



# Rocky Flats Environmental Technology Site

**TYPE 2  
RECONNAISSANCE LEVEL CHARACTERIZATION  
REPORT (RLCR)  
AND  
PRE-DEMOLITION SURVEY REPORT (PDSR)**

**BUILDINGS 566 AND 566A CLOSURE PROJECT**

**VERSION 0**

**December 3, 2003**

**CLASSIFICATION REVIEW NOT REQUIRED PER  
EXEMPTION NUMBER CEX-0018502**



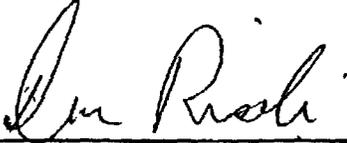
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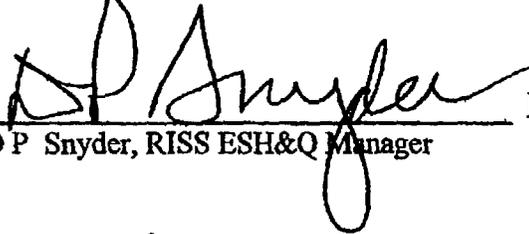
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**December 3, 2003**

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### ATTACHMENTS

- A Facility Location Map
- B Historical Site Assessment Report
- C Radiological Data Summaries and Survey Maps
- D Chemical Data Summaries and Sample Maps
- E Data Quality Assessment (DQA) Detail

## ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act
DCGL <sub>EMC</sub>	Derived Concentration Guideline Level – elevated measurement comparison
DCGL <sub>W</sub>	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 Buildings 566 and 566B. Initially, these facilities were anticipated Type 1 facilities resulting in the characterization being performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP) requirements. During this anticipated Type 1 facility characterization, plutonium contamination was identified in the ventilation system and in the concrete slab trench, therefore, these facilities have been re-typed as Type 2 RFCA facilities. This characterization report satisfies both the Type 2 facility Reconnaissance Level Characterization Report (RLCR) and Pre-Demolition Survey Report (PDSR) requirements. All facility surfaces were characterized in this combination RLC/PDS, including the interior and exterior surfaces (i.e., floor, walls, ceiling, roof and equipment). Environmental media beneath and surrounding the facility was not within the scope of this RLCR and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report.

Final PDS results indicate that radiological contamination exists in excess of the PDSR unrestricted release limits of DOE Order 5400.5 in the two concrete slab trenches, the two process waste tanks, and one leg of vertical process waste piping. Refer to Figure C-1 in Attachment C for the locations of the contaminated items. These contaminated items will be managed and disposed of as LLW during demolition.

All beryllium sample results were less than  $0.1 \mu\text{g}/100\text{cm}^2$ . All Bulk samples of building materials suspected of containing asbestos were "None Detected". Based on asbestos sampling results, no asbestos containing materials were identified in the facilities. 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 data presented in this combination RLCR/PDSR, Buildings 566 and 566A are considered Type 2 facilities. To ensure these facilities remain free of contamination and RLC data remain valid, isolation controls have been established and the facilities posted accordingly.

## **1 INTRODUCTION**

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the DPP (10/8/98) and compliant disposition and waste management of Buildings 566 and 566B. Initially, these facilities were anticipated Type 1 facilities resulting in the characterization being performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP) requirements. During this anticipated Type 1 facility characterization, plutonium contamination was identified in the ventilation system and in the concrete slab trench, therefore, these facilities have been re-typed as Type 2 RFCA facilities. This characterization report satisfies both the Type 2 facility Reconnaissance Level Characterization Report (RLCR) and Pre-Demolition Survey Report (PDSR) requirements. All facility surfaces were characterized in this combination RLC/PDS, including the interior and exterior surfaces (i.e., floor, walls, ceiling, roof and equipment). Environmental media beneath and surrounding the facility was not within the scope of this RLCR and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these are Buildings 566 and 566A. The location of these facilities is shown in Attachment A. These facilities no longer support the RFETS mission and require removal to reduce Site infrastructure, risks and/or operating costs.

Before these facilities can be removed, a Reconnaissance Level Characterization (RLC) and a Pre-Demolition Survey (PDS) must be conducted, this document presents the RLC/PDS results. The RLC/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 RLC/PDS built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report.

### **1.1 Purpose**

The purpose of this report is to communicate and document the results of the RLC/PDS effort. A PDS is performed before building demolition to define the pre-demolition radiological and chemical conditions of a facility. Pre-demolition conditions are compared with the unrestricted 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 RLC and PDS radiological and chemical conditions of Buildings 566 and 566A. Environmental media beneath and surrounding the facility is not within the scope of this RLCR/PDSR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

### **1.3 Data Quality Objectives**

The Data Quality Objectives (DQOs) used in designing this RLC/PDS were the same DQOs identified 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**

A facility-specific Historical Site Assessment (HSA) was conducted to understand the facility history and related hazards. The assessment 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). These assessments were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. The facility-specific HSA was documented in *Historical Site Assessment Report (HSAR) for the Area 4 – Group 2 Facilities, Dated July 2002, Revision 0*. Refer to Attachment B for a copy of Buildings 566 and 566A HSAR. In summary, the HSAR identified a potential for radiological and chemical hazards.

## **3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS**

Buildings 566 and 566A were characterized for radiological hazards per the RLCP and PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, a Radiological Characterization Plan was developed during the planning phase that describes the minimum survey requirements (refer to the RISS Characterization Project files).

Three radiological survey packages were developed for the interior and exterior of Buildings 566 and 566A: 566-4-001 (Building 566 exterior), 566A-4-002 (Building 566A interior and exterior) and 566-4-003 (Building 566 interior). The survey packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total surface activity (TSA), removable surface activity (RSA), 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 relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

### **Survey Unit 566-4-001 (Building 566 Exterior)**

Thirty-four (34) TSA measurements (22 random, 10 biased and 2 QC) and thirty (30) RSA measurements (22 random and 8 biased) were performed, and a minimum of 10% of the exterior facility surfaces were scanned. The RLC/PDS data confirmed that the exterior facility surfaces do not contain radiological contamination above the surface contamination guidelines provided in the PDSP.

**Survey Unit 566A-4-002 (Building 566A Interior and Exterior)**

Fifty-five (55) TSA measurements (15 random, 7 biased, 30 equipment and 3 QC) and fifty-two (52) RSA measurements (15 random, 7 biased and 30 equipment) were performed, and a 25% of the interior floor surfaces and 10% scan of the remaining interior and exterior surfaces were scanned. The RLC/PDS data confirmed that the facility does not contain radiological contamination above the surface contamination guidelines provided in the PDSP.

**Survey Unit 566-4-003 (Building 566 Interior)**

Eighty-three (83) TSA measurements (28 systematic, 10 biased, 40 equipment and 5 QC) and seventy-eight (78) RSA measurements (28 systematic, 10 biased and 40 equipment) were performed, and 50% of the interior floor surfaces and 10% of the interior walls, ceilings and equipment were scanned. Final PDS results indicate that radiological contamination exists in excess of the PDSP unrestricted release limits of DOE Order 5400.5 in the two concrete slab trenches, the two process waste tanks, and one leg of vertical process waste piping. Refer to Figure C-1 in Attachment C for the locations of the contaminated items. Attachment C also contains a survey of the large trench and the isotopic results for the sludge samples from the two process waste tanks. One leg of vertical process waste piping is not accessible for survey and thus, is assumed contaminated. These contaminated items will be managed and disposed of as LLW during demolition. All contaminated dryer ventilation system ducting was removed and disposed of as LLW prior to the PDS. All other areas and equipment within Survey Unit 566-4-001 did not contain radiological contamination above the surface contamination guidelines provided in the PDSP.

The radiological survey data, statistical analysis results, and survey locations are presented in Attachment C, Radiological Data Summary and Survey. The radiological survey packages are maintained in the RISS Characterization Project File.

#### **4 CHEMICAL CHARACTERIZATION AND HAZARDS**

Buildings 566 and 566A were characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in the facility. Based upon a review of historical and process knowledge, visual inspections, and RLCP and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan (refer to RISS Characterization Project files) was developed during the planning phase that describe 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 D, Chemical Data Summaries and Sample Maps, for details on sample results and sample locations.

#### 4.1 Asbestos

A survey of building materials suspected of containing asbestos was conducted in Buildings 566 and 566A in accordance with the RLCP. A CDPHE-certified asbestos inspector conducted the inspection and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1*. Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector.

A comprehensive, invasive asbestos inspection was conducted to determine the presence of friable and non-friable asbestos containing building materials. A total of 49 bulk asbestos samples were taken of suspect materials within Buildings 566 and 566A. All bulk samples of building materials suspected of containing asbestos were negative ("None Detected"). Asbestos laboratory analysis data and sample location maps are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

#### 4.2 Beryllium (Be)

Based on the HSAR and personnel interviews, there was not adequate historical and process knowledge to conclude that beryllium was not used or stored in these buildings. Therefore, random and biased beryllium sampling was performed in accordance with the PDSR and the *Beryllium Characterization Procedure, PRO-536-BCPR, Revision 0, September 9, 1999*. A total of 32 random samples and 72 biased samples were collected within Buildings 566 and 566A. Biased sample locations corresponded with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

All beryllium smear sample results were less than 0.1  $\mu\text{g}/100\text{cm}^2$  and meet the unrestricted release limits. Beryllium laboratory sample data and location maps are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

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

Based on a review of the HSAR and facility walk downs, Buildings 566 and 566A contained laundry and respirator cleaning processes that may have introduced trace amounts of RCRA/CERCLA constituents to the buildings. There is no evidence that contamination of RCRA/CERCLA constituents above regulatory levels could have occurred. A universal waste storage and satellite accumulation area were maintained in Building 566 to manage waste derived from the respirator cleaning and alarms repair operations. However, there is no record of spills related to these areas, and no evidence of contamination. Based on the above information, RCRA/CERCLA constituent sampling was not performed as part of the RLC/PDS.

Sampling for lead in paint in Buildings 566 and 566A was not performed. 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. There have been no high contamination areas in Buildings 566 or 566A.

Buildings 566 and 566A may contain RCRA regulated materials such as fluorescent lights and mercury switches. A thorough inspection of the facilities will be made, and all regulated materials will be removed, prior to demolition.

#### 4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSARs, interviews and facility walk downs of Buildings 566 and 566A, no PCB-containing equipment was ever present in the buildings, making the potential for PCB contamination resulting from spills highly unlikely. Therefore, PCB sampling was not performed in Buildings 566 or 566A as part of this RLC/PDS.

Based on the age of Buildings 566 and 566A (constructed after 1980), paints do not contain PCBs, and painted surfaces may be disposed of as non-routine sanitary waste. Although unlikely due to the age of Buildings 566 and 566A, the facilities may contain PCB containing fluorescent light ballasts. 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. Ballasts that do not indicate non-PCB-containing are assumed to be PCB-containing. Ballasts that are identified as PCB containing and are leaking will be removed prior to demolition. Non-leaking PCB ballasts can remain in the building and be disposed of as PCB Bulk Product Waste.

## 5 PHYSICAL HAZARDS

Physical hazards associated with Buildings 566 and 566A consist of those common in standard industrial environments and include hazards associated with energized systems, utilities, and trips and falls. The facilities have been relatively well maintained and are in good physical condition, therefore, do not present hazards associated with building deterioration. There is a tank pit located in the northwest corner of the building that is approximately 23 feet long, 11 feet wide, and 12 feet deep. The two radiologically contaminated process waste tanks in the pit will be removed during demolition as LLW. Care should be taken during demolition activities as Buildings 566 and 566A are located near PAC 700-150 2 "Radioactive Site West of Building 771 and 776, Active" and PAC 700-1102, "IHSS currently under negotiation." 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.

## 6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Buildings 566 and 566A, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments C and D) 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 E.

## 7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Buildings 566 and 566A will generate a variety of wastes. Estimated waste types and waste volumes are presented below. All waste can be disposed of as sanitary waste, except for the concrete slab trenches, the two process waste tanks in the NW corner pit, and the vertical process waste pipe in the SE corner of 566A, which will all be managed as LLW during demolition. Refer to Figure C-1 in Attachment C for the location of these LLW items. There is no asbestos, beryllium, or hazardous waste. Non-leaking PCB ballasts will be managed as PCB Bulk Product Waste.

Waste Volume Estimates and Material Types							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
566	8,500	0	19,800	3,600	2,100	0	LLW Concrete Slab Trenches- 500  LLW Process Waste Tanks (2) - 200
566A	2,800	0	1,150	900	0	0	LLW Process Waste Piping - 15

## **8 FACILITY CLASSIFICATION AND CONCLUSIONS**

Based on the analysis of radiological, chemical and physical hazards, Buildings 566 and 566A are classified as RFCA Type 2 facilities pursuant to the RFETS Decommissioning Program Plan (DPP, K-H, 1999). The Type 2 classification is based on a review of historical and process knowledge, and newly acquired RLC/PDS data.

The RLC/PDS of Buildings 566 and 566A was performed in accordance with the DDCP and PDSP requirements. All RLCP and PDSP DQOs were met, and all data satisfied the RLCP and PDSP DQA criteria. Final PDS results indicate that radiological contamination exists in excess of the PDSP unrestricted release limits of DOE Order 5400.5 in the two concrete slab trenches, the two process waste tanks, and one leg of vertical process waste piping. Refer to Figure C-1 in Attachment C for the locations of the contaminated items. These contaminated items will be managed and removed as LLW during demolition.

There is no asbestos, beryllium, or hazardous waste. At present, leaking PCB ballasts will be managed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. 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. Environmental media beneath and surrounding the facility will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

To ensure Buildings 566 and 566A (Type 2 facilities) remain free of contamination and RLC/PDS data remain valid, Level 2 isolation controls have been established and the facilities posted accordingly.

## 9 REFERENCES

- DOE/RFFO, CDPHE, EPA, 1996 *Rocky Flats Cleanup Agreement (RFCA)*, July 19, 1996
- DOE Order 5400 5, "*Radiation Protection of the Public and the Environment* "
- EPA, 1994 "*The Data Quality Objective Process*," EPA QA/G-4
- K-H, 1999 *Decommissioning Program Plan*, June 21, 1999
- MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev 1, November 1, 2001
- MAN-076-FDPM, *Facility Disposition Program Manual*, Rev 3, January 1, 2002
- MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev 3, July 15, 2002
- MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev 1, July 15, 2002
- MARSSIM - *Multi-Agency Radiation Survey and Site Investigation Manual*, December 1997 (NUREG-1575, EPA 402-R-97-016)
- PRO-475-RSP-16 01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure*, Rev 1, May 22, 2001
- PRO-476-RSP-16 02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev 1, May 22, 2001
- PRO-477-RSP-16 03, *Radiological Samples of Building Media*, Rev 1, May 22, 2001
- PRO-478-RSP-16 04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev 1, May 22, 2001
- PRO-479-RSP-16 05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev 1, May 22, 2001
- PRO-563-ACPR, *Asbestos Characterization Procedure*, Revision 0, August 24, 1999
- PRO-536-BCPR, *Beryllium Characterization Procedure*, Revision 0, August 24, 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*
- RFCA Standard Operation Protocol for Recycling Concrete*, September 28, 1999
- Historical Site Assessment Report for Area 4 Group - 2 Facilities*, Dated July, 2002, Revision 0

# ATTACHMENT A

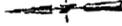
## Facility Location Map

# Buildings 566 & 566A

## Standard Map Features

-  Buildings and other structures
-  Demolished buildings and other structures
-  Lakes and ponds
-  Streams, ditches, or other drainage features
-  Fences and other barriers
-  Paved roads
-  Dirt roads

**DATA SOURCE BASE FEATURES**  
Buildings, fences, hydrography, roads and other structures from 1992 aerial fly-over data captured by EG&G-IDS, Las Vegas. Digitized from the orthorectified 1975



Scale = 1:12,150  
1 inch represents approximately 1038 feet

1" = 1000'  
150 ft  
300 ft  
600 ft  
1200 ft  
2400 ft  
4800 ft  
9600 ft  
19200 ft  
38400 ft  
76800 ft  
153600 ft  
307200 ft  
614400 ft  
1228800 ft  
2457600 ft  
4915200 ft  
9830400 ft  
19660800 ft  
39321600 ft  
78643200 ft  
157286400 ft  
314572800 ft  
629145600 ft  
1258291200 ft  
2516582400 ft  
5033164800 ft  
10066329600 ft  
20132659200 ft  
40265318400 ft  
80530636800 ft  
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322122547200 ft  
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20615843020800 ft  
41231686041600 ft  
82463372083200 ft  
164926744166400 ft  
329853488332800 ft  
659706976665600 ft  
1319413953331200 ft  
2638827906662400 ft  
5277655813324800 ft  
10555311626649600 ft  
21110623253299200 ft  
42221246506598400 ft  
84442493013196800 ft  
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1450710983537555091567411200 ft  
2901421967075110183134822400 ft  
5802843934150220366269644800 ft  
11605687868300440732539289600 ft  
23211375736600881465107779200 ft  
46422751473201762902135558400 ft  
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371382011785614103217084467200 ft  
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76059036013693768328618182425600 ft  
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## ATTACHMENT B

# Historical Site Assessment Report

**D&D RISS Facility Characterization  
Historical Site Assessment Report  
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**Facility ID (Area 4 – Group 2) - Buildings 556, 566A, 569, 570, T760A, 790, and 906**  
Anticipated Facility Type (1, 2, or 3) Buildings 556, 566A are anticipated Type 2 facilities Buildings 569, 570, T760A, 790 and 906 are anticipated Type 1 facilities

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

**Physical Description**

**Building 566 and 566A**

Building 566 and 566A are a single structure divided in to a 13,700 sq ft Site Alarm Maintenance and Respirator Repair Facility and the 4000 sq ft filter plenum designated Buildings 566 and 566A Building 566A is basically the administrative portion of the 566 building Both facilities were constructed in the 1991 The walls are reinforces concrete, the roof is constructed with a metal sheet, lightweight concrete, insulation and a synthetic membranc to seal the roof The floor is pored concrete

Building 566 and 566A have the following utilities electric, plant water, plant sanitary, process waste line (lock and tagged-out) and an overhead sprinkler system and wall-mounted fire extinguishers provide fire protection

**Building 569**

Building 569, also known as the Crate Counting Facility, is a 7620 sq ft single-story building constructed in 1987 Building 569 is a prefabricated modular building constructed on a concrete slab The walls are constructed of metal siding mounted on a steel frame The roof is an insulated metal roof mounted to a steel frame

Building 569 has the following utilities, electric, plant water, plant sanitary, plant stream and fire protection is provided by wall-mounted fire extinguishers

**Building 570**

Building 570 is the filter plenum for the Crate Counting Facility and is a 683 sq ft. building constructed in 1987 Building 570 is a concrete building with 12-in thick reinforced concrete walls and a concrete floor The roof is constructed with insulated sheet metal supported by steel joists

Building 570 has the following utilities, electric, plant water, plant stream, and a plenum deluge system and wall-mounted fire extinguishers provide fire protection

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**Trailer T760A**

Trailer T760A is a 500 square foot shower trailer. This trailer was placed into service in 1990 and is located south of the 750 Pad. T760A has aluminum siding and aluminum skirting. Each entry has wooden steps leading to the entry doors. The interior is configured with a separate men and woman's shower, toilet and locker room facility. The interior walls are wallboard and the floors are vinyl tiles. There is a propane gas tank located west of the trailer.

Trailer T760A has the following utilities: electric, propane gas, plant water, plant sanitary, and fire protection is provided by wall mounted fire extinguishers. The water and gas systems have been shut off.

**Building 790**

Building 790 is a 6,768-sq ft single-story concrete building constructed in 1991. The building consists of three irradiation cells (A, B, and C), an instrument calibration support area, a control room, and an office area. The irradiation cells and control room are constructed of 2-foot-thick concrete walls. The instrument calibration support and office areas are constructed of masonry blocks and steel reinforcement. The floors are poured in place concrete. The roof is constructed with insulated sheet metal supported by steel joists.

Building 790 has the following utilities, electric, plant water, plant sanitary, natural gas, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

**Building 906**

Building 906 is a 25,000 square foot TRU waste storage facility. Building 906 was constructed in 1994 as a LLW storage facility. In 2000 it had its ventilation system, fire protection system, alarm system and lightning protection systems up-grades to comply with the TRU waste storage requirements. Building 906 is a steel frame building constructed on a concrete pad. The walls and roof are insulated aluminum mounted on the steel frame.

Building 906 has the following utilities, electric, fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

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**Historical Operations**

**Building 566 and 566A**

Buildings 556 and 566A were originally constructed to be the site laundry facility. Laundry operations only lasted for about 2 years, and the facility was never approved to handle the highly contaminated laundry. Building 566 has always housed Respirator Cleaning and Repair operations. In 1999, the Alarms Maintenance Servicing Center moved into the 566 building.

Alarm maintenance involves cleaning equipment, replaces faulty components, and testing and inspecting equipment. The Respirator Cleaning and Repairs Facility contains a respirator washer, laundry carts, radioactivity monitoring equipment, detergent, bleach and water are used in the respirator washing process. Wastewater drains into two storage tanks located in the Building 566 pit and is then pumped to the sanitary drain. Building 566 has a process waste line which had been locked-out. Respirators and Alarm equipment are surveyed for radioactivity prior to being transported to Building 566.

In the late 1990s, the B566 ventilation air filter plenum was surveyed and no radiological contamination was found. The radiological postings were removed from the plenum. In the late 1990s, the washers and dryers were removed and the waste trench under the washers was surveyed. Only very low levels of contamination were found and the trench was decontaminated (using power washer).

**Building 569**

Building 569 contains radioactivity assay equipment and temporary waste storage operations. Building 569 is also RCRA Unit 59. Containers of low-level, low-level mixed, transuranic and transuranic mixed waste are received from throughout the plant and assayed using a passive-active counter. Containers are assayed prior to being accepted into Building 569. Containers whose contents meet the package criteria are transported to Buildings 664, 440, or 906 for storage pending off-site shipment. Those containers not meeting the package criteria, or which exhibit physical damage or improper packing are identified for repackaging. No unpacking or repackaging is performed in Building 569.

**Building 570**

Building 570 was built as the Building 569 air plenum, but has never been activated and has never housed any radiological or hazardous operation.

**Trailer T760A**

T760A was used as a shower trailer for workers at the 904 Pad and the pondcrete operation on the 750 Pad. The trailer had no radiological or hazardous operations. Routine radiological surveys show no evidence of contamination.

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**Building 790**

Building 790 was designed to perform radiometric calibrations. Specifically, it is used to expose thermoluminescent dosimeters (TLD) and calibrate site health physics instrumentation. The building consists of three irradiation cells (A, B, and C) an instrument calibration support area, a control room, and an office area. This facility uses and stores sealed sources and X-ray generating equipment.

Cell A is a hexagonal shaped two-story, low neutron-scatter-design silo that houses the Pneumatic Source Transfer System (PSTS) for neutron flux calibration of TLDs and radiation survey equipment. Cell B contains an X-ray generating system for the calibration of portable radiation measurement instruments and to irradiate TLDs. Cell C contains high-level gamma irradiators, which are used for gamma irradiation of TLDs and instruments. No hazardous chemicals are stored in Building 790, other than general cleaning supplies and small quantities (less than 1 pint) of alcohol and acetone to clean some instrument parts.

Sources stored in Building 790 include, but are not limited to Pu, Am, Sr-90, Cf, Cs, Co-60, Ba, and Pm.

**Building 906**

Building 906, also referred to as Central Waste Storage, is RCRA Unit 14 and was constructed in 1994 as a LLW storage facility. In 2000 it had its ventilation system, fire protection system, alarm system and lightning protection systems up-graded to comply with the TRU waste storage requirements. Building 906 is currently permitted to store LLW, TRU, Mixed Waste, and TSCA waste, but primarily stores TRU waste. Building 906 has had no spills and there is no evidence of any building contamination. Some areas of the Building 906 have elevated dose rates caused by the TRU waste stored in the building.

**Current Operational Status**

Building 556 is operational as the site's Alarm Maintenance Center and the Respirators Cleaning and Repair Facility. Building 566A (air plenum for Building 566) is not operational. Building 569 is the Crate Counting Facility and is operational. Building 570 (the air plenum for Building 569) is not operational. Trailer T760A is a shower trailer and is not operational. Building 790 is currently operational as the site's Radiation Calibration Laboratory. Building 906 is currently operational as a TRU waste storage area.

**Contaminants of Concern**

**Asbestos**

*Describe any potential, likely, or known sources of Asbestos*

None of the buildings in this HSA have an asbestos posting. Building 569 is posted as being asbestos free. The posting references Document # JAF-010-90. The other facilities in this HSA have not had a comprehensive asbestos survey.

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**Beryllium (Be)**

*Describe any potential, likely, or known Be production or storage locations*

None of the buildings addressed in this HSA are on the List of known Be Areas. Respirators, which have been released from Beryllium areas are cleaned and repaired in Building 566. There is no history of beryllium building contamination associated with this activity.

*Summarize any recent Be sampling results*

Contact the IH group for any recent Be sample results

**Lead**

*Describe any potential, likely, or known sources of Lead (e.g., paint, shielding, etc.)*

Given the age of the facilities addressed in this HSA, lead in paint should not be a concern. Building 790 and 569 have some lead shielding in the assay equipment.

**RCRA/CERCLA Constituents**

*Describe any potential, likely, or known sources of RCRA/CERCLA constituents (e.g., chemical storage, waste storage, and processes)*

Some of the facilities addressed in this HSA have potentially internally contaminated equipment, but there is not a history of significant building contamination associated with the Building operations. See "Historical Operations" section above for a detailed description of the operations that occurred in each facility addressed in this HSA.

See the "Environmental Concerns" section below for IHSSs and PACs associated with this building. See the Building specific WSRIC for more detailed listing of the waste streams associated with each building addressed in this HSA.

*Describe any potential, likely, or known spill locations (and sources, if any)*

None

*Describe methods in which spills were mitigated, if any*

None

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**PCBs**

*Describe any potential likely, or known sources of PCBs (e.g., light ballasts, paints, equipment, etc.)*

Due to the age of the facilities addressed in this HSA, there should not be a concern with PCBs in paint. PCBs were not known to have been handled in any of these facilities.

*Describe any potential, likely, or known spill locations (and sources, if any)*

No PCB spills occurred in any of the facilities addressed in this HSA.

*Describe methods in which spills were mitigated, if any*

No PCB spills occurred in any of the facilities addressed in this HSA.

**Radiological Contaminants**

*Describe any potential, likely, or known radiological production or storage locations*

Some of the facilities addressed in this HSA have potentially internally contaminated equipment, but there is not a history of significant building contamination associated with the Building operations. See "Historical Operations" section above for a detailed description of the operations that occurred in each facility addressed in this HSA.

See the "Environmental Concerns" section below for IHSSs and PACs associated with this building. See the Building specific WSRIC for more detailed listing of the waste streams associated with each building addressed in this HSA.

*Describe any potential, likely, or known spill locations (e.g., known leaking sealed radioactive sources, leaking waste drums, potentially contaminated drains, etc.)*

None

*Describe methods in which spills were mitigated, if any*

None

*Describe any potential, likely, or known isotopes of concern (e.g., weapons grade plutonium, uranium isotopes, pure beta emitters, mixed fission products, etc.)*

The primary isotope of concern includes, but is not limited to uranium and plutonium. Other than sealed sources, there were no known mixed fission products or pure beta emitters used in any of the facilities addressed in this HSA.

*Describe any potential, likely, or known external facility contamination (e.g., stack release points, unfiltered ventilation, facility's physical location to known site releases, etc.)*

See section below for information on IHSSs, PACs, and UBCs.

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**Environmental Restoration Concerns**

*Describe any ER concerns that could affect facility characterization (e.g., IHSSs, PACs, UBCs)*

Building 566 and 556A are associated with or located near the following IHSSs, PACs, and UBCs,

- 1) PAC 700-150 2 "Radioactive site west of Building 771 and 776 ", Active
- 2) PAC 700-1102 "776-4", This IHSS was proposed NFA in 1997 and again in 2001 This NFA has not been approved and is currently under negotiation

Building 567 and 570 are associated with or located near the following IHSSs, PACs, and UBCs,

- 1) PAC 700-150 5 "Radioactive site west of Building 707 ", Proposed NFA in 1998

Buildings 790, 906, and Trailer T760A are not associated with or located near any IHSSs, PACs, and UBCs,

**Additional Information**

*Describe any additional information that may be useful during facility characterization (e.g., contaminant migration routes, waste handling operations, physical hazards, Historical Release Reports, WSRIC data, etc)*

None

**References**

*Provide all sources of information utilized to gather data for facility history (e.g., documents, files, interviews)*

Sources reviewed to complete this HSA were the RFETS Facility List, the Historical Release Report, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases The Building WSRIC for those Buildings with a WSRIC In addition, a facility walkdowns and interviews were performed

**Waste Volume Estimates and Material Types**

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
Building 566	8500	0	19800	3600	2100	TBD	N/A
Building 566A	2800	0	1150	900	0	TBD	N/A
Building 569	4000	0	1100	2000	1000	TBD	N/A
Building 570	3900	0	700	200	0	TBD	N/A
Trailer T760A	None	200	300	350	450	TBD	N/A
Building 790	24,000	0	1900	800	1200	TBD	N/A
Building 906	13,000	0	3000	3500	0	TBD	N/A

**Further Actions**

*Recommend any further actions, if any (e.g., characterization, decontamination, special handling, etc)*

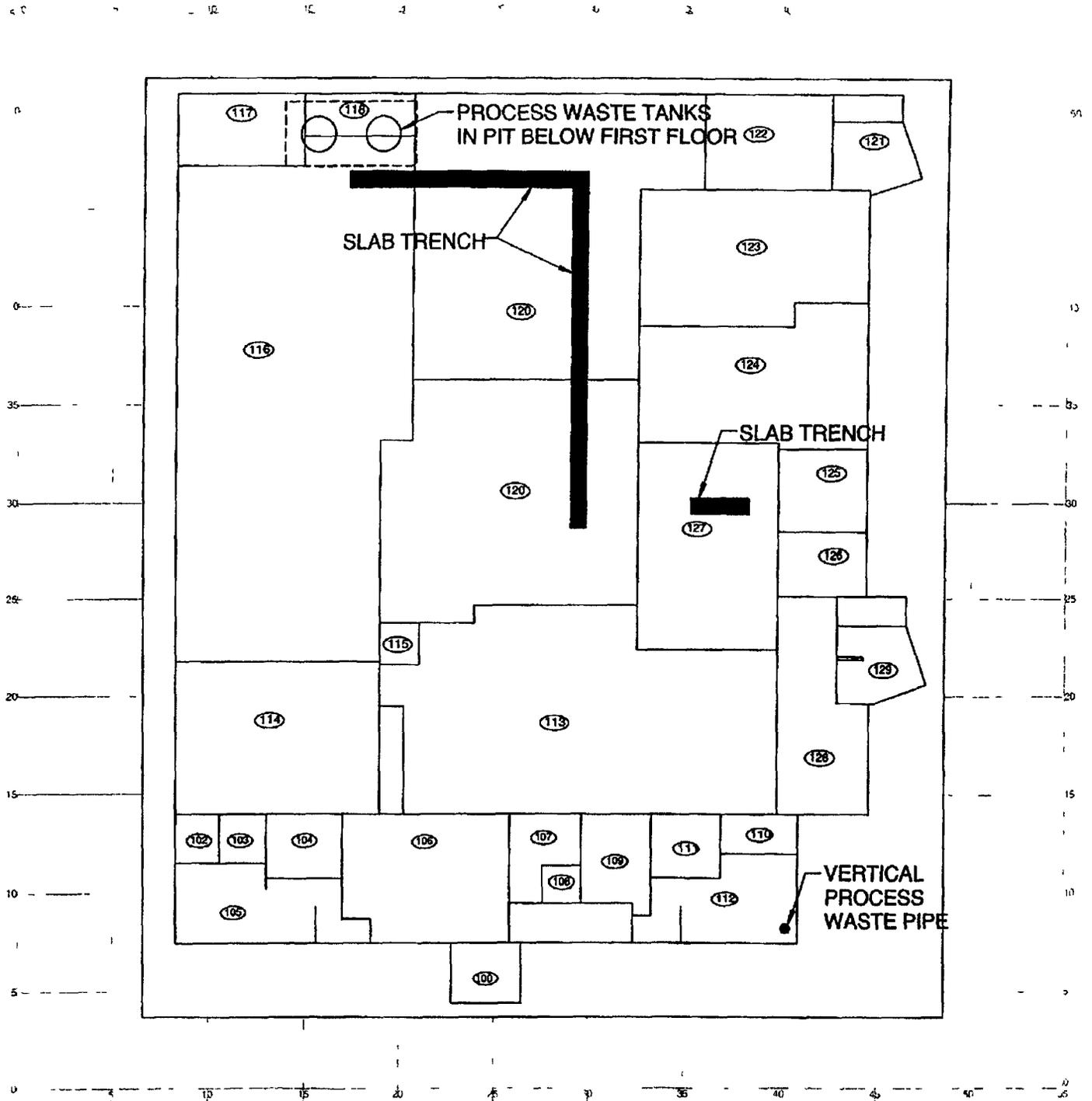
Begin the RLC/PDS process



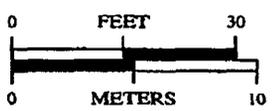
# ATTACHMENT C

## Radiological Data Summaries and Survey Maps

# FIGURE C-1



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

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

Prepared by: G16 Dept. 303-966-7797 Prepared for:

**CH2MHILL**  
Communications Group

MAP ID 03-0189/B566-Fig1 Nov 19, 2003

**SURVEY UNIT 566A-4-002**  
**RADIOLOGICAL DATA SUMMARY - PDS**

**Survey Unit Description: B566A (Interior & Exterior)**

566A-4-002  
PDS Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	50	52		50	52
	Number Required	Number Obtained		Number Required	Number Obtained
MIN	-15.5	dpm/100 cm <sup>2</sup>	MIN	1.2	dpm/100 cm <sup>2</sup>
MAX	78.8	dpm/100 cm <sup>2</sup>	MAX	2.7	dpm/100 cm <sup>2</sup>
MEAN	16.2	dpm/100 cm <sup>2</sup>	MEAN	-0.3	dpm/100 cm <sup>2</sup>
STD DEV	20.2	dpm/100 cm <sup>2</sup>	STD DEV	0.9	dpm/100 cm <sup>2</sup>
TRANSURANIC DCGL <sub>w</sub>	100	dpm/100 cm <sup>2</sup>	TRANSURANIC DCGL <sub>w</sub>	20	dpm/100 cm <sup>2</sup>

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**SURVEY UNIT 566A-4-002  
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NF Tech	NE Tech	NE Tech	NF Tech	NE Tech	NE Tech
Model	DP 6	DP 6	DP 6	DP-6	DP 6	DP-6	DP 6
Instrument ID#	1	2	3	4	5	6	7
Serial #	1273	1547	1417	1417	2344	1273	1549
Cal Due Date	1/9/04	11/20/03	1/21/04	1/21/04	1/29/04	1/9/04	12/30/03
Analysis Date	8/21/03	8/21/03	8/25/03	9/2/03	9/4/03	9/9/03	9/9/03
Alpha Eff. (cfd)	0.212	0.223	0.218	0.218	0.220	0.212	0.220
Alpha Bkgd (cpm)	6.7	6.7	2.7	3.3	2.7	0.7	3.0
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 <sup>2</sup> )	48.0	48.0	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm <sup>2</sup> )	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm <sup>2</sup> )	Sample Net Activity (dpm/100cm <sup>2</sup> ) <sup>1,2</sup>
1	5	11.3	51.4	4.7	21.4	35.8
2	5	5.7	25.9	4.7	21.4	10.4
3	5	2.7	12.3	2.7	12.3	3.3
4	5	6.7	30.5	2.7	12.3	14.9
5	5	0.0	0.0	2.7	12.3	15.5
6	6	5.3	25.0	4.0	18.9	9.5
7	5	2.7	12.3	4.7	21.4	3.3
8	5	4.0	18.2	3.3	15.0	2.6
9	3	8.7	39.9	5.3	24.3	24.4
10	1	20.0	94.3	3.3	15.6	78.8
11	5	2.7	12.3	0.7	3.2	3.3
12	2	16.0	71.7	6.7	30.0	56.2
13	1	14.7	69.3	2.0	9.4	53.8
14	2	19.3	86.5	4.0	17.9	71.0
15	5	10.7	48.6	2.0	9.1	33.1
16	3	10.0	45.9	8.0	36.7	30.3
17	4	13.3	61.0	4.0	18.3	45.5
18	6	5.3	25.0	2.0	9.4	9.5
19	6	1.3	6.1	0.7	3.3	9.4
20	7	9.3	42.3	3.3	15.0	26.7
21	7	6.7	30.5	3.3	15.0	14.9
22	6	4.0	18.9	2.7	12.7	3.3
23	6	4.7	22.2	4.0	18.9	6.6
24	6	4.7	22.2	2.0	9.4	6.6
25	7	5.3	24.1	3.3	15.0	8.5
26	7	8.7	39.5	4.7	21.4	24.0
27	6	6.0	28.3	4.0	18.9	12.8
28	7	3.3	15.0	2.7	12.3	-0.5
29	6	5.3	25.0	0.7	3.3	9.5
30	6	1.3	6.1	4.7	22.2	-9.4
31	6	4.0	18.9	2.0	9.4	3.3
32	6	8.0	37.7	3.3	15.6	22.2
33	7	5.3	24.1	2.7	12.3	8.5
34	7	6.7	30.5	2.7	12.3	14.9
35	7	6.0	27.3	3.3	15.0	11.7
36	7	3.3	15.0	2.0	9.1	-0.5
37	7	7.3	33.2	1.3	5.9	17.6
38	6	16.7	78.8	2.0	9.4	63.2
39	7	4.0	18.2	2.7	12.3	2.6
40	7	4.0	18.2	2.0	9.1	2.6
41	6	5.3	25.0	5.6	26.4	9.5
42	7	8.0	36.4	2.7	12.3	20.8
43	7	4.7	21.4	1.3	5.9	5.8
44	6	4.0	18.9	1.3	6.1	3.3
45	6	6.7	31.6	2.7	12.7	16.1
46	6	4.7	22.2	4.7	22.2	6.6
47	7	6.7	30.5	6.0	27.3	14.9

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**SURVEY UNIT 566A-4-002  
TSA - DATA SUMMARY**

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm <sup>2</sup> )	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm <sup>2</sup> )	Sample Net Activity (dpm/100cm <sup>2</sup> ) <sup>1,2</sup>
48	7	13	59	40	18.2	9.6
49	7	73	33.2	3.3	15.0	17.6
50	7	73	33.2	3.3	15.0	17.6
51	4	80	36.7	8.0	36.7	21.1
52	4	93	42.7	5.3	24.3	27.1

1 Average LAB used to subtract from Gross Sample Activity

15.5	Sample LAB Average
MIN	15.5
MAX	78.8
MEAN	16.2
SD	20.2
Transuranic DCGL <sub>w</sub>	100

**QC Measurements**

38 QC	7	20.7	94.1	4.7	21.4	78.3
42 QC	6	53	25.0	2.9	13.7	9.2
17 QC	7	60	27.3	2.7	12.3	11.5

1 Average QC LAB used to subtract from Gross Sample Activity

15.8	QC LAB Average
MIN	9.2
MAX	78.3
MEAN	33.0
Transuranic DCGL <sub>w</sub>	100

**SURVEY UNIT 566A-4-002  
RSC - DATA SUMMARY**

<b>Manufacturer</b>	Eberline	Eberline	Eberline
<b>Model</b>	SAC-4	SAC-4	SAC-4
<b>Instrument ID#</b>	8	9	10
<b>Serial #</b>	1164	924	959
<b>Cal Due Date</b>	11/30/03	10/23/03	1/14/04
<b>Analysis Date</b>	9/11/03	9/11/03	9/11/03
<b>Alpha Eff (c/d)</b>	0.25	0.25	0.25
<b>Alpha Bkgd (cpm)</b>	0.2	0.1	0.4
<b>Sample Time (min)</b>	2	2	2
<b>Bkgd Time (min)</b>	10	10	10
<b>MDC (dpm/100cm<sup>2</sup>)</b>	9.0	9.0	9.0

<b>Sample Location Number</b>	<b>Instrument ID#</b>	<b>Gross Counts (cpm)</b>	<b>Net Activity (dpm/100 cm<sup>2</sup>)</b>
1	8	0	-0.6
2	9	0	0.3
3	10	0	1.2
4	8	0	-0.6
5	9	1	1.2
6	10	0	-1.2
7	8	0	-0.6
8	9	0	0.3
9	10	0	-1.2
10	8	0	0.6
11	9	1	1.2
12	10	0	-1.2
13	8	1	0.9
14	9	1	1.2
15	10	0	1.2
16	8	0	-0.6
17	9	0	-0.3
18	10	0	-1.2
19	8	0	0.6
20	9	0	0.3
21	10	0	-1.2
22	8	0	-0.6
23	9	0	0.3
24	10	0	-1.2
25	8	0	-0.6
26	9	0	-0.3
27	10	1	0.3
28	8	0	0.6
29	9	1	1.2
30	10	0	-1.2
31	8	0	0.6
32	9	0	-0.3
33	10	0	-1.2
34	8	1	0.9
35	9	0	-0.3
36	10	0	1.2
37	8	0	0.6
38	9	2	2.7

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**SURVEY UNIT 566A-4-002  
RSC - DATA SUMMARY**

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm <sup>2</sup> )
39	10	0	-1.2
40	8	0	-0.6
41	9	0	-0.3
42	10	0	1.2
43	8	0	-0.6
44	9	1	1.2
45	10	0	-1.2
46	8	1	0.9
47	9	0	-0.3
48	10	0	-1.2
49	8	1	0.9
50	9	0	-0.3
51	10	0	1.2
52	8	1	0.9
		<b>MIN</b>	-1.2
		<b>MAX</b>	2.7
		<b>MEAN</b>	-0.3
		<b>SD</b>	0.9
		<b>Transuranic DCGL<sub>w</sub></b>	20

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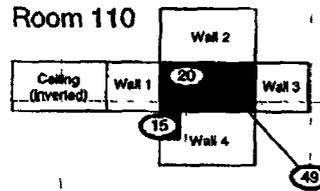
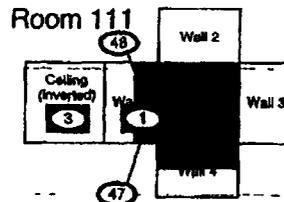
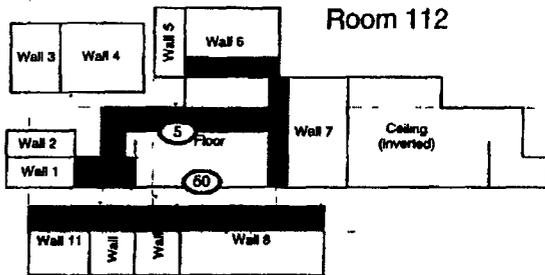


**PRE-DEMOLITION SURVEY FOR B566A**

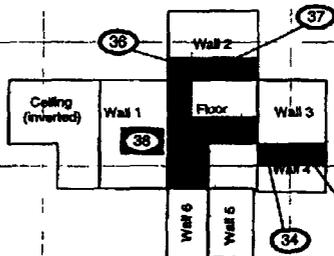
Survey Area 4      Survey Unit 566-4-002      Classification 3  
 Building 566A  
 Survey Unit Description 566A Interior & Exterior      Total Floor Area 214 sq m  
 Total Area 1,462 sq m      Total Roof Area 429 sq m

**B566A Interior**

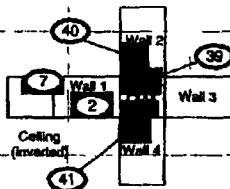
**Women's Locker**



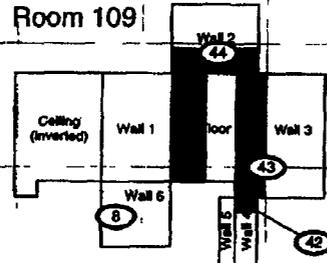
**Room 107**



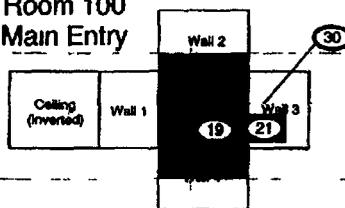
**Room 108**



**Room 109**



**Room 100  
Main Entry**



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Snear &amp; TSA Location</li> <li> Snear, TSA &amp; Sample Location</li> <li> Open/Inaccessible Area</li> <li> Area in Another Survey Unit</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DynCorp I&amp;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 style="text-align: center;"><b>N</b> ↑</p>	<p style="text-align: center;">0      FEET      30</p> <hr style="width: 100%; border: 1px solid black;"/> <p style="text-align: center;">0      METERS      10</p>	<p style="text-align: center;">■ Scan Area</p>
				<p><b>Scan Survey Information</b>                  Survey Instrument ID #(s) &amp; RCT ID #(s)                  1, 2, 3, 4, 5, 6, 7</p>
<p style="text-align: center;">U.S. Department of Energy                  Rocky Flats Environmental Technology Site</p>		<p>Prepared by: GSE Dept. 303-866-7707      Prepared for:</p>		<p style="text-align: center;"><b>CH2MHILL</b>                  Communications Group</p>
		<p>MAP ID: 03-0189/B566A-IN2-SC</p>		<p style="text-align: center;">■</p> <p style="text-align: center;">Sept 17, 2003</p>

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**SURVEY UNIT 566-A-003  
RADIOLOGICAL DATA SUMMARY - PDS**

**Survey Unit Description: B566 (Interior)**

566-A-003  
PDS Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	69	78		69	78
	Number Required	Number Obtained		Number Required	Number Obtained
MIN	-15.2	dpm/100 cm <sup>2</sup>	MIN	-0.6	dpm/100 cm <sup>2</sup>
MAX	83.5	dpm/100 cm <sup>2</sup>	MAX	2.7	dpm/100 cm <sup>2</sup>
MEAN	9.9	dpm/100 cm <sup>2</sup>	MEAN	0.2	dpm/100 cm <sup>2</sup>
STD DEV	17.1	dpm/100 cm <sup>2</sup>	STD DEV	1.0	dpm/100 cm <sup>2</sup>
TRANSURANIC DCGL <sub>w</sub>	100	dpm/100 cm <sup>2</sup>	TRANSURANIC DCGL <sub>w</sub>	20	dpm/100 cm <sup>2</sup>

**566-A-003  
TSA DATA SUMMARY**

Manufacturer	NF Tech	NE Tech	NE Tech	NF Tech	NF Tech
Model	DP 6	DP-6	DP-6	DP-6	DP 6
Instrument ID#	7	10	11	15	25
Serial #	3125	3104	1397	2352	2394
Cal Due Date	3/24/04	3/29/04	4/22/04	5/11/04	3/10/04
Analysis Date	11/20/03	11/24/03	11/24/03	11/25/03	11/25/03
Alpha Eff (c/d)	0.216	0.210	0.190	0.230	0.208
Alpha Bkgd (cpm)	3.2	5.0	2.0	2.0	4.0
Sample Time (min)	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm <sup>2</sup> )	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm <sup>2</sup> )	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm <sup>2</sup> )	Sample Net Activity (dpm/100cm <sup>2</sup> ) <sup>1,2</sup>
1	15	60	261	47	204	72
2	15	47	204	67	291	15
3	11	07	37	33	174	152
4	15	33	143	40	174	-46
5	10	40	190	27	129	01
6	15	27	117	20	87	72
7	11	67	353	67	353	163
8	10	40	190	47	224	01
9	15	87	378	15	65	189
10	7	90	417	70	324	227
11	7	80	370	40	185	181
12	15	13	57	40	174	133
13	10	40	190	53	252	01
14	15	60	261	60	261	72
16	15	60	261	73	317	72
17	15	47	204	53	230	15
18	11	80	421	20	105	232
19	15	67	291	60	261	102
20	15	27	117	27	117	-72
21	10	73	348	53	252	158
22	15	67	291	33	143	102
23	15	47	204	27	117	15
24	10	40	190	07	33	01
25	15	73	317	33	143	128
26	10	20	95	00	00	94
27	7	73	338	80	370	149
28	7	33	153	73	338	37
29	15	120	522	73	317	332
30	11	33	174	20	105	-16
31	10	47	224	33	157	35
32	10	53	252	07	33	63
33	10	33	157	20	95	32
34	11	73	384	33	174	195
35	10	147	700	20	95	511
36	10	67	319	40	190	130
37	10	53	252	47	224	63
38	11	87	458	20	105	269
39	11	40	211	60	316	21
40	10	13	62	20	95	-127
41	10	47	224	00	00	35
42	10	40	190	27	129	01
43	10	27	129	20	95	-61
44	11	60	316	53	279	126
45	11	87	458	67	353	269

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**566-A-003  
TSA DATA SUMMARY**

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm <sup>2</sup> )	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm <sup>2</sup> )	Sample Net Activity (dpm/100cm <sup>2</sup> ) <sup>1,2</sup>
46	10	107	51.0	53	25.2	32.0
47	11	113	59.5	47	24.7	40.5
48	11	80	42.1	67	35.3	23.2
49	10	120	57.1	27	12.9	38.2
50	11	53	27.9	67	35.3	9.0
51	10	47	22.4	33	15.7	3.5
52	11	13	6.8	67	35.3	12.1
53	11	33	17.4	53	27.9	1.6
54	10	27	12.9	20	9.5	-6.1
55	11	80	42.1	20	10.5	23.2
56	11	53	27.9	60	31.6	9.0
57	10	60	28.6	40	19.0	9.6
58	11	53	27.9	33	17.4	9.0
59	10	73	34.8	20	9.5	15.8
60	11	33	17.4	73	38.4	1.6
61	11	53	27.9	40	21.1	9.0
62	11	47	24.7	40	21.1	5.8
63	11	60	31.6	47	24.7	12.6
64	10	93	44.3	53	25.2	25.4
65	10	20	9.5	20	9.5	9.4
66	11	67	35.3	47	24.7	16.3
67	11	107	56.3	33	17.4	37.4
68	10	40	19.0	47	22.4	0.1
69	10	40	19.0	33	15.7	0.1
70	25	60	28.8	33	15.9	9.9
71	25	47	22.6	20	9.6	3.7
72	25	53	25.5	20	9.6	6.6
73	25	213	102.4	47	22.6	83.5
74	25	27	13.0	33	15.9	5.9
75	25	47	22.6	33	15.9	3.7
76	25	33	15.9	27	13.0	-3.1
77	25	20	9.6	27	13.0	-9.3
78	25	73	35.1	13	6.3	16.2
79	25	173	83.2	33	15.9	64.2

- 1 Average LAB used to subtract from Gross Sample Activity
- 2 Location 15 not collected because the wall was removed.
- 3 Locations 70 through 79 were taken inside the plenums

18.9	Sample LAB Average
MIN	-15.2
MAX	83.5
MEAN	9.9
SD	17.1
Transuranic DCGL <sub>w</sub>	100

**QC Measurements**

67 QC	10	167	79.5	20	9.5	65.9
59 QC	11	67	35.3	20	10.5	21.6
49 QC	11	47	24.7	47	24.7	11.1
32 QC	11	33	17.4	33	17.4	3.7
38 QC	10	67	31.9	13	6.2	18.2

- 1 Average QC LAB used to subtract from Gross Sample Activity

13.7	-13.7
MIN	3.7
MAX	65.9
MEAN	24.1
Transuranic DCGL <sub>w</sub>	100

**566-A-003**  
**RSC - DATA SUMMARY**

Manufacturer	Fberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4
Instrument ID#	18	19	20
Serial #	952	966	984
Cal Due Date	1/10/04	4/23/04	1/1/04
Analysis Date	11/26/03	11/26/03	11/26/03
Alpha Eff (c/d)	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.2	0.2	0.1
Sample Time (min)	2	2	2
Bkgd Time (min)	10	10	10
MDC (dpm/100cm <sup>2</sup> )	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm <sup>2</sup> )
1	18	2	2.4
2	19	0	-0.6
3	20	0	-0.3
4	18	0	-0.6
5	19	1	0.9
6	20	0	-0.3
7	18	0	-0.6
8	19	0	-0.6
9	20	0	-0.3
10	18	1	0.9
11	19	0	-0.6
12	20	0	-0.3
13	18	1	0.9
14	19	0	-0.6
16	18	0	-0.6
17	19	0	-0.6
18	20	1	1.2
19	18	0	-0.6
20	19	0	-0.6
21	20	0	-0.3
22	18	0	-0.6
23	19	1	0.9
24	20	1	1.2
25	18	1	0.9
26	19	0	-0.6
27	20	1	1.2
28	18	1	0.9
29	19	2	2.4
30	20	2	2.7
31	18	0	-0.6
32	19	0	-0.6
33	20	0	-0.3
34	18	0	-0.6
35	19	1	0.9
36	20	1	1.2
37	18	0	-0.6
38	19	0	-0.6
39	20	2	2.7

40

**566-A-003**  
**RSC - DATA SUMMARY**

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm <sup>2</sup> )
40	18	1	0.9
41	19	0	-0.6
42	20	0	-0.3
43	18	1	0.9
44	19	2	2.4
45	20	0	-0.3
46	18	0	-0.6
47	19	0	-0.6
48	20	1	1.2
49	18	1	0.9
50	19	0	-0.6
51	20	1	1.2
52	18	0	-0.6
53	19	0	-0.6
54	20	1	1.2
55	18	0	-0.6
56	19	1	0.9
57	20	0	-0.3
58	18	0	-0.6
59	19	0	-0.6
60	20	0	-0.3
61	18	1	0.9
62	19	0	-0.6
63	20	0	-0.3
64	18	1	0.9
65	19	0	-0.6
66	20	0	-0.3
67	18	0	-0.6
68	19	0	-0.6
69	20	0	-0.3
70	18	2	2.4
71	19	0	-0.6
72	20	0	-0.3
73	18	0	-0.6
74	19	1	0.9
75	20	0	-0.3
76	18	1	0.9
77	19	0	-0.6
78	20	0	-0.3
79	18	0	-0.6
		<b>MIN</b>	-0.6
		<b>MAX</b>	2.7
		<b>MEAN</b>	0.2
		<b>SD</b>	1.0
		<b>Transuranic DCGL<sub>w</sub></b>	<b>20</b>

211

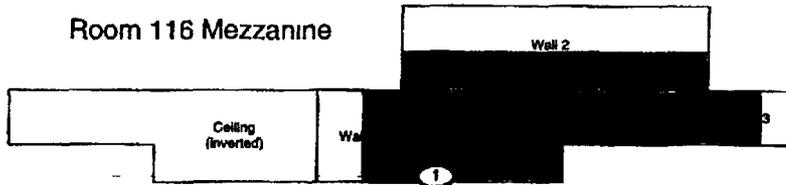
**PRE-DEMOLITION SURVEY FOR B566**

Survey Area 4      Survey Unit 566-4-003      Classification 2  
 Building 566  
 Survey Unit Description 566 Interior  
 Total Area 6,337 sq m      Total Floor Area 1,788 sq m  
 Grd Spacing for Survey Points 15m X 15m

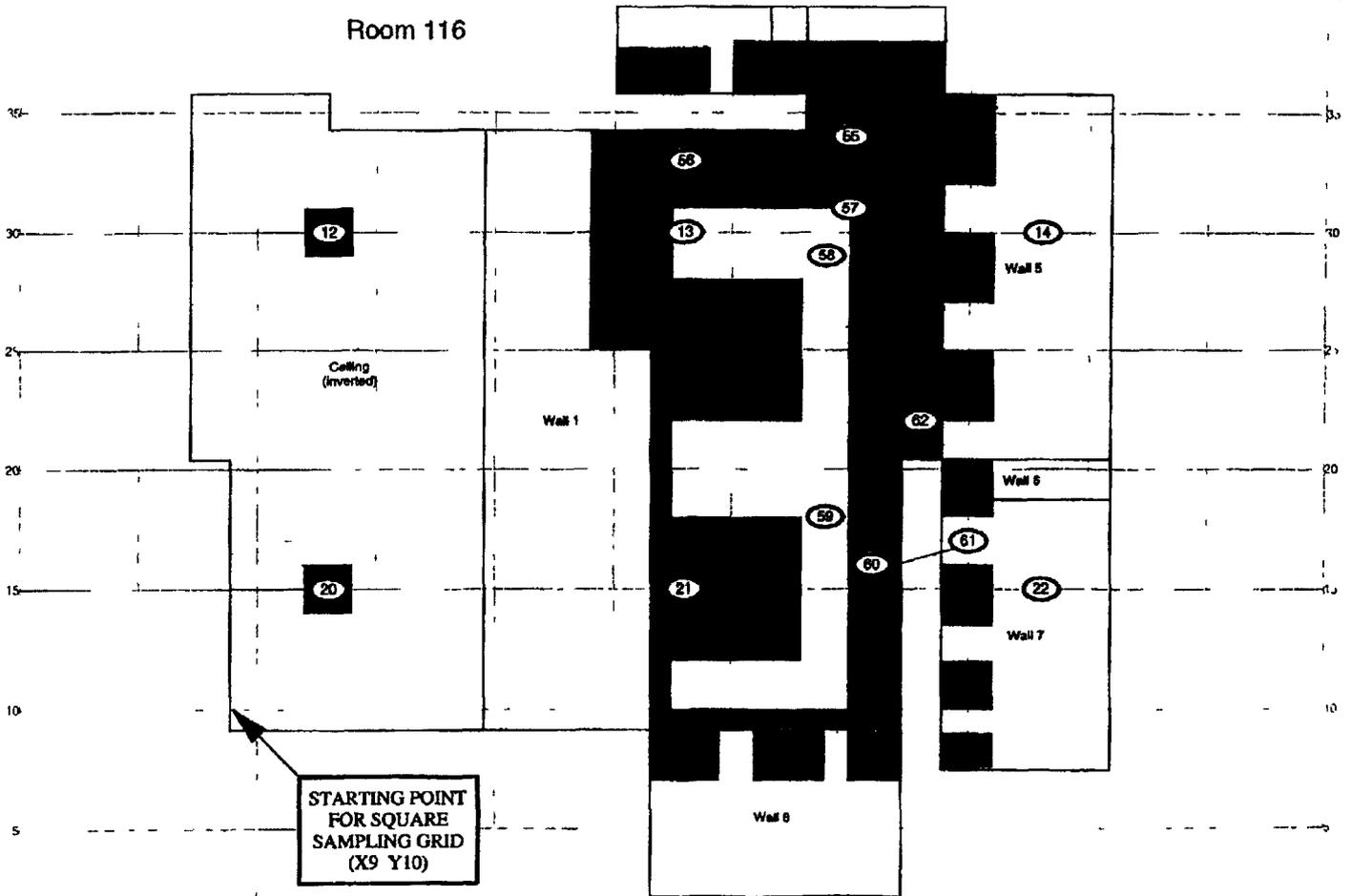
PAGE 1 OF 5

**B566 Interior**

**Room 116 Mezzanine**



**Room 116**



**STARTING POINT  
FOR SQUARE  
SAMPLING GRID  
(X9 Y10)**

<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Smear &amp; TSA Location</li> <li> Smear, TSA &amp; Sample Location</li> <li> Open/Inaccessible Area</li> <li> Area in Another Survey Unit</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DynCorp I&amp;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><b>Scan Survey Information</b>                  Survey Instrument ID #(s) &amp; RCT ID #(s)                  1-6, 8, 9, 12-14, 16, 17, 21 24</p>	<p align="center"><b>N</b> ↑</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>Prepared by GIS Dept. 303-998-7707      Prepared for:</p> <p align="center"><b>CH2MHILL</b>                  Communications Group</p> <p align="center">MAP ID 03-0189/B566-IN1-SC      Nov 26, 2003</p>
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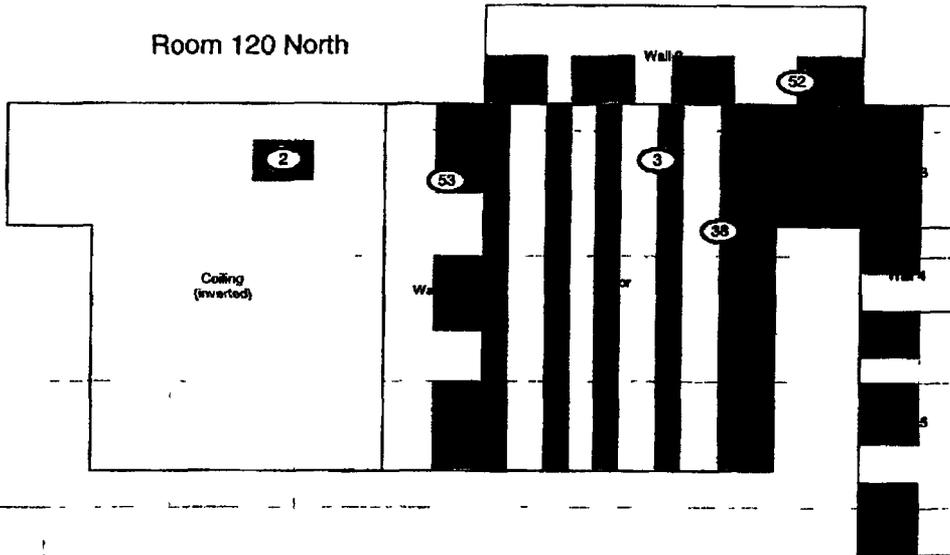
49

**PRE-DEMOLITION SURVEY FOR B566**

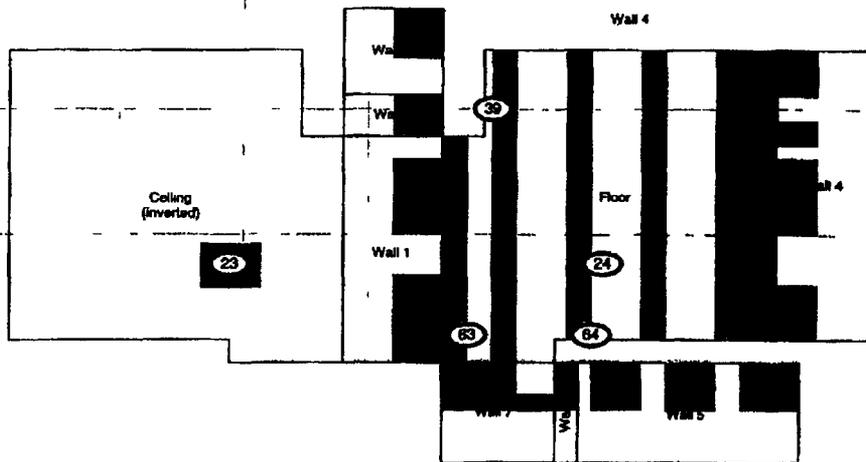
Survey Area 4      Survey Unit 566-4-003      Classification 2  
 Building 566  
 Survey Unit Description 566 Interior  
 Total Area 6,337 sq m      Total Floor Area 1,788 sq m  
 Grid Spacing for Survey Points 15m X 15m

**B566 Interior**

**Room 120 North**



**Room 120 South**



■ Scan Area

**SURVEY MAP LEGEND**

- ⊙ Sensor & TSA Location
- ◇ Sensor TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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**Scan Survey Information**  
 Survey Instrument ID #(s) & RCT ID #(s)  
 1-6, 8, 9, 12-14, 16, 17, 21-24

**N**  
↑

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. 303-966-7707      Prepared for

**CH2MHILL**  
 Communications Group

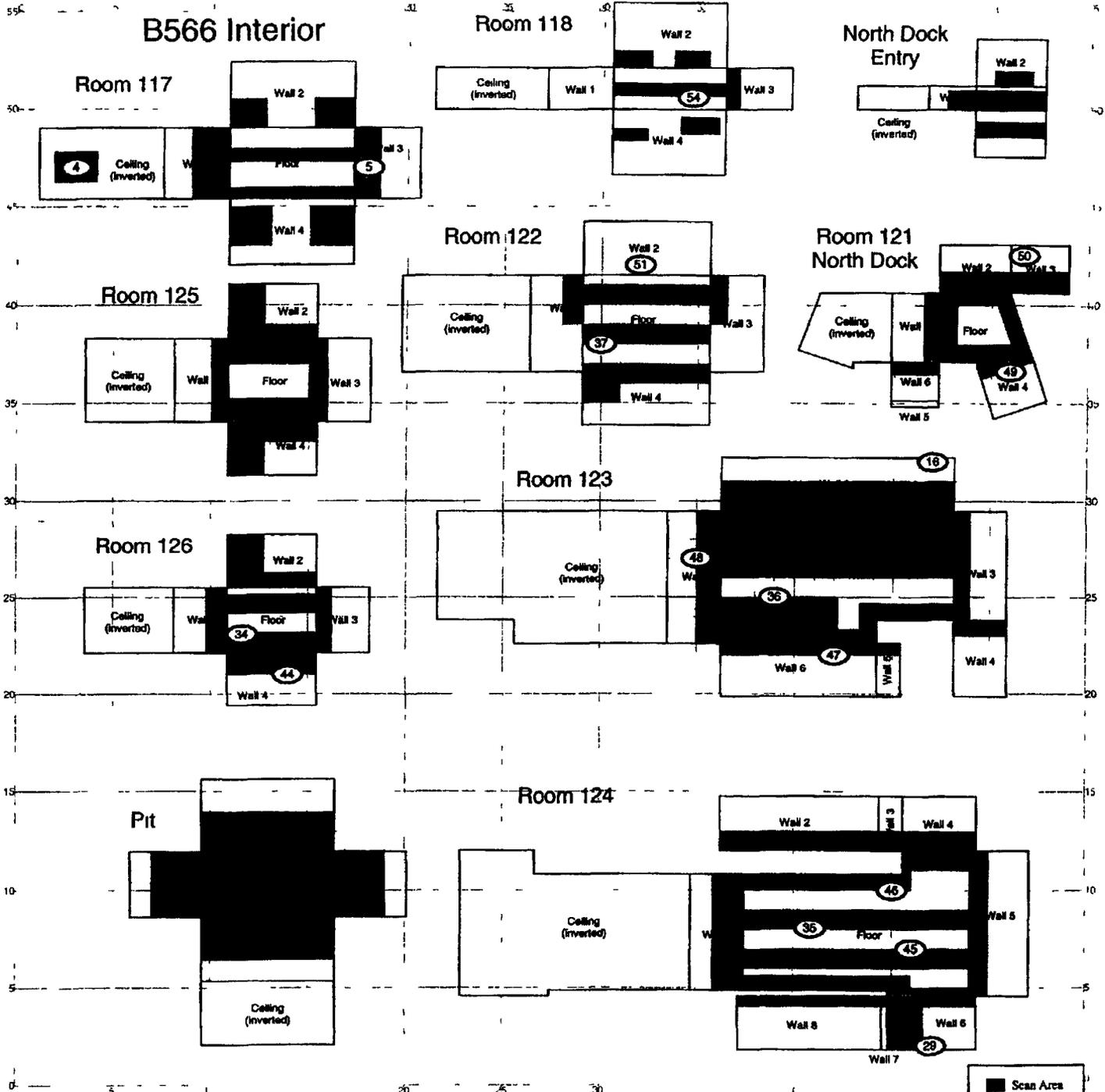
MAP ID 03-0189/B566-IN2-SC      Nov 26, 2003

43

**PRE-DEMOLITION SURVEY FOR B566**

Survey Area 4      Survey Unit 566-4-003      Classification 2  
 Building 566  
 Survey Unit Description 566 Interior      Total Floor Area 1,788 sq m  
 Total Area 6,337 sq m  
 Grid Spacing for Survey Points 15m X 15m

PAGE 3 OF 5

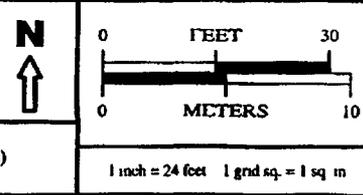


**SURVEY MAP LEGEND**

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

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**Scan Survey Information**  
 Survey Instrument ID #(s) & RCT ID #(s)  
 1-6, 8, 9, 12 14, 16, 17, 21-24



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

Prepared by: GIS Dept. 303-866-7707      Prepared for:

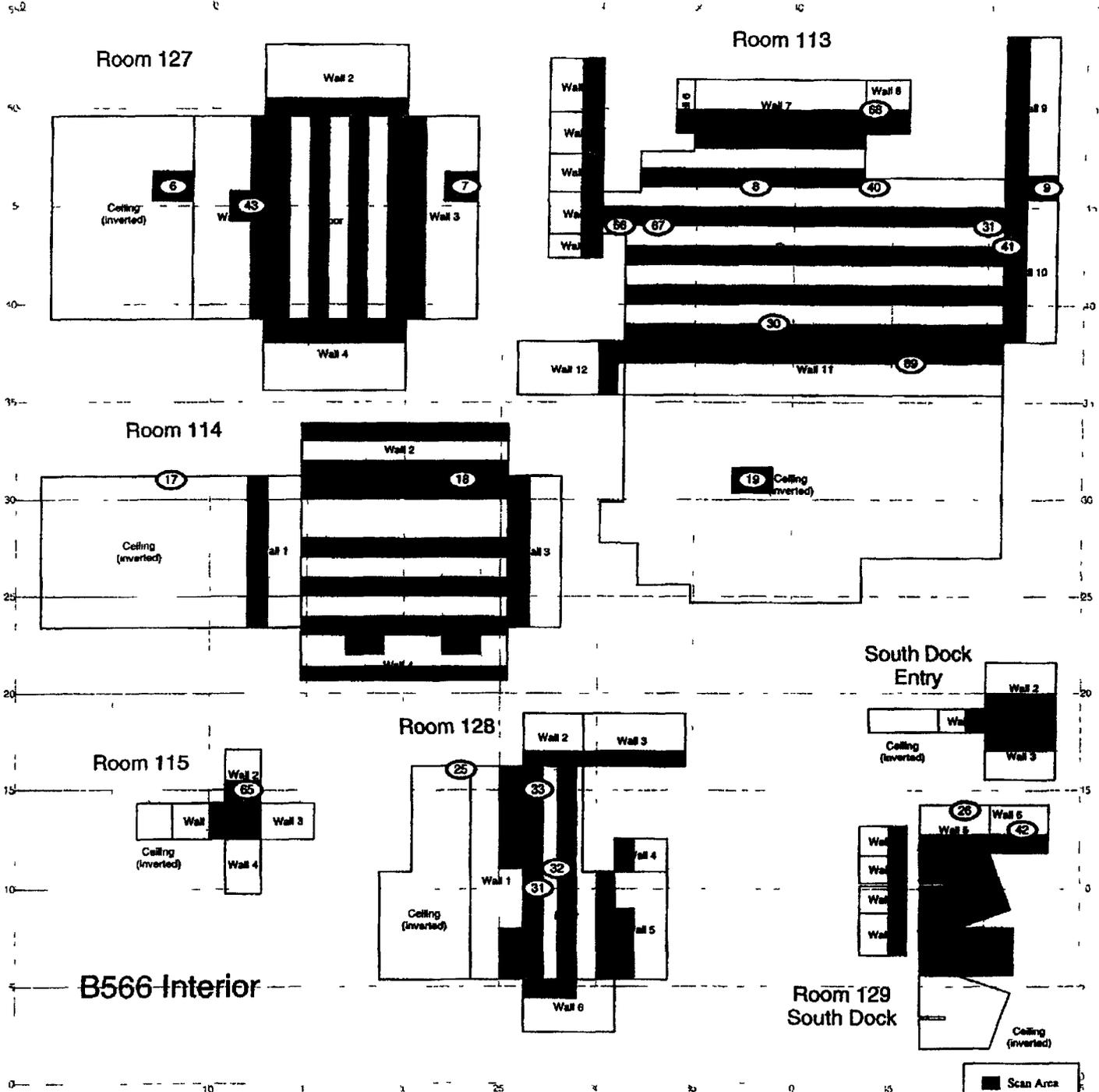
**CH2MHILL**  
 Communications Group

MAP ID 03-0189/B566-INT-SC      Nov 26, 2003

244

**PRE-DEMOLITION SURVEY FOR B566**

Survey Area 4      Survey Unit 566-4-003      Classification 2  
 Building 566  
 Survey Unit Description 566 Interior  
 Total Area 6,337 sq m      Total Floor Area 1,788 sq m  
 Grid Spacing for Survey Points 15m X 15m



B566 Interior

Scan Area

**SURVEY MAP LEGEND**

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

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**Scan Survey Information**  
 Survey Instrument ID #(s) & RCT ID #(s)  
 1-6, 8, 9, 12-14, 16, 17, 21-24



**FEET**

0 30

**METERS**

0 10

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. 303-966-7707      Prepared for

**CH2MHILL**  
 Communications Group

MAP ID 03-0189/B566-IN4-SC      Nov 26, 2003

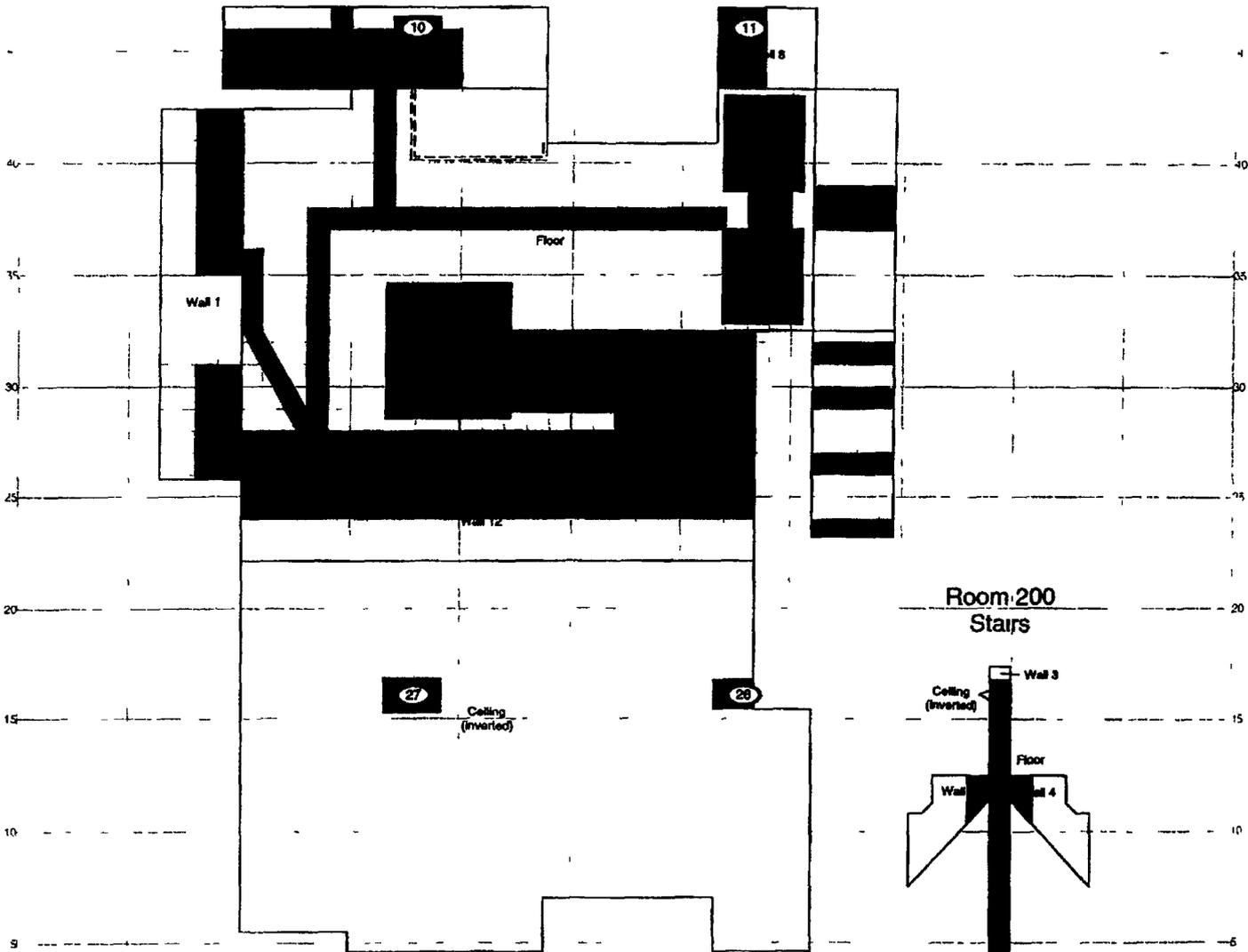
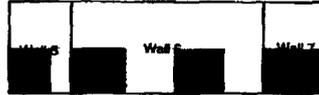
45

**PRE-DEMOLITION SURVEY FOR B566**

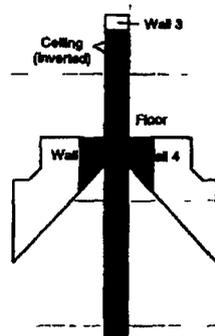
Survey Area 4      Survey Unit 566-4-003      Classification 2  
 Building 566  
 Survey Unit Description 566 Interior      Total Floor Area 1,788 sq m  
 Total Area 6,337 sq m  
 Grid Spacing for Survey Points 15m X 15m

**B566 Second Floor Interior**

Room 200  
 Mechanical



Room 200  
 Stairs



Scan Area

**SURVEY MAP LEGEND**

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

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**Scan Survey Information**  
 Survey Instrument ID #(s) & RCT ID #(s)  
 1-6, 8, 9, 12-14, 16, 17, 21, 24



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 303-966-7707      Prepared for:

**CH2MHILL**  
 Communications Group

MAP ID 03-0189/B566-INS-9C      Dec. 1, 2003

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**SURVEY UNIT 566-4-001**  
**RADIOLOGICAL DATA SUMMARY - PDS**

**Survey Unit Description: B566 (Exterior)**

566-4-001  
PDS Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	30	32		30	30
	Number Required	Number Obtained		Number Required	Number Obtained
MIN	17.3	dpm/100 cm <sup>2</sup>	MIN	-1.2	dpm/100 cm <sup>2</sup>
MAX	87.6	dpm/100 cm <sup>2</sup>	MAX	2.4	dpm/100 cm <sup>2</sup>
MEAN	50.3	dpm/100 cm <sup>2</sup>	MEAN	-0.3	dpm/100 cm <sup>2</sup>
STD DEV	18.1	dpm/100 cm <sup>2</sup>	STD DEV	0.9	dpm/100 cm <sup>2</sup>
TRANSURANIC DCGL <sub>w</sub>	100	dpm/100 cm <sup>2</sup>	TRANSURANIC DCGL <sub>w</sub>	20	dpm/100 cm <sup>2</sup>

**SURVEY UNIT 566-4-001  
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NE Tech	NE Tech	NE Tech
Model	DP-6	DP-6	DP 6	DP 6
Instrument ID#	1	2	3	4
Serial #	1273	1273	2344	1417
Cal Due Date	1/9/04	1/9/04	1/29/04	1/21/04
Analysis Date	8/21/03	8/22/03	8/22/03	8/25/03
Alpha Eff (c/d)	0 212	0 212	0 220	0 218
Alpha Bkgd (cpm)	67	33	20	27
Sample Time (min)	15	15	15	15
LAB Time (min)	15	15	15	15
MDC (dpm/100cm <sup>2</sup> )	480	480	480	480

Manufacturer	NE Tech				
Model	DP-6	DP 6	DP 6	DP-6	DP-6
Instrument ID#	5	6	7	8	13
Serial #	1417	1273	1420	2344	2352
Cal Due Date	1/21/04	1/9/04	12/4/03	1/29/04	2/8/04
Analysis Date	9/2/03	9/2/03	9/3/03	9/3/03	9/17/03
Alpha Eff (c/d)	0 218	0 212	0 225	0 220	0 228
Alpha Bkgd (cpm)	33	13	20	20	20
Sample Time (min)	15	15	15	15	15
LAB Time (min)	15	15	15	15	15
MDC (dpm/100cm <sup>2</sup> )	480	480	480	480	480

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm <sup>2</sup> )	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm <sup>2</sup> )	Sample Net Activity (dpm/100cm <sup>2</sup> ) <sup>1,2</sup>
1	6	187	88.2	53	25.0	72.0
2	4	140	64.2	53	24.3	48.1
3	6	93	43.9	33	15.6	27.7
4	2	147	69.3	07	3.3	53.2
5	3	173	78.6	27	12.3	62.5
6	5	127	58.3	33	15.1	42.1
7	3	140	63.6	13	5.9	47.5
8	2	133	62.7	53	25.0	46.6
9	2	180	84.9	53	25.0	68.7
10	3	180	81.8	27	12.3	65.7
11	5	147	67.4	20	9.2	51.3
12	3	173	78.6	40	18.2	62.5
13	2	220	103.8	27	12.7	87.6
14	1	140	66.0	20	9.4	49.9
15	5	167	76.6	27	12.4	60.4
16	3	173	78.6	40	18.2	62.5
17	4	133	61.0	20	9.2	44.8
18	1	153	72.2	27	12.7	56.0
19	3	173	78.6	27	12.3	62.5
20	5	120	55.0	40	18.3	38.9
21	2	133	62.7	27	12.7	46.6
22	4	73	33.5	67	30.7	17.3
23	4	187	85.8	53	24.3	69.6

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**SURVEY UNIT 566-4-001  
TSA - DATA SUMMARY**

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2) <sup>1,2</sup>
24	4	107	491	47	216	329
25	4	87	399	53	243	237
26	4	140	642	53	243	481
27	7	100	444	13	58	283
28	7	87	387	47	209	225
29	7	93	413	40	178	252
30	7	107	476	27	120	314
31	13	197	864	33	145	702
32	13	227	996	27	118	834

1 Average LAB used to subtract from Gross Sample Activity

2 The initial Sample Net Activity for scan sample locations 31 and 32 were 159.5 and 198.6 dpm/100cm2 respectively. These locations were sealed and allow to decay. The re-survey results are reported. There are no RSC results for locations 31 and 32.

16.2	Sample LAB Average
MIN	17.3
MAX	87.6
MEAN	50.3
SD	18.1
Transuranic DCGL <sub>w</sub>	100

**QC Measurements**

10 QC	2	153	722	33	156	614
23 QC	8	113	514	13	59	406

1 Average QC LAB used to subtract from Gross Sample Activity

10.7	QC LAB Average
MIN	40.6
MAX	61.4
MEAN	51.0
Transuranic DCGL <sub>w</sub>	100

50

**SURVEY UNIT 566-4-001  
RSC - DATA SUMMARY**

Manufacturer	Eberline	Eberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#	9	10	11	12
Serial #	952	1164	924	959
Cal Due Date	1/10/04	11/30/03	10/23/03	1/14/04
Analysis Date	9/9/03	9/9/03	9/9/03	9/9/03
Alpha Eff (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.3	0.1	0.4	0.2
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm <sup>2</sup> )	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm <sup>2</sup> )
1	9	0	0.9
2	10	0	0.3
3	11	0	-1.2
4	12	0	-0.6
5	9	0	0.9
6	10	1	1.2
7	11	1	0.3
8	12	0	0.6
9	9	1	0.6
10	10	0	-0.3
11	11	0	-1.2
12	12	0	0.6
13	9	0	-0.9
14	10	0	-0.3
15	11	2	1.8
16	12	0	-0.6
17	9	0	-0.9
18	10	0	0.3
19	11	0	-1.2
20	12	2	2.4
21	9	0	-0.9
22	10	0	-0.3
23	11	0	-1.2
24	12	0	-0.6
25	9	0	0.9
26	10	0	-0.3
27	11	1	0.3
28	12	0	-0.6
29	9	0	-0.9
30	10	0	-0.3
		MIN	-1.2
		MAX	2.4
		MEAN	-0.3
		SD	0.9
		Transuranic DCGL <sub>w</sub>	20

51

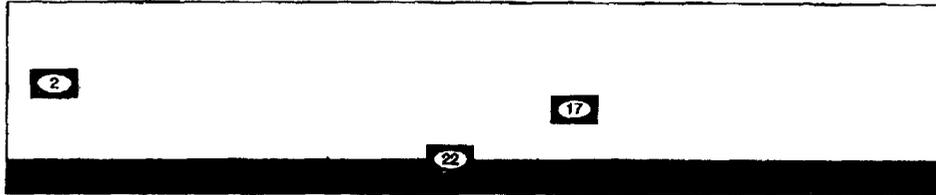


**PRE-DEMOLITION SURVEY FOR B566**

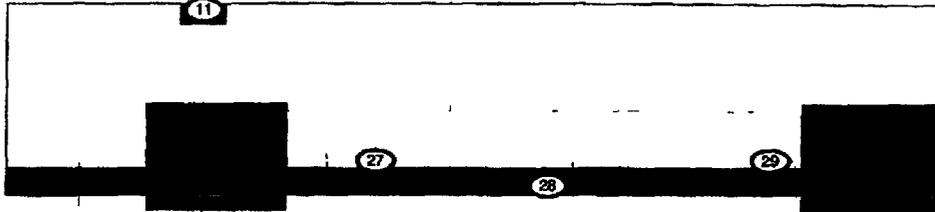
Survey Area 4      Survey Unit 566-4-001      Classification 3  
 Building 566  
 Survey Unit Description 566 Exterior  
 Total Area 2,564 sq m      Total Floor Area 1,409 sq m

**B566 Exterior**

**West Walls**



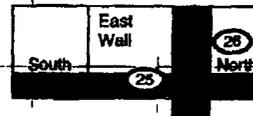
**East Walls**



**South Dock**



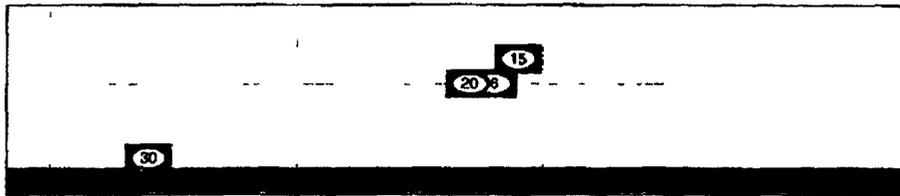
**North Dock**



**North Wall**



**South Walls**



■ Scan Area

**SURVEY MAP LEGEND**

- ② Smear & TSA Location
- ◆ Smear TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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**Scan Survey Information**  
 Survey Instrument ID #(s) & RCT ID #(s)  
 1, 2, 3, 4, 5, 6, 7



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

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

Prepared by GIS Dept. 303-896-7707

Prepared for:



MAP ID 03-0169/B566-EX2-SC

Sept 15, 2003

53

## ATTACHMENT C

### Building 566 Trench Survey

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

MFG EBERLINE	MFG EBERLINE	MFG N E TECH
MODEL SAC-4	MODEL BC-4	MODEL ELECTRA
SERIAL # 1274	SERIAL # 766	SERIAL # 3121
CAL DUE 3-3-04	CAL DUE 7-29-04	CAL DUE 12-5-03
BKG 0.2 cpm	BKG 474 cpm	BKG 748 cpm
EFFICIENCY 33%	EFFICIENCY 25%	EFFICIENCY 33%
MDA 20 dpm	MDA 200 dpm	MDA 455 dpm
MFG NA	MFG NA	MFG N E TECH
MODEL	MODEL	MODEL ELECTRA
SERIAL #	SERIAL #	SERIAL # 3121
CAL DUE	CAL DUE	CAL DUE 12-5-03
BKG	BKG	BKG 2.0 cpm
EFFICIENCY	EFFICIENCY	EFFICIENCY 17%
MDA NA	MDA NA	MDA 94 dpm

Survey Type: ALPHA / BETA

Building: #566 559

Location: TRENCH

Purpose: fixed + removable

RWP #: 03-559-5012

Date: 11-11-03 Time: 1400

RCT: Jerry Locks  
Print Name: Signature

RCT: Scungel S. Clinger  
Print Name: Signature

PRN/REN #

Comments: Survey of trench area 516 alpha + beta  
100% SCAN

ALPHA			BETA		
DPM REMOVEABLE (WIPE)	DPM DIRECT	DPM/100CM <sup>2</sup> (SMPE) REMOVEABLE	DPM REMOVEABLE (WIPE)	DPM DIRECT	DPM/100CM <sup>2</sup> (SMPE) REMOVEABLE
1	294	20	1	455	200
2	294	20	2	455	200
3	294	20	3	455	200
4	294	20	4	455	200
5	294	20	5	455	200
6	294	20	6	455	200
7	294	20	7	455	200
8	294	20	8	455	200
9	294	20	9	455	200
10	294	20	10	455	200
11	294	20	11	455	200
12	294	20	12	455	200
13	294	20	13	455	200
14	294	20	14	455	200
15	294	20	15	455	200
16	294	20	16	455	200
17	294	20	17	455	200
18	294	20	18	455	200
19	294	20	19	455	200
20	294	20	20	455	200
21	294	20	21	455	200
22	294	20	22	455	200
23	294	20	23	455	200
24	294	20	24	455	200
25	294	20	25	455	200

DUPLICATE

Date Reviewed: 11/11/03 RS Supervision: [Signature]

[Signature] Signature

## ATTACHMENT C

# Building 566 Process Waste Tank Sludge Sample Results

A  
CANBERRA

Page 1 of 2

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Analysis Results Header 11/14/2003 2 48 22 PM Page 1

\*\*\*\*\*  
\*\*\*\*\* GAMMA SPECTRUM ANALYSIS \*\*\*\*\*  
\*\* Canberra Mobile Laboratory Services \*\*  
\*\*\*\*\*

Report Generated On 11/14/2003 2 48.22 PM

RIN Number 04S0054  
Analytical Batch ID 0311144467  
Line Item Code RC10C102

Filename S \GENIE2K\CAMFILES\LI004 (C)\MOD\C0200033.CNF

Sample Number 04S0054-004 001  
Lab Sample Number CMLS-4039  
Sample Receipt Date 11/14/2003  
Sample Volume Received 1 34E+003 Gram

Result Identifier N/A

Peak Locate Threshold 2 50  
Peak Locate Range (in channels) 100 - 8192  
Peak Area Range (in channels) 100 - 8192  
Identification Energy Tolerance : 1 000 keV

Sample (Final Aliquot Size) 1 342E+003 Gram  
Sample Quantity Error 0 000E+000  
Systematic Error Applied 0 000E+000

Sample Taken On 11/14/2003 10.30.00 AM  
Acquisition Started 11/14/2003 1.35:36 PM

Count Time 3600 0 seconds  
Real Time 3600 3 seconds  
Dead Time 0 01 %

Energy Calibration Used Done On 10/1/03  
Energy = 0 197 + 0 250\*ch + -2 99E-009\*ch^2 + 0 00E+000\*ch^3

Corrections Applied  
None

Efficiency Calibration Used Done On 11/14/03  
Efficiency Geometry ID 04S0054-004 001

Analyzed By Phil Sanderson Date: 11/14/03

Reviewed By Sheri Chambers Date: 11/14/03

566 Process  
Waste Tank  
Sludge Sample  
Results.  
Both samples were  
composited into  
one count.

\*\*\*\*\*  
 \*\*\*\*\* Sample and QC Sample Results Summary \*\*\*\*\*  
 \*\*\*\*\*

Site Sample ID 04S0054-004 001  
 Analytical Batch ID 0311144467  
 Sample Type (Result Identifier) C02  
 Lab Sample Number CMLS-4039  
 Geometry ID 04S0054-004 001  
 Filename S \GENIE2K\CAMFILES\LI004(C)\MOD\C0200033.CNF  
 Detector Name: LEGE

MDA = Curie method as specified in Genie-2000 Customization Tools Manual  
 Appendix B, Basic Algorithms

Analyte	Activity (pCi/Gram )	2-Sigma Uncertainty (pCi/Gram )	MDA (pCi/Gram )
K-40n	2 06E+000	5 59E-001	1 07E-001
CS-137n	0 00E+000	0 00E+000	6 24E-002
IL-208n	3 14E-002	1 87E-002	3 74E-002
PO-210n	0.00E+000	0.00E+000	5 26E+003
BI-212n	0 00E+000	0 00E+000	7 85E-001
PB-212n	4 84E-002	2 11E-002	3 93E-002
BI-214n	9 33E-002	5.30E-002	7 16E-002
PB-214n	6 93E-002	3 29E-002	6 53E-002
RA-226n	4 16E-001	3 16E-001	5.08E-001
AC-228n	0 00E+000	0 00E+000	2.68E-001
TH-230n	0 00E+000	0 00E+000	8.07E+000
Th-231n	0 00E+000	0 00E+000	3.36E-001
PA-234Mn	0 00E+000	0.00E+000	7 35E+000
PA-234n	0 00E+000	0 00E+000	9 24E-002
U-235	0 00E+000	0 00E+000	3 14E-002
U238/234	1 49E+000	8 94E-001	4 67E-001
AM-241	2.44E+000	1 65E-001	1 36E-001

1 - If Po-210 is detected in the spectrum, this peak may be the result of the interaction of Pb-206(n,n') which also produces a prompt gamma at 803 keV.  
 n - Non-contractual Nuclide

## ATTACHMENT D

# Chemical Data Summaries and Sample Maps

Sample Number		Map Location Point	Room	Material Sampled & Identification	Analytical Results
<b>Asbestos Data Summary</b>					
<b>Building 566A - RIN03Z2218</b>					
566-08202003-214-001	001		100	Tan floor tile with specks and mastic	None Detected
566-08202003-214-003	003		100	Tan base cove and mastic	None Detected
566-08202003-214-005	005		105	Grey floor tile with specks and mastic	None Detected
566-08202003-214-006	006		105	Grey floor tile with specks and mastic	None Detected
566-08202003-214-007	007		105	Grey base cove and mastic	None Detected
566-08202003-214-008	008		105	Grey base cove and mastic	None Detected
566-08202003-214-015	015		112	Pink floor tile with gray specks and mastic	None Detected
566-08202003-214-016	016		112	Pink floor tile with gray specks and mastic	None Detected
566-08202003-214-017	017		112	Light pink Drywall and mud	None Detected
566-08202003-214-018	018		105	Light blue drywall and mud	None Detected
566-08202003-214-020	020		105	Skim coat on cinderblock	None Detected
566-08202003-214-021	021		106	Skim coat on cinderblock	None Detected
566-08202003-214-027	027		107	White drywall and mud	None Detected
566-08202003-214-028	028		107	White drywall and mud	None Detected
<b>Building 566 - RIN03Z2218</b>					
566-08202003-214-002	002		113	Tan floor tile with specks and mastic	None Detected
566-08202003-214-004	004		113	Tan base cove and mastic	None Detected
566-08202003-214-009	009		113	Ceiling tile with small white specks	None Detected
566-08202003-214-010	010		113	Ceiling tile with small white specks	None Detected
566-08202003-214-011	011		113	Ceiling tile tan pin hole	None Detected
566-08202003-214-012	012		113	Ceiling tile with large white grooves	None Detected
566-08202003-214-013	013		113	Ceiling tile white smooth no holes	None Detected
566-08202003-214-014	014		113	Ceiling tile white plastic coatings	None Detected
566-08202003-214-019	019		120	White drywall and mud	None Detected
566-08202003 214-022	022		113	Skim coat on cinderblock	None Detected
566-08202003-214-023	023		116	Skim coat on cinderblock	None Detected
566-08202003-214-024	024		120	Skim coat on cinderblock	None Detected
566-08202003-214-025	025		122	Skim coat on cinderblock	None Detected
566-08202003-214-026	026		123	Skim coat on cinderblock	None Detected
566-08202003-214-029	029		200	TSI heating water return	None Detected
566-08202003-214-030	030		200	TSI, Brane Supply	None Detected
<b>Building 566 - RIN03Z2218</b>					
566-08202003-214-031	031		200	TSI wrap, white cover @ SFI 15	None Detected
566-08202003-214-032	032		200	TSI wrap, white cover @ SFI 107	None Detected
566-08202003-214-033	033		200	TSI wrap, white cover, heating water supply	None Detected

**Asbestos Data Summary**

Sample Number	Map Location Point	Room	Material Sampled & Location	Analytical Results
566-08202003-214-034	034	200	TSI black tar wrap, process waste	None Detected
566-08202003-214-035	035	200	TSI black tar wrap, process waste	None Detected
566-08202003-214-036	036	200	TSI black tar wrap, process waste	None Detected
566-08202003-214-037	037	200	TSI wrap, 30lb steam line	None Detected
566-08202003-214-038	038	200	TSI, abandoned line	None Detected
566-08202003-214-039	039	200	TSI, abandoned line	None Detected
566-08202003-214-040	040	200	TSI condensate	None Detected
566-08202003-214-041	041	200	TSI, 125lb line	None Detected
566-08202003-214-042	042	Roof	Flashing, black and silver paint	None Detected
566-08202003-214-043	043	Roof	Flashing, black and silver paint	None Detected
566-08202003-214-044	044	Roof	Roof Area, black and silver paint	None Detected
566-08202003-214-045	045	Roof	Roof Area, black and silver paint	None Detected
566-08202003-214-046	046	120	Pipe caulking	None Detected
566-08202003-214-047	047	120	Pipe caulking	None Detected
566-08202003-214-048	048	123	TSI elbow, cold water	None Detected
566-08202003-214-049	049	123	TSI elbow, process hot water	None Detected

# CHEMICAL SAMPLE MAP

## Building 566A Interior Asbestos

PAGE 1 OF 2

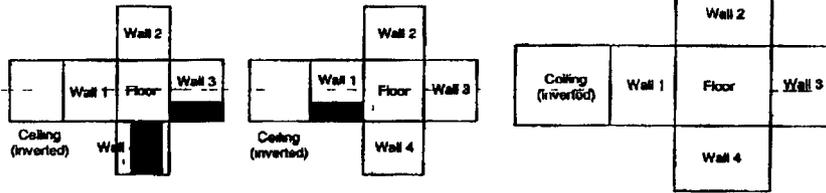
### B566A Interior

#### Men's Locker

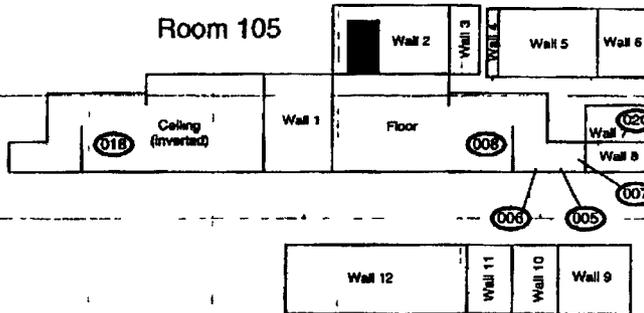
#### Room 102

#### Room 103

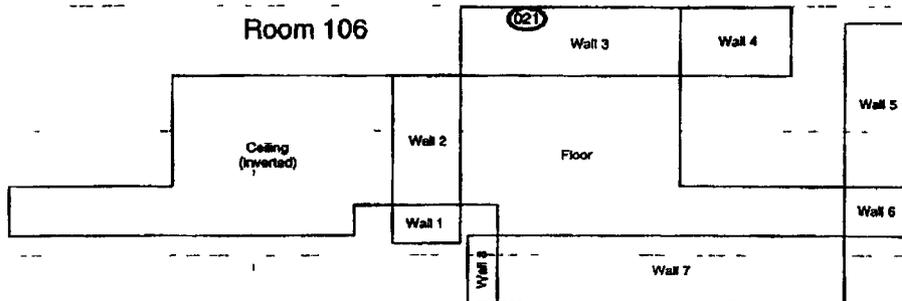
#### Room 104



#### Room 105



#### Room 106



#### SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



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

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

Prepared by: GIS Dept. 303-866-7707

Prepared for:



MAP ID 03-0189/B566A-IN1-ASB



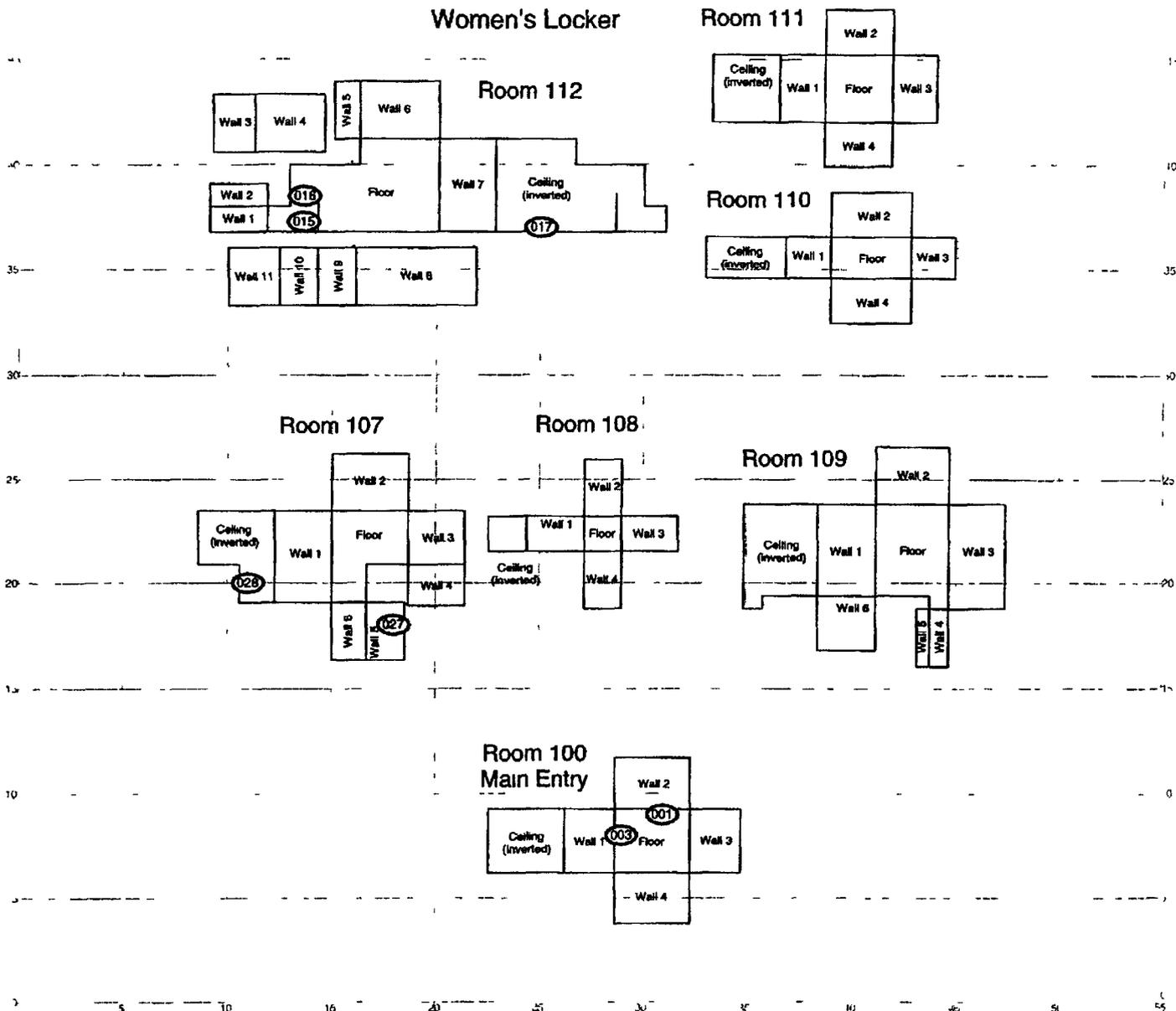
Nov 25, 2003

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**CHEMICAL SAMPLE MAP**  
**Building 566A Interior**  
**Asbestos**

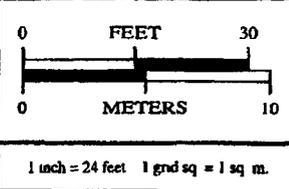
PAGE 2 OF 2

**B566A Interior**



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- SURVEY MAP LEGEND**
- Asbestos Sample Location
  - △ Beryllium Sample Location
  - Lead Sample Location
  - ◇ RCRA/CERCLA Sample Location
  - ⊙ PCB Sample Location
  - Open/Inaccessible Area
  - ▨ Area in Another Survey Unit



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

Prepared by GRS Dept. 303-964-7707      Prepared for

**CH2MHILL**  
 Communications Group

MAP ID 03-0189/B566A IN2 ASB      Nov 24 2003

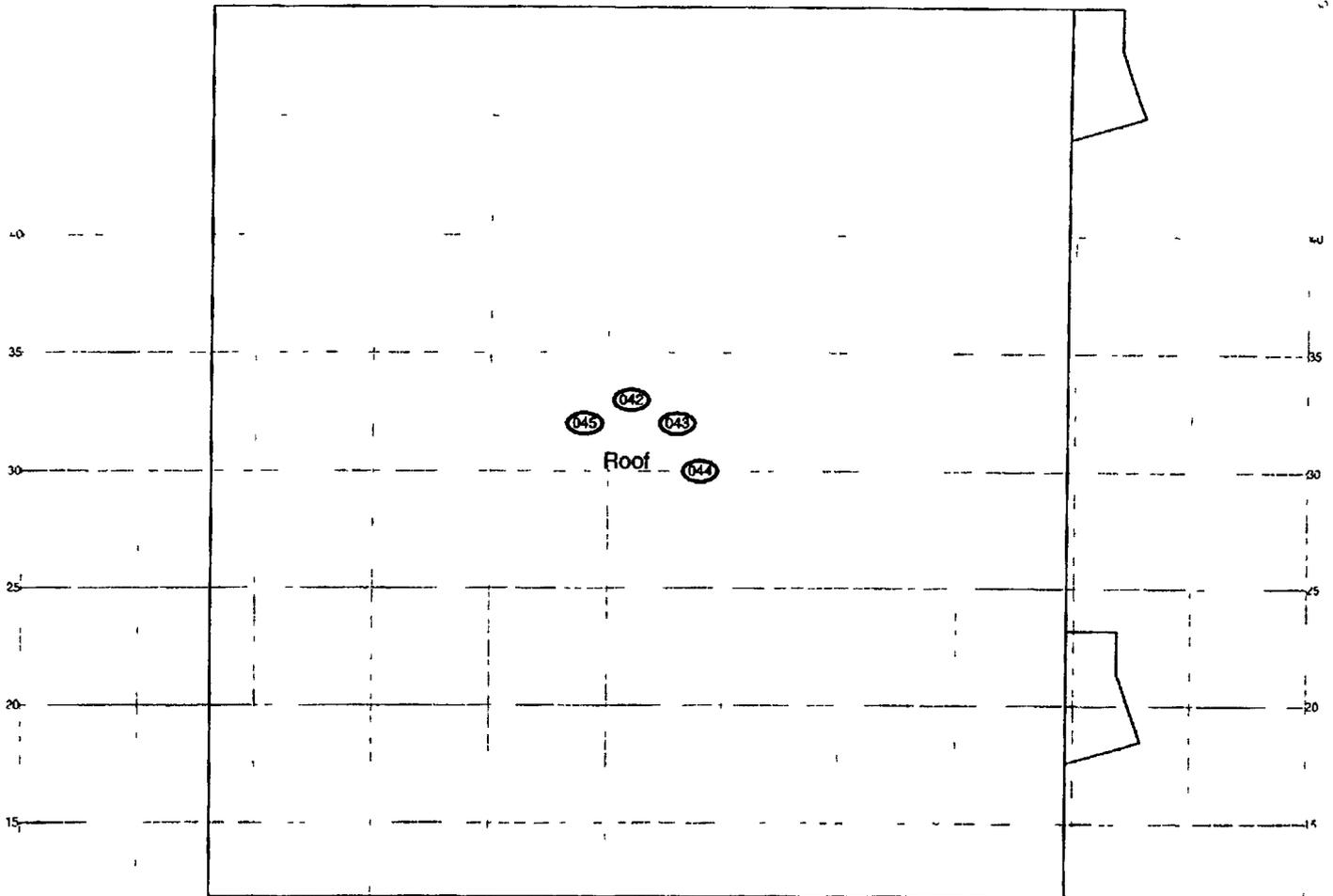
63

# CHEMICAL SAMPLE MAP

Building 566 Interior & Exterior  
Asbestos

PAGE 1 OF 7

## B566 Exterior



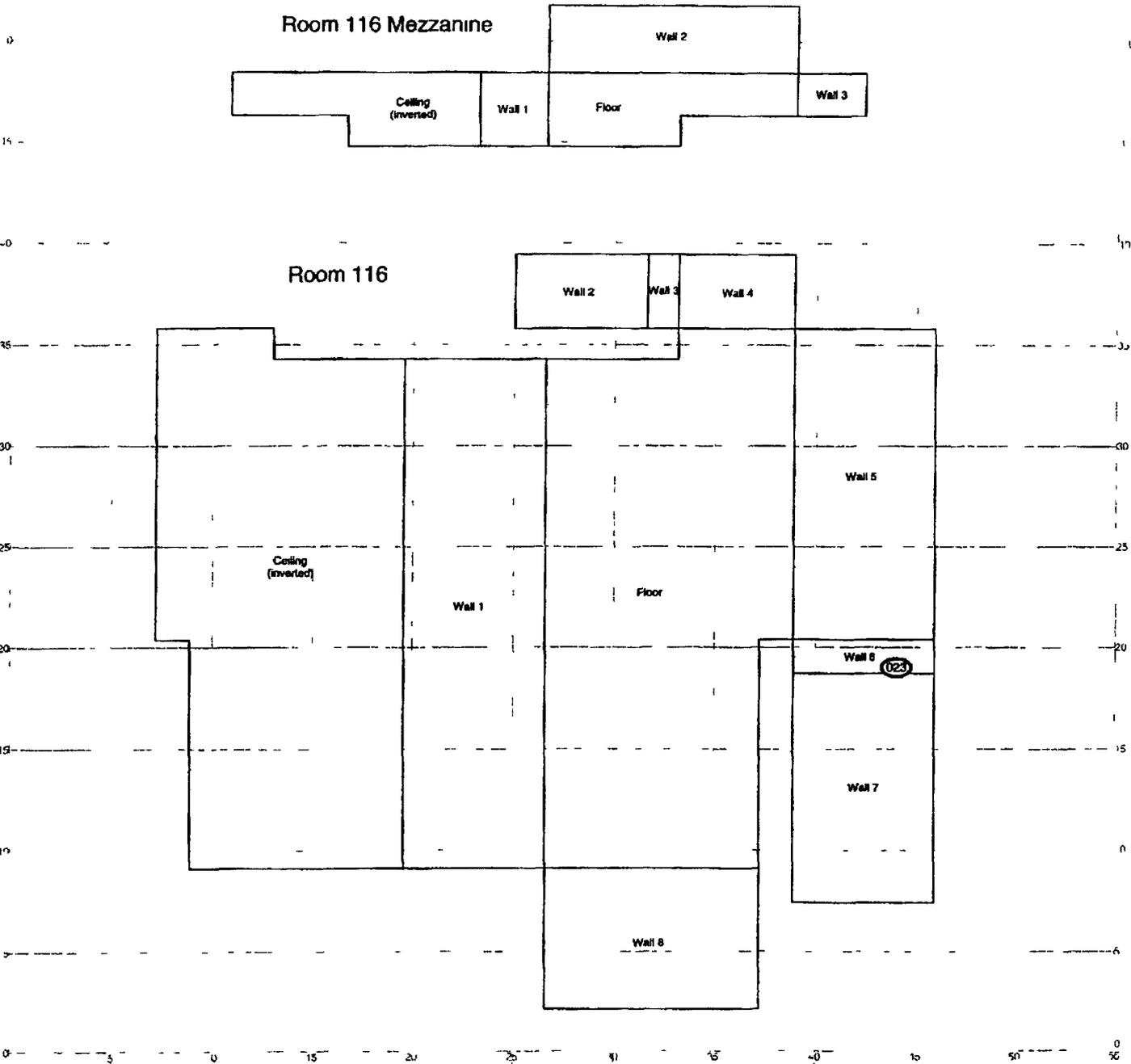
<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li>⊕ Asbestos Sample Location</li> <li>⚠ Beryllium Sample Location</li> <li>□ Lead Sample Location</li> <li>◇ RCRA/CERCLA Sample Location</li> <li>⊙ PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&amp;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 style="text-align: center;"><b>N</b></p> <p style="text-align: center;">↑</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>Prepared by: G&amp;S Dept. 303-966-7707      Prepared for:</p> <p style="text-align: center;"><b>CH2MHILL</b> Communications Group</p> <p>MAP ID: 03-0189/B566-EX1-ASB      Nov 24, 2003</p>
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**CHEMICAL SAMPLE MAP**  
**Building 566 Interior & Exterior**  
**Asbestos**

PAGE 2 OF 7

**B566 Interior**



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DynCorp I&amp;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><b>N</b></p>	<p><b>FEET</b></p> <p><b>METERS</b></p> <p>1 inch = 24 feet 1 grid sq = 1 sq. m.</p>	<p style="text-align: center;">U.S. Department of Energy  <b>Rocky Flats Environmental Technology Site</b></p> <p>Prepared by: GIS Dept. 303-668-7707      Prepared for:</p> <div style="text-align: center;"> <p><b>CH2MHILL</b>          Communications Group</p> </div> <p style="text-align: center;">MAP ID 03-0189/B566-INT-ASB      Nov 24, 2003</p>
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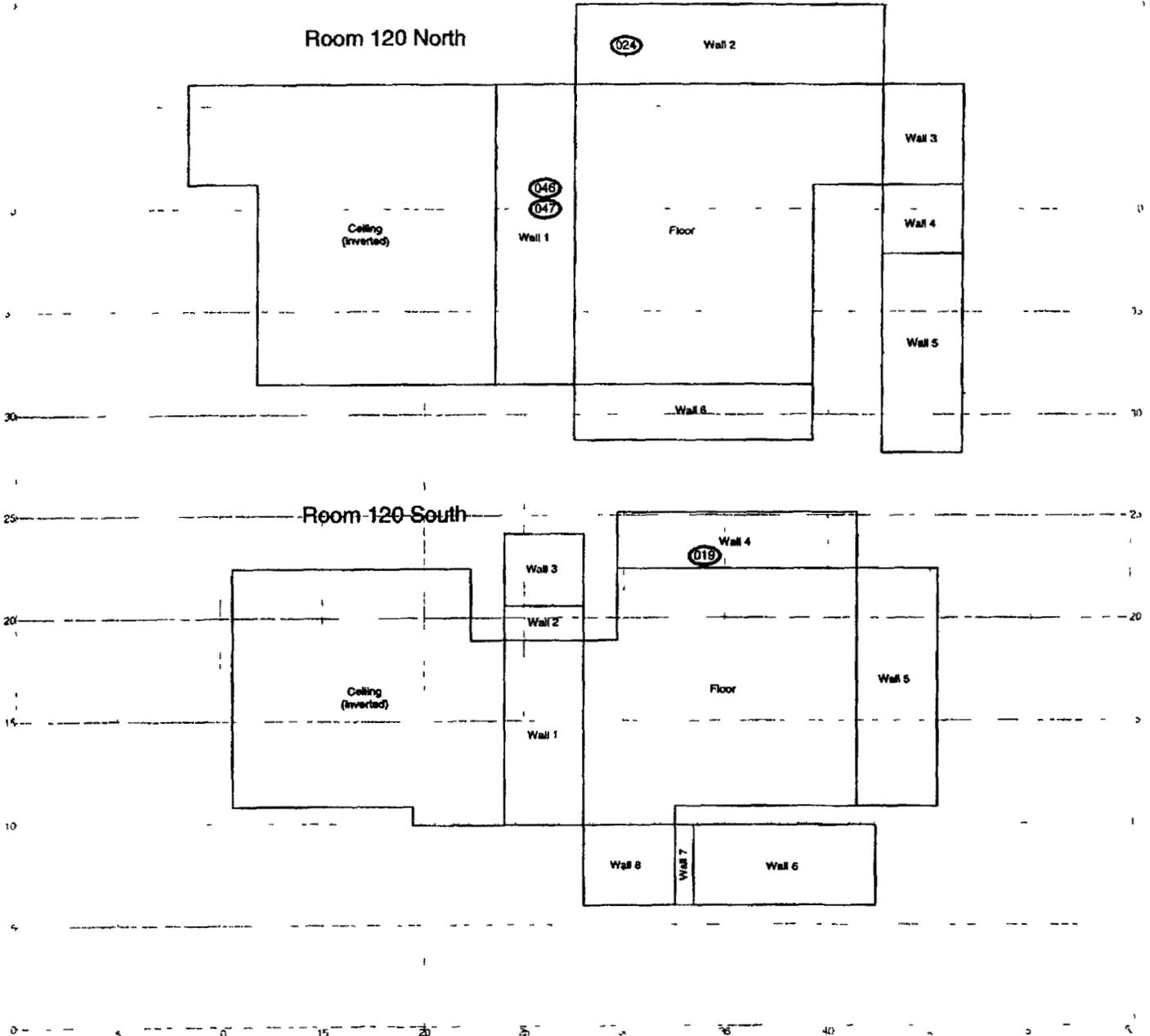
65

# CHEMICAL SAMPLE MAP

## Building 566 Interior & Exterior Asbestos

PAGE 3 OF 7

### B566 Interior



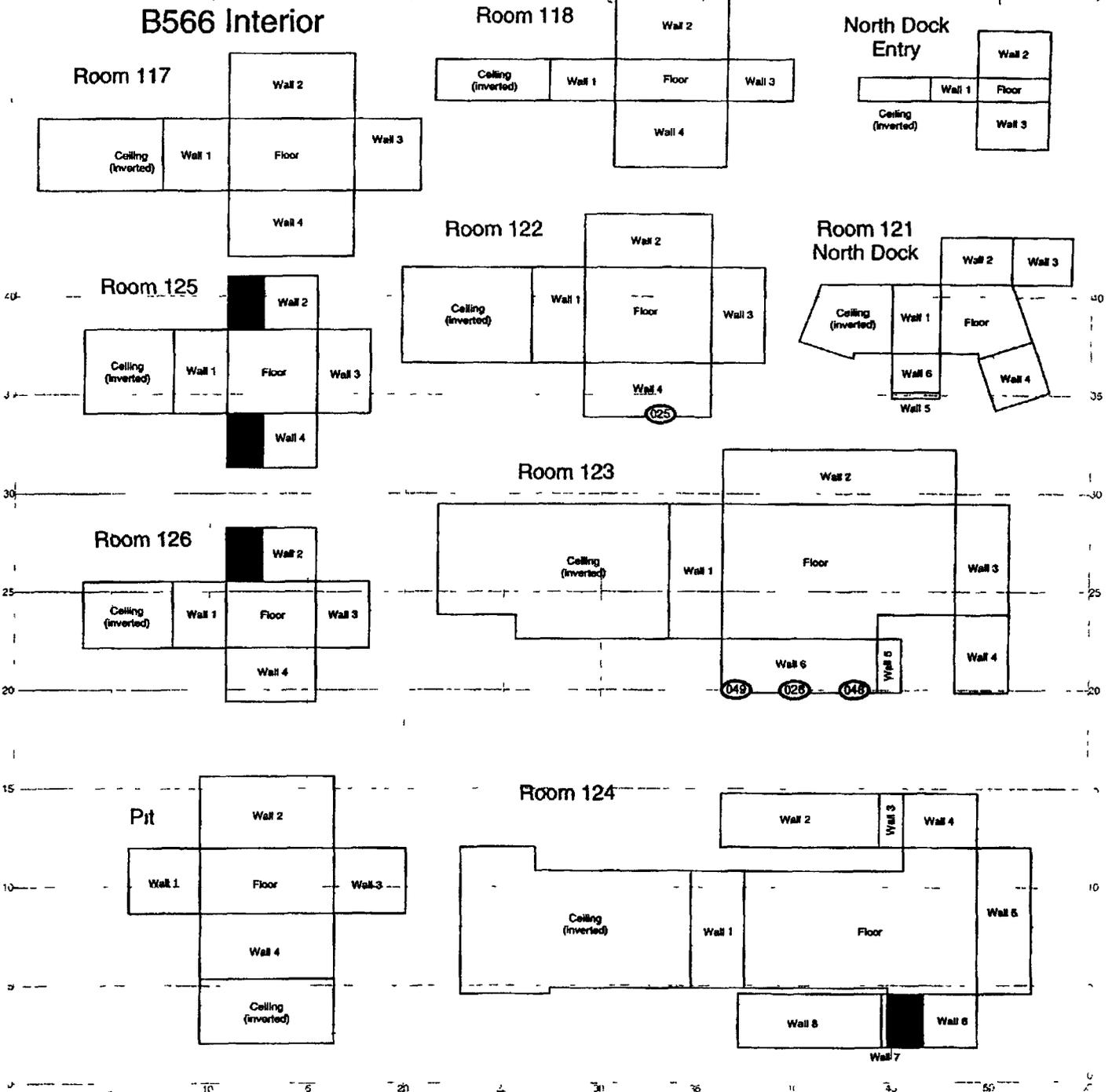
<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li>⊙ Asbestos Sample Location</li> <li>⚠ Beryllium Sample Location</li> <li>⊠ Lead Sample Location</li> <li>◇ RCRA/CERCLA Sample Location</li> <li>⊕ PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DynCorp I&amp;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><b>N</b></p>	<p>0 FEET 30</p> <p>0 METERS 10</p> <p>1 inch = 24 feet 1 sq. ft. = 1 sq. m.</p>	<p style="text-align: center;">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIB Dept. 903-966-7707      Prepared for:</p> <div style="text-align: center;"> <p><b>CH2MHILL</b> Communications Group</p> </div> <p style="text-align: center;">MAP ID 03-0189/B566-W2-ASB      Nov 24, 2003</p>
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# CHEMICAL SAMPLE MAP

## Building 566 Interior & Exterior Asbestos

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### SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



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

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

Prepared by: GRS Dept. 303-866-7707      Prepared for:

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Communications Group

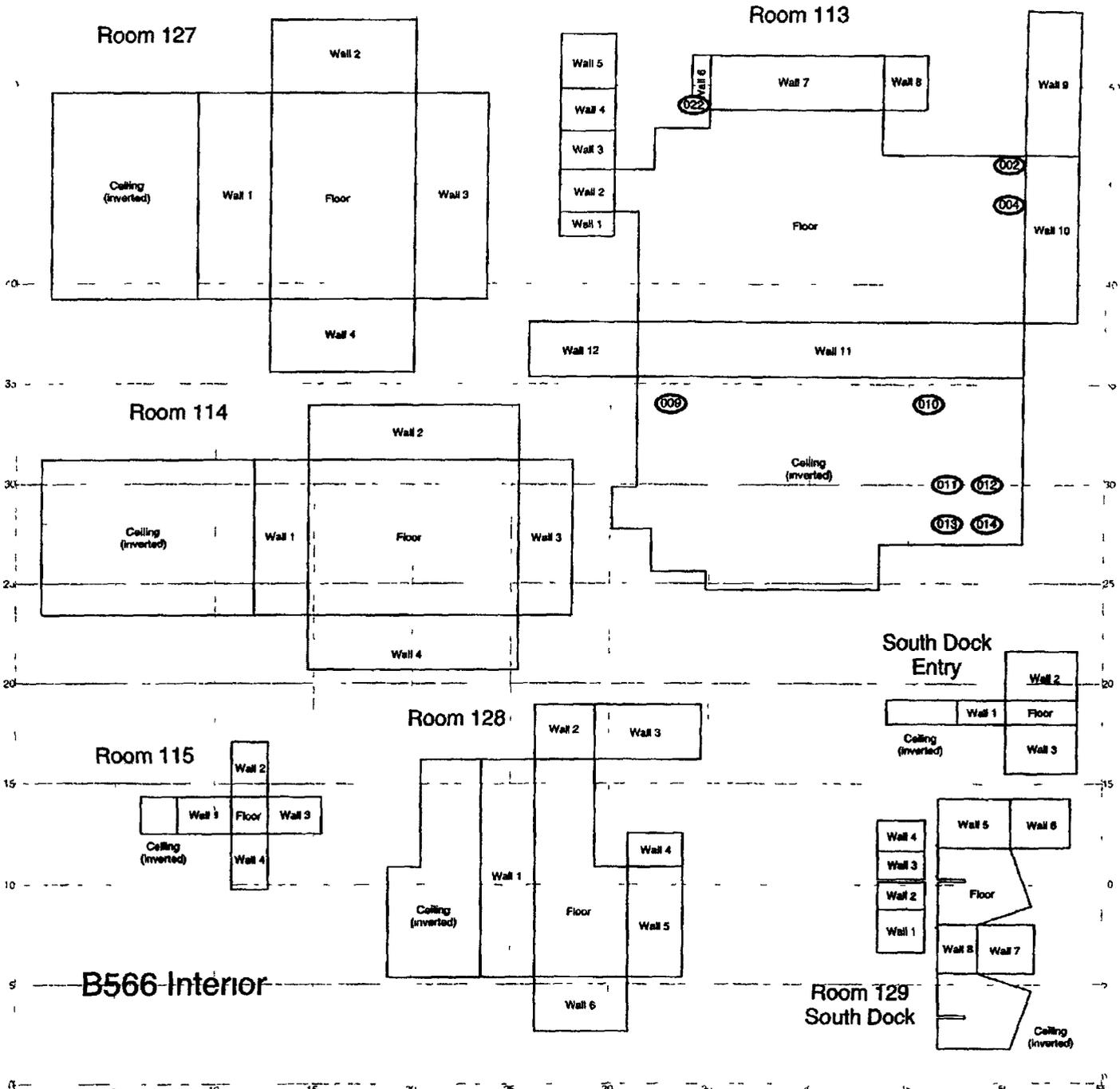
MAP ID 03-0189/B566-W3-ASB      Nov 24, 2003

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# CHEMICAL SAMPLE MAP

## Building 566 Interior & Exterior Asbestos

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<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li>⊙ Asbestos Sample Location</li> <li>⚠ Beryllium Sample Location</li> <li>⊠ Lead Sample Location</li> <li>⬢ RCRA/CERCLA Sample Location</li> <li>⊕ PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&amp;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><b>N</b></p>	<p>0      FEET      30</p> <p>0      METERS      10</p> <p>1 inch = 24 feet    1 sqd sq = 1 sq m</p>	<p>U S Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GRS Dept. 303-366-7707      Prepared for:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p><b>CH2MHILL</b> Communications Group</p> <p>MAP ID 03-0189/B566-IN4-ASB      Nov 24, 2003</p>
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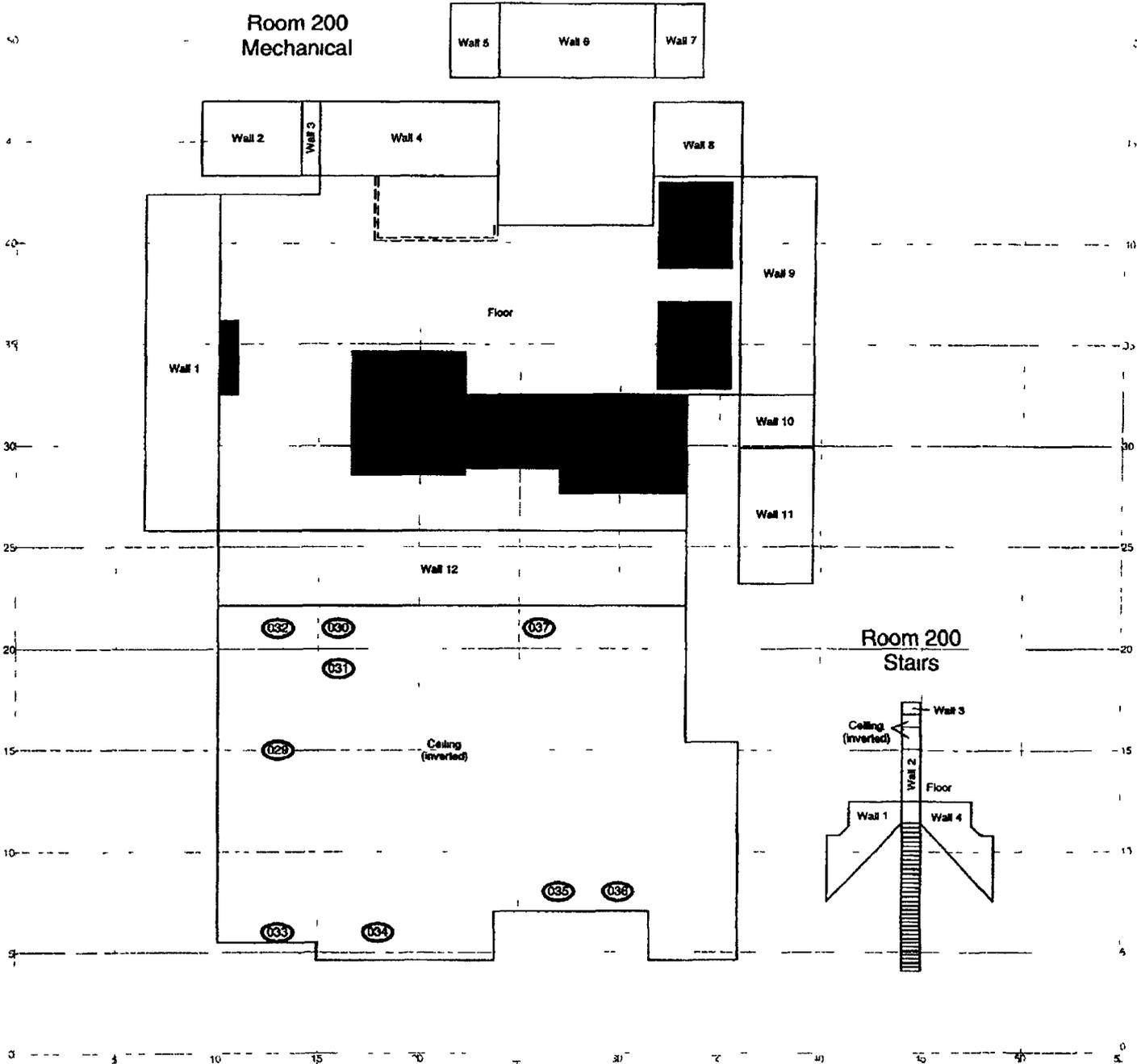
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# CHEMICAL SAMPLE MAP

## Building 566 Interior & Exterior Asbestos

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### B566 Second Floor Interior



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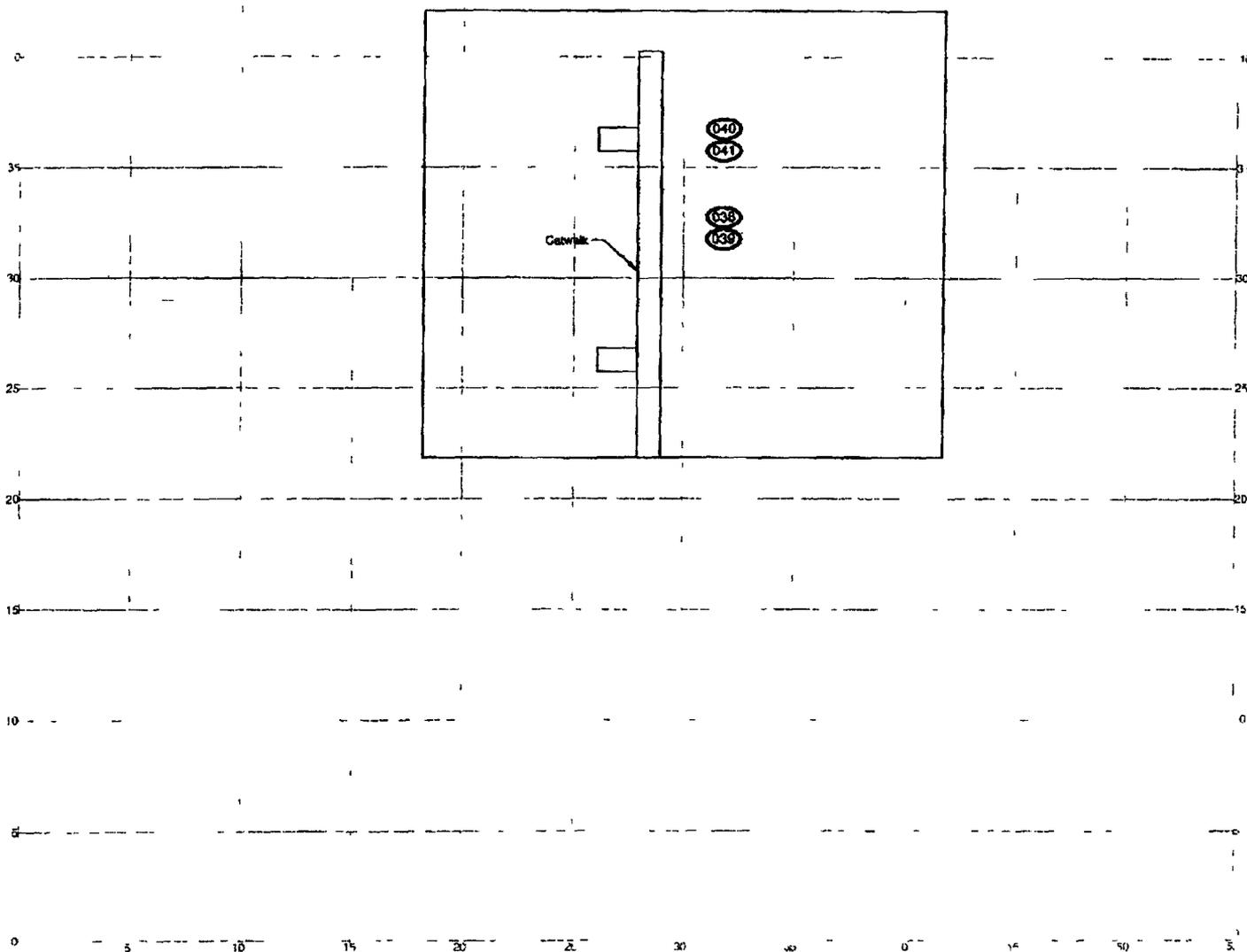
<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p><small>Neither the United States Government nor Kaiser Hill Co nor DynCorp M&amp;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 style="text-align: center;"><b>N</b> ↑</p>	<p style="text-align: center;">0      30 F E E T</p> <hr style="width: 100%;"/> <p style="text-align: center;">0      10 M E T E R S</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>Prepared by: GIS Dept. 303-856-7707      Prepared for: </p> <p style="text-align: center;"><b>CH2MHILL</b> Communications Group</p> <p>MAP ID 03-0189/B566-INS-ASB      Nov 24, 2003</p>
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**CHEMICAL SAMPLE MAP**  
**Building 566 Interior & Exterior**  
**Asbestos**

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**B566 Second Floor Interior**

North End  
 Above Ceiling Area



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li>⊙ Asbestos Sample Location</li> <li>△ Beryllium Sample Location</li> <li>□ Lead Sample Location</li> <li>◇ RCRA/CERCLA Sample Location</li> <li>⊕ PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kelser Hill Co. nor DynCorp M&amp;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><b>N</b></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. 303-866-7707 Prepared for</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p><b>CH2MHILL</b></p> <p>Communications Group</p> </div> <div style="border: 1px solid black; width: 40px; height: 40px; background-color: black;"></div> </div> <p>MAP ID 03-0189/B566-IN6-ASB Nov 24, 2003</p>
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Beryllium Data Summary				
Sample Number	Map Point Location	Room	Sample Location	Result (µg/100 cm <sup>2</sup> )
<b>Building 566A- RIN04Z0440/RIN04Z0431</b>				
566-11172003-214-020	99	100	Floor, Biased Sample	<0.1
566-11172003-214-021	100	105	Floor, Biased Sample	<0.1
566-11172003-214-022	101	112	Floor, Biased Sample	<0.1
566-11172003-214-096	102	106	Floor, Biased Sample	<0.1
566-11172003-214-097	103	106	Floor, Biased Sample	<0.1
<b>Building 566- RIN03Z2236</b>				
566-08262003-214-001	33	116 Mezzanine	Internal, Dry Lint Filter Cyclone, EPI From 120, NE Unit, Biased Sample	<0.1
566-08262003-214-002	34	116 Mezzanine	Internal, Dry Lint Filter Cyclone Line, EPI From 120, NE Unit, Biased Sample	<0.1
566-08262003-214-003	35	116 Mezzanine	Internal, Dry Lint Filter Cyclone Line, EPI From 120, Middle Unit, Biased Sample	<0.1
566-08262003-214-004	36	116 Mezzanine	Internal, Dry Lint Filter Cyclone Line, EPI From 120, Middle Unit West, Biased Sample	<0.1
566-08262003-214-005	37	116 Mezzanine	Internal, Dry Lint Filter Cyclone Line, EPI From 120, SE Unit, West Side, Biased Sample	<0.1
566-08262003-214-006	38	116 Mezzanine	Internal, Dry Lint Filter Cyclone, EPI From 120, SE Unit East Side, Biased Sample	<0.1
566-08262003-214-007	39	116 Mezzanine	Internal, Dry Lint Filter Cyclone Line EPI From 120, Middle Unit, East, Biased Sample	<0.1
566-08262003-214-008	40	116	Collection Drum # 1 from Inside Duct, Biased Sample	<0.1
566-08262003-214-009	41	116	Collection Drum # 2 from Inside Duct, Biased Sample	<0.1
566-08262003-214-010	42	116	Collection Drum # 3 from Inside Duct, Biased Sample	<0.1
566-08262003-214-011	Void	Void	Void	Void
566-08262003-214-012	43	116	EPI Ductwork, Mezzanine # 2, Biased Sample	<0.1
566-08262003-214-013	44	116	EPI Ductwork, Mezzanine # 3, Biased Sample	<0.1
566-08262003-214-014	45	116	EPI Ductwork, Mezzanine # 4, Biased Sample	<0.1
566-08262003-214-015	46	116	EPI Ductwork, Mezzanine # 5, Biased Sample	<0.1
566-08262003-214-016	47	116	EPI Ductwork, Mezzanine # 6, Biased Sample	<0.1
566-08262003-214-017	48	116	Inside Lint Press, Auger, Biased Sample	<0.1
566-08262003-214-018	49	116	Inside Lint Press, Invent/Screw Jack, Biased Sample	<0.1
566-08262003-214-019	50	116	Outside of Lint Box, Biased Sample	<0.1
<b>Building 566- RIN04Z0431</b>				
566-11172003-214-001	51	116	EPI Plenum, Pre Filter Base of Stairs, Biased Sample	<0.1
566-11172003-214-002	52	116	EPI Plenum, Pre Filter Top of Stairs, Biased Sample	<0.1
566-11172003-214-003	53	116	EPI Plenum, Pre Filter, Floor West Wall, Biased Sample	<0.1
566-11172003-214-004	54	116	EPI Plenum, 1 <sup>st</sup> Stage, 1 <sup>st</sup> Floor, Biased Sample	<0.1
566-11172003-214-005	55	116	EPI Plenum, 1 <sup>st</sup> Stage, 1 <sup>st</sup> Floor Filter Shelf, Biased Sample	<0.1
566-11172003-214-006	56	116	EPI Plenum, 1 <sup>st</sup> Stage, 2 <sup>nd</sup> Floor Filter Shelf, Biased Sample	<0.1
566-11172003-214-007	57	116	EPI Plenum, 2 <sup>nd</sup> Stage, 1 <sup>st</sup> Floor, Biased Sample	<0.1
566-11172003-214-008	58	116	EPI Plenum, 2 <sup>nd</sup> Stage, 1 <sup>st</sup> Floor, Filter Shelf, Biased Sample	<0.1

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**Beryllium Data Summary**

Sample Number	Map Point Elevation	Room	Sample Location	Result (ug/100 cm <sup>2</sup> )
566-11172003-214-009	59	116	EPI Plenum, 2 <sup>nd</sup> Stage, 2 <sup>nd</sup> Floor, Filter Shelf, Biased Sample	<0.1
566-11172003-214-010	60	116	EPI Plenum, Final Stage, Floor, Biased Sample	<0.1
566-11172003-214-011	61	116	EPI Plenum, Final Stage Floor, Biased Sample	<0.1
566-11172003-214-012	62	200	Supply Plenum, Floor, Biased Sample	<0.1
566-11172003-214-013	63	200	Supply Plenum, Floor, Biased Sample	<0.1
566-11172003-214-014	10	113	Floor, Random Sample	<0.1
566-11172003-214-015	27	113	Floor, Random Sample	<0.1
566-11172003-214-016	20	113	Floor, Random Sample	<0.1
566-11172003-214-017	18	127	Floor, Random Sample	<0.1
566-11172003-214-018	13	127	Floor, Random Sample	<0.1
566-11172003-214-019	31	127	Floor, Random Sample	<0.1
566-11172003-214-023	26	128	Floor, Random Sample	<0.1
566-11172003-214-024	6	126	Floor, Random Sample	<0.1
566-11172003-214-025	19	113	Ceiling, Random Sample	<0.1
566-11172003-214-026	11	113	Floor, Random Sample	<0.1
566-11172003-214-027	22	113	Floor, Random Sample	<0.1
566-11172003-214-028	30	129	Floor, Random Sample	<0.1
566-11172003-214-029	24	123	Floor, Random Sample	<0.1
566-11172003-214-030	2	123	Floor, Random Sample	<0.1
566-11172003-214-031	4	124	Floor, Random Sample	<0.1
566-11172003-214-032	12	122	Floor, Random Sample	<0.1
566-11172003-214-033	1	118	Floor, Random Sample	<0.1
566-11172003-214-034	9	114	Floor, Random Sample	<0.1
566-11172003-214-035	15	114	Top of Shelf, Random Sample	<0.1
566-11172003-214-036	7	114	Top of Shelf, Random Sample	<0.1
566-11172003-214-037	16	120	Floor, Random Sample	<0.1
566-11172003-214-038	5	120	Floor, Random Sample	<0.1
566-11172003-214-039	25	120	Floor, Random Sample	<0.1
566-11172003-214-040	23	125	Floor, Random Sample	<0.1
566-11172003-214-041	64	123	Hood West Wall, Inside Lower Duct, Biased Sample	<0.1
566-11172003-214-042	65	123	Hood West Wall Grating, Biased Sample	<0.1
566-11172003-214-043	66	123	Hood South Wall, West Side, Inside Lower Duct, Biased Sample	<0.1
566-11172003-214-044	67	123	Hood South Wall, West Side, Grating, Biased Sample	<0.1
566-11172003-214-045	68	123	Hood South Wall East Side, Inside Lower Duct, Biased Sample	<0.1
566-11172003-214-046	69	123	Hood South Wall, East Side, Grating, Biased Sample	<0.1
566-11172003-214-047	70	123	Hood West Wall, Inside Drain, Biased Sample	<0.1
566-11172003-214-048	71	123	Hood South Wall, West Side, Inside Drain, Biased Sample	<0.1
566-11172003-214-049	72	123	Hood South Wall, East Side Inside Drain, Biased Sample	<0.1
566-11172003-214-050	73	123	Hood West Wall, Inside Duct Port, Biased Sample	<0.1

**Resampling Data Summary**

Sample Number	Map Point Location	Room	Sample Location	Result (ug/100 cm <sup>2</sup> )
566-11172003-214-051	74	123	Hood South Wall, West Side, Inside Duct Port, Biased Sample	<0.1
566-11172003-214-052	75	123	Hood, South Wall, East End, Inside Duct Port, Biased Sample	<0.1
566-11172003-214-053	76	123	Respirator Dryer, Inside Duct Port, Biased Sample	<0.1
566-11172003-214-054	3	200	Floor, Random Sample	<0.1
566-11172003-214-055	8	200	Floor, Random Sample	<0.1
566-11172003-214-056	17	200	Floor Stairwell to Room 200, Random Sample	<0.1
566-11172003-214-057	77	200	Inside Process Waste Line, Biased Sample	<0.1
566-11172003-214-058	29	116 Mezzanine	Top of Air Plenum, Random Sample	<0.1
566-11172003-214-059	32	116	Floor, Random Sample	<0.1
566-11172003-214-060	21	116	Floor, Random Sample	<0.1
566-11172003-214-061	28	116	Floor, Random Sample	<0.1
566-11172003-214-062	14	127	Inside Pit, Random Sample	<0.1
566-11172003-214-063	78	116	EP2 Floor, 3 <sup>rd</sup> Stage, Biased Sample	<0.1
566-11172003-214-064	79	116	EP2 Floor, 2 <sup>nd</sup> Stage, Biased Sample	<0.1
566-11172003-214-065	80	116	EP2 Filter Shelf, 2 <sup>nd</sup> Stage, Biased Sample	<0.1
566-11172003-214-066	81	116	EP2 Floor, 1 <sup>st</sup> Stage, Biased Sample	<0.1
566-11172003-214-067	82	116	EP2 Filter Shelf, 1 <sup>st</sup> Stage, Biased Sample	<0.1
566-11172003-214-068	83	116	EP2 Floor, Pre-Filter, Biased Sample	<0.1
566-11172003-214-069	84	116	EP2, Filter Shelf, Pre-Filter, Biased Sample	<0.1
566-11172003-214-070	85	120	Floor of Trench, Biased Sample	<0.1
566-11172003-214-071	86	120	Floor of Trench, Biased Sample	<0.1
566-11172003-214-072	87	120	Floor of Trench, Biased Sample	<0.1
566-11172003-214-073	88	123	Inside duct to Stalag T3 on West Wall, Biased Sample	<0.1
566-11172003-214-074	NA	NA	Blank	<0.1
566-11172003-214-075	NA	NA	Blank	<0.1
566-11172003-214-076	NA	NA	Blank	<0.1
566-11172003-214-077	NA	NA	Blank	<0.1
566-11172003-214-078	NA	NA	Blank	<0.1
566-11172003-214-079	NA	NA	Blank	<0.1
566-11172003-214-080	NA	NA	Blank	<0.1
<b>Building 566 - RIN04Z0440</b>				
566-11172003-214-086	89	116 Mezzanine	Top of SFI, West End, Biased Sample	<0.1
566-11172003-214-087	90	116 Mezzanine	Top of SFI, East End, Biased Sample	<0.1
566-11172003-214-088	91	116 Mezzanine	Top of EPI 120, Center, Biased Sample	<0.1
566-11172003-214-089	92	116 Mezzanine	Top of EPI Air Plenum, North End, Biased Sample	<0.1
566-11172003-214-090	93	116 Mezzanine	Top of EPI Air Plenum, South End, Biased Sample	<0.1
566-11172003-214-091	94	200	Top of SFI, West End, Biased Sample	<0.1
566-11172003-214-092	95	200	Top of SFI, East End, Biased Sample	<0.1
566-11172003-214-093	96	200	Top of Evaporative Cooler 331-884, Biased Sample	<0.1

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**Recycling Data Summary**

Sample Number	Map Point Elevation	Room	Sample Location	Result (ug/100 cm <sup>2</sup> )
566-11172003-214-094*	97	200 Carwalk	Top of Duct, Biased Sample	<01
566-11172003-214-095	98	200 Carwalk	Top of Ceiling Tile, Biased Sample	<01
566-11172003-214-098	NA	NA	Blank	<01
566-11172003-214-099	NA	NA	Blank	<01
566-11172003-214-100	NA	NA	Blank	<01

\*Chain of Custody inadvertently omitted sample number 566-11172003-214-094 during numbering. However, sample was numbered, taken and controlled in accordance with the requirements of chain of custody thus maintaining sample integrity. On this basis, the sample results are considered acceptable. The analytical results for this sample identify the sample by the designated sample number.

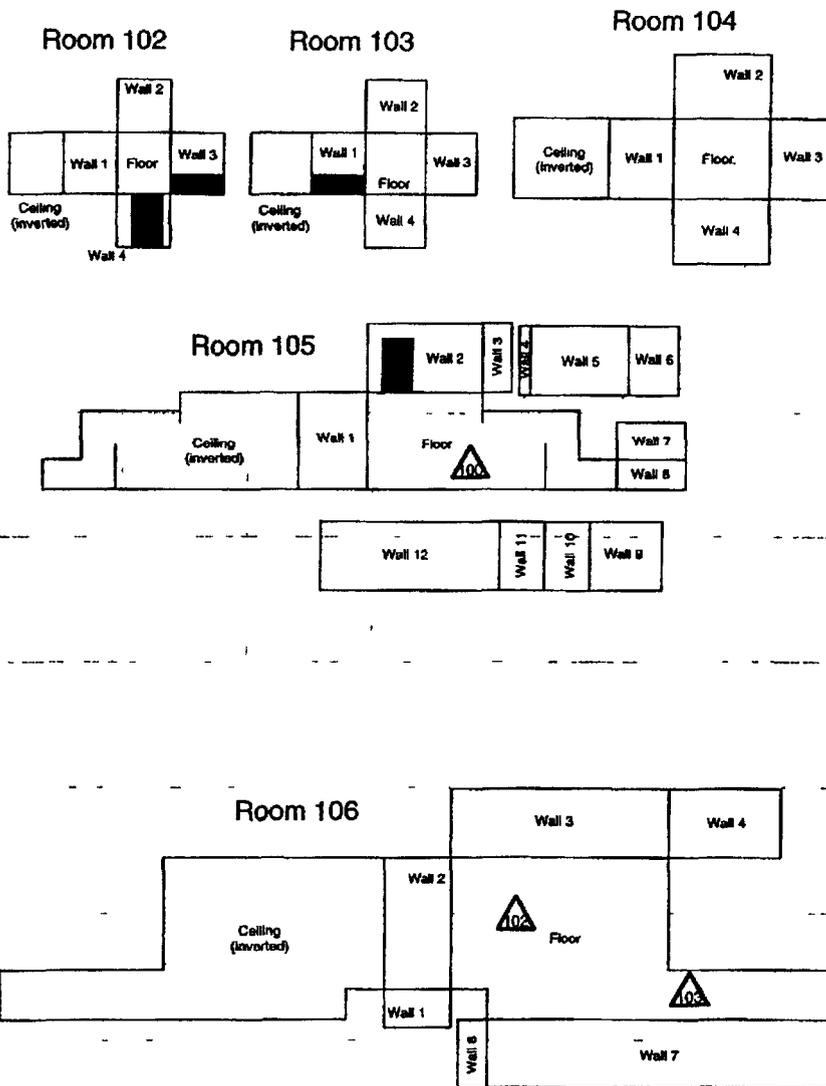
# CHEMICAL SAMPLE MAP

Building 556A  
Beryllium

PAGE 1 OF 2

## B566A Interior

### Men's Locker



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&amp;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><b>N</b></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 QRS Dept. 303-966-7707      Prepared for</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p><b>CH2MHILL</b> Communications Group</p> <p>MAP ID: 03-0189/B566A-IN1 BE      <b>Sept 30, 2003</b></p>
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75

# CHEMICAL SAMPLE MAP

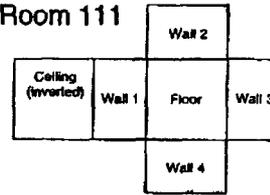
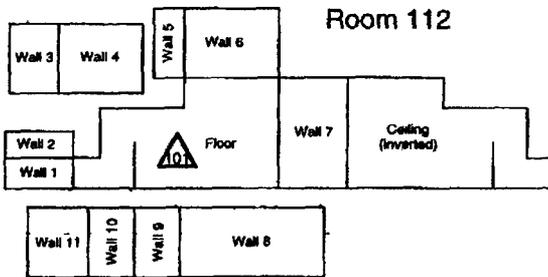
Building 566A  
Beryllium

PAGE 2 OF 2

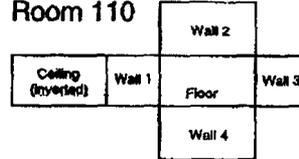
## B566A Interior

Women's Locker

Room 111



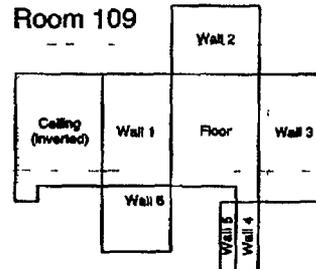
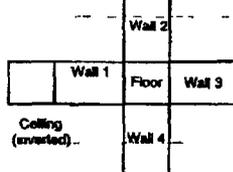
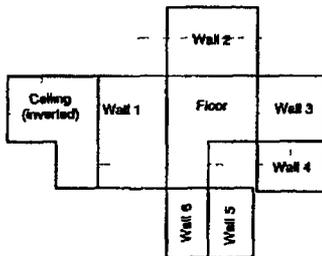
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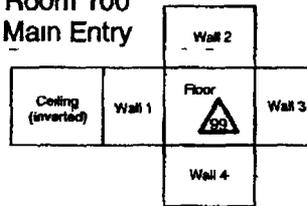
Room 107

Room 108

Room 109



Room 100  
Main Entry



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp I&amp;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><b>N</b></p>	<p>0      30</p> <p>FFIT</p> <p>0      10</p> <p>METERS</p>	<p>U S Department of Energy Rocky Flats Environmental Technology Site</p> <p>Prepared by: GIS Dept. 303-966-7707      Prepared for:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p><b>CH2MHILL</b> Communications Group</p> <p>MAP ID 03-0189/B566A-IN2-BE      Sept 30, 2003</p>
<p> Open/Inaccessible Area</p> <p> Area in Another Survey Unit</p>		<p>1 inch = 24 feet    1 sq sq. = 1 sq m</p>		

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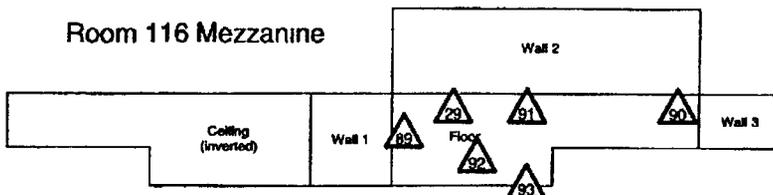
# CHEMICAL SAMPLE MAP

Building 566 Room 116  
Beryllium

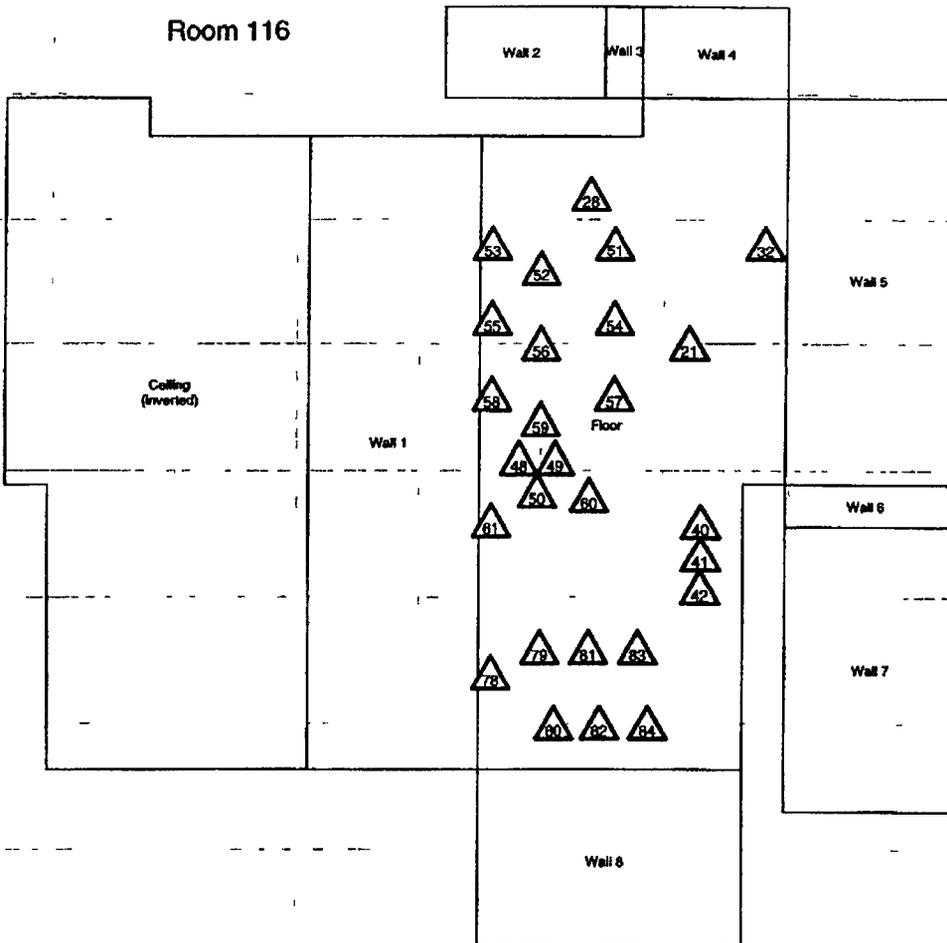
PAGE 1 OF 6

## B566 Interior

### Room 116 Mezzanine



### Room 116



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co., nor DynCorp M&amp;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 style="text-align: center;"><b>N</b> ↑</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>Prepared by GIS Dept. 303-966-7707    Prepared for:</p> <p style="text-align: center;"><b>CH2MHILL</b> Communications Group</p> <p style="text-align: center;">MAP ID 03-0189/B566-IN1-BE    <b>Sept 29, 2003</b></p>
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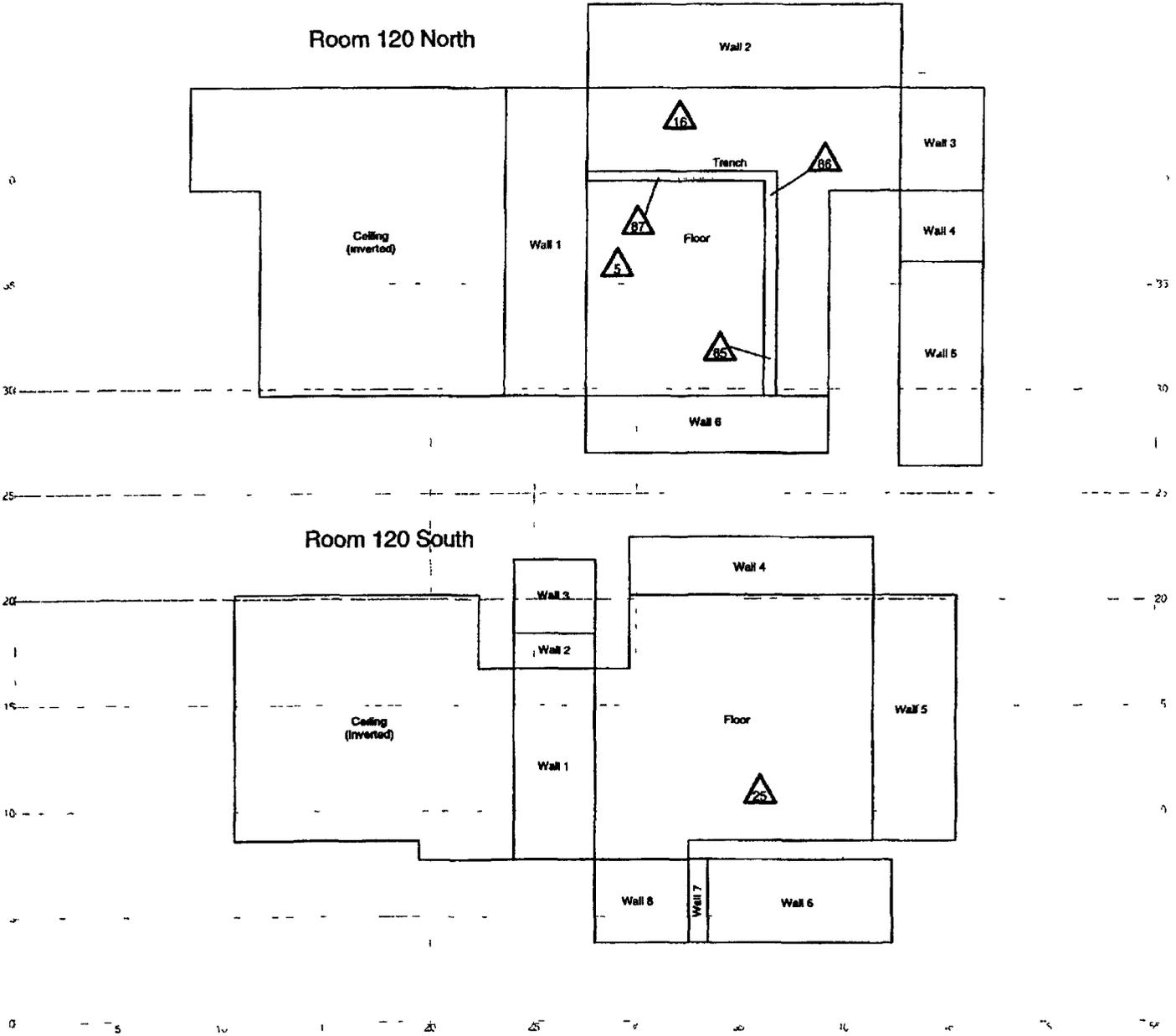
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# CHEMICAL SAMPLE MAP

Building 566 Room 120  
Beryllium

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## B566 Interior



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DynCorp M&amp;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 privately owned rights.</p>	<p><b>N</b></p>	<p>0      30</p> <p>FEET</p> <hr style="width: 100%;"/> <p>0      10</p> <p>METERS</p> <p>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>Prepared by G&amp;S Dept. 303-958-7707      Prepared for:</p> <div style="text-align: center;"> <p><b>CH2MHILL</b> Communications Group</p> </div> <p>MAP ID: 03-0189/B566-IN2-BE      Sept 29, 2003</p>
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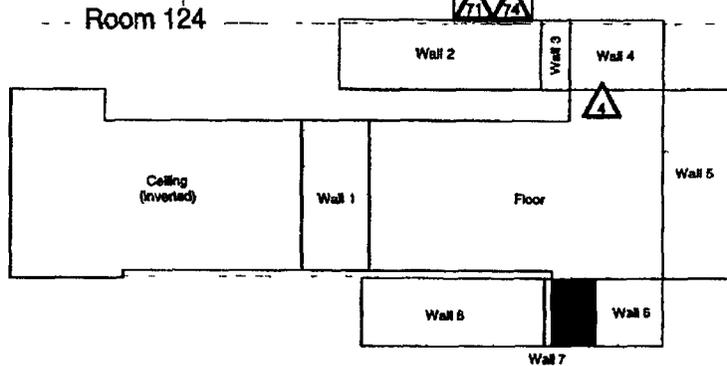
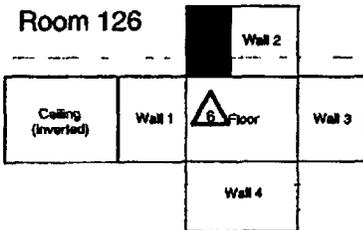
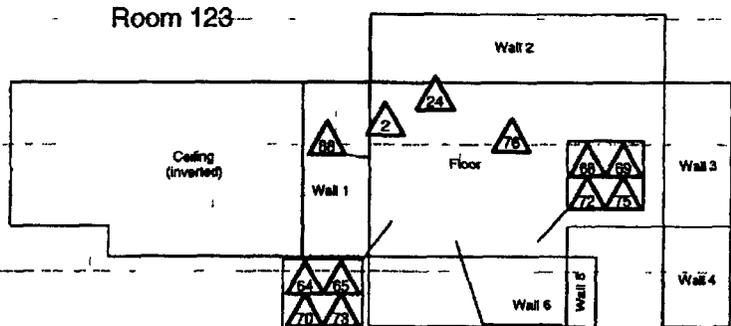
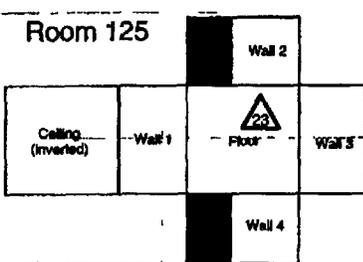
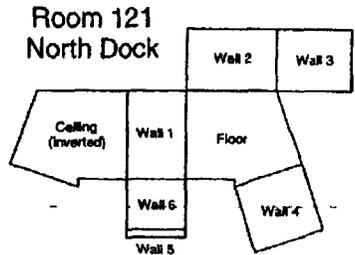
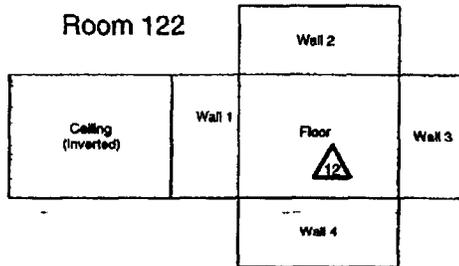
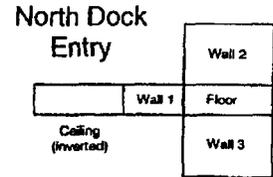
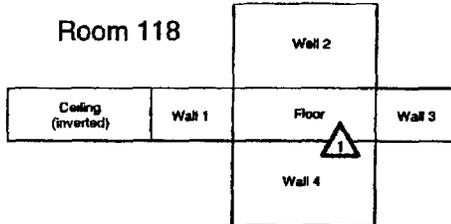
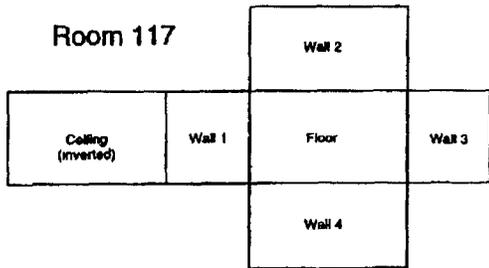
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# CHEMICAL SAMPLE MAP

Building 566  
Beryllium

PAGE 3 OF 6

## B566 Interior



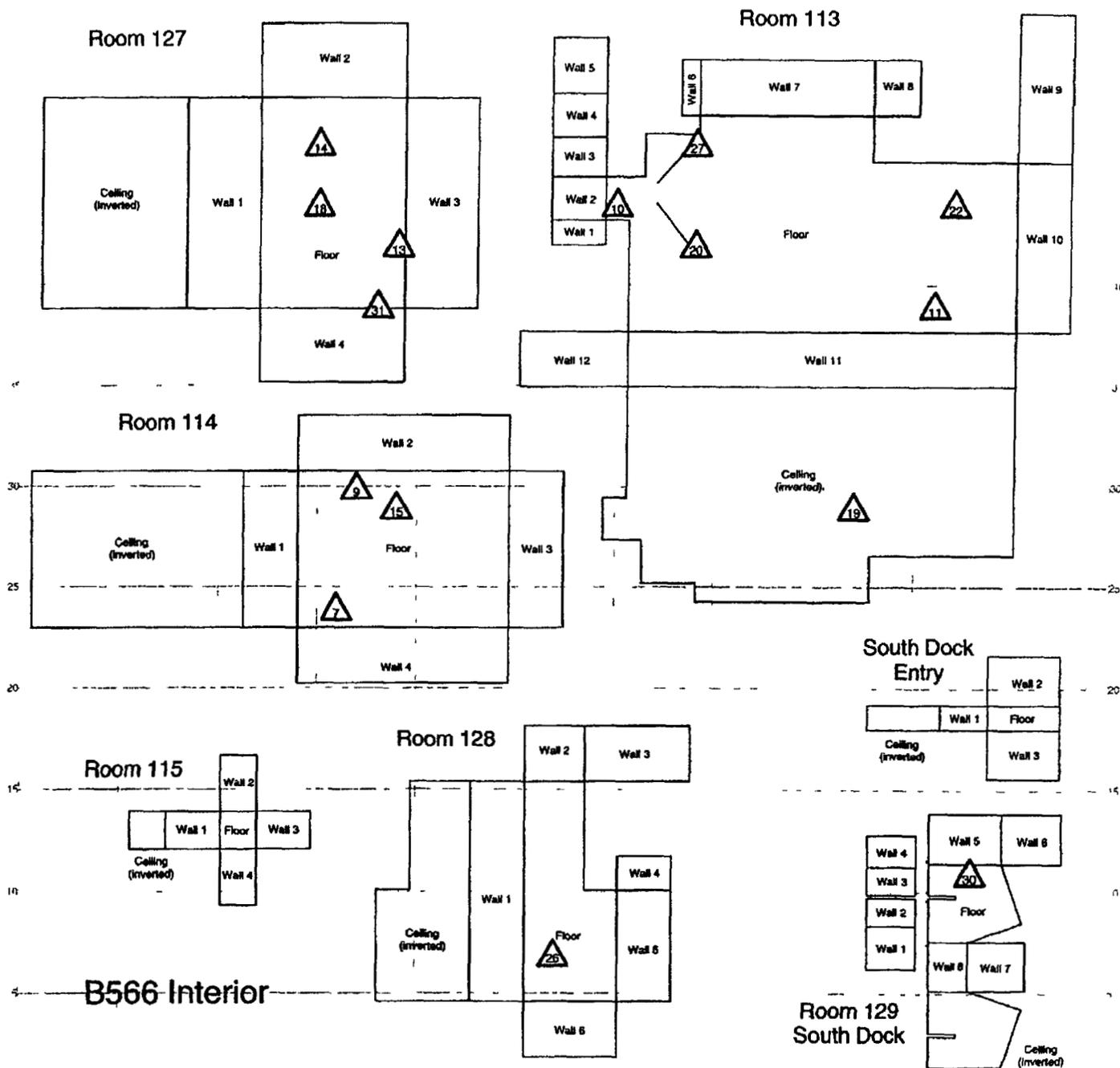
<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DyeCorp M&amp;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><b>N</b></p>	<p><b>FEET</b></p> <p><b>METERS</b></p>	<p style="text-align: center;">U.S. Department of Energy Rocky Flats Environmental Technology Site</p> <p style="font-size: 8px;">Prepared by GHS Dept. 303-968-7707      Prepared for</p> <div style="text-align: center;"> <p><b>CH2MHILL</b> Communications Group</p> </div> <p style="font-size: 8px;">MAP ID- 03-0189/B566-IN3-BE      <b>Sept 29, 2003</b></p>
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# CHEMICAL SAMPLE MAP

Building 566  
Beryllium

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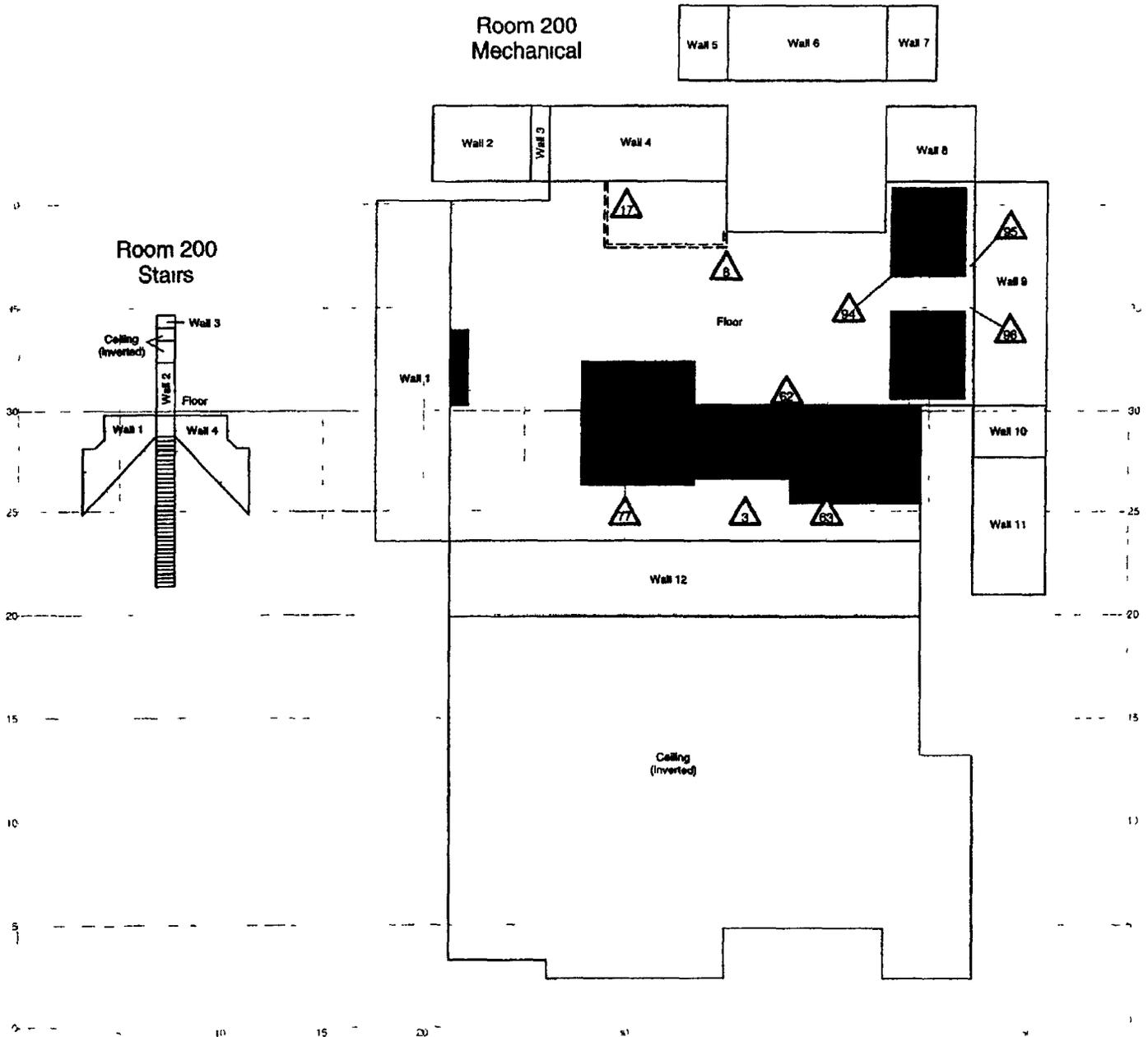
<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> <li> Open/Inaccessible Area</li> <li> Area in Another Survey Unit</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co nor DynCorp M&amp;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><b>N</b></p>	<p>0 PEET 30</p> <p>0 METERS 10</p> <p>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>Prepared by: GIS Dept. 303-966-7707      Prepared for:</p> <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">   <b>CH2MHILL</b>                  Communications Group             </div> <div style="text-align: center;"> </div> </div> <p style="text-align: center;">MAP ID 03-0189/B566-1N4-SC      Sept 29, 2003</p>
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**CHEMICAL SAMPLE MAP**  
**Building 566 Room 200 Mechanical Beryllium**

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**B566 Second Floor Interior**



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRA/CERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DynCorp I&amp;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><b>N</b></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. 303-588-7707</p> <p><b>CH2MHILL</b>          Communications Group</p> <p>MAP ID: 03-0189/B566-INS-BE      <b>Sept 29, 2003</b></p>
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81

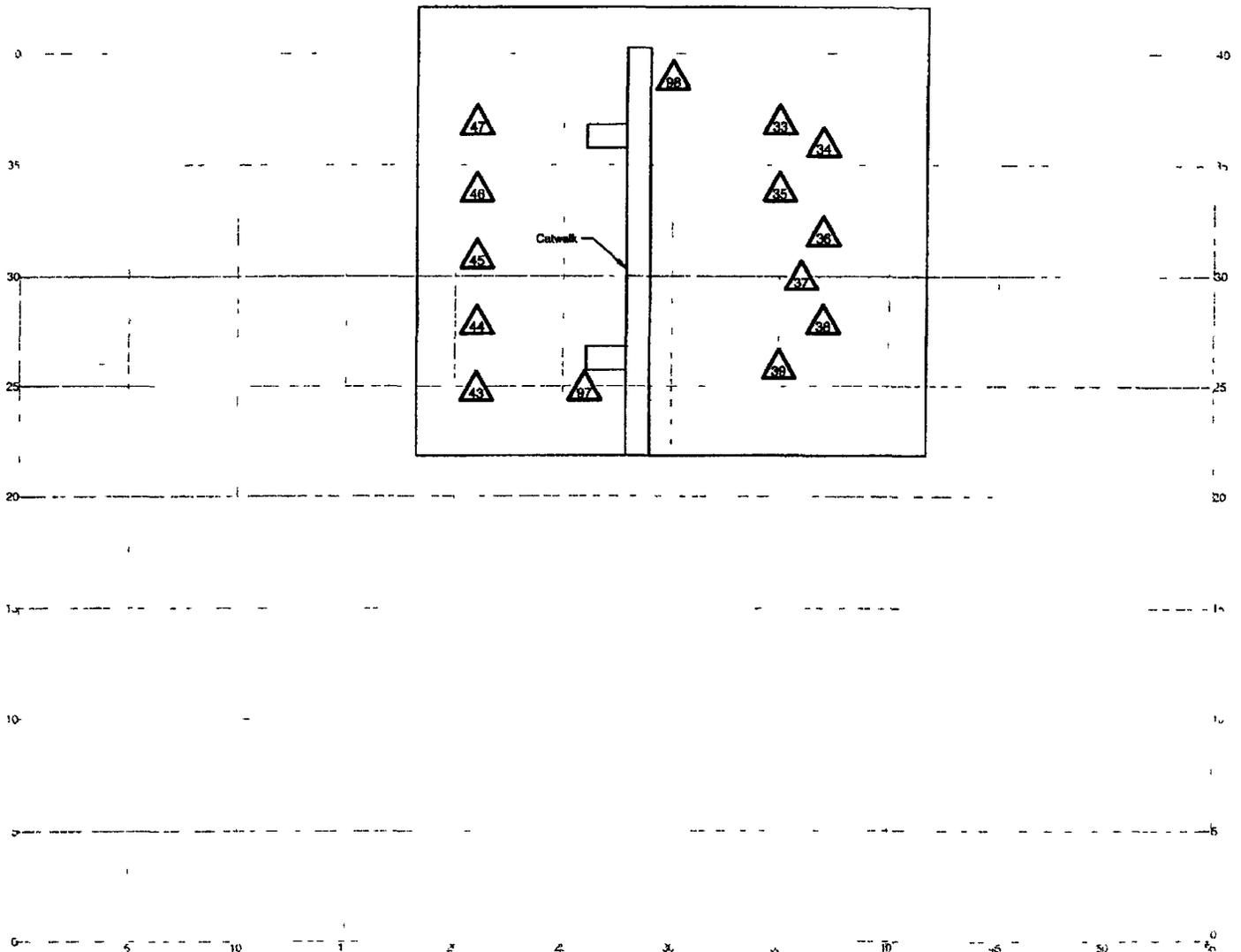
# CHEMICAL SAMPLE MAP

Building 566  
Beryllium

PAGE 6 OF 8

## B566 Second Floor Interior

North End  
Above Ceiling Area



<p><b>SURVEY MAP LEGEND</b></p> <ul style="list-style-type: none"> <li> Asbestos Sample Location</li> <li> Beryllium Sample Location</li> <li> Lead Sample Location</li> <li> RCRACERCLA Sample Location</li> <li> PCB Sample Location</li> </ul>	<p>Neither the United States Government nor Kaiser Hill Co. nor DynCorp MAET 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><b>N</b></p>	<p>0      30</p> <p>FEET</p> <hr style="width: 100%; border: 1px solid black;"/> <p>0      10</p> <p>METERS</p> <p>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>Prepared by: GIS Dept. 303-966-7707      Prepared for:</p> <div style="text-align: center;"> <p><b>CH2MHILL</b> Communications Group</p> </div> <p style="text-align: center;">MAP ID 03-0189/B566-ING-BE      Nov 26, 2003</p>
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# ATTACHMENT E

## Data Quality Assessment (DQA) Detail

## DATA QUALITY ASSESSMENT (DQA)

### VERIFICATION & VALIDATION OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically asbestos and beryllium)

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed, the radiological survey assessment is provided in Table E-1, asbestos in E-2, and beryllium in E-3. A data completeness summary for all results is given in Table E-4.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project Files. This report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Beta/gamma survey designs were not implemented for Buildings 566 and 566A based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented based on the transuranic limits used as DCGLs in the unrestricted release decision process. All survey results were evaluated against, and were less than the Transuranic DCGL<sub>w</sub> (100 dpm/100cm<sup>2</sup>) and the Uranium DCGL<sub>w</sub> (5,000 dpm/100cm<sup>2</sup>) unrestricted release limits, except for the two concrete trenches, the two process waste tanks, and the one vertical leg of process waste piping as discussed in Section 3.0.

Consistent with EPA's G-4 DQO process, the radiological survey design (for those survey units performed per PDS requirements) was optimized by checking actual measurement results (acquired during pre-demolition surveys) against model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

### SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable uncertainties, except for the following anomalous conditions:

- Initial net activity identified in survey unit 566-4-001 at locations 31 and 32 (159.5 dpm/100cm<sup>2</sup> and 198.6 dpm/100cm<sup>2</sup>) greater than the DCGL (100.0 dpm/100cm<sup>2</sup>). The locations were sealed, allowed to decay, and resurveyed. Both re-survey results were less than the DCGL and are the values reported in the TSA Data Summary. No further investigation required.
- No RSA surveys taken at locations 31 and 32 as this was an investigation, therefore, Data Completeness Summary Table E-4 reflects 32 TSA and 30 RSA surveys taken.
- Chain of Custody inadvertently omitted Beryllium sample number 566-11172003-214-094 during numbering for Building 566 interior. However, sample was numbered as designated when taken, and sample integrity was controlled and maintained in accordance with the chain of custody requirements. The analytical results for this sample are identified in RIN04Z0440 as 566-11172003-214-094 and results are considered acceptable.
- The two contaminated concrete slab trenches, two (2) process waste tanks, and one leg of vertical process waste piping that remain in Building 566 will be managed and disposed of as low level waste during demolition activities.

Based upon an independent review of the radiological data, it is determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below applicable unrestricted release levels, except as noted above. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable procedures, survey units were properly designed and bounded, and instrument performance and calibration were within acceptable limits.

Chain of Custody was intact, documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of further contamination into the facility. On this basis, Buildings 566 and 566A meet the RLCP and PDSP DQO criteria with the confidences stated herein.

Table E-1 V&V of Radiological Surveys - Buildings 566 and 566A

V&V CRITERIA, RADIOLOGICAL SURVEYS		K-H RSP 16 00 Series MARSSIM (NUREG-1575)		COMMENTS
QUALITY REQUIREMENTS				
	Parameters	Measure	Frequency	
ACCURACY	initial calibrations	90% < x < 110%	≥ 1	Multi-point calibration through the measurement range encountered in the field, programmatic records
	daily source checks	80% < x < 120%	≥ 1/day	Performed daily/within range
	local area background Field	typically < 10 dpm	≥ 1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies)
PRECISION	field duplicate measurements for TSA	≥ 5% of real survey points	≥ 10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology Survey Units 566-4-001, 566A-4-002 and 566-4-003 (interior and exterior) Survey Maps	statistical and biased	NA	Random w/ statistical confidence
	Controlling Documents (Characterization Pkg, RSPs)	NA	NA	Random and biased measurement locations controlled/mapped to ± 1m
COMPARABILITY	units of measure	dpm/100cm <sup>2</sup>	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files), thorough documentation of the planning, sampling/analysis process, and data reduction into formats Use of standardized engineering units in the reporting of measurement results
COMPLETENESS	Plan vs Actual surveys usable results vs unusable	>95%	NA	See Table E-4 for details
SENSITIVITY	detection limits	>95% TSA ≤ 50 dpm/100cm <sup>2</sup> RA ≤ 10 dpm/100cm <sup>2</sup>	all measures	MDAs ≤ 1/2 DCGL <sub>w</sub> per MARSSIM guidelines

Table E-2 V&V of Asbestos Results - Buildings 566 and 566A

V&V CRITERIA, CHEMICAL ANALYSES ASBESTOS	METHOD EPA 600/R- 93/116	DATA PACKAGE		COMMENTS
		LAB ---> RIN --->	Reservoirs Environmental, Inc RIN03Z218	
QUALITY REQUIREMENT				
ACCURACY	Calibrations Initial/continuing	Measure	Frequency	
PRECISION	Actual Number Sampled LCSD Lab duplicates	below detectable amounts all below detectable amounts	≥ 1 ≥ 49 samples	Semi-quantitative, per (microscopic) visual estimation  Semi-quantitative, per (microscopic) visual estimation
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact completed paperwork, containers w/ custody seals
COMPARABILITY	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc )	Qualitative	NA	See original Chemical Characterization Plan (planning document), for field/sampling procedures (located in project file,) thorough documentation of the planning, sampling/analysis process, and data reduction into formats
COMPLETENESS	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results
SENSITIVITY	Plan vs Actual samples Usable results vs unusable	Qualitative	NA	See Table E-4 final number of samples at Certified Inspector's discretion
	Detection limits	<1% by volume	all measures	N/A

Table E-3 V&V of Beryllium Results - Buildings 566 and 566A

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE	
BERYLLIUM	Prep NMAM 7300 METHOD OSHA ID-125G	LAB -->	Johns Manville Corp Denver, Co
QUALITY REQUIREMENTS		RUN -->	RIN04Z0431 RIN04Z0440 RIN03Z2236
		Measure	Frequency
ACCURACY	Calibrations	linear calibration	≥1
	Initial	80% < %R < 120%	≥1
	Continuing	80% < %R < 120%	≥1
	LCS/MS	<MDL	≥1
PRECISION	Blanks - lab & field	NA	NA
	interference check std (ICP)	80% < %R < 120% (RPD < 10%)	≥1
	LCSD	all results < RL	≥1
REPRESENTATIVENESS	field duplicate	Qualitative	NA
	COC	Qualitative	NA
	hold times/preservation	Qualitative	NA
COMPARABILITY	Controlling Documents (Plans, Procedures, maps, etc)	Qualitative	NA
	measurement units	ug/100cm <sup>2</sup>	NA
COMPLETENESS	Plan vs Actual samples	>95%	NA
	usable results vs unusable	>95%	NA
SENSITIVITY	detection limits	MDL of 0.012 ug/100cm <sup>2</sup>	all measures

**COMMENTS**

No qualifications significant enough to change project decisions, i.e., classification of Type 2 facilities confirmed. All results were below associated action levels

Table E-4 Data Completeness Summary - Buildings 566 and 566A

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) <sup>A</sup>	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	Building 566 (interior and exterior)	12 biased	35 biased	No ACM present, all results < 1% by volume	40 CFR 763.86, 5 CCR 1001-10, EPA 600/R-93/116 RIN03Z2218
Asbestos	Building 566A (interior and exterior)	6 biased	14 biased	No ACM present, all results < 1% by volume	40 CFR 763.86, 5 CCR 1001-10, EPA 600/R-93/116 RIN03Z2218
Beryllium	Building 566 (interior)	10 biased (interior)	99 samples (32 random/67 biased)	No beryllium contamination found at any location, all results below the regulatory limit	OSHA ID-125G RIN003Z2236 (sample numbers 566-08262003-214-001 thru 566-08262003-214-019) RIN04Z0431 (sample numbers 566-11172003-214-001 thru 566-11172003-214-019 and 566-11172003-214-023 thru 566-11172003-214-080) RIN04Z0440 (sample numbers 566-11172003-214-086 thru 566-11172003-214-095 and 566-11172003-214-098 thru 566-11172003-214-100) No results above action level (0.2 ug/100cm <sup>2</sup> ) or investigative level (0.1 ug/100cm <sup>2</sup> )

Table E-4 Data Completeness Summary - Buildings 566 and 566A

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) <sup>A</sup>	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Beryllium	Building 566A (interior)	10 biased (interior)	14 biased	No beryllium contamination found at any location, all results below the regulatory limit	OSHA ID-125G RIN04Z0440 (sample numbers 566-11172003-214-086 and 566-11172003-214-097) RIN04Z0431 (sample numbers 566-11172003-214-020 thru 566-11172003-214-021) No results above action level (0.2 ug/100cm <sup>2</sup> ) or investigative level (0.1 ug/100cm <sup>2</sup> )
Radiochemical	Survey Area 4 Survey Unit 566-4-001 Building 566 (exterior)	30 α TSA (22 random/8 biased) and 30 α Smears (22 random/8 biased)  2 QC TSA 10% scan	32 α TSA (22 random/10 biased) and 30 α Smears (22 random/8 biased)  2 QC TSA 10% scan	No elevated contamination at any location, all values below PDS unrestricted release levels	Transuranic and/or Uranium DCGLs as applicable Initial net activity at location 31 and 32 (159.5 dpm/100cm <sup>2</sup> and 198.6 dpm/100cm <sup>2</sup> ) greater than the DCGL. The locations were sealed, allowed to decay, and resurveyed. Both re-survey results were less than the DCGL and are the values reported in the TSA Data Summary. No further investigation required. No RSA surveys taken at locations 31 and 32 as this was an investigation, therefore, Table E-4 reflects 32 TSA and 30 RSA surveys taken.

Table E-4 Data Completeness Summary - Buildings 566 and 566A

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) <sup>a</sup>	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 4 Survey Unit 566A-4-002 Building 566A (interior and exterior)	20 α TSA (15 random/5 biased) and 20 α Smears (15 random/5 biased) 30 α TSA and 30 α Smears (equipment) 3 QC TSA	22 α TSA (15 random/7 biased) and 22 α Smears (15 random/7 biased) 30 α TSA and 30 α Smears (equipment) 3 QC TSA	No elevated contamination at any location, all values below PDS unrestricted release levels	Transuranic and/or Uranium DCGIs as applicable
	Survey Area 4 Survey Unit 566-4-003 Building 566 (interior)	25% scan of interior floor and 10% scan of remaining interior and exterior surfaces 37 α TSA (27 systematic/10 biased) 37 α Smears (27 systematic/10 biased) 30 α TSA and 30 α Smears (equipment) 4 QC TSA 50% scan interior floor and equipment and 10% of interior walls and ceiling	38 α TSA (28 systematic/10 biased) 38 α Smears (28 systematic/10 biased) 40 α TSA and 30 α Smears (equipment) 4 QC TSA 50% scan interior floor and equipment and 10% of interior walls and ceiling	Two concrete slab trenches, two process waste tanks, and one leg of vertical process waste piping will be managed as LLW All other values below PDS unrestricted release levels	Transuranic and/or Uranium DCGIs as applicable