farm does not appear to have any asbestos containing materials. There is no reason to believe that any radioactive material or radioactive solutions were ever in or around Nitric Acid Tank 020. There is no reason to believe that any PCBs or beryllium was ever in Tank 020 or its concrete Berm. There is no WSRIC for the Nitric Acid Tank Farm, but there are many WSRICs for Building 883 where the nitric acid was actually used. The Building 883 Nitric Acid Tank Farm, Berm, and Tank 020 appears to be constructed right on top of IHSS/PAC 800-1200 (Process Waste Valve Vault, VV002), therefore, removal of the Nitric Acid Tank Farm berm may have CERCLA concerns. Removal of Tank 020 only should not have CERCLA concerns. Historical Release Reports have releases pertaining to Building 883, but none specific to the area west of the building where the Nitric Acid Tank Farm is located.

The Building 883 Nitric Acid Tank Farm does not have any electrical lighting for night time operation. The only electricity used at the tank farm appears to be for the Chemical Pump and a high level alarm on Tank 021. Photographs of Tank 020 and the flexible tank drain pipe leading to the Chemical Pump to fill Tank 021 and/or into Building 883, have been taken. Tank 020 was emptied August 1, 1995 and currently considered Out of Service.

HISTORICAL FACILITY OVERVIEW FOR TANK 021, NITRIC ACID STORAGE

Tank 021, Nitric Acid Storage Tank, was installed in 1957 in the Nitric Acid Tank Farm west of Building 883. Tank 021 sits in a concrete berm approximately 10' square X 2' deep. Tank 021 holds approximately 500 gallons of nitric acid (HNO_3). The tank is vertically mounted stainless steel tank approximately 4' in diameter and 5' high, mounted on stainless steel legs which places the tank approximately 3' above the floor of the concrete berm. The Building 883 Nitric Acid Tank Farm has drain lines, fill lines, transfer line to Building 883, and a stainless steel Chemical Pump to allow for refilling Tank 021. Tank 021 was refilled from a Portable Nitric Acid Dumpster Tank 020 which was transported back and forth for filling at the Plant Nitric Acid 218 Tank Farm at Sixth Street and Cottonwood. The stainless steel Chemical Pump was also used to pump the nitric acid from Tank 021 into the Building 883 process area. Tank 021 and its concrete berm do not have any paint on them, therefore lead-based paints would not have been used. The Chemical Pump, the pump control electrical box, and part of the Portable Nitric Acid Dumpster lifting saddle have paint on them and lead-based paints may have been used during the painting of these items. The Building 883 Nitric Acid Tank Farm does not appear to have any asbestos containing materials. There is no reason to believe that any radioactive material or radioactive solutions were ever in or around Nitric Acid Tank 021. There is no reason to believe that any PCBs or beryllium was ever in Tank 021 or its concrete Berm. There is no WSRIC for the Nitric Acid Tank Farm, but there are many WSRICs for Building 883 where the nitric acid was actually used. The Building 883 Nitric Acid Tank Farm, Berm, and Tank 021 appears to be constructed right on top of IHSS/PAC 800-1200 (Process Waste Valve Vault, VV002), therefore, removal of the Nitric Acid Tank Farm berm may have CERCLA concerns. Removal of Tank 021 only should not have CERCLA concerns. Historical Release Reports have releases pertaining to Building 883, but none specific to the area west of the building where the Nitric Acid Tank Farm is located.

The Building 883 Nitric Acid Tank Farm does not have any electrical lighting for night time operation. The only electricity used at the tank farm appears to be for the Chemical Pump and a high level alarm on Tank 021. Photographs of Tank 021, Tank 020, and the process piping leading into Building 883 have been taken. Tank 021 was emptied August 1, 1995 and currently considered Out of Service.

HISTORICAL FACILITY OVERVIEW FOR TANK 026, CO₂ DELUGE TANK

Tank 026, CO₂ Deluge Tank, was installed in 1987 as a fire suppression system for the Extrusion Press located in Building 865. The tank sits on a concrete slab that sits on grade; Tank 026 holds 6 tons of CO₂. The tank is located south of Plenum Building 868 and north of Building 863 at the southeast corner of Building 865. Tank 026 has a 1-inch and a 4-inch pipes leading from the tank into Building 865. Tank 026 has been painted and lead-based paints have been used. Tank 026 may have asbestos insulating materials on the lines leading into Building 865. There is no reason to believe that any radioactive material or radioactive solutions were ever in or around CO₂ Deluge Tank 026. There is no reason to believe any other chemicals were used or stored around Tank 026. There is no reason to believe that any PCBs or beryllium was ever in or around Tank 026 or its concrete pad. There is no WSRIC for Tank 026, but there are many WSRICs for Building 865 where the CO₂ was actually used. Tank 026 is not located in IHSS/PAC land/soils therefore, removal of the tank or its concrete should not have CERCLA concerns.

Tank 026 does not have any electrical lighting for night time operation. Photographs of Tank 026 and the process piping leading into Building 865 have been taken. Tank 026 is operationally empty, but it is not known when the tank was drained and taken Out of Service.

D&D RISS Facility Characterization Historical Site Assessment - Interview Checklist

Facility ID: Building 830

Facility Type (1, 2, or 3): Type 1

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

Personnel Interviewed (Name, Title, and Function)

Kenton D. Fry, Building 881 Coordinator/Shift Supervisor, X2750, P-212-6296, B881, Room 208A, RFCSS, Coordinates Building 881 Cluster activities.

What time frame did the interviewee work in the facility?

From 1996 until the present the interviewee has worked as Building 881 Coordinator/Shift Supervisor. Interviewee has been responsible for B881 and the Type 1 Facilities in the B881 Cluster.

Has the building configuration changed since you worked in the building? Yes. If so, in what way? Originally B830 housed a motor generator for a B881 process, but the motor generator was removed several years ago. The B830 was used to store equipment removed from B881; B830 also had Respirator Cabinet be stored in the facility. B830 and the attached storage shed were "posted" Radiation Materials Area (RMA) because of these items being stored there. B830 and the attached storage shed were "down posted" on January 19, 2000, after the stored items had been removed.

What types of equipment were in the building during the interviewee's time in the facility? The same as the above paragraph.

Where was the equipment located? (specific rooms/areas) The motor generator was installed in the main section part of B830, which has only one room. B881 equipment was stored in B830 and the attached shed. The Respirator Cabinet was stored in the attached shed.

Were any radioactive materials or equipment handled in the building? No known radioactive materials were ever handled in B830. The equipment stored there may have been radioactively contaminated (which was the reason for the RMA "posted" area signs) If so, what types and where? The "types" unknown and the "where" is in B830 and in the attached shed.

Were any chemicals (e.g., Asbestos, Beryllium, Lead, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? It is not known if any of the B881 stored equipment contained PCBs and/or beryllium. If so, what types and where? N/A

Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? It is not known if any radioactive materials or chemical spills ever occurred in B830. It is not known if any chemicals were ever stored in B830. If so, what types and where? N/A

Were these spills/releases cleaned up? N/A If so, how were cleaned up? N/A No known spills ever occurred in B830.

Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? No, none.

Prepared By:

Bob Sheets

Print Name

Signature

Date

26

D&D RISS Facility Characterization Historical Site Assessment - Interview Checklist

Facility ID: Building 863

Facility Type (1, 2, or 3): Type 1

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

Personnel Interviewed (Name, Title, and Function)

Jerry L. Anderson, Closure Project Manager and Facility/Shift Manager, X6438, P-212-6342, T-886A, Room 3, RFCSS, Coordinates Closure Activities for the 800 Area Type 1, Type 2, and Type 3 Facilities.

What time frame did the interviewee work in the facility?

From 1998 until the present the interviewee worked as a Closure Activity Coordinator in the 800 South Side Area which includes B863. Interviewee has been responsible for Building 863 from 1998 until the present. In 1982, B863 was constructed as an electrical switchgear/transformer facility for the Building 865 extrusion press.

Has the building configuration changed since you worked in the building? No. If so, in what way? Building 863 has always been an electrical switchgear/transformer facility for the Building 865 extrusion press.

What types of equipment were in the building during the interviewee's time in the facility? The electrical switchgear equipment for the Building 865 extrusion press is the only equipment ever installed and used in B863.

Where was the equipment located? (specific rooms/areas)

The electrical switchgear occupies the entire floor space of the one room facility.

Were any radioactive materials or equipment handled in the building? No known radioactive materials were ever handled or stored in Building 863. If so, what types and where? N/A

Were any chemicals (e.g., Asbestos, Beryllium, Lead, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? No known beryllium, lead, RCRA/CERCLA constituents, and/or PCBs were ever stored or used in the facility. Asbestos may have been used during the construction of B863 and during installation of the electrical switchgear. If so, what types and where? No, none (to every item except asbestos). Historical Release Report (HRR) information does not identify B863 as being on or near IHSS/PAC land or soils.

Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? No, none. If so, what types and where? N/A No known radioactive materials or chemical spills occurred in Building 863.

Were these spills/releases cleaned up? N/A If so, how were cleaned up? N/A No known spills ever occurred in Building 863.

Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? No, none.

Prepared By:

Bob Sheets

Print Name

Bob Sheets

Signature

3/6/2001

Date

27

D&D RISS Facility Characterization Historical Site Assessment - Interview Checklist

Facility ID: Building 864

Facility Type (1, 2, or 3): Type 1

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

Personnel Interviewed (Name, Title, and Function)

Lou C. Richmond, Team Lead Operations Services, X8361, P-212-6598, T-119B, Cubicle 72, WSLLC,
Coordinates use of various Security Facilities.

What time frame did the interviewee work in the facility?

From 1971 until 1977 the interviewee worked as a Guard/Security Inspector in B864. Interviewee has been responsible for Building 864 from 1977 until the present. In 1995 the 864 Guard Post was deactivated (the Guards/Security Inspectors along with the related security equipment were removed and/or deactivated).

Has the building configuration changed since you worked in the building? If so, in what way? Building 864 has always been a Guard Post Facility (from 1953 to 1995), but certain rooms at different times, were used for offices and other additional functions. The building was modified, added to, re-configured approximately 6 times over the last 40-45 years. The B864 Addition was used by engineering uncleared drafters ("Red Badge") employees, Donate Once Club, Alarm Technicians, and currently used occasionally by Guard Union Personnel as a Guard Union Office.

What types of equipment were in the building during the interviewee's time in the facility?

The building has always contained Security Guard type of equipment such as elevated Guard Chairs, building security alarms, badge exchange racks, security alert beacons, etc. At that time, the facility was alarmed for security and safety reasons. The badge exchange racks no longer exist in this facility.

Where was the equipment located? (specific rooms/areas)

In the Guard Post rooms and the Guard Station areas of B864.

Were any radioactive materials or equipment handled in the building? If so, what types and where?

No known radioactive materials were ever handled in Building 864.

Were any chemicals (e.g., Asbestos, Beryllium, Lead, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? If so, what types and where? Lead bullets may have been in the Guards service revolver and/or revolver holster. Revolvers and holsters may have been loaded with lead bullets, but there is no information to indicate that a lead bullet was ever discharged in B864.

Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? If so, what types and where? No known radioactive materials or chemical spills occurred in Building 864. N/A, none.

Were these spills/releases cleaned up? If so, how were cleaned up? No known spills ever occurred in Building 864. N/A

Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization?

No, none.

Prepared By:

Bob Sheets

Print Name

Signature

Date

Bob Sheets

3/6/2001

28

D&D RISS Facility Characterization Historical Site Assessment - Interview Checklist

Facility ID: Building 885

Facility Type (1, 2, or 3): Type 1

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

Personnel Interviewed (Name, Title, and Function)

Kenton D. Fry, Building 881 Coordinator/Shift Supervisor, X2750, P-212-6296, B881, Room 208A, RFCSS, Coordinates the Building 881 Cluster activities.

What time frame did the interviewee work in the facility? N/A

From 1996 until the present the interviewee has worked as Building 881 Coordinator/Shift Supervisor. Interviewee has been responsible for B881 and the Type 1 Facilities in the B881 Cluster, which includes B885.

Has the building configuration changed since you worked in the building? Yes. If so, in what way? Originally B885 was constructed to store paints and some oil drums. The facility is now approximately 95 percent empty. There are two gas cylinders being stored in the west caged area (outside B885).

What types of equipment were in the building during the interviewee's time in the facility? The same as the above paragraph.

Where was the equipment located? (specific rooms/areas) The equipment, paint, and oil drums were stored in the only room of the facility. The east and west sections have a roof over them, but they are open and unheated.)

Were any radioactive materials or equipment handled in the building? Historical Release Report (HRR) information records indicate that containers of inadvertently dumped into an open-top dumpster located outside B885. Based on HRR information, drums of waste oil, waste paints, waste solvents, and low level radioactive waste may have been stored in all three sections of Building 885. If so, what types and where? See the previous sentence.

Were any chemicals (e.g., Asbestos, Beryllium, Lead, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? It is not known if any of the B881 stored waste drums contained PCBs, lead, and/or beryllium. If so, what types and where? HRR information indicates the waste drums may have been stored in all three sections of B885. The HRR indicates this storage may have been started in 1953, which is many years before the interviewee worked in B881. The interviewee is not aware of the HRR information.

Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building?

Interviewee did not work in B885. It is unknown if any radioactive materials or chemical spills ever occurred in B885. It is not known if any other chemicals were ever stored in B885. If so, what types and where? N/A

Were these spills/releases cleaned up? N/A If so, how were cleaned up? N/A No known spills ever occurred in B885.

Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization?

No, none.

Prepared By:

Bob Sheets

Print Name

Signature

Date



D&D Facility Characterization Interview Checklist

ID No.: T-883D
Date: 06/07/99
Page 1 of 2
Groups B & C Series

Check List for - Title: D&D Facility Characterization - Interviews

- CRITERIA:
- A D&D Characterization Protocol, RFETS MAN-077-DDCP, Rev. 0
 - A Facility Disposition Program Manual, RFETS MAN-076-FDPM
 - A RFETS Radiological Safety Practices, January 12, 1998

Facility Name & Type (1, 2, or 3) T-883D, Group B Type 1 Facility, Portable Restrooms
 Personnel Interviewed (Name & Title/Function) Phyllis VanBuren, Associate Waste Management Specialist, Waste Certification, X4022, P-826-7531, Horne Engineering Services (HES), Waste Certification, T-130C, Cubicle 14.

– Y/N –

Does a current WSRIC exist for the facility? N

If so, are there exceptions to the WSRIC as written?.....No WSRIC, No Exceptions

COMMENTS (incl. WSRIC contacts)

WSRIC Contact is James M. Schoen who is in charge of the WSRIC Reports, T130J, X3579, C-83.

Are rad surveys available that indicate current status of the facility? N

Are historical rad surveys available that indicate historical status, or evolution, of the facility? N*

COMMENT N* Radiological surveys may have been done, but the old data is not available. This

Unit will have to be resurveyed to meet present standards of unrestricted release.

Is an HRR available for the facility?..... N*

Do any other reports exist beyond the HRR (e.g., spill reports, reportable incidents, etc.) that further

Characterize the facility relative to chemical &/or radiological contamination? N**

Are engineering drawings (esp. "as-builts") available?..... N*

Are any nonconformances or issues with the facility status currently being tracked in PATS? N

If so, what are the issues (note in Comments, below)?

COMMENTS N** Radiological surveys may have been done, but the old data is not available. N* No as-Builts

Or room layout sketches exist for this Portable Restroom Facility. An exterior photograph

Have any types of chemical characterization, incl. asbestos, been performed recently?..... N***

is available. The Plant stopped using lead based paints in 1989, if the unit was painted prior to this date,

lead based paints may have been used. N**Nick Demos, ER Characterization/HRR Manager,X4605, agrees

that the T-883D Facility falls outside any IHSS or PAC and the facility is not considered to be a CERCLA issue

If so, what types of characterization were performed (note in Comments, below)?

COMMENTS N*** No asbestos characterization data exists, according to

Kevin Sheehan, X7250, T-452D, under Mr. Sheehan's control.

Interviewed by: J. R. Sheets | JR Sheets | 06/07/99

Print Name

Signature

Interview Date

30



**D&D Facility Characterization
Interview Checklist**

ID No.: T-883D
Date: 05/20/99
Page 2 of 2
Groups B & C Series

What timeframe did the interviewee work in the facility? N/A The Facility is only a portable restroom.

Has the building configuration changed since you worked in the building? If so, in what way?

N/A The Facility is only a portable restroom.

What types of equipment were in the building during the interviewee's time there?

The west half of the facility, the Men's Restroom, has two water closet stalls, a urinal, a sink on the west wall, an electric heater, a ceiling exhaust fan, an electric hot water heater, and hot and cold running water.
The east half of the facility, the Women's Restroom, has two water closet stalls, a sink on the east wall, an electric heater, a ceiling exhaust fan, an electric hot water heater, and hot and cold running water.

Where was the equipment located? (specific rooms/areas) As stated above.

Were any radioactive materials or metals handled in the building? If so, what types? N/A

Which equipment handled radioactive material? N/A

Were any chemicals handled in the building? If so, what types? N/A, only Janitorial supplies chemicals used.

Did any spills or uncontrolled releases of radioactive materials or chemicals occur while you were working in the facility? N/A

Were these spills/releases cleaned-up? How were they cleaned-up? N/A

Where did these spills/releases occur? N/A

Interviewed by: J. R. Sheets / JR Sheets / 06/07/99
Print Name Signature Interview Date

31

D&D RISS Facility Characterization Historical Site Assessment - Interview Checklist

Facility ID: Tank 020, Nitric Acid Storage
Facility Type (1, 2, or 3): Type1

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

Personnel Interviewed (Name, Title, and Function)

Jerry L. Anderson, Closure Coordinator, X6438, P-212-6342, T-886A, Room 3, RFCSS, Coordinates Closure Activities for the 800 Type 1 and Type 2 Facilities.

What time frame did the interviewee work in the facility?

From 1999 until the present the interviewee worked as a Closure Activity Coordinator in the 800 South Side Area which includes Tank 020, Nitric Acid Storage. Interviewee has been responsible for facilities in the 800 South Side Storage from 1999 until the present.

Has the building configuration changed since you worked in the building? No. Tank 020 was installed as a Nitric Acid Storage facility in 1957 and was always used for storage of nitric acid. If so, in what way? . N/A

What types of equipment were in the building during the interviewee's time in the facility? Only two nitric acid tanks are in the B883 Nitric Acid Tank Farm.

Where was the equipment located? (specific rooms/areas)

The two nitric acid tanks in mounted in a concrete bermed tank farm directly west of B883.

Were any radioactive materials or equipment handled in the building? No known radioactive materials were ever handled or stored near the nitric acid tank, Tank 020. If so, what types and where? N/A

Were any chemicals (e.g., Asbestos, Beryllium, Lead, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? No known beryllium, lead, RCRA/CERCLA constituents, and/or PCBs were ever stored or used in the facility. Asbestos may have been used during the construction of B863 and during installation of the electrical switchgear. If so, what types and where? No, none (to every item except asbestos). Historical Release Report (HRR) information does identifies Tank 020 as being constructed on or near IHSS/PAC 800-1200 Valve Vault.

Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? No known radioactive materials or solutions were handled in Tank 020. Nitric acid spills would have occurred around the Tank 020 during Tank Farm filling operations. If so, what types and where? Nitric acid chemical spills would have been cleaned up and/or neutralized in the tank farm area.

Were these spills/releases cleaned up? Yes spills were cleaned up. If so, how were cleaned up? Using vacuum pickup vessels, water rinsed and neutralized with bicarbonate of soda.

Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization?
 Yes, Tank 020 was emptied August 1, 1995 and currently considered Out of Service.

Prepared By:

Bob Sheets

Print Name

Signature

Date

Bob Sheets

3/6/2001

32

**D&D RISS Facility Characterization
Historical Site Assessment - Interview Checklist**

Facility ID: Tank 021, Nitric Acid Storage
Facility Type (1, 2, or 3): Type1

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

Personnel Interviewed (Name, Title, and Function)

Jerry L. Anderson, Closure Project Manager and Facility/Shift Manager, X6438, P-212-6342, T-886A, Room 3, RFCSS, Coordinates Closure Activities for the 800 Area Type 1, Type 2, and Type 3 Facilities.

What time frame did the interviewee work in the facility?

From 1999 until the present the interviewee worked as a Closure Activity Coordinator in the 800 South Side Area which includes Tank 021, Nitric Acid Storage. Interviewee has been responsible for facilities in the 800 South Side Storage from 1999 until the present.

Has the building configuration changed since you worked in the building? No. Tank 021 was installed as a Nitric Acid Storage facility in 1957 and was always used for storage of nitric acid. If so, in what way? N/A

What types of equipment were in the building during the interviewee's time in the facility? Only two nitric acid tanks are in the B883 Nitric Acid Tank Farm.

Where was the equipment located? (specific rooms/areas)

The two nitric acid tanks in mounted in a concrete bermed tank farm directly west of B883.

Were any radioactive materials or equipment handled in the building? No known radioactive materials were ever handled or stored near the nitric acid tank, Tank 021. If so, what types and where? N/A

Were any chemicals (e.g., Asbestos, Beryllium, Lead, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? No known beryllium, lead, RCRA/CERCLA constituents, and/or PCBs were ever stored or used in the facility. Asbestos may have been used during the construction of B863 and during installation of the electrical switchgear. If so, what types and where? No, none (to every item except asbestos). Historical Release Report (HRR) information does identifies Tank 021 as being constructed on or near IHSS/PAC 800-1200 (Process Waste Valve Vault VV002).

Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? No known radioactive materials or solutions were handled in Tank 021. Nitric acid spills would have occurred around the Tank 021 during Tank Farm filling operations. If so, what types and where? Nitric acid chemical spills would have been cleaned up and/or neutralized in the tank farm area.

Were these spills/releases cleaned up? Yes spills were cleaned up. If so, how were cleaned up? Using vacuum pickup vessels, water rinsed and neutralized with bicarbonate of soda.

Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes, Tank 021 was emptied August 1, 1995 and currently considered Out of Service.

Prepared By:

Bob Sheets

Print Name

Bob Sheets

Signature

3/6/2001

Date

D&D RISS Facility Characterization Historical Site Assessment - Interview Checklist

Facility ID: Tank 026, CO₂ Deluge Tank
Facility Type (1, 2, or 3): Type1

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

Personnel Interviewed (Name, Title, and Function)

Jerry L. Anderson, Closure Project Manager and Facility/Shift Manager, X6438, P-212-6342, T-886A, Room 3, RFCSS, Coordinates Closure Activities for the 800 Area Type 1, Type 2, and Type 3 Facilities.

What time frame did the interviewee work in the facility?

From 1999 until the present the interviewee worked as a Closure Activity Coordinator in the 800 South Side Area which includes Tank 026, CO₂ Deluge Tank. Interviewee has been responsible for facilities in the 800 South Side Area from 1999 until the present.

Has the building configuration changed since you worked in the building? No. Tank 026 was installed as a CO₂ Deluge Tank in 1987 and was always used as such. If so, in what way? . N/A

What types of equipment were in the building during the interviewee's time in the facility? Only the Tank 026, CO₂ Deluge Tank and its related piping and control panel exist at the tank site.

Where was the equipment located? (specific rooms/areas) Tank 026 is located on a concrete pad southeast of B865 and directly north of B863.

Were any radioactive materials or equipment handled in the building? No known radioactive materials were ever handled or stored near the nitric acid tank, Tank 026. If so, what types and where? N/A

Were any chemicals (e.g., Asbestos, Beryllium, Lead, RCRA/CERCLA Constituents, PCBs, etc.) handled in the building? No known beryllium, lead, RCRA/CERCLA constituents, and/or PCBs were ever stored or used in the facility. If so, what types and where? No, none (to every item except asbestos). Asbestos may have been used to insulate CO₂ lines from Tank 026.

Did any spills or uncontrolled release of radioactive materials or chemicals occur while you worked in the building? No known radioactive materials or solutions were handled in or around Tank 026. If so, what types and where? N/A

Were these spills/releases cleaned up? It is not known if CO₂ spills ever occurred around Tank 026. If so, how were cleaned up? N/A, any liquid CO₂ spills would vaporize immediately.

Do you know of any additional issues, concerns, or process knowledge that could affect facility characterization? Yes, Tank 026 currently operationally empty but it is not known when it was drained and taken Out of Service.

Prepared By:

Bob Sheets

Print Name

Signature

Date

ATTACHMENT C

Radiological Characterization Package

35



Rocky Flats Environmental Technology Site

**RADIOLOGICAL CHARACTERIZATION
PACKAGE**

800 AREA CLUSTER CLOSURE PROJECT

REVISION 0

March 1, 2001

Prepared by: Jay Britten / *Jay Britten* 2/27/01
Radiological Engineer

Reviewed by: Duane Parsons / *Duane Parsons* 2/27/01
RISS Facility Characterization Coordinator

Reviewed by: Steve Luker / *Steve Luker* 3/1/01
Quality Assurance

Approved by: Kent Dorr / *Kent A. Dorr* 3/1/01
Closure Project Facility Manager

Radiological Characterization Package

800 Area Cluster (B864, B830, B885, B863, T883D, and Tank 020, 021 and 026 Slabs)

Building: 800 Area	Last Updated:	Date: 2/28/01	Time: 800	Initials: JMB
---------------------------	----------------------	----------------------	------------------	----------------------

* This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols (07/26/00), and MAN-127-PDSP, Pre-DEMOLITION Survey Plan for D&D Facilities (02/14/01).

* PDSP Data Quality Objectives were used to develop this characterization package.

Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with JHA and facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.
7. Follow applicable characterization and sampling procedures.
8. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
9. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.
10. Collect and maintain all characterization paperwork in the Project File(s).
11. All radiological surveys shall be conducted in accordance with the sampling and instruction forms included in 800 Cluster Package Identification numbers 01-0004, 01-0005, and 01-0011. Sample locations are denoted on scaled maps attached to each survey package.

Class 1 Areas

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

Best Available Copy

37

Radiological Characterization Package

800 Area Cluster (B864, B830, B885, B863, T883D, and Tank 020, 021 and 026 Slabs)

Class 2 Areas

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

Radiological Characterization Package
800 Area Cluster (B864, B830, B885, B863, T883D, and Tank 020, 021 and 026 Slabs)

Class 3 Areas

Survey Area	Survey Unit	Class	Description	Total m ²	Floor m ²	Scan m ²	TSA	Smears	Media	Class Justification
A	800-A-001	3	Interior of B864, B830, B885, B863, and T883D	1163	221	117	15-random, 60-biased, Fifteen total sample points per building interior	15-random, 60-biased, Fifteen total sample points per building interior	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the DCGLw. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the DCGLw. A 10% scan will be biased towards areas of greater potential for contamination (e.g., floors and lower walls). Additional biased measurements have been prescribed and will be collected to ensure all building surfaces are adequately characterized. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP.
B	800-B-002	3	Exterior and Roof of B864, B830, B885, B863, and T883D	797	0	80	15-random, 60-biased, Fifteen total sample points per building exterior	15-random, 60-biased, Fifteen total sample points per building exterior	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the DCGLw. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the DCGLw. A 10% scan will be biased towards areas of greater potential for contamination (e.g., lower walls & roof areas). Additional biased measurements have been prescribed and will be collected to ensure all building surfaces are adequately characterized. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP.
B	800-B-003	3	Tank 020, 021, 026 Slabs, AND 863 Pad	81	0	9	15-random, 60-biased, Two biased sample points per tank	15-random, 60-biased, Two biased sample points per tank	0	Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the DCGLw. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the DCGLw. A 10% scan will be biased towards areas of greater potential for contamination. Additional biased measurements have been prescribed and will be collected to ensure all building surfaces are adequately characterized. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP.
Class 3 Totals				2041	221	206	181	181	0	

All Class Areas	2041	221	206	181	181	0
------------------------	-------------	------------	------------	------------	------------	----------

39

800 Area Cluster (B864, B830, B885, B863, T883D, and Tank 020, 021 and 026 Slabs)

Non-Impacted Areas										
Survey Area	Survey Unplc	Class	Description	Total (m ²)	Floor (m ²)	Scan (m ²)	TSA	Smears	Media	Class Justification
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No Non-Impacted areas identified during the Historical Site Assessment.
Non-Impacted Totals				0	0	0	0	0	0	0

ATTACHMENT D

Chemical Characterization Package

41



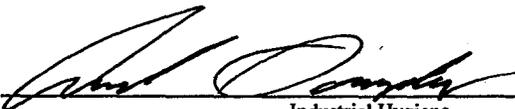
Rocky Flats Environmental Technology Site

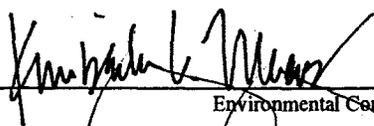
CHEMICAL CHARACTERIZATION PACKAGE

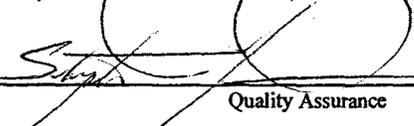
800 AREA TYPE 1 CLUSTER CLOSURE PROJECT

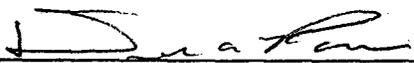
REVISION 1

February 20, 2001

Prepared by: 
Industrial Hygiene

Prepared by:  2/20/01
Environmental Compliance

Reviewed by: 
Quality Assurance

Reviewed by:  2/21/01
RISS Facility Characterization Coordinator

Approved by:  2/23/01
Closure Project Facility Manager

42

CHEMICAL CHARACTERIZATION PACKAGE

BUILDING(s): 800 AREA, TYPE 1 BUILDINGS (864, 830, 885, T883D, B863, and Tank 020, 021, and 026 Slabs)

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

Instructions:

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with JHA and facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.
7. Follow applicable characterization and sampling procedures.
8. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
9. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.
10. Collect and maintain all characterization paperwork in the Project File(s), and all electronic data in the appropriate D&D RISS subdirectory.

ASBESTOS		
Sample Location	Estimated Number of Samples	Sample location and justification/rational
T883D	8	Ceiling tile, drywall and floor tiles may contain asbestos.
863	0	No suspect materials.
830	0	No suspect materials.
885	3	Piping insulation may contain asbestos.
Tank 020, 021 & 026 Slabs	0	No suspect materials.
864	20	Floor tile, TSI, base cove, plaster, transite panels, drywall, roof, exterior texture finish, caulk may contain asbestos.
Total Samples:	31	The exact sample numbers and locations cannot be determined until a comprehensive, invasive inspection is performed in accordance with 40 CFR Part 763, Subpart E. Sample locations will be specified on sample maps during characterization efforts. Samples will be obtained in accordance with PRO-653-ACPR, Asbestos Characterization Procedure and 40 CFR 763.

43

BERYLLIUM		
Sample Location	Number of Samples (smears)	Sample location and justification/rational
T883D, 863, 830, 885, 864	25-biased (5 per building)	There is no documented supporting data or process history that proves beryllium was not used or stored in these buildings. Therefore, five biased samples from each of the five building will be obtained. Buildings have similar history and can be treated as one area.
Tank 020, 021 & 026 Slabs	0	All three tank slabs are exterior of the building 883 and 865 and exposed to weather year round. No reason to suspect contamination on outdoor tank slab.
Total Samples:	25	Samples will be obtained at locations specified on sample map(s) in accordance with PRO-536-BCPR, Beryllium Characterization Procedure. Biased sample locations will correspond with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

LEAD		
Sample Location	Number of Samples	Sample location and justification/rational
800 Area Cluster, all locations	0	Lead sampling is not required in the 800 Area Cluster. All paint will remain a part of the infrastructure during demolition and therefore does not require sampling per Environmental Waste Compliance Guidance No. 27, Lead Based Paint (LBP) and LBP Debris Disposal. Sampling for lead for IH requirements will be at the discretion of the demolition contractor.
Total Samples:	0	

RCRA/CERCLA CONSTITUENTS		
Sample Location	Number of Samples	Sample location and justification/rational
B863	0	This is a metal building with electrical breakers. The site historical information indicates that this building never contained hazardous waste or materials and visual observation revealed no evidence of spills or stains; therefore, there is no need to sample this building for RCRA/CERCLA constituents.
T883D	0	This is a small metal bathroom trailer. This building has never contained hazardous waste or materials and visual observation revealed no evidence of spills or stains; therefore, there is no need to sample this building for RCRA/CERCLA constituents.
B830	16 total 6 discrete locations	This building has historically stored waste materials; however, no information exists to say whether hazardous wastes and or chemicals were stored. A walkdown of the building shows evidence of spills of an oily type substance. Therefore, sampling requirements are as follows: sixteen samples with one that is the duplicate as required by QA/QC procedures, for each set of three samples. Sample for TCLP metals (6 real and 2 duplicate samples) and VOAs (6 real and 2 duplicate samples) (Number of samples based on 10% sampling of building floor, with a biased sample at the spill locations).
B885	24 total 9 discrete locations	This building is located on IHSS 800-177. It was used as a 90-day and satellite accumulation area for hazardous waste. The building was also used for the storage of paints and solvents. The Historical Release Report (HRR) also states that inadvertent dumping of radioactive oil sludge into an open top dumpster occurred at 885. In addition, the HRR stated the building has a floor drain, although visual inspection could not locate the drain. Therefore, sampling requirements are as follows: Twenty-four samples, with one that is

		floor drain, although visual inspection could not locate the drain. Therefore, sampling requirements are as follows: Twenty-four samples, with one that is the duplicate as required by QA/QC procedures, for each set of three samples. Sample for TCLP metals (9 real and 3 duplicate samples) and VOAs (9 real and 3 duplicate samples) (Number of samples based on 10% random sampling of building floor). If a floor drain is located, two additional samples will be taken from the drain, one for TCLP metals and one for VOAs.
B864	0	This is a concrete reinforced building, that historical information shows never stored hazardous waste or materials. According to conversations with guards, hazardous materials were passed through this building for transportation to B881, but there is no history of a spill within the building. Therefore, there is no need to sample this building for RCRA/CERCLA constituents.
Tank 020, 021, and 026 Slabs	0	The slab for Tank 026 does not require chemical characterization. The tank held liquid carbon dioxide. There has not been a spill or release onto this slab. The slab for Tanks 020 and 021 sits in PAC 800-1200, which was a release of corrosive and depleted uranium material. The concrete pad will not be characteristic for corrosivity, by definition, therefore there is no need for additional sampling.
Total Samples:	40	Samples will be obtained at locations specified on sample map(s) in accordance with PRO-488-BLCR, Bulk Solids and Liquids Characterization Procedure. The 10% sampling is consistent with SW 826 sampling protocol.

PCBs		
Sample Location	Number of Samples	Sample location and justification/rational
B863	0	Metal building constructed in 1982. Use of PCBs was banned in 1978, therefore no sampling required.
T883D	0	Metal building constructed in 1984. Use of PCBs was banned in 1978, therefore no sampling required.
B830	4 3 discrete locations	Visual observation of the building shows evidence of oil like substance being spilled (2 areas). Therefore, sampling requirements are as follows: 4 core samples, 2 biased at the spill locations, 1 duplicate, and 1 sample located next to one of the spill locations.
B885	4 3 discrete locations	Visual observation of the building shows evidence of oil like substance being spilled (2 areas). Therefore, sampling requirements are as follows: 4 core samples, 2 biased at the spill locations, 1 duplicate, and 1 sample located next to one of the spill locations A portion of the concrete floor is painted. However, the rubble will be considered PCB Bulk Product waste and disposed off-site in accordance with 40 CFR 761.
B864	0	The rubble will be considered PCB Bulk Product waste and disposed off-site in accordance with 40 CFR 761.
Tank 020, 021, and 026 Slabs	0	Materials containing PCBs were never used or stored on these pads. Therefore, no sampling for PCBs will be conducted.
Total Samples:	8	Samples will be obtained at locations specified on sample map(s) in accordance with PRO-487-MPCR, Metals and PCB Characterization Procedure.

* PCB ballasts, fluorescent light bulbs, potential mercury switches in thermostats, and mercury vapor light bulbs shall be removed prior to demolition.

45

ATTACHMENT E

Radiological Data Summaries and Survey Maps

SURVEY UNIT DATA SUMMARY: 800-A-001

Survey Unit Description:

Interior of 885, 864, 863, 830 and T883D

47

Survey Unit 800-A-001 Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	75		75		
	Number Required		Number Obtained		
MIN	-13.3	dpm/100 cm ²	MIN	-0.9	dpm/100 cm ²
MAX	89.3	dpm/100 cm ²	MAX	6.1	dpm/100 cm ²
MEAN	7.2	dpm/100 cm ²	MEAN	0.9	dpm/100 cm ²
STD DEV	15.5	dpm/100 cm ²	STD DEV	2.0	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²	TRANSURANIC DCGL _w	20	dpm/100 cm ²

PS

Survey Unit 800-A-001 Total Surface Activity Results

Manufacturer:	NE Electra						
Model:	DP-6						
Instrument ID#:	7	8	9	10	19	20	21
Serial #:	1546	3114	1254	1379	3114	1254	1546
Cal Due Date:	5/3/01	5/6/01	5/20/01	5/6/01	5/6/01	5/20/01	5/3/01
Analysis Date:	3/12/01	3/12/01	3/12/01	3/12/01	3/19/01	3/19/01	4/24/01
Alpha Eff. (c/d):	0.228	0.220	0.227	0.197	0.220	0.227	0.228
Alpha Bkgd (cpm)	3.3	0.0	2.0	2.0	2.7	1.3	0.7
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	39.0	9.1	32.5	37.4	37.4	27.9	22.7

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	LAB Gross Counts (cpm)	Sample Net Activity (dpm/100cm ²)
1	10	4.0	3.8	5.0
2	19	22.7	1.3	89.3
3	9	5.3	5.3	10.0
4	19	3.3	4.7	1.3
5	9	4.0	2.3	4.3
6	19	6.0	9.3	13.5
7	8	2.7	1.3	-1.5
8	20	3.3	3.3	1.2
9	20	7.3	1.3	18.8
10	10	5.3	2.0	11.6
11	19	4.7	6.0	7.6
12	9	0.7	2.7	-10.2
13	9	1.3	1.3	-7.6
14	19	5.3	6.7	10.3
15	9	1.3	2.0	-7.6
16	19	5.3	6.7	10.3
17	20	1.3	3.3	-7.6
18	19	6.0	4.7	13.5
19	20	5.3	0.7	10.0
20	19	3.3	2.7	1.3
21	19	8.7	4.7	25.8
22	19	4.0	9.3	4.4
23	19	4.7	5.3	7.6
24	20	4.0	2.0	4.3
25	20	3.3	0.7	1.2
26	20	8.7	0.7	25.0
27	20	8.0	3.3	21.9
28	19	10.7	3.3	34.8
29	20	7.3	1.3	18.8
30	20	5.3	2.2	10.0
31	20	4.0	2.7	4.3
32	19	2.7	2.7	-1.5
33	20	2.0	2.7	-4.5
34	20	0.0	2.7	-13.3
35	19	3.3	2.0	1.3
36	19	11.3	3.3	37.6
37	19	12.0	1.3	40.7
38	20	5.3	1.3	10.0
39	9	4.0	1.3	4.3
40	9	0.0	2.0	-13.3
41	9	1.3	2.7	-7.6
42	9	3.3	2.7	1.2
43	9	2.7	3.3	-1.4
44	10	2.0	2.7	-5.2
45	9	2.0	2.0	-4.5
46	10	2.0	2.0	-5.2
47	9	2.0	0.0	-4.5
48	10	4.7	2.0	8.5
49	9	0.7	0.7	-10.2
50	10	1.3	0.7	-8.7
51	9	2.0	2.0	-4.5
52	10	5.3	3.3	11.6
53	8	5.3	6.7	10.4
54	7	3.3	9.3	1.2

49

Survey Unit 800-A-001 Total Surface Activity Results

Manufacturer:	NE Electra						
Model:	DP-6						
Instrument ID#:	7	8	9	10	19	20	21
Serial #:	1546	3114	1254	1379	3114	1254	1546
Cal Due Date:	5/3/01	5/6/01	5/20/01	5/6/01	5/6/01	5/20/01	5/3/01
Analysis Date:	3/12/01	3/12/01	3/12/01	3/12/01	3/19/01	3/19/01	4/24/01
Alpha Eff. (c/4):	0.228	0.220	0.227	0.197	0.220	0.227	0.228
Alpha Bkgd (cpm)	3.3	0.0	2.0	2.0	2.7	1.3	0.7
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	39.0	9.1	32.5	37.4	37.4	27.9	22.7

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	LAB Gross Counts (cpm)	Sample Net Activity (dpm/100cm ²)
55	8	5.3	2.7	10.4
56	8	4.0	2.0	4.4
57	7	7.3	4.7	18.8
58	7	6.0	4.7	13.1
59	8	6.0	4.7	13.5
60	7	11.3	4.0	36.3
61	7	5.3	4.0	10.0
62	7	4.0	5.3	4.3
63	8	6.7	2.7	16.7
64	8	8.0	2.7	22.6
65	8	3.3	4.0	1.3
66	7	7.3	2.7	18.8
67	10	2.0	0.7	-5.2
68	10	3.3	0.7	1.4
69	10	3.3	3.3	1.4
70	9	1.3	1.3	-7.6
71	10	2.7	2.7	-1.6
72	10	1.3	1.3	-8.7
73	10	8.0	0.7	25.3
74	9	1.3	2.7	-7.6
75	10	2.7	2.7	-1.6
Average LAB				3.0
MIN				-13.3
MAX				89.3
MEAN				7.2
SD				15.5
Transuranic DCGL _w				100

QC-63	7	6.7	2.7	19.7
QC-39	10	2.7	2.7	2.5
QC-36	20	4.0	2.7	7.9
QC-26	21	8.7	0.7	28.5
Average LAB				2.2
MIN				2.5
MAX				28.5
MEAN				14.7
SD				11.7
Transuranic DCGL _w				100

50

Survey Unit 800-A-001 Smear Results

Manufacturer:	Eberline											
Model:	SAC-4											
Instrument ID#:	1	2	3	4	5	13	14	15	16	17		
Serial #:	830	833	767	830	833	767	770	830	833	770		
Cal Due Date:	8/12/01	7/23/01	4/11/01	8/12/01	7/23/01	4/11/01	7/18/01	8/12/01	7/23/01	7/18/01		
Analysis Date:	3/14/01	3/14/01	3/14/01	3/15/01	3/15/01	3/15/01	3/15/01	3/19/01	3/19/01	3/19/01		
Alpha Eff. (cpb):	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33		
Alpha Bkgd (cpm):	0.2	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.0	0.0		
Sample Time (min):	2	2	2	2	2	2	2	2	2	2		
Bkgd Time (min):	10	10	10	10	10	10	10	10	10	10		
MDC (dpm/100cm ²):	8.0	7.0	4.5	8.0	7.0	7.0	4.5	8.0	4.5	8.8		

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
1	5	2.0	5.8
2	16	0.0	0.0
3	14	1.0	3.0
4	16	0.0	0.0
5	5	0.0	-0.3
6	16	1.0	3.0
7	2	0.0	-0.3
8	15	0.0	-0.6
9	18	1.0	3.0
10	5	1.0	2.7
11	17	0.0	-0.9
12	13	0.0	-0.3
13	5	0.0	-0.3
14	15	0.0	-0.6
15	13	0.0	-0.3
16	16	0.0	0.0
17	17	1.0	2.1
18	15	0.0	-0.6
19	16	1.0	3.0
20	16	0.0	0.0
21	15	0.0	-0.6
22	17	1.0	2.1
23	15	1.0	2.4
24	15	0.0	-0.6
25	16	0.0	0.0
26	15	0.0	-0.6
27	16	0.0	0.0
28	17	0.0	-0.9
29	15	0.0	-0.6
30	16	0.0	0.0
31	17	0.0	-0.9
32	16	2.0	6.1
33	17	0.0	-0.9
34	16	0.0	0.0
35	17	1.0	2.1
36	16	0.0	0.0
37	15	0.0	-0.6
38	17	0.0	-0.9
39	4	0.0	-0.6
40	13	0.0	-0.3
41	14	0.0	0.0
42	5	0.0	-0.3
43	4	0.0	-0.6
44	13	0.0	-0.3
45	14	0.0	0.0
46	5	1.0	2.7
47	4	1.0	2.4
48	13	1.0	2.7
49	14	1.0	3.0
50	5	2.0	5.8

Best Available Copy

57

Survey Unit 800-A-001 Smear Results

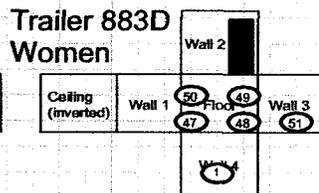
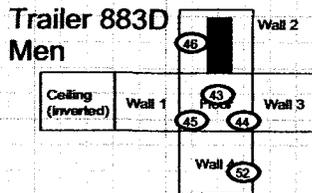
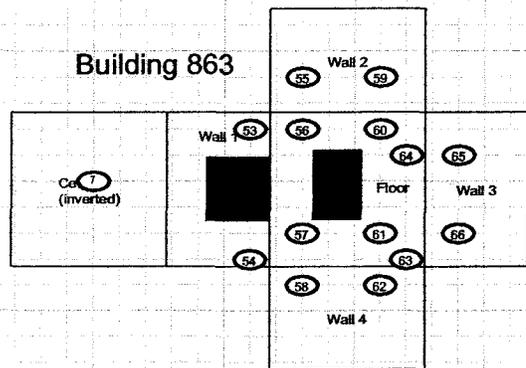
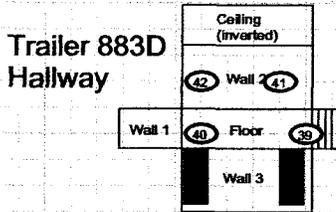
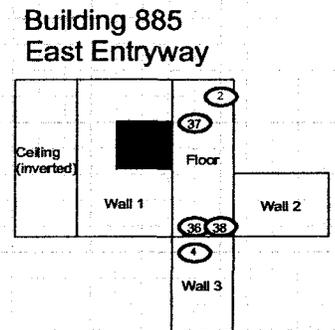
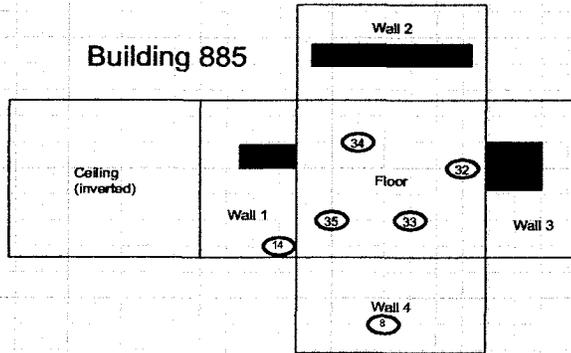
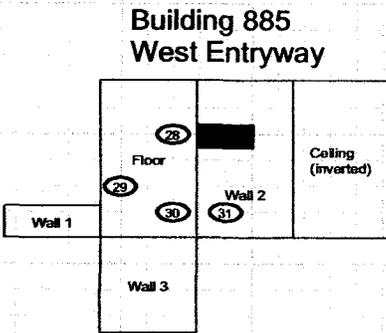
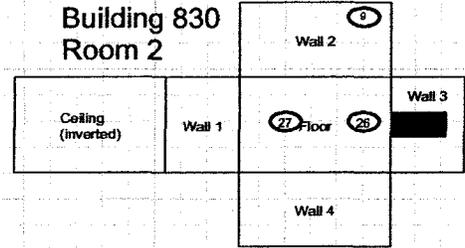
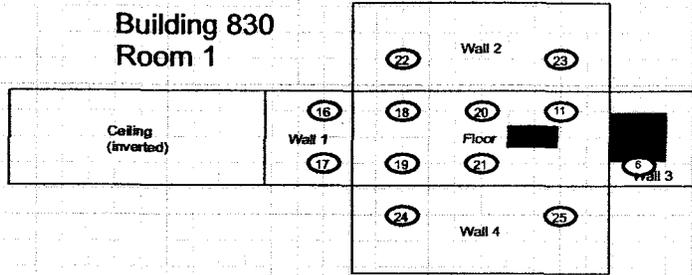
Manufacturer:	Eberline											
Model:	SAC-4											
Instrument ID#:	1	2	3	4	5	13	14	15	16	17		
Serial #:	830	833	767	830	833	767	770	830	833	770		
Cal Due Date:	8/12/01	7/23/01	4/11/01	8/12/01	7/23/01	4/11/01	7/18/01	8/12/01	7/23/01	7/18/01		
Analysis Date:	3/14/01	3/14/01	3/14/01	3/15/01	3/15/01	3/15/01	3/15/01	3/15/01	3/19/01	3/19/01		
Alpha Eff. (dB):	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33		
Alpha Bkgd (cpm):	0.2	0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.0	0.0		
Sample Time (min):	2	2	2	2	2	2	2	2	2	2		
Bkgd Time (min):	10	10	10	10	10	10	10	10	10	10		
MDC (dpm/100cm ²):	8.0	7.0	4.5	8.0	7.0	7.0	4.5	8.0	4.5	8.8		

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
51	1	0.0	-0.6
52	13	0.0	-0.3
53	1	0.0	-0.6
54	15	0.0	-0.6
55	2	1.0	2.7
56	3	0.0	0.0
57	4	2.0	5.5
58	1	0.0	-0.6
59	2	0.0	-0.3
60	3	1.0	3.0
61	4	0.0	-0.6
62	1	0.0	-0.6
63	2	1.0	2.7
64	3	0.0	0.0
65	2	0.0	-0.3
66	1	0.0	-0.6
67	1	0.0	-0.6
68	1	0.0	-0.6
69	1	1.0	2.4
70	1	2.0	5.5
71	5	1.0	2.7
72	14	1.0	3.0
73	5	1.0	2.7
74	13	2.0	5.8
75	1	1.0	2.4
		MIN	-0.9
		MAX	6.1
		MEAN	0.9
		SD	2.0
		Transuranic DCCG _{low}	20

52

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A Survey Unit: 800-A-001 Classification: 3
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Interior Surfaces
 Total Area: 1163 sq. m. Total Floor Area: 221 sq. m.



SURVEY MAP LEGEND

- Smear & TSA Location
- ◆ Smear, TSA & Sample Location
- Open/Inaccessible Area
- ▨ Area in Another Survey Unit

Neither the United States Government nor Kaiser Hill Co., nor DynCorp LLC, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Scan Survey Information
 Survey Instrument ID #(s): _____
 RCT ID #(s): _____

0 FEET 30

0 METERS 10

1 inch = 24 feet 1 grid sq. = 1 sq. m.

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

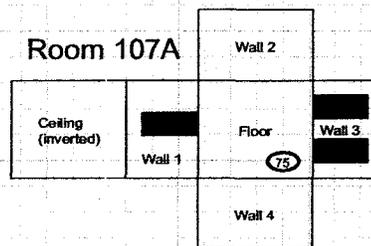
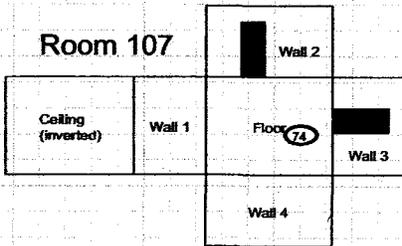
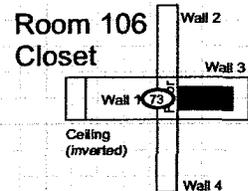
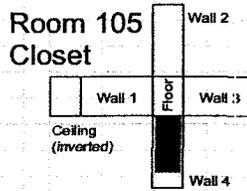
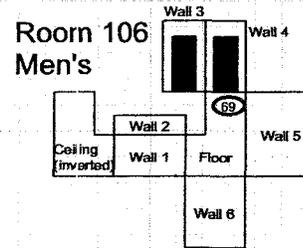
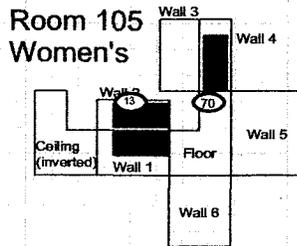
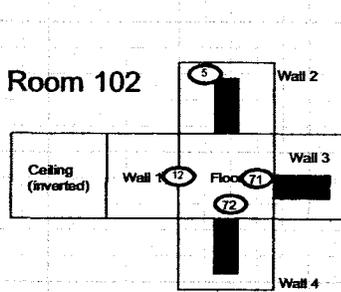
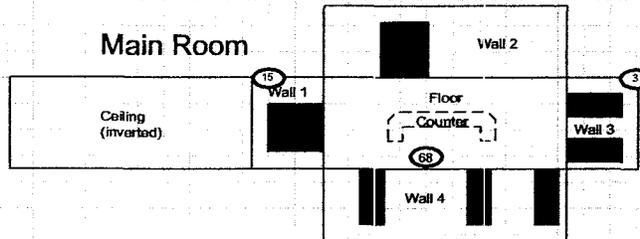
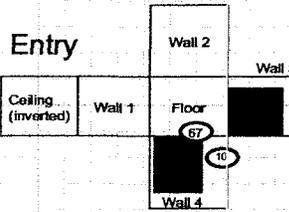
Prepared by: GAS Dept. 303-866-7707 Prepared for:
DynCorp
 THE ART OF TECHNOLOGY

MAP ID: Ty2001/01-0182 March 6, 2001

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A **Survey Unit: 800-A-001** **Classification: 3**
Building: 830, 863, 864, 885, T883D
Survey Unit Description: Interior Surfaces
Total Area: 1163 sq. m. **Total Floor Area: 221 sq. m.**

Building 864



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Whether the United States Government or Kaiser Hill Co., or
 DynCorp I&ET, nor any agency thereof, nor any of their
 employees, makes any warranty, express or implied, or assumes
 any legal liability or responsibility for the accuracy, completeness,
 or usefulness of any information, apparatus, product, or process
 disclosed, or represents that its use would not infringe privately
 owned rights.

Scan Survey Information
 Survey Instrument ID #(s): _____
 RCT ID #(s): _____

0 FEET 30

 0 METERS 10

 1 inch = 24 feet 1 grid sq. = 1 sq. m.

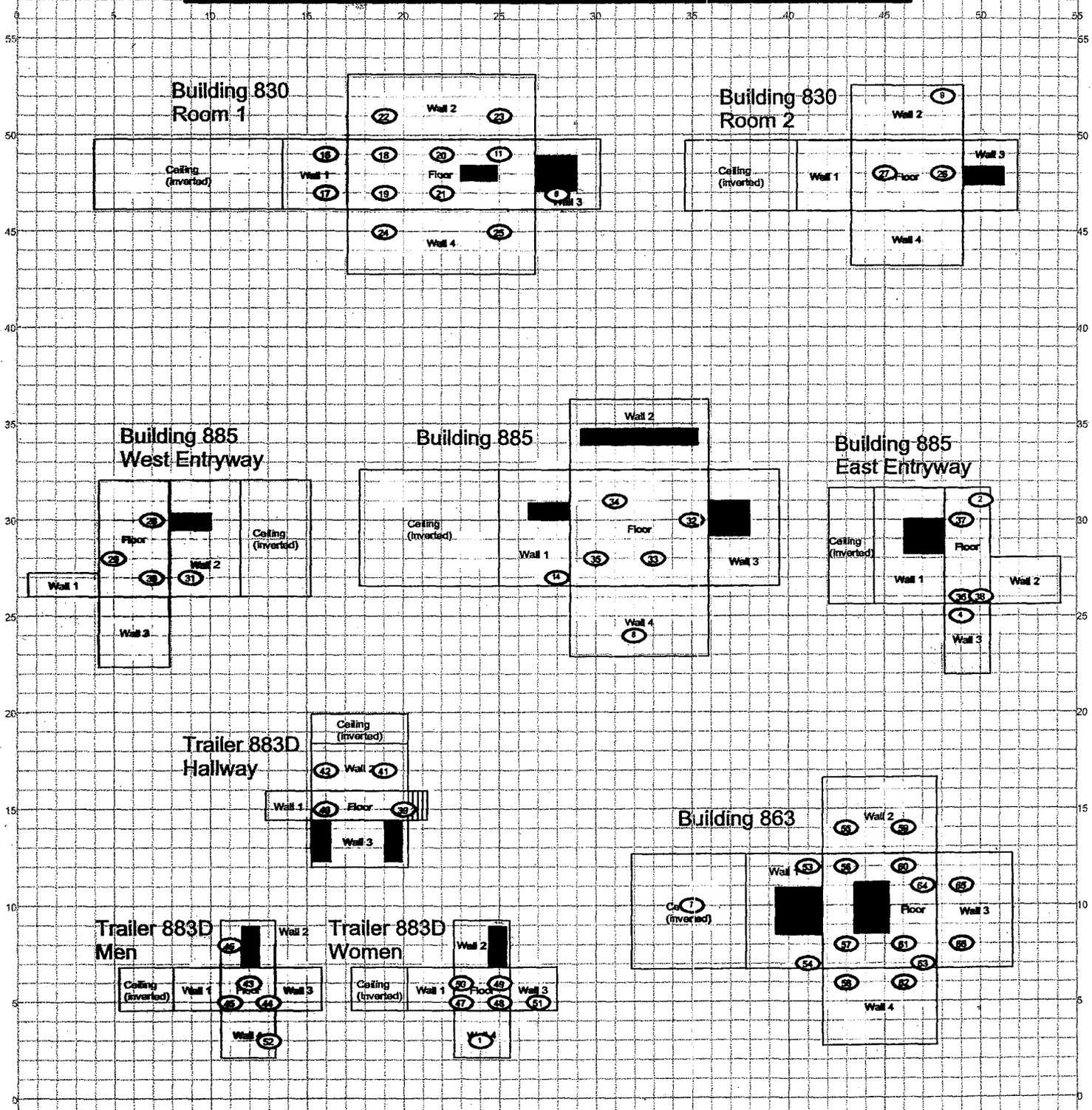
U.S. Department of Energy
 Rocky Flats Environmental Technology Site
 Prepared by: GRS Dept. 303-868-770 Prepared for:
DynCorp
 THE ART OF TECHNOLOGY
 KAISER HILL
 MAP ID: 1x2001M1-0182 March 5, 2001

54

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A Survey Unit: 800-A-001 Classification: 3
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Interior Surfaces
 Total Area: 1163 sq. m. Total Floor Area: 221 sq. m.

Scan Areas



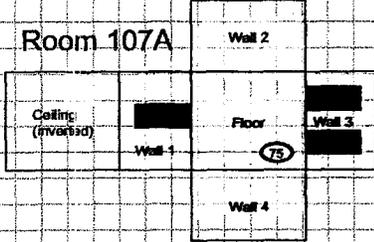
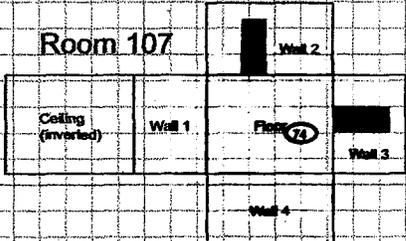
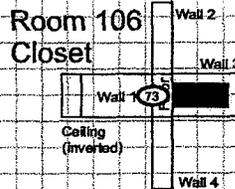
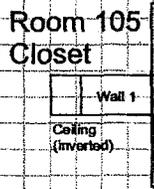
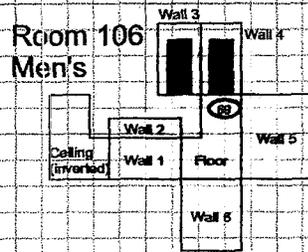
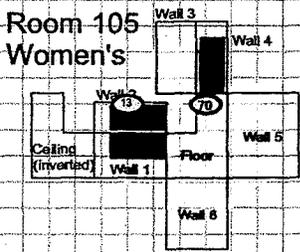
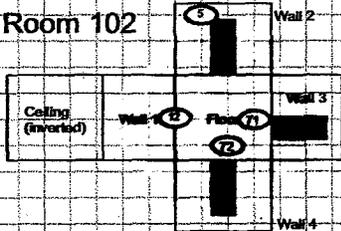
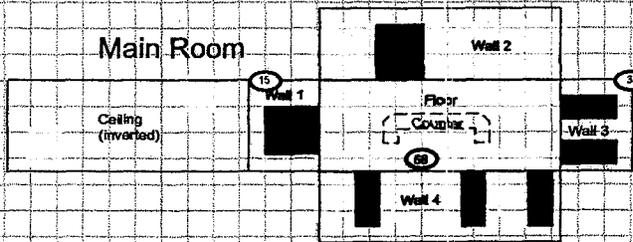
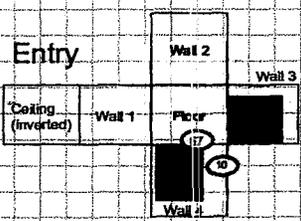
<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> ① Smear & TSA Location ⬠ Smear, TSA & Sample Location ■ Open/Inaccessible Area ▨ Area in Another Survey Unit 	<p><small>Walls: the United States Government or Kaiser Hill Co., or DynCorp LLC, or any agency thereof, or any of their employees, makes no warranty, express or implied, or assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that it would not infringe privately owned rights.</small></p> <p>Scan Survey Information Survey Instrument ID #(s): 11, 12, 22-24, 31-33 RCT ID #(s): 1, 2, 3</p>	<p>N ↑</p>	<p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GRS Dept. 303-900-770 Prepared for: DynCorp THE ART OF TECHNOLOGY</p> <p>MAP ID: FY2001/01-0182 March 8, 2001</p>
---	--	------------	--	---

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A Survey Unit: 800-A-001 Classification: 3
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Interior Surfaces
 Total Area: 1163 sq. m. Total Floor Area: 221 sq. m.

Building 864

= Scan Areas



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Scan & TSA Location Stair, TSA & Sample Location Open/Inaccessible Area Area in Another Survey Unit 	<p>Under the United States Government or Kaiser I&L Co., or DynCorp I&L, we are not responsible for the accuracy, completeness, or timeliness of any information, appearance, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p>	<p>N ↑</p>	<p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GHS Dept. 303-666-770 Prepared for: DynCorp THE ART OF TECHNOLOGY</p> <p>MAP ID: fy2001/01-0182 March 8, 2001</p>
<p>Scan Survey Information Survey Instrument ID #(s): <u>11, 12, 22-24, 31-33</u> RCT ID #(s): <u>1, 2, 3</u></p>				

SURVEY UNIT DATA SUMMARY: 800-B-002

Survey Unit Description:

Exterior of 885, 864, 863, 830 and T883D

Survey Unit 800-B-002 Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	75		75		
	Number Required		Number Obtained		
MIN	-11.8	dpm/100 cm ²	MIN	-1.2	dpm/100 cm ²
MAX	109.6 ⁽¹⁾	dpm/100 cm ²	MAX	8.5	dpm/100 cm ²
MEAN	27.2	dpm/100 cm ²	MEAN	0.9	dpm/100 cm ²
STD DEV	22.1	dpm/100 cm ²	STD DEV	2.3	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²	TRANSURANIC DCGL _w	20	dpm/100 cm ²

(1) An investigation of B885 metal roof TSA measurement results was performed to verify the presence of Po-210 versus DOE-added radioactivity. The statistical evaluation concluded that the elevated activity was due to a single log-normal distribution, as would be expected for natural occurring radioactive material. Therefore, the roof surfaces of B885, and this survey unit, are acceptable for unrestricted release. Refer to the attached Graphical Data Distribution Analysis of the Metal Roof and the discussion in Section 3.2 of the RLCR for further details of the investigation.

Survey Unit 800-B-002 Total Surface Activity Results

Manufacturer:	NE Electra					
Model:	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	7	8	9	10	11	21
Serial #:	1358	1136	1241	1420	1136	1136
Cal Due Date:	8/23/01	8/13/01	8/26/01	8/28/01	8/13/01	8/13/01
Analysis Date:	4/30/01	4/30/01	5/1/01	5/7/01	5/7/01	5/9/01
Alpha Eff. (c/d):	0.223	0.208	0.214	0.22	0.208	0.208
Alpha Bkgd (cpm)	2.0	2.7	0.7	0.7	2.7	2.0
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	33.1	39.6	24.2	23.5	39.6	35.4

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	LAB Gross Counts (cpm)	Sample Net Activity (dpm/100cm ²)
1	7	8.0	4.0	18.4
2	11	14.0	2.7	48.5
3	7	9.3	2.0	24.2
4	11	5.3	5.3	6.7
5	8	10.7	0.7	32.7
6	24	10.0	1.3	28.7
7	7	6.0	6.0	9.4
8	8	4.7	2.7	3.8
9	8	8.0	6.7	19.7
10	7	4.7	3.3	3.6
11	21	26.7	4.7	109.6
12	10	2.0	4.7	-8.7
13	21	22.0	7.3	87.0
14	21	8.7	2.7	23.1
15	7	8.7	4.0	21.5
16	7	4.7	3.3	3.6
17	7	6.0	3.3	9.4
18	7	5.3	5.3	6.3
19	7	12.0	5.3	36.3
20	7	8.7	2.7	21.5
21	8	8.7	9.3	23.1
22	7	8.0	4.7	18.4
23	7	9.3	6.7	24.2
24	7	11.3	4.0	33.2
25	7	9.3	3.3	24.2
26	8	6.7	5.3	13.4
27	21	18.0	4.0	67.8
28	21	18.7	3.3	71.1
29	8	8.0	4.0	19.7
30	9	12.0	3.3	37.8
31	7	4.0	4.7	0.4
32	9	4.0	2.0	0.4
33	7	14.0	8.7	45.3
34	8	11.3	4.7	35.6
35	7	11.3	4.7	33.2
36	7	9.3	3.3	24.2
37	9	10.0	4.7	28.5
38	7	11.3	2.7	33.2
39	9	12.0	4.0	37.8
40	7	6.7	4.0	12.5
41	8	16.7	3.3	61.5
42	7	10.7	8.0	30.5
43	7	10.0	8.0	27.3
44	7	13.3	4.7	42.1
45	8	3.3	6.0	-2.9
46	7	14.0	6.7	45.3
47	7	9.3	4.7	24.2
48	7	16.0	1.3	54.2
49	8	3.3	4.7	-2.9
50	7	4.7	2.7	3.6
51	11	3.3	0.7	-2.9
52	10	1.3	0.0	-11.8
53	11	10.7	3.3	32.7
54	10	15.3	2.0	51.8
55	10	4.7	0.0	3.6
56	11	6.7	2.7	13.4
57	11	6.0	0.7	10.1

Survey Unit 800-B-002 Total Surface Activity Results

Manufacturer:	NE Electra					
Model:	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	7	8	9	10	11	21
Serial #:	1358	1136	1241	1420	1136	1136
Cal Due Date:	8/23/01	8/13/01	8/26/01	8/28/01	8/13/01	8/13/01
Analysis Date:	4/30/01	4/30/01	5/1/01	5/7/01	5/7/01	5/9/01
Alpha Eff. (ε/d):	0.223	0.208	0.214	0.22	0.208	0.208
Alpha Bkgd (cpm)	2.0	2.7	0.7	0.7	2.7	2.0
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	33.1	39.6	24.2	23.5	39.6	35.4

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	LAB Gross Counts (cpm)	Sample Net Activity (dpm/100cm ²)
58	11	7.3	3.3	16.3
59	10	7.3	2.0	15.4
60	11	12.0	4.0	38.9
61	11	6.7	3.3	13.4
62	11	2.7	4.0	-5.8
63	11	8.7	8.0	23.1
64	10	12.7	1.3	40.0
65	11	10.7	6.7	32.7
66	10	16.0	2.0	55.0
67	11	17.3	2.7	64.4
68	10	12.7	4.7	40.0
69	11	9.3	3.3	25.9
70	10	12.7	2.7	40.0
71	10	10.0	1.3	27.7
72	11	10.0	3.3	29.3
73	11	9.3	4.7	25.9
74	10	11.3	2.7	33.6
75	11	16.0	4.0	58.1
Average LAB				3.9
MIN				-11.8
MAX ^(b)				109.6
MEAN				27.2
SD				22.1
Transuranic DCGL _W				100

QC 23	8	6.7	4.7	11.3
QC 73	10	11.3	4.0	31.6
QC 53	10	11.3	4.7	31.6
QC 60	10	9.3	4.0	22.5
Average LAB				4.4
MIN				11.3
MAX				31.6
MEAN				24.2
SD				9.6
Transuranic DCGL _W				100

60

Survey Unit 800-B-002 Smear Results

Manufacturer:	Eberline	Eberline	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	1	2	3	4	5	6
Serial #:	830	833	1157	770	830	833
Cal Due Date:	8/12/01	7/23/01	8/27/01	7/18/01	8/12/01	7/23/01
Analysis Date:	4/30/01	4/30/01	4/30/01	4/30/01	5/1/01	5/1/01
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.3	0.1	0.2	0.2	0.4	0.2
Sample Time (min)	2	2	2	2	2	2
Bkgd Time (min)	10	10	10	10	10	10
MDC (dpm/100cm²)	8.8	7.0	8.0	8.0	9.4	8.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
1	1	0	-0.9
2	13	0	-0.6
3	1	0	-0.9
4	2	0	-0.3
5	3	1	2.4
6	2	0	-0.3
7	1	0	-0.9
8	4	0	-0.6
9	4	3	8.5
10	3	0	-0.6
11	17	2	5.8
12	15	0	0.0
13	16	0	-0.9
14	17	1	2.7
15	4	1	2.4
16	1	0	-0.9
17	2	2	5.8
18	3	0	-0.6
19	4	0	-0.6
20	2	0	-0.3
21	2	1	2.7
22	1	1	2.1
23	3	0	-0.6
24	4	2	5.5
25	4	0	-0.6
26	2	1	2.7
27	16	0	-0.9
28	18	1	2.7
29	4	0	-0.6
30	5	0	-1.2
31	2	1	2.7
32	6	0	-0.6
33	3	1	2.4
34	13	1	2.4
35	1	0	-0.9
36	1	2	5.2
37	5	0	-1.2
38	3	0	-0.6
39	6	0	-0.6
40	14	2	5.8
41	2	0	-0.3
42	3	0	-0.6
43	4	0	-0.6
44	3	0	-0.6
45	2	0	-0.3
46	4	2	5.5
47	2	0	-0.3
48	3	1	2.4
49	1	0	-0.9

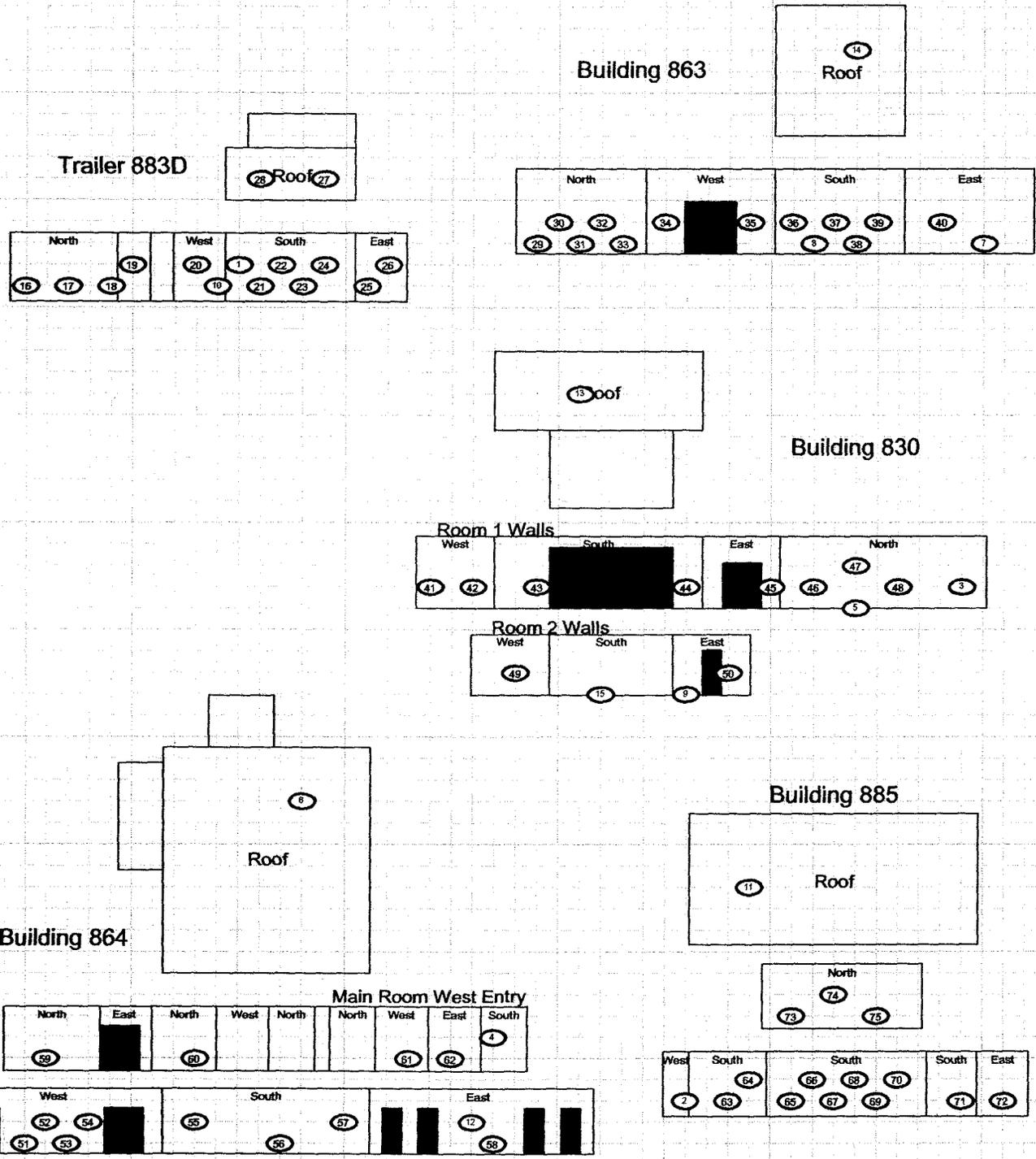
Survey Unit 800-B-002 Smear Results

Manufacturer:	Eberline	Eberline	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	1	2	3	4	5	6
Serial #:	830	833	1157	770	830	833
Cal Due Date:	8/12/01	7/23/01	8/27/01	7/18/01	8/12/01	7/23/01
Analysis Date:	4/30/01	4/30/01	4/30/01	4/30/01	5/1/01	5/1/01
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.3	0.1	0.2	0.2	0.4	0.2
Sample Time (min)	2	2	2	2	2	2
Bkgd Time (min)	10	10	10	10	10	10
MDC (dpm/100cm²)	8.8	7.0	8.0	8.0	9.4	8.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
50	1	0	-0.9
51	14	2	5.8
52	15	0	0.0
53	15	0	0.0
54	14	2	5.8
55	13	1	2.4
56	13	0	-0.6
57	14	0	-0.3
58	15	0	0.0
59	14	0	-0.3
60	15	1	3.0
61	15	0	0.0
62	13	0	-0.6
63	14	1	2.7
64	14	0	-0.3
65	15	0	0.0
66	14	0	-0.3
67	14	0	-0.3
68	13	0	-0.6
69	13	1	2.4
70	15	1	3.0
71	14	0	-0.3
72	13	0	-0.6
73	15	0	0.0
74	13	0	-0.6
75	13	0	-0.6
		MIN	-1.2
		MAX	8.5
		MEAN	0.9
		SD	2.3
		Transuranic DCGL _w	20

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: B Survey Unit: 800-B-002 Classification: 3
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Exterior Surfaces
 Total Area: 797 sq. m. Total Floor Area: 0 sq. m.

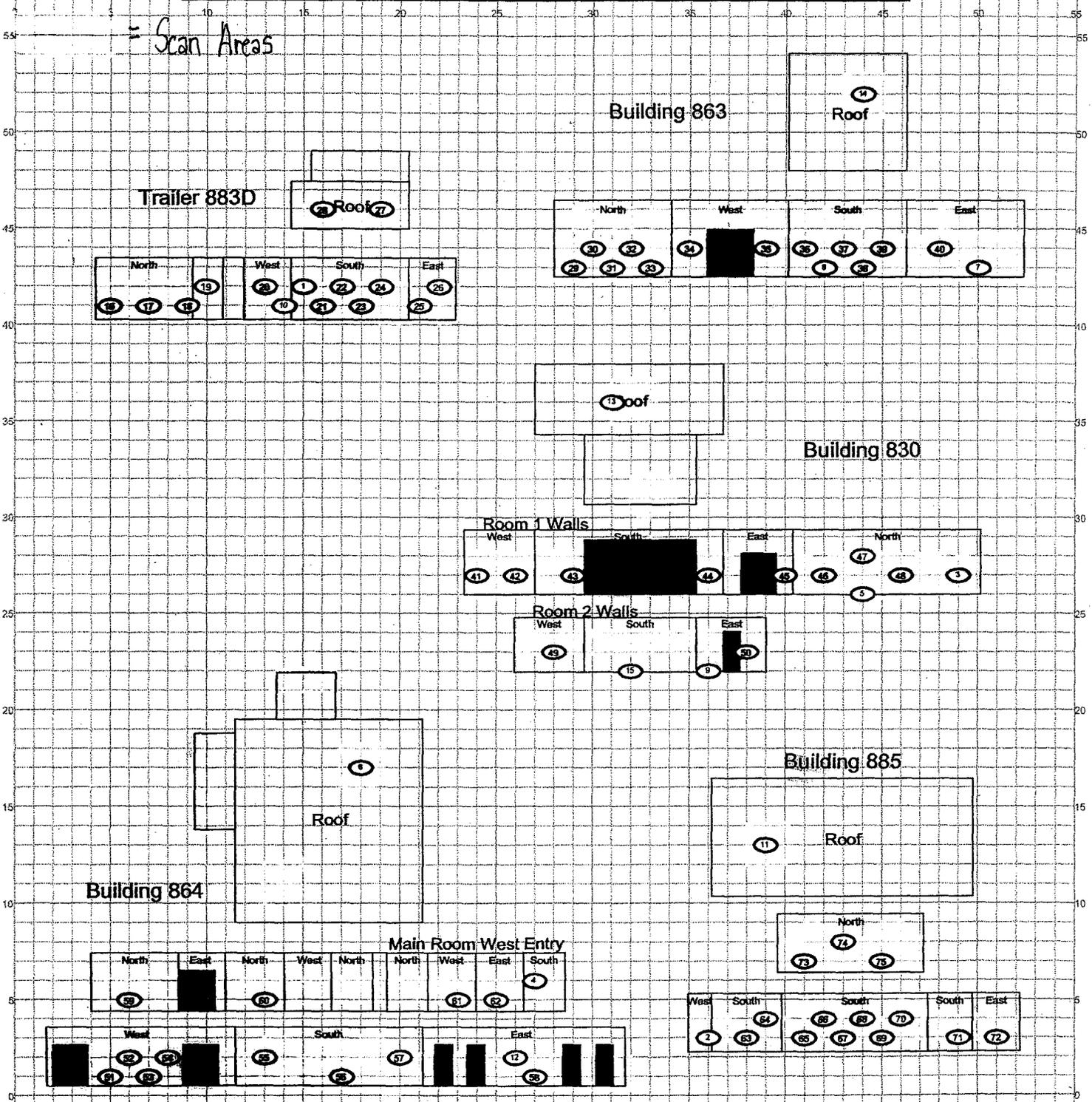


<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> ⊙ # Swear & TSA Location ⊠ # Swear, TSA & Sample Location ■ Open/Inaccessible Area ▨ Area in Another Survey Unit 	<p><small>Under the United States Government or Kaiser Hill Co., or DynCorp I&ET, our any agency thereof, our any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</small></p> <p>Scan Survey Information Survey Instrument ID #(s): _____ RCT ID #(s): _____</p>	<p align="center">N ↑</p>	<p align="center">0 FEET 30</p> <p align="center">0 METERS 10</p> <p align="center">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p align="center">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p align="center">Prepared by: G&S Dept. 303-868-778 Prepared for: DynCorp THE ART OF TECHNOLOGY</p> <p align="center">MAP ID: FV2001/01-0182 March 8, 2001</p>
---	--	---------------------------	---	--

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: B Survey Unit: 800-B-002 Classification: 3
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Exterior Surfaces
 Total Area: 797 sq. m. Total Floor Area: 0 sq. m.

Scan Areas



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> ⊙ Scan & TSA Location ⊠ Scan, TSA & Sample Location ■ Open/Inaccessible Area ▨ Area in Another Survey Unit 	<p>Holder the United States Government or Kaiser Hill Co. or DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p>Scan Survey Information Survey Instrument ID #(s): 12, 19, 20, 22, 23, 31 RCT ID #(s): 1, 2, 3</p>	<p>N ↑</p>	<p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-968-7770 Prepared for: DynCorp THE ART OF TECHNOLOGY</p> <p>MAP ID: 1V2001/01-0182 March 5, 2001</p>
---	---	------------	---	--

64

Graphical Data Distribution Analysis to Distinguish between Background and DOE-Added Materials of the B885 Metal Roof

65

B885 Roof Survey Data

Based on graphical and statistical evidence given below, these data can be assumed to represent a single lognormal distribution. There is no indication that DOE-added activity is present.

Probability Plots

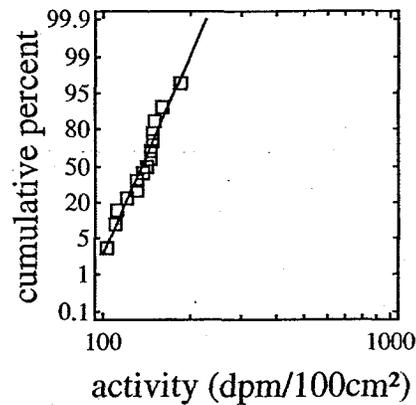
Data variable: B885 Roof

Number of observations: 15
 Number of values below minimum: 0
 Number of values above maximum: 0

The StatAdvisor

This procedure creates seven different types of probability plots to help you determine whether B885 Roof comes from a particular type of distribution. After examining these plots, you may fit a distribution to the data by selecting the Distribution Fitting procedure.

B885 Lognormal Probability Plot



Uncensored Data - B885 Roof

Goodness-of-Fit Tests for B885 Roof

Chi-Square Test

	Lower Limit	Upper Limit	Observed Frequency	Expected Frequency	Chi-Square
at or below		117.699	3	2.50	0.10
	117.699	127.943	1	2.50	0.90
	127.943	136.806	3	2.50	0.10
	136.806	146.283	3	2.50	0.10
	146.283	159.016	3	2.50	0.10
above	159.016		2	2.50	0.10

Chi-Square = 1.39996 with 3 d.f. P-Value = 0.70554

Estimated Kolmogorov statistic DPLUS = 0.119836
 Estimated Kolmogorov statistic DMINUS = 0.138495
 Estimated overall statistic DN = 0.138495
 Approximate P-Value = 0.935823

64

EDF Statistic	Value	Modified Form	P-Value
Kolmogorov-Smirnov D	0.138495	0.556943	>=0.10
Kuiper V	0.258332	1.05656	>=0.10
Cramer-Von Mises W^2	0.0558888	0.0340148	>=0.10
Watson U^2	0.0549004	0.0512743	>=0.10
Anderson-Darling A^2	0.320989	0.320989	>=0.10

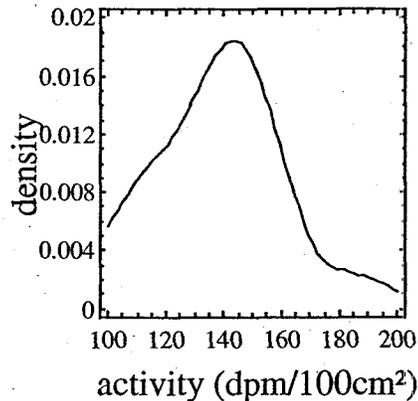
*Indicates that the P-Value has been compared to tables of critical values specially constructed for fitting the currently selected distribution. Other P-values are based on general tables and may be very conservative.

The StatAdvisor

This pane shows the results of tests run to determine whether B885 Roof can be adequately modeled by a lognormal distribution. The chi-square test divides the range of B885 Roof into nonoverlapping intervals and compares the number of observations in each class to the number expected based on the fitted distribution. The Kolmogorov-Smirnov test computes the maximum distance between the cumulative distribution of B885 Roof and the CDF of the fitted lognormal distribution. In this case, the maximum distance is 0.138495. The other EDF statistics compare the empirical distribution function to the fitted CDF in different ways.

Since the smallest P-value amongst the tests performed is greater than or equal to 0.10, we can not reject the idea that B885 Roof comes from a lognormal distribution with 90% or higher confidence.

Density Trace for B885 Roof



This investigation of elevated total surface activity (TSA) measurement results of the B885 metal roof was performed to verify the presence of Po-210 versus DOE-added radioactivity on the metal roofs. Po-210 is a radon progeny that selectively oxidizes to metal surfaces. This phenomenon has been observed on other structures at RFETS, and has been demonstrated at other nuclear facilities. The elevated roof activity was dispositioned per RFETS Technical Basis Document TBD-00156, *Using Graphical Data Distribution Analysis to Distinguish between Background and DOE-Added Materials in Environmental Data Sets*, which provides a method of statistically evaluating the data collected from the affected surfaces. Fifteen (15) TSA measurements were collected at random locations across the elevated roof surface, plotted, and a statistical test performed per TBD-00156 to verify that the activity represented a single log-normal distribution with 90% confidence. The statistical evaluation concluded that the elevated activity was due to a single log-normal distribution, as would be expected for natural occurring radioactive material, therefore, the roof surface of B885 is acceptable for unrestricted release.

Approved by:

Jay Britten
Jay Britten, RISS Radiological Characterization Engineer

Date:

6/4/07

ROCKY PLAIN ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Electra	Mfg.	N/A	Mfg.	N/A
Model	DP-6	Model	N/A	Model	N/A
Serial #	1420	Serial #	N/A	Serial #	N/A
Cal Due	8/28/01	Cal Due	N/A	Cal Due	N/A
Bkg	1.3 cpm α	Bkg	N/A cpm α	Bkg	N/A cpm α
Efficiency	21.95 %	Efficiency	N/A %	Efficiency	N/A %
MDA	37 dpm α	MDA	N/A dpm α	MDA	N/A dpm α
Mfg.	N/A	Mfg.	N/A	Mfg.	N/A
Model	N/A	Model	N/A	Model	N/A
Serial #	N/A	Serial #	N/A	Serial #	N/A
Cal Due	N/A	Cal Due	N/A	Cal Due	N/A
Bkg	N/A cpm β	Bkg	N/A cpm β	Bkg	N/A cpm β
Efficiency	N/A %	Efficiency	N/A %	Efficiency	N/A %
MDA	N/A dpm β	MDA	N/A dpm β	MDA	N/A dpm β

Survey Type: Contamination

Building: 885

Location: Roof of building

Purpose: Characterization of building

RWP #: N/A

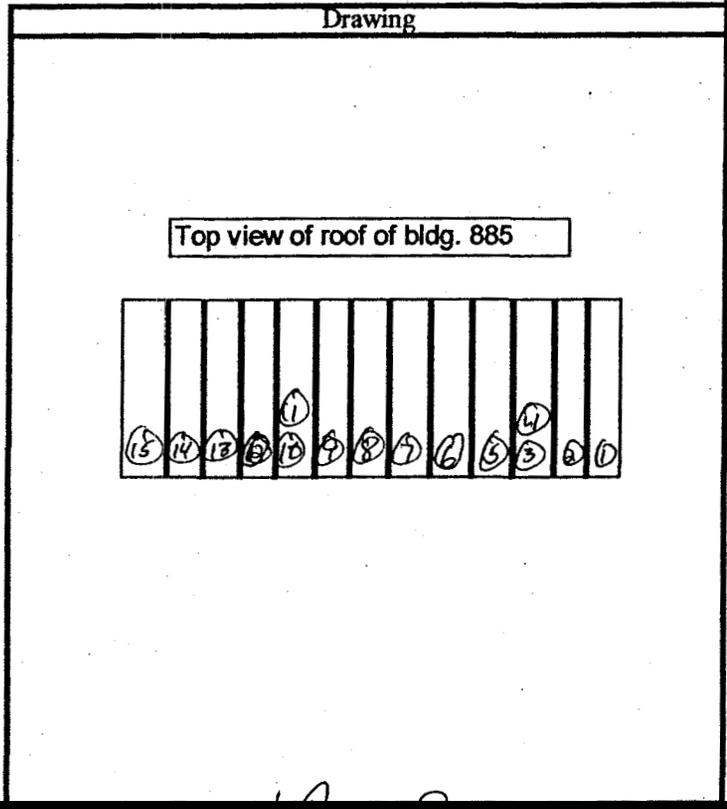
Date: 5/15/01 **Time:** 1000

PRN/REN #: N/A

Comments: Random survey points were taken on the roof. This roof is a galvanized metal material. All reading are gross CPM taken at 1/4" from surface of roof. All readings are a 90 sec count time. Locations on the drawing are approximate.

SURVEY RESULTS

Swipe #	Location / Description Results in CPM/100 sq. cm	Direct	
		Alpha	Beta
1	Roof of bldg. 885	28.7	N/A
2	Roof of bldg. 885	22.7	N/A
3	Roof of bldg. 885	30	N/A
4	Roof of bldg. 885	35.3	N/A
5	Roof of bldg. 885	32	N/A
6	Roof of bldg. 885	32	N/A
7	Roof of bldg. 885	28.7	N/A
8	Roof of bldg. 885	26.7	N/A
9	Roof of bldg. 885	33.3	N/A
10	Roof of bldg. 885	24	N/A
11	Roof of bldg. 885	24.7	N/A
12	Roof of bldg. 885	31.3	N/A
13	Roof of bldg. 885	40.7	N/A
14	Roof of bldg. 885	32.7	N/A
15	Roof of bldg. 885	32.7	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A



Date Reviewed: 6/5/01 **RS Supervision:** [Redacted]

NOTE: SURVEY MAILED ELECTRONICALLY IN MARCH, 2001

SURVEY UNIT DATA SUMMARY: 800-B-003

Survey Unit Description:

Tank 020, 021 and 026 Slabs; and 863 Equipment Slab

69

Survey Unit 800-B-003 Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	21		21		
	Number Required		Number Obtained		
MIN	12.9	dpm/100 cm ²	MIN	-0.9	dpm/100 cm ²
MAX	77.6	dpm/100 cm ²	MAX	3.0	dpm/100 cm ²
MEAN	45.1	dpm/100 cm ²	MEAN	0.5	dpm/100 cm ²
STD DEV	18.1	dpm/100 cm ²	STD DEV	1.4	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²	TRANSURANIC DCGL _w	20	dpm/100 cm ²

70

Survey Unit 800-B-003 Total Surface Activity Results

Manufacturer:	NE Electra	NE Electra	NE Electra	NE Electra
Model:	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	7	8	9	10
Serial #:	1136	1665	1136	1665
Cal Due Date:	8/13/01	8/26/01	8/13/01	8/26/01
Analysis Date:	5/16/01	5/16/01	6/1/01	6/1/07
Alpha Eff. (c/d):	0.208	0.212	0.208	0.212
Alpha Bkgd (cpm)	2.0	3.3	0.7	1.3
Sample Time (min)	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5
MDC (dpm/100cm²)	35.4	42.0	24.9	29.9

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	LAB Gross Counts (cpm)	Sample Net Activity (dpm/100cm ²)
1	8	15.3	0.7	60.1
2	7	15.3	2.0	61.2
3	9	7.3	2.0	22.8
4	8	15.3	2.7	60.1
5	8	9.3	0.7	31.8
6	9	7.3	3.3	22.8
7	9	6.7	2.0	19.9
8	7	18.7	3.3	77.6
9	7	13.3	4.0	51.6
10	7	12.0	5.3	45.4
11	10	5.3	1.3	12.9
12	7	12.0	1.3	45.4
13	7	13.3	1.3	51.6
14	7	12.7	4.0	48.7
15	7	14.0	4.0	55.0
16	7	12.7	1.3	48.7
17	9	6.7	1.3	19.9
18	7	16.0	2.7	64.6
19	7	11.3	4.7	42.0
20	7	17.0	3.3	69.4
21	8	10.0	2.7	35.1

Average LAB	2.6
MIN	12.9
MAX	77.6
MEAN	45.1
SD	18.1
Transuranic DCGL _w	100

QC-2	8	15.3	0.7	58.0
QC-21	7	10.7	5.3	37.0

Average LAB	3.0
MIN	37.0
MAX	58.0
MEAN	47.5
SD	14.9
Transuranic DCGL _w	100

Survey Unit 800-B-003 Smear Results

Manufacturer:	Eberline	Eberline	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	1	2	3	4	5	6
Serial #:	830	833	1157	770	830	833
Cal Due Date:	8/12/01	7/23/01	8/27/01	7/18/01	8/12/01	7/23/01
Analysis Date:	5/16/01	5/16/01	5/16/01	5/16/01	6/1/01	6/1/01
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.0	0.0	0.1	0.3	0.0	0.1
Sample Time (min)	2	2	2	2	2	2
Bkgd Time (min)	10	10	10	10	10	10
MDC (dpm/100cm²)	4.5	4.5	7.0	8.8	4.5	7.0

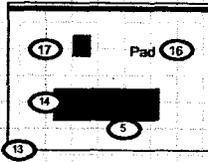
Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
1	1	0	0.0
2	1	0	0.0
3	5	1	3.0
4	4	0	-0.9
5	3	0	-0.3
6	6	0	-0.3
7	6	1	2.7
8	1	1	3.0
9	2	0	0.0
10	3	0	-0.3
11	5	1	3.0
12	2	0	0.0
13	1	0	0.0
14	3	0	-0.3
15	4	0	-0.9
16	4	0	-0.9
17	2	0	0.0
18	1	0	0.0
19	4	0	-0.9
20	3	1	2.7
21	2	0	0.0
		MIN	-0.9
		MAX	3.0
		MEAN	0.5
		SD	1.4
		Transuranic DCGL_w	20

72

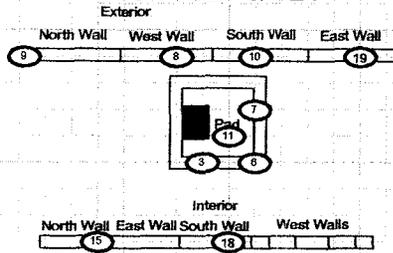
PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: B **Survey Unit: 800-B-003** **Classification: 3**
Tanks: 026, 863
Survey Unit Description: Tank & Transformer Pads
Total Area: 81 sq. m. **Total Floor Area: 0 sq. m.**

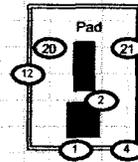
Tank 026



Tank 020 & 021



Pad 863

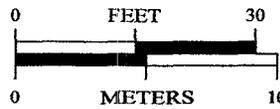


SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Holders of the United States Government and Kaiser Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Scan Survey Information
Survey Instrument ID #(s): _____
RCT ID #(s): _____



1 inch = 24 feet 1 grid sq. = 1 sq. m.

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

Prepared by: GIS Dept. 303-666-770 Prepared for:

DynCorp
THE ART OF TECHNOLOGY



MAP ID: tv2001/01-0182

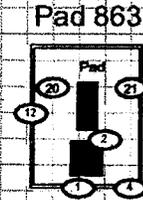
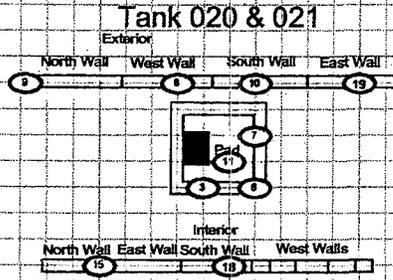
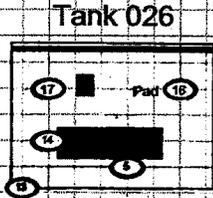
March 6, 2001

13

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: B Survey Unit: 800-B-003 Classification: 3
 Tanks: 026, 863
 Survey Unit Description: Tank & Transformer Pads
 Total Area: 81 sq. m. Total Floor Area: 0 sq. m.

Scan Areas

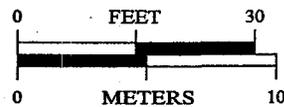


SURVEY MAP LEGEND

- ⊙ Smear & TSA Location
- ⊠ Smear, TSA & Sample Location
- Open/Inaccessible Area
- ▨ Area in Another Survey Unit

Neither the United States Government nor Kaiser 198 Co., nor DynCorp 1987, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Scan Survey Information
 Survey Instrument ID #(s): 9, 10
 RCT ID #(s): 1, 2



1 inch = 24 feet 1 grid sq. = 1 sq. m.

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

Prepared by: G&S Dept. 303-869-770 Prepared for:
DynCorp
 THE ART OF TECHNOLOGY

MAP ID: tv2001/01-0182 March 8, 2001

ATTACHMENT F

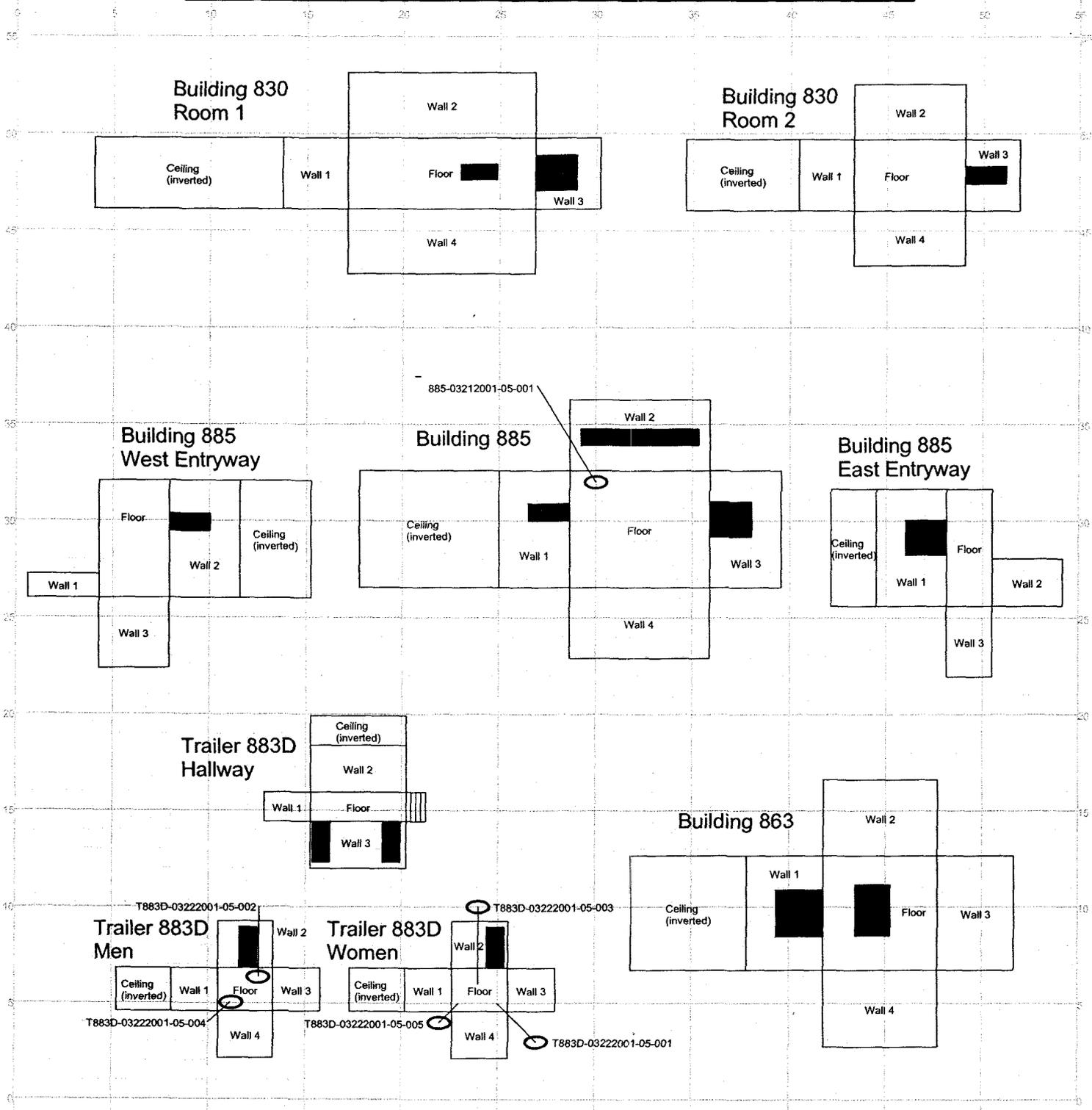
Chemical Data Summaries and Sample Maps

Asbestos Data Summary

Sample Number	Material Sampled & Location	Analytical Results
864-03212001-05-001	B864, 12" x 12" white floor tile, yellow mastic – Room 105	None Detected
864-03212001-05-002	B864, 12" x 12" white floor tile, yellow mastic and gray floor paint – Room 105	None Detected
864-03212001-05-003	B864, 12" x 12" blue/white floor tile, yellow mastic – Room 102	None Detected
864-03212001-05-004	B864, 12" x 12" blue/white floor tile, yellow mastic – Room 102	None Detected
864-03212001-05-005	B864, Drywall with tape joint compound – Room 107	4% chrysotile in mud; trace tremolite/actinolite in drywall
864-03212001-05-006	B864, Drywall with tape joint compound – Room 107	3% chrysotile in mud; trace tremolite/actinolite in drywall
864-03212001-05-007	B864, Pipe insulation, hard packed elbow, white and friable – Room 106 closet	7% chrysotile and 18% amosite
864-03212001-05-008	B864, Pipe insulation, straight section, yellow, foam-like – Room 106 closet	65% chrysotile in black wrap and 5% chrysotile in foam
864-03212001-05-009	B864, Pipe insulation, hard packed elbow, white and friable – Room 106 closet	7% chrysotile and 18% amosite
864-03212001-05-010	B864, Brown base board and yellow mastic – Entrance to 105	Trace tremolite/actinolite in mastic
864-03212001-05-011	B864, Brown exterior texture	None Detected
864-03212001-05-012	B864, Brown exterior texture	None Detected
864-03212001-05-013	B864, Brown exterior texture	None Detected
864-03212001-05-014	B864, White exterior window caulk	None Detected
885-03212001-05-001	B885, White pipe insulation; northwest corner, ground level	7% chrysotile and 18% amosite
T883D-03222001-05-001	T883D, Linoleum, yellow square pattern – Women's room	None Detected
T883D-03222001-05-002	T883D, Linoleum, yellow square pattern – Men's room	None Detected
T883D-03222001-05-003	T883D, Brown base board with brown mastic – Women's room	Trace tremolite/actinolite
T883D-03222001-05-004	T883D, Brown base board with brown mastic – Men's room	Trace tremolite/actinolite
T883D-03222001-05-005	T883D, Linoleum, yellow with small square pattern – beneath Women's sink	None Detected

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A Survey Unit: 800-A-001 Classification: N/A
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Interior Surfaces
 Total Area: 1163 sq. m. Total Floor Area: 221 sq. m.



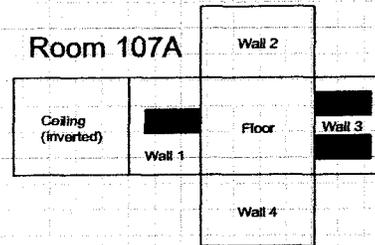
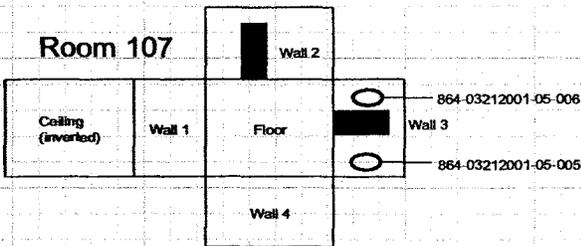
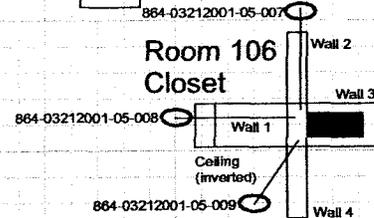
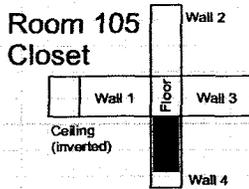
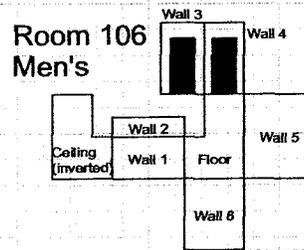
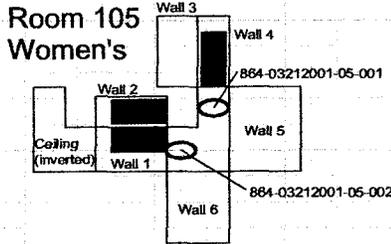
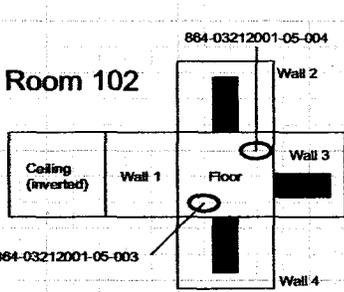
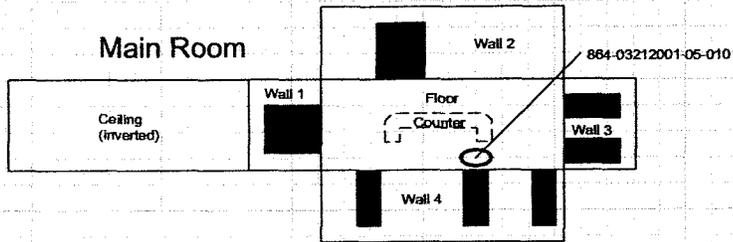
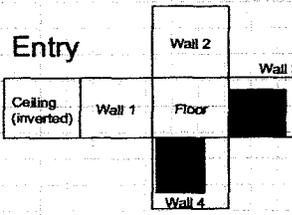
<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p><small>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</small></p> <ul style="list-style-type: none"> Open/Inaccessible Area Area in Another Survey Unit 	<p>N ↑</p>	<p style="text-align: center;">0 FEET 30</p> <p style="text-align: center;">0 METERS 10</p> <p style="text-align: center;">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p style="text-align: center;">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p style="text-align: center;">Prepared by: GIS Dept. 303-966-7707 Prepared for:</p> <p style="text-align: center;">DynCorp THE ART OF TECHNOLOGY</p> <p style="text-align: center;">KMSER HILL</p> <p style="text-align: center;">MAP ID: fv2001/01-0807 May 30, 2001</p>
---	--	------------	--	--

77

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A Survey Unit: 800-A-001 Classification: N/A
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Interior Surfaces
 Total Area: 1163 sq. m. Total Floor Area: 221 sq. m.

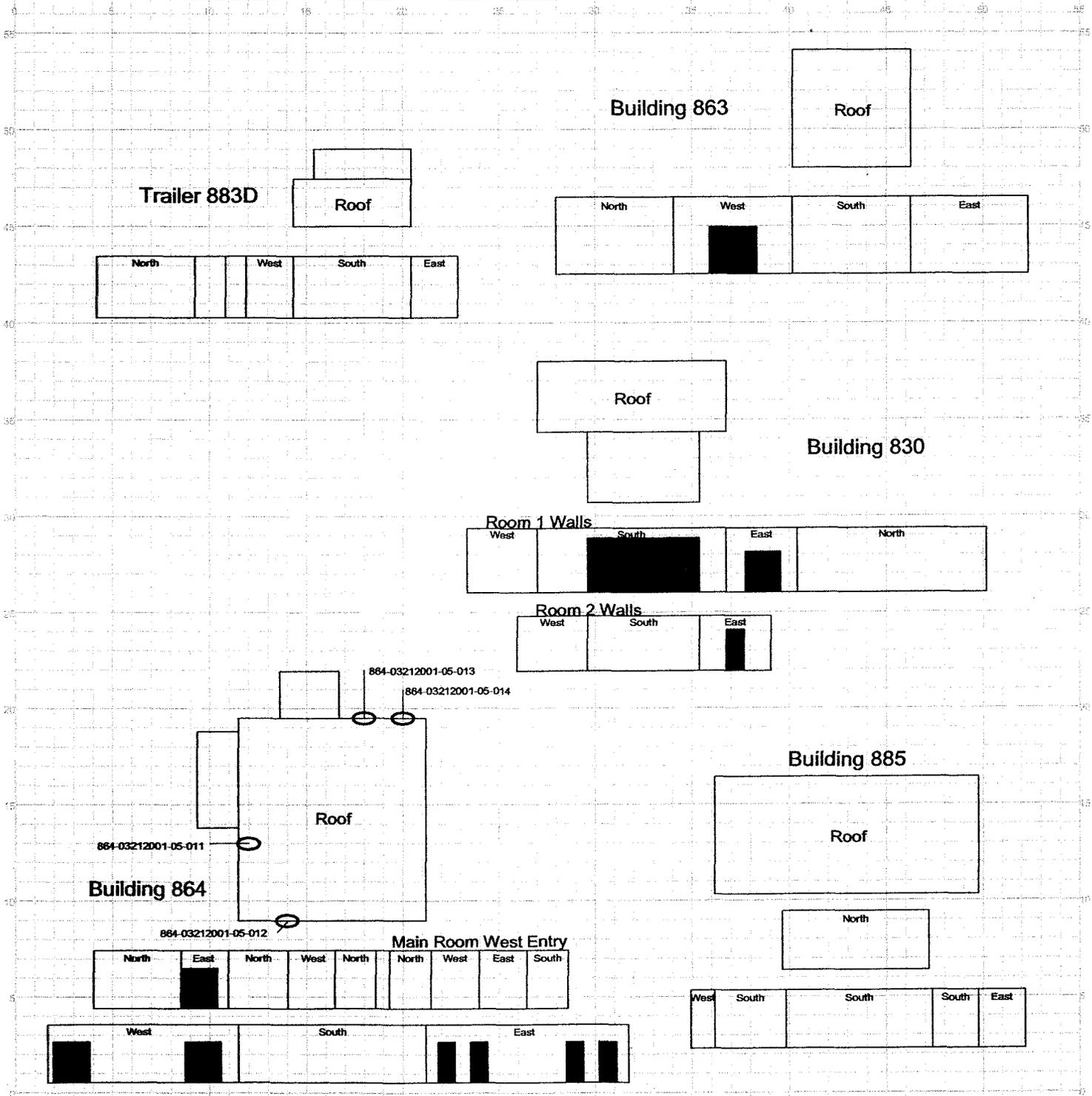
Building 864



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> ⊙ Asbestos Sample Location ⚠ Beryllium Sample Location ⊞ Lead Sample Location ⊕ RCRA/CERCLA Sample Location ⊖ PCBs Sample Location 	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&EC, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p>■ Open/Inaccessible Area ■ Area in Another Survey Unit</p>	<p style="text-align: center;">N ↑</p> <p style="text-align: center;">0 30 FEET</p> <p style="text-align: center;">0 10 METERS</p> <p style="text-align: center;">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p style="text-align: center;">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p style="text-align: center;">Prepared by: GIS Dept. 303-866-7770 Prepared for: DynCorp THE ART OF TECHNOLOGY</p> <p style="text-align: center;">MAP ID: tv2001/01-007 Mar 30, 2001</p>
--	--	---	--

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: B Survey Unit: 800-B-002 Classification: N/A
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Exterior Surfaces
 Total Area: 797 sq. m. Total Floor Area: 0 sq. m.



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p><small>Neither the United States Government nor Essex Hill Co., nor DynCorp I&ET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</small></p> <p> Open/Inaccessible Area Area in Another Survey Unit </p>	<p align="center">N ↑</p> <p align="center">0 FEET 30</p> <p align="center">0 METERS 10</p> <p align="center">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p align="center">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p align="center">Prepared by: GRS Dept. 383-866-779 Prepared for:</p> <p align="center">DynCorp THE ART OF TECHNOLOGY</p> <p align="center">MAP ID: fv209181-9697 May 30, 2001</p>
---	--	---	--

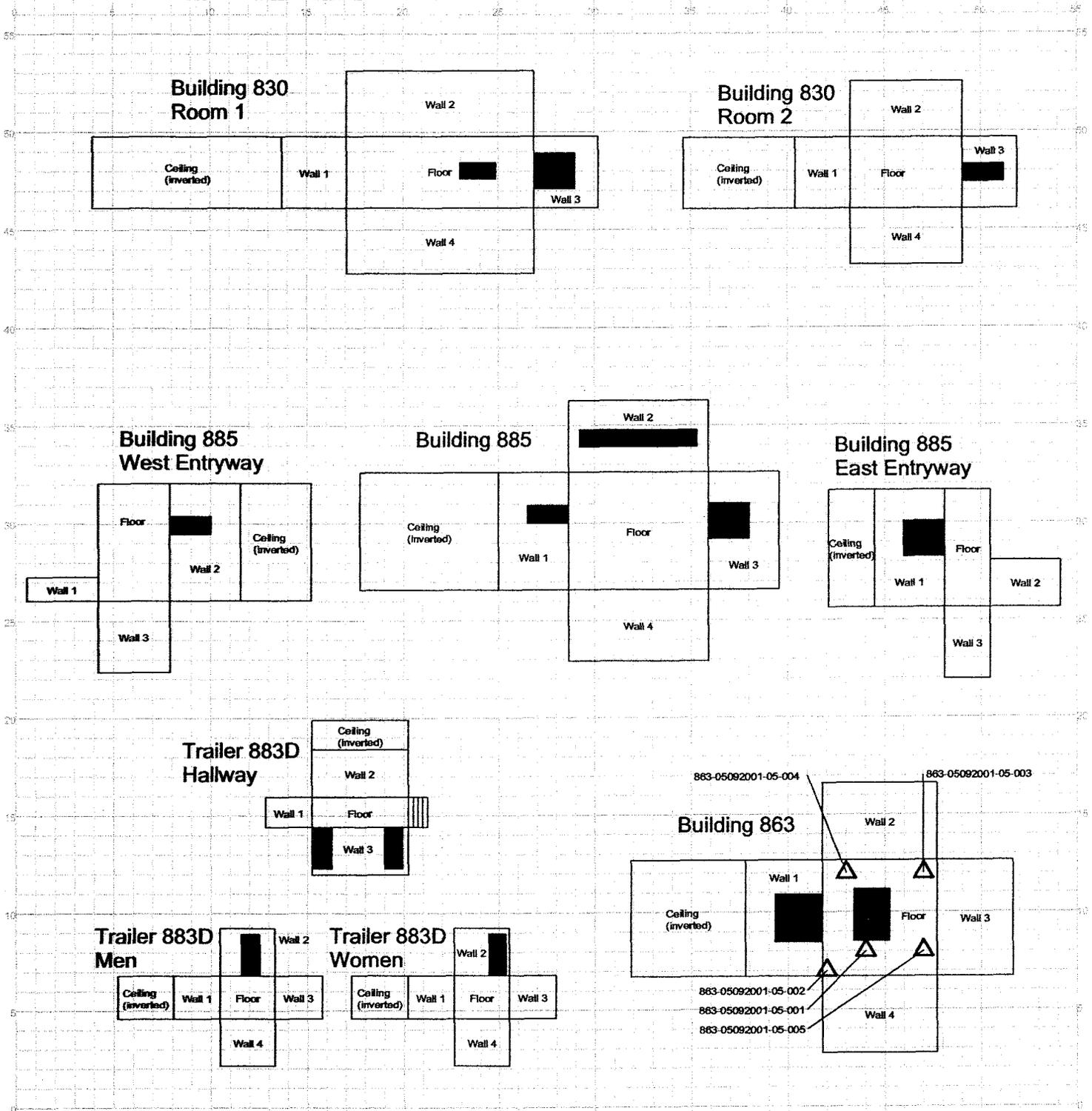
74

Beryllium Data Summary

Sample Number	Sample Location	Result ($\mu\text{g}/100\text{ cm}^2$)
864-03212001-05-001	B864, Room 105 – floor	< 0.1
864-03212001-05-002	B864, Room 106 – floor	< 0.1
864-03212001-05-003	B864, Room 102 – floor	< 0.1
864-03212001-05-004	B864, Room 105 furnace closet – on top of duct	< 0.1
864-03212001-05-005	B864, Room 107A – floor	< 0.1
863-05092001-05-001	B863, Top of electrical duct, south end -- > 8 feet high	< 0.1
863-05092001-05-002	B863, Top of light fixture, southwest corner -- > 8 feet high	< 0.1
863-05092001-05-003	B863, Northeast corner – floor	< 0.1
863-05092001-05-004	B863, Building entrance – floor	< 0.1
863-05092001-05-005	B863, South end of electrical substation – floor	< 0.1
T883D-03222001-05-001	T883D, Women's room – floor	< 0.1
T883D-03222001-05-002	T883D, Women's room – floor	< 0.1
T883D-03222001-05-003	T883D, Women's room – floor	< 0.1
T883D-03222001-05-004	T883D, Men's room – floor	< 0.1
T883D-03222001-05-005	T883D, Men's room – floor	< 0.1
830-03212001-05-001	B830, Room 1 – floor	< 0.1
830-03212001-05-002	B830, Room 1 – floor	< 0.1
830-03212001-05-003	B830, Room 1 – floor	< 0.1
830-03212001-05-004	B830, Room 2 – floor	< 0.1
830-03212001-05-005	B830, Room 2 – floor	< 0.1
885-03212001-05-001	B885, Southeast corner – floor	< 0.1
885-03212001-05-002	B885, Southwest corner – floor	< 0.1
885-03212001-05-003	B885, Center of room – floor	< 0.1
885-03212001-05-004	B885, Northwest corner – floor	< 0.1
885-03212001-05-005	B885, Northeast corner – floor	< 0.1

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A **Survey Unit: 800-A-001** **Classification: N/A**
Building: 830, 863, 864, 885, T883D
Survey Unit Description: Interior Surfaces
Total Area: 1163 sq. m. **Total Floor Area: 221 sq. m.**

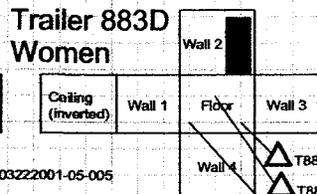
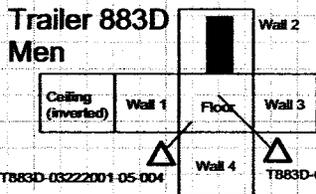
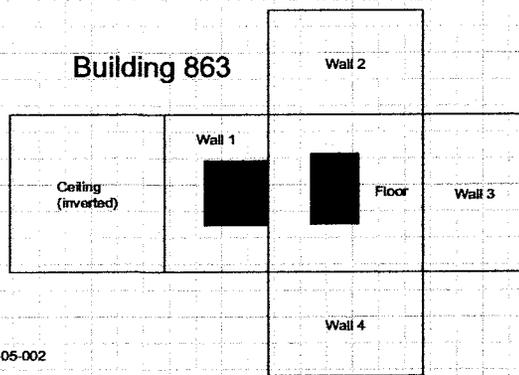
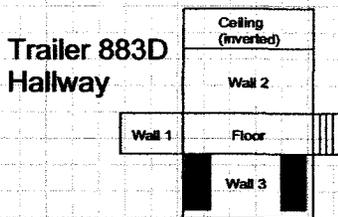
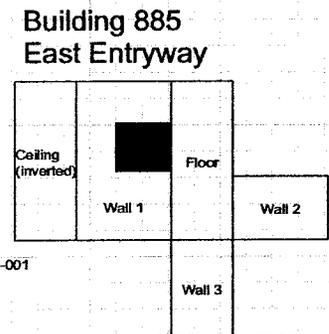
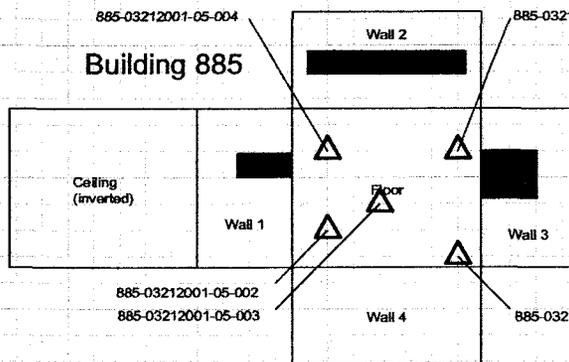
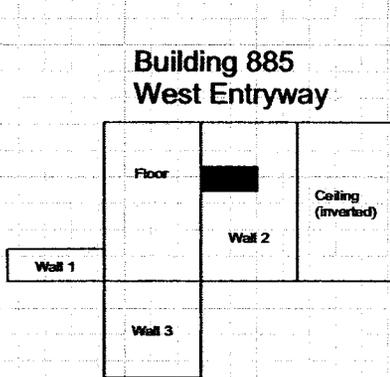
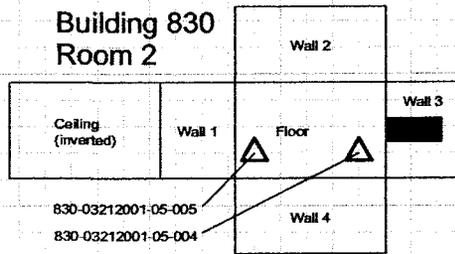
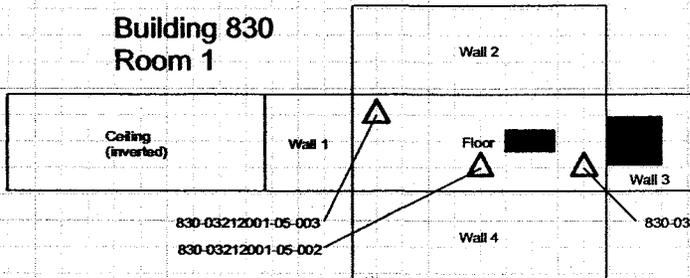


<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p>Neither the United States Government nor Kates Hill Co., nor DynCorp LAET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p> Open/Inaccessible Area</p> <p> Area in Another Survey Unit</p>	<p align="center">N ↑</p> <p align="center">0 FEET 30</p> <p align="center">0 METERS 10</p> <p align="center">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p align="center">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p align="center">Prepared by: GIS Dept. 303-966-770 Prepared for:</p> <p align="center">DynCorp THE ART OF TECHNOLOGY</p> <p align="center">MAP ID: fv2001/01-9897 Nov. 30, 2001</p>
---	---	---	---

81

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A **Survey Unit: 800-A-001** **Classification: N/A**
Building: 830, 863, 864, 885, T883D
Survey Unit Description: Interior Surfaces
Total Area: 1163 sq. m. **Total Floor Area: 221 sq. m.**



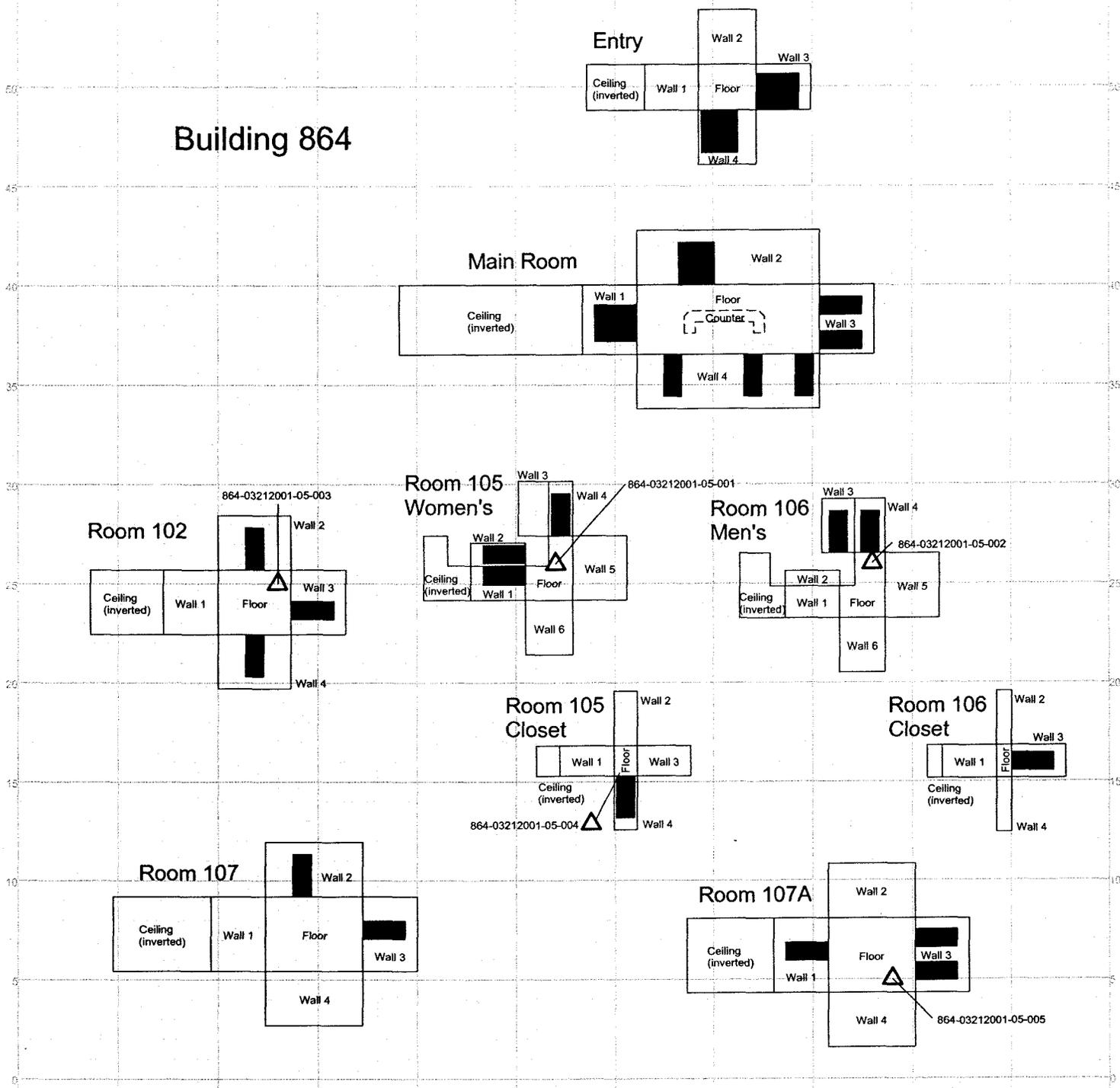
<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p>Neither the United States Government nor Kaiser HD Co., nor DynCorp I&E, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe patented owned rights.</p> <p> Open/Inaccessible Area Area in Another Survey Unit </p>	<p align="center">N ↑</p> <p align="center">0 30 FEET</p> <p align="center">0 10 METERS</p> <p align="center">1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p align="center">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p align="center">Prepared by: G&S Dept. 393-868-770 Prepared for: DynCorp THE ART OF TECHNOLOGY</p> <p align="center">MAP ID: 1v2001/01-0807 May 28, 2001</p>
---	--	---	--

82

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

Survey Area: A Survey Unit: 800-A-001 Classification: N/A
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Interior Surfaces Total Floor Area: 221 sq. m.
 Total Area: 1163 sq. m.

Building 864



<p>SURVEY MAP LEGEND</p> <ul style="list-style-type: none"> Asbestos Sample Location Beryllium Sample Location Lead Sample Location RCRA/CERCLA Sample Location PCBS Sample Location 	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp M E T, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p> <p>■ Open/Inaccessible Area ■ Area in Another Survey Unit</p>	<p>N ↑</p>	<p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 grid sq. = 1 sq. m.</p>	<p>U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GHS Dept. 303-966-7707 Prepared for: DynCorp THE ART OF TECHNOLOGY KAISER HILL</p> <p>MAP ID: tv2001/01-0607 May 30, 2001</p>
--	---	------------	---	---

87

RCRA/CERCLA Constituents Data Summary

Sample Number	Sample Location – Concrete Pad	Result (ug/L)
01D0606-002.002	B885-southwest corner of enclosed building	Metals ¹ and VOAs ² less than regulatory limits
01D0606-004.002	B885-inside east entry door	Metals and VOAs less than regulatory limits
01D0606-005.004	B885-northwest corner of the east outside pad	Metals and VOAs less than regulatory limits
01D0606-006.004	B885-middle of enclosed building floor	Metals and VOAs less than regulatory limits
01D0606-007.004	B885-northwest corner of enclosed building	Metals and VOAs less than regulatory limits
01D0606-008.004	B885-outside west door on the west outside pad	Metals and VOAs less than regulatory limits
01D0606-009.004	B885-southwest corner of the west outside pad	Metals and VOAs less than regulatory limits
01D0606-010.004	B885-duplicate of 01D0606-002.002	Metals and VOAs less than regulatory limits
01D0606-011.004	B885-duplicate of 01D0606-008.004	Metals and VOAs less than regulatory limits
01D0606-012.004	B885-duplicate of 01D0606-009.004	Metals and VOAs less than regulatory limits
01D0621-001.006	B830-northwest corner of the larger room	Metals and VOAs less than regulatory limits
01D0621-002.002	B830-southwest corner of the larger room	Metals and VOAs less than regulatory limits
01D0621-003.002	B830-along south wall of the larger room	Metals and VOAs less than regulatory limits
01D0621-004.002	B830-southeast corner of the larger room	Metals and VOAs less than regulatory limits
01D0621-005.004	B830-southwest corner of the small room	Metals and VOAs less than regulatory limits
01D0621-006.004	B830-middle of the floor in small room	Metals and VOAs less than regulatory limits
01D0621-007.004	B830-duplicate of 01D0621-001.006	Metals and VOAs less than regulatory limits
01D0621-008.004	B830-duplicate of 01D0621-005.004	Metals and VOAs less than regulatory limits

¹ See table on next page

² See table on next page

89

Metals Analyzed

Analyte	Regulatory limit (mg/L)
Arsenic (D004)	5.0
Barium (D005)	100.0
Cadmium (D006)	1.0
Chromium (D007)	5.0
Lead (D008)	5.0
Mercury (D009)	0.2
Selenium (D010)	1.0
Silver (D011)	5.0

Volatile Organics Analyzed

Analyte	Regulatory limit (mg/L)
Vinyl Chloride (D043)	0.2
1,1-Dichloroethene (D029)	0.7
Chloroform (D022)	6.0
1,2- Dichloroethane (D028)	0.5
2-Butanone (D035)	200.0
Carbon Tetrachloride (D019)	0.5
Trichloroethene (D040)	0.5
Benzene (D018)	0.5
Tetrachlorobenzene (D039)	0.7
Chlorobenzene (D021)	100.0
1,4- Dichlorobenzene (D027)	7.5

85

PCB Data Summary

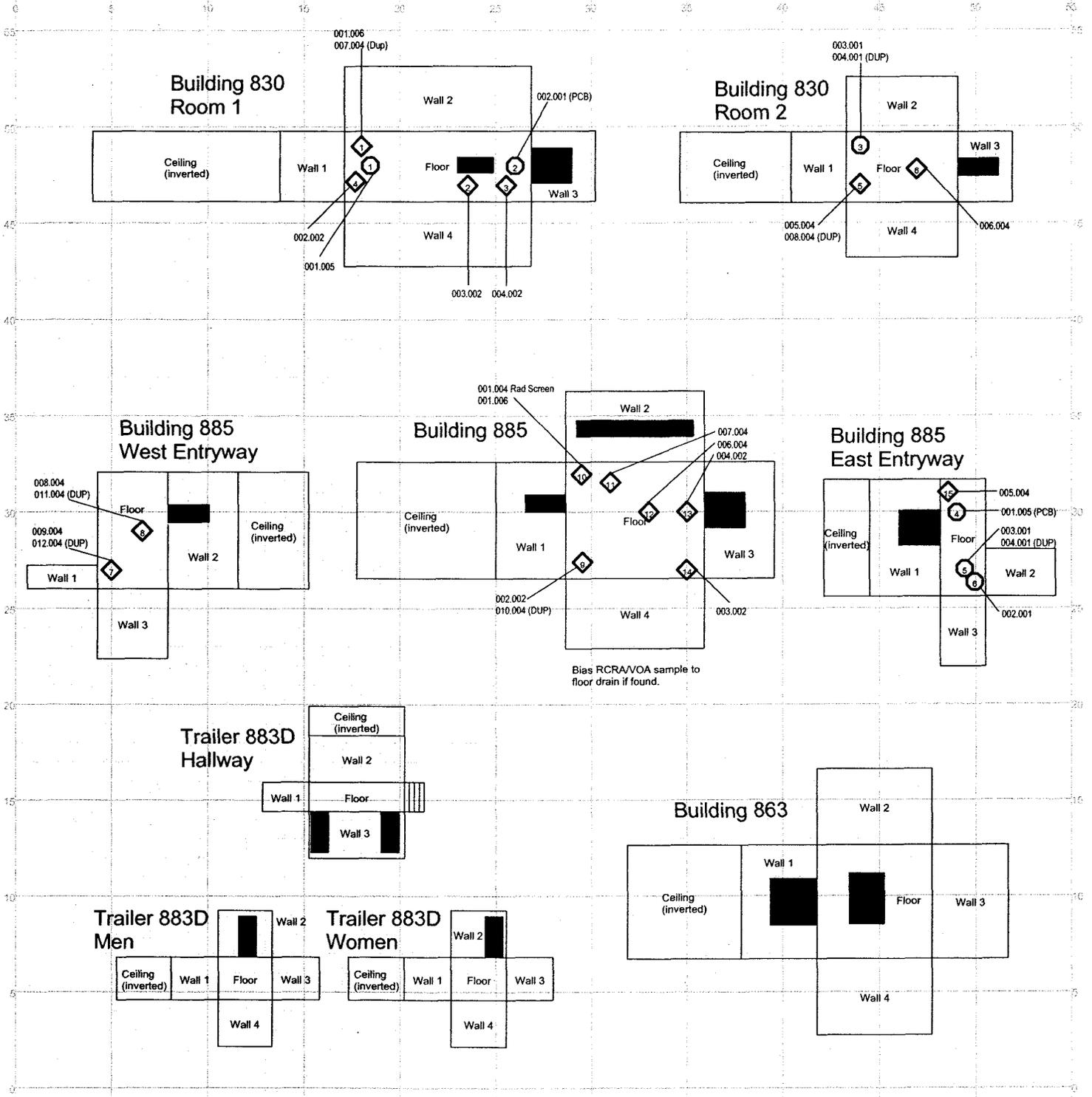
Sample Number	Sample Location - Concrete Pad	Results* (ppm)
01D0606-001.005	B885-north of east door on outside pad	Aroclor 1254 detected at 0.025 ppm
01D0606-002.001	B885-southeast corner of east outside pad	Aroclor 1254 detected at 0.029 ppm
01D0606-003.001	B885-northwest of sample 01D0606-002.001	Aroclor 1254 detected at 1.4 ppm
01D0606-004.001	B885-duplicate of 01D0606-003.001	Aroclor 1254 detected at 0.47 ppm
01D0621-001.005	B830-west wall of the larger room	Less than detection limit** for all Aroclors
01D0621-002.001	B830-west of east entry door to the larger room	Less than detection limit** for all Aroclors
01D0621-003.001	B830-northwest corner of the smaller room	Less than detection limit** for all Aroclors
01D0621-004.001	B830-duplicate of 01D0621-003.001	Less than detection limit** for all Aroclors

* All results are well below the regulatory limit for PCB remediation waste (50 ppm), and below the level for cleanup requirements (25 ppm) as outlined in the *Final Proposed Action Memorandum Remediation of Polychlorinated Biphenyls*, RFETS, May 1995.

** The highest detection limit is for Aroclor 1221 at 0.068 ppm. The other Aroclors have a detection limit of 0.033 ppm.

PRE-DEMOLITION SURVEY FOR 800 AREA CLUSTER

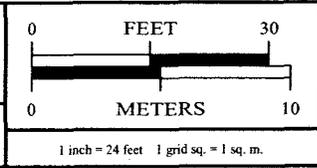
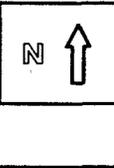
Survey Area: A Survey Unit: 800-A-001 Classification: N/A
 Building: 830, 863, 864, 885, T883D
 Survey Unit Description: Interior Surfaces
 Total Area: 1163 sq. m. Total Floor Area: 221 sq. m.



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCBs Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Neither the United States Government nor Kaiser Hill Co., nor DynCorp MET, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privacy or other rights.



U.S. Department of Energy
 Rocky Flats Environmental Technology Site
 Prepared by: GHS Dept. 303-966-7707 Prepared for:
DynCorp
 THE ART OF TECHNOLOGY

 MAP ID: 12001/01-0687 May 30, 2001

87

ATTACHMENT G

Decommissioning Waste Types and Volume Estimates

88

Attachment G – Decommissioning Waste Types and Volumes Estimates

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated/ Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
830	3,460 ¹	None	289 ¹	345 ¹	None	None	None
863	900	None	205	440	None	None	None
864	5,294 ¹	180 ¹	510 ¹	50 ¹	200	5 – Insulation 5 – Baseboard 100 – Drywall	Glass – 10 Insulation – 200 Carpet – 60 Ceiling tile – 600
T883D	None	93	96	205	120	5 – baseboard	Insulation – 300
885	880 ¹	None	219 ¹	760 ¹	None	5 – Insulation	None
Tank Slabs 020, 021 & 026	750	None	None	None	None	None	None

(1) Materials are assumed to be PCB Bulk Product Waste.

ATTACHMENT H

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA) – 800 AREA TYPE 1 CLUSTER RLCR

INTRODUCTION

Data used in making management decisions for decommissioning and waste management must be of adequate quality to support the decisions. Adequate data quality for decision-making is required by the Kaiser-Hill Team Quality Assurance Program (K-H, 1997, §7.1.4 and 7.2.2), as well as by the customer (DOE, RFFO; Order O 414.1, Quality Assurance, §4.b.(2)(b)). Regulators and the public also expect decisions and data that are technically and legally defensible. Verification and validation of the data ensure that data used in decisions resulting from the Pre-Demolition Survey (PDS) are usable and defensible.

Verification and validation (V&V) of this RLCR are the primary components of the DQA. V&V constitutes the cornerstone of the DQA, because statistical tests and material background determinations relative to decision-making for radiological survey units were not implemented nor required. Instead, measurement results were compared, on a one-to-one basis, with release criteria given in DOE Order 5400.5. The PDS results could, theoretically, be used to conduct Sign Tests for decisions, but because all individual measurements were less than the DCGL_w, the survey units meet release criteria without further data reduction. This DQA supports conclusions in the report through implementation of the guidelines taken from the following MARSSIM sections:

- §4.9, Quality Control
- §8.2, Data Quality Assessment
- §9.0, Quality Assurance & Quality Control
- Appendix E, Assessment Phase of the Data Life Cycle
- Appendix N, Data Validation using Data Descriptors

DQA was performed on measurement and sample results obtained from the Survey Units listed Table H-1. These Survey Units are traceable to specific building locations.

VERIFICATION OF RESULTS

Verification ensures that data produced and used by the project are documented and traceable, per quality requirements. Verification consisted of reviewing the project's data relative to the following subsets, for each unique Survey Unit:

- Radiological
 - scans (total surface contamination)
 - surveys (TSA and removable)
- Chemical
 - asbestos

- beryllium
- RCRA/CERCLA constituents (VOCs, Metals)
- PCBs

Consistent with similar PDS reports at the RFETS, verification confirms the following:

- Chain-of-Custody was intact from initial sampling through transport and final analysis;
- Preservation and hold-times were within tolerance; and
- Format and content of the data are clearly presented relative to goals of the project (i.e., to determine, with at least 95% confidence, that the survey units of interest are adequate for unrestricted radiological release, and no chemical hazards, or contamination, exist).

Verification of the PDS data also addresses quality records representing implementation of the following quality controls:

- Instrument calibrations, for accuracy;
- Laboratory control samples, for accuracy;
- Blanks, for accuracy;
- Duplicate measurements (surveys), for precision;
- Minimum Detectable Activity (MDA), Minimum Detection Limits (MDLs);
- Sample Analysis and Preparation methods.
- Count times, for sensitivity; and
- Sample preparations, for accuracy and representativeness.

All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Each Survey Package is systematically reviewed by the responsible Radiological Engineer, a peer reviewer, and finally, Radiological Engineering Management. Chemical data are organized by sample number and corresponding sample location.

All relevant Quality records are managed in the Project File, and will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of the approval of this RLC by the Regulators.

VALIDATION OF RESULTS

Validation consists of a technical review of all data that directly support the PDS decisions, so that any limitations of the data relative to project goals are delineated, and the associated data are qualified accordingly. Data were validated relative to the following:

- The DQOs as defined in the *Pre-Demolition Survey Plan for D&D Facilities* (K-H, 2/4/2001; i.e., did the final data achieve the initial DQOs of the project, particularly with respect to decisions), and
- Quality Assurance criteria (consistent with the various applicable sections in the MARSSIM, expressed in terms of the PARCCS parameters given in the subsections below).

MARSSIM criteria for the broad topic of "data quality assessment" used in final status surveys generally falls within the generic categories of quality assurance, quality control, data validation, and data assessment (including verification and validation). All of the significant MARSSIM criteria are summarily addressed within the "PARCC Parameters" discussion presented below. PARCCS parameters are congruent with "data descriptors" in the MARSSIM parlance and address characteristics of the data that must be defined for scientific integrity and defensibility. The following discussion of the PARCC parameters -- Precision, Accuracy, Representativeness, Comparability, and Completeness, also include discussion of bias and sensitivity, two more data descriptors emphasized in MARSSIM.

DQO DECISIONS

DQO decisions are summarized in Table H-1.

PARCCS PARAMETERS

Precision

Radiological Surveys

Duplicate measurements were acquired at the required frequency ($\geq 5\%$ frequency of real surveys) on the MARSSIM survey grids. All duplicate measurements were within tolerance based on repeatability of results below the DCGL_w.

Chemical Results

Repeatability of beryllium results was not evaluated through field duplicates, based on the removable nature of the sampling process; this is consistent with radiological survey methodology, where repeatability is only evaluated relative to TSA measurements (fixed activity), and not removable activity. Overall repeatability within the sample set was evident based on all 25 sample results less than the detection limit ($0.1 \mu\text{g}/100\text{cm}^2$).

Repeatability of asbestos results was not evaluated through field duplicates. Overall repeatability within the sample set was evident, however, based on all 20 samples results at less than detectable amounts ($<1\%$ asbestos by volume).

Repeatability of results for RCRA/CERCLA constituents, as well as for PCBs, was adequate: all results for real samples and field duplicates were well below associated action levels.

Accuracy (and Bias)

Radiological Results (Surveys)

Accuracy of radiological surveys 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 tolerance during daily operations. Calibration and calibration check results were within the RFETS and industry-standard requirement of $\pm 20\%$ of the applicable reference standard values. Full-scale multi-point calibrations provide accuracies of $\pm 10\%$ prior to implementation of survey instruments in the field, consistent with guidelines put forth in ANSI-N323.d

No biases were noted in the instrumentation, based on daily performance checks.

Distance measurements recorded on maps are within 3% of actual distances based on the laser technology used for distance measurements associated with the surveys.

Chemical Results

Accuracy for asbestos volumetric concentrations is based on the semi-quantitative technique of petrography via polarized light microscopy. Analysts can typically quantify components to within several percent at high concentrations ranging to $\sim 1\%$ at low concentrations (i.e., presence or absence of the mineral of interest). Accuracy for the analysis is adequate, as the contrast between 0% and 1% is a clear distinction for the decision of "ACM" vs. "No ACM".

Accuracy of all analytical results was adequate based on acceptable percent recoveries of LCS performed on a laboratory-batching basis. Initial and continuing calibrations were also satisfactory relative to performance within specifications and the frequencies at which they were performed.

Because no chemical results exceeded action levels, evaluation of blank data was not required.

Representativeness

Samples and surveys are representative based on the following criteria:

- Familiarity with facilities -- multiple walk-downs and collaborations by management and technical staff;
- Implementation of industry-standard Chain-of-Custody protocols;
- Compliance with sample preservation and hold times; and
- Documented and (site) approved methods, particularly RSPs for scans/surveys, and SOPs for asbestos sampling and beryllium swiping.
- *Chemical Characterization Package, 800 Area Type I Cluster, Revision 1, Feb. 20, 2001*

- Radiological Survey Packages (identification numbers):
 - 01-0004, Survey Unit 800-A-001
 - 01-0005 Survey Unit 800-B-002
 - 01-0011, Survey Unit 800-B-003

Surveys were also representative of the facilities based on a combination of random and biased measurement locations. Random survey measurements, the first 15 taken per Survey Unit (#s 1 – 15), provided statistical confidence in radiological decisions, while biased locations provided additional confidence, as the locations were biased toward those areas with the greatest potential for radiological contamination (dust accumulation areas relative to airborne particulates, and high foot-traffic areas). All chemical sample locations were biased toward materials or locations with the highest potential for contamination.

No beta/gamma survey designs were implemented for the 800 Area Type 1 Cluster based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Stated differently, based on the well-established suite of actinides historically used at the RFETS, all of these actinides would emit alpha radiation in exceedance of the applicable transuranic DCGLs before other DCGLs would be exceeded for their respective Uranium species – Technical Basis Document 00162, Rev. 0, *Technical Justification for Types of Surveys Performed During Reconnaissance Level Characterization Surveys and Pre-Demolition Surveys in RISS Facilities*, corroborates the use of this conservative approach.

Consistent with EPA's G-4 DQO process, the radiological survey design was optimized by checking actual measurement results (acquired during final status survey) against model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of samples/surveys were acquired

Completeness

Radiological Results

All 3 Survey Packages were peer reviewed and approved by radiological engineering management. All radiological results are complete, valid without qualification, and form data sets with adequate quantities and quality of data for release decisions. Decisions are based on $\geq 95\%$ confidence unless otherwise stated. Completeness of data for the project is summarized on table H-1.

Table H-1. Data Completeness Summary for the 800 Area Type 1 Cluster.

ANALYTE	# Samples Required (incl. Media; Real & QC Samples) (biased/reals)	# Taken (Real & QC Samples) ^B	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos ^A				
• Bldg 885	3	1 (int)	ACM	40 CFR 763.86
• T883D (men)	8	5 (int)	no ACM	5 CCR 1001-10
• Bldg 864	20	10 (int), 4 (ext)	ACM	EPA 600/R-93/116
Beryllium (swipes)	(total, biased, reals)			("no ACM" is <1% by volume) specific to "Client Sample Number", not RIN
• Bldg 885	5	reals, 2 blanks	No contamination at any location	RIN 01D0802
• T883D	5	5		OSHA ID-125G
• Bldg 864	5	5		No results above action level (0.2µg/100cm ²) or investigative level (0.1 µg/100cm ²).
• Bldg 830	5	5		
• Bldg 863	5	5		
RCRA/CERCLA suite				
Metals				
• Bldg 830	6 real, 2 duplicates	6 real, 2 dupes	No contamination at any location	SW-846, 1311/6010/7470 RIN 01D0621;
• Bldg 885	9 real, 3 duplicates	9 real, 3 dupes		RIN 01D0606
VOCs				SW-846, 1311/8260 RIN 01D0621
• Bldg 830	6 real, 2 duplicates	6 real, 2 dupes		RIN 01D0606
• Bldg 885	9 real, 3 duplicates	9 real, 3 dupes		
PCBs				
• Bldg 830	3 reals, 1 duplicate	3 reals, 1 duplicate	No contamination at any location	SW-846 8080A/8081 RIN 01D0621
• Bldg 885	3 reals, 1 duplicate	3 reals, 1 duplicate		RIN 01D0606

(continued on next page)

ANALYTE	# Samples Required (incl. Media; Real & QC Samples)	# Taken (Real & QC Samples) ^B	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological • Survey Unit: 800-A-001	75 TSA & Smears (15 random + 60 biased) ≥ 5% QC TSA 10% Scan	75 TSA & Smears (15 random + 60 biased) 4 QC TSA 10% Scan	No contamination at any location above the action levels	No results above DCGL _w or DCGL _{EMC} action level (20 dpm/100cm ² removable, 100 dpm/100cm ² average, and 300 dpm/100cm ² maximum.
• Survey Unit: 800-B-002	75 TSA & Smears (15 random + 60 biased) ≥ 5% QC TSA 10% Scan	75 TSA & 75 Smears (15 random + 60 biased) 4 QC TSA 10% Scan		
• Survey Unit: 800-B-003	21 TSA & Smears (15 random + 6 biased) 6 QC TSA 10% Scan	21 TSA & Smears (15 random + 6 biased) 2 QC TSA 10% Scan		

^A # of samples required is estimate only, based on miscellaneous material types; final # of samples at discretion of IH

^B int – building interior, ext – building exterior

97

Comparability

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

- Use of standardized engineering units in the reporting of measurement results;
- Consistent sensitivities of measurements at $\leq 50\%$ DCGL_W (\leq DCGL_{EMC} for scans);
- Use of site-approved procedures (RSPs, TBDs, and SOPs);
- Systematic quality controls; and
- Thorough documentation of the planning, sampling/analysis process, and data reduction into formats designed for making decisions posed from the project's original data quality objectives.

Sensitivity

Adequate sensitivities, in units of dpm/100² cm, were attained for all surveys implemented based on MDAs at 50% of the transuranic DCGL_W (\leq DCGL_{EMC} for scans). Derivations of MDAs, for all instruments used, are given in each respective Radiological Survey Package. Nominal MDAs for each survey method are summarized as follows:

- Surveys (Eberline SAC-4) - removable contamination: 10 dpm/100cm²
- Surveys (NE Electra DP-6) - total surface contamination (TSA): 50 dpm/100cm²
- Surveys (NE Electra DP-6) – scans: <225 dpm/100 cm²

Sensitivities were adequate for all chemical analyses. Detection limits for beryllium were less than 0.1 ug/100cm²; asbestos was not detected at sensitivities to <<1% volume. All detection limits were well less than one half of their associated action levels – a general indicator that sensitivity of the method is adequate to allow comparisons of low to non-detected values with corresponding action levels.

Summary

In summary, the data presented in this report have been verified and validated relative to the project decisions as stated in the original DQOs. All media surveyed and sampled yielded results less than their associated action levels. Therefore, the Survey Units and buildings in question meet the unrestricted-release criteria with the confidences stated in this section and throughout the 800 Area Type 1 Cluster report.

98/98