NOTICE

All drawings located at the end of the document.

Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

444 CLUSTER CLOSURE PROJECT

Buildings 444, 445, 447, 448, 450, 451 & 455

REVISION 0

September 5, 2002

CLASSIFICATION REVIEW NOT REQUIRED PER
EXEMPTION NUMBER CEX-005-02

1/328

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444 CLUSTER CLOSURE PROJECT

Buildings 444, 445, 447, 448, 450, 451 & 455

REVISION 0

September 5, 2002

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ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HEUN	Highly Enriched Uranyl Nitrate
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

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EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the RFETS Decommissioning Program Plan (DPP; K-H, 1999) and compliant disposition and waste management of certain 444 Cluster facilities (i.e., Buildings 444, 445, 447, 448, 450, 451 & 455). Because these facilities were anticipated to be Type 2 facilities, the characterization was performed in accordance with the Reconnaissance Level Characterization Plan (MAN-077-DDCP). All facility surfaces were characterized in this RLC, including the interior and exterior surfaces [i.e., floors (slabs), walls, ceilings and roofs]. Due to the areas being inaccessible at the time of the RLC, the elevator pits, Assembly Pit (Room 106 of B447) and inaccessible floor areas will be characterized during in-process characterization and/or the PDS. Environmental media beneath and surrounding the facilities were 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.

Buildings 444, 445, 447 and 448 were used for the manufacturing, storage and packaging of depleted uranium metal and oxides, beryllium, and graphite stock and molds potentially contaminated with uranium and beryllium. Buildings 450, 451 and 455 are the three HEPA filter plenum structures that established and maintained negative pressure airflow on the 444 Cluster throughout manufacturing operations, and are still in operation to date.

Radiological surveys were performed to the more conservative transuranic DCGL limits. Radiological survey results indicated that radiological contamination in excess of the uranium $DCGL_W$ is present in RLC Surveys Areas B, C, E, F, G, and K as expected. Radiological contamination exceeding the uranium $DCGL_W$ is also present on and near loading docks of B444, B447, and B448 (Survey Units 444-B-009, 444-B-010, and 444-B-011). These areas of radiological contamination will be decontaminated and a PDS will be performed prior to building demolition, The exterior surfaces of Buildings 444, 445, 447, 448, 450, 451, and 455 were found to be within the transuranic DCGL limits with the exception of loading dock areas previously mentioned.

Buildings 444, 445, 447, 448, 450, 451, and 455 are on the RFETS list of known beryllium areas, and extensive data already existed that indicated beryllium contamination was present in these structures. Additional RLC data taken in data gap areas also confirmed the presents of beryllium in controlled and regulated beryllium areas.

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A comprehensive, invasive asbestos inspection was conducted, which identified the presence of friable and non-friable asbestos containing building materials. Friable and non-friable asbestos containing building materials were identified in transite wall panels, drywall joint compound, paint on the cinderblock walls, black tar and silver paint roofing materials, linoleum, fire curtains, 9" x 9" vinyl floor tiles, 12" x 12" vinyl floor tiles, thermal systems insulation, exterior Transite wall panels, and ceiling tiles.

Some of the fluorescent light ballasts in the buildings contain PCBs. Prior to demolition, all ballasts will be checked and those containing PCBs will be removed and handled as TSCA regulated materials. Mercury containing switches are also present in the building and will be removed prior to demolition to be handled as RCRA regulated waste. PCB contamination was identified in approximately 100 square feet of the 444, Room 245, concrete slab and will be remediated prior to building demolition. All hazardous materials removed as part of the D&D effort will be managed according to (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations.

Based upon the data presented in this RLCR, the 444 Cluster anticipated Type 2 facilities are considered to be Type 2 facilities. The Type 2 classification is based on the relative complexity associated with decommissioning the facilities. Decontamination, dismantlement and demolition will be accomplished using industry standard techniques, and will not require unique or non-standard techniques. The radiological, chemical and physical hazards are not significant or overly intermingled and can be controlled through industry standard decontamination and decommissioning means.

1.0 INTRODUCTION

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the RFETS Decommissioning Program Plan (DPP; K-H, 1999) and compliant disposition and waste management of certain 444 Cluster facilities (i.e., Buildings 444, 445, 447, 448, 450, 451 & 455). Because these facilities were anticipated to be Type 2 facilities, the characterization was performed in accordance with the Reconnaissance Level Characterization Plan (MAN-077-DDCP). All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facilities [i.e., floors (slabs), walls, ceilings and roofs], with the exception of the elevator pits, the Assembly Pit (Room 106 of B447) and inaccessible floor areas. The Assembly Pit is a confined space and was not accessible; these areas will be characterized during in-process characterization and/or the PDS. Environmental media beneath and surrounding the facilities were not within the scope of this RLC Report (RLCR) and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with the Rocky Flats Cleanup Agreement (RFCA).

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these are the 444 Cluster anticipated Type 2 facilities. The locations of these facilities are shown in Attachment A, Facility Location Map. These facilities no longer support the RFETS mission and will be removed to reduce Site infrastructure, risks and/or operating costs.

Before the 444 Cluster anticipated Type 2 facilities can be decommissioned, a Reconnaissance Level Characterization (RLC) must be conducted; this document presents the RLC results. The RLC was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Reconnaissance Level Characterization Plan (RLCP) (MAN-077-DDCP). The RLC built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report.

1.1 Purpose

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

1.2 Scope

This report presents the radiological and chemical conditions of the 444 Cluster anticipated Type 2 facilities. Due to the areas being inaccessible at the time of the RLC, the elevator pits, Assembly Pit (Room 106 of B447) and inaccessible floor areas will be characterized during in-process characterization and/or the PDS. Environmental media beneath and surrounding the facilities are not within the scope of this RLCR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA. Both facilities and environmental media will be dispositioned pursuant to RFCA.

1.3 Data Quality Objectives

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

2.0 HISTORICAL SITE ASSESSMENT

Facility-specific Historical Site Assessments (HSAs) were conducted to understand facility histories and related hazards. The assessments consisted of facility walkdowns, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). Results were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. Results of the facility-specific HSAs were documented in a Historical Site Assessment Report (HSAR; refer to Attachment B). In summary, the HSAR identified the potential for radiological and chemical hazards, including the potential for uranium and beryllium contamination, asbestos containing materials, and PCBs in paint and light ballasts. The potential for transuranic contamination was not identified, but was analyzed for during the RLC process.

3.0 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

The 444 Cluster anticipated Type 2 facilities were characterized for radiological hazards per the RLCP. 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 the Multi-Agency Radiation Survey and Site Investigation Manual (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 for the Radiological Characterization Plan for the 444 Cluster Type 2 facilities). Radiological survey area packages were developed for each interior survey area in accordance with the RLCP (i.e., 12 interior survey areas: A - L), and radiological survey unit packages were developed for each exterior survey unit in accordance with the PDSP (i.e., 5 exterior survey units: 444-B-009 through 444-B-013). The B445 exterior was considered part of the B444 exterior, for RLC purposes. Individual radiological survey area/unit packages are maintained in the RISS Characterization Project files.

It is assumed that all facility systems are potentially contaminated and will be disposed of as low-level or low-level-mixed waste during facility decommissioning, and will not affect facility-typing determination. Therefore, only exterior surfaces of facility system piping, ducting, conduit, plenums, equipment, etc., were surveyed during the RLC.

Survey unit packages for the 444 Cluster anticipated Type 2 facilities 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*. Radiological survey data, statistical analysis results, survey locations, and radiological scan maps are presented in Attachment C, Radiological Data Summary and Survey Maps.

A total of 1,171 TSA measurements and 1,171 RSA measurements were taken from building interior surfaces. A total of 346 TSA measurements and 346 RSA measurements were taken from building exterior surfaces, and 3% scan surveys were performed on the exterior surfaces.

In accordance with the PDSP, elevated fixed contamination levels were discovered during the scan survey of the B444 southeast wall and dock. Follow up investigation action included notification of Building Management and Characterization Team Management. Additional contamination surveys, and beta scan surveys were performed at each access portal (e.g., doors, docks, roll-up doors, etc.) throughout the B444 Cluster buildings. No removable contamination was detected, and the surveys were documented on separately from this report by B444 Radiological Operations personnel. Additional elevated fixed contamination above the uranium DCGLs was found on exterior dock areas of B447 and B448. All scanned areas with elevated beta count rates were marked on facility surfaces to indicate probable fixed contamination areas. Not all areas within the marked off areas are above the uranium $DCGL_w$ (5,000 dpm/100cm^2), however, they were marked as indicated on the B444, B447 and B448 maps to ensure that all contamination was bounded and easily identified for future remediation. Fixed contamination was also found on some driveway concrete and/or asphalt and is shown on the B444, B447, and B448 maps. All access portals within the B444 Cluster will be re-surveyed to PDS criteria prior to final demolition of the buildings. All other exterior facility surfaces meet the PDSP radiological release criteria.

No additional PDS radiological surveys are required except if a contamination event were to occur during decommissioning activities. Follow up action to a contamination event will require a verification survey prior to building demolition to ensure that PDSP release limits are met. Additionally, a confirmatory smear survey shall be performed of the exterior surfaces prior to demolition.

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All depleted uranium stock had been removed from Buildings 444, 445, 447 and 448 prior to the RLC effort. The 444 Cluster is classified as a *Radiological Facility* based on the amount of depleted uranium present per the Facility Safety Analysis, Building 444 Cluster, dated May 2001. According to the Facility Safety Analysis, dated May 2001, there were approximately 64 metric tons of uranium metal, nine metric tons of uranium oxide, and 650 drums/crates of radiologically contaminated waste. Almost all of this material has been removed from the building and the only remaining material is residual depleted uranium contamination. Recent holdup measurement scan indicated that there is no Special Nuclear Material (SNM) in the building (Interoffice Memorandum from Frank Lamb, dated February 25, 2002, HMT-02.067), thus there is no transuranic or highly enriched uranium present. Materials Control & Accountability (MC&A) requirements have been terminated for all 444 Cluster buildings. However, most of the equipment and building systems, including filter plenums, are internally contaminated, or are assumed to be internally contaminated with depleted uranium.

To verify that no transuranics were present in the Building 444 Cluster, all 1,171 swipes from the interior surfaces (Areas A through L) were analyzed by the Canberra ISOCS system; no transuranic isotopes were detected. The only DOE added isotopes identified were uranium isotopes. Therefore, all interior portions of the 444 Cluster buildings are considered uranium only facilities; transuranic DCGLs do not apply. The analysis results are included in this report as Attachment C-18.

The following Table 3.1 summarizes RLC data from all 444 Cluster rooms and surfaces. Contamination in the B444 Cluster is present in floor areas, lower walls (<2 meters from floor), upper walls (>2 meters from floor), ceilings and equipment. Elevated readings were above the transuranic DCGLs on several exterior surfaces; these were investigated and found to be from uranium and other naturally occurring isotopes. The investigation data results can be found in Attachments C13– C18, Data Summaries for PDS Exterior Survey Units.

Table 3.1, Radiological Data Summary
(X = Areas above the Uranium DCGLs, O = Areas below the Uranium DCGLs)

SURVEY AREA – DESCRIPTION	Floors and Lower Walls		Upper Walls and Ceilings		Equipment	
		Max. Total Beta (dpm/100cm^2)		Max. Total Beta (dpm/100cm^2)		Max. Total Beta (dpm/100cm^2)
A - B444 – 1st Floor	O	2,647	O	941	O	898
B – B444 – 1st Floor	X	273,927	O	0	X[1]	13,165
C - B444 – 1st Floor	X	299,331	O	1,766	O	1,298
D - B444 – 1st Floor	O	1,306	O	1,322	O	1,424
E – B444 – Basement	X	15,596	X	5596	X	8,111
F – B444 – 2nd Floor	X	1,091,205	O	913	X[1]	889,251
G - B447	X	765,886	X	5,682	X[1]	56,291
H - B448	O	2,196	O	2,050	O	462
I – B450	O	3.044	O	0	O	0
J – B451	O	701	O	0	O	166
K - B444 – Sumps, Pits, Trenches, Drains, Basins	X	307,167	N/A	N/A	N/A	N/A
L – B445	O	1,776	O	809	O	577
444-B-009 [2]	X	50,000	O	<100[4]	N/A	N/A
444-B-010 [2]	X	18,000	O	<100[4]	N/A	N/A
444-B-011 [3]	X	245.9[4]	O	<100[4]	N/A	N/A
444-B-012	O	174.3[4]	O	<100[4]	N/A	N/A
444-B-013	O	162.3[4]	O	<100[4]	N/A	N/A

1 - Systems and equipment are assumed to be internally contaminated
2 - Contamination on and around loading dock areas only
3 - Contamination on driveway only
4 – Maximum Total Alpha (dpm/100cm^2)

Depleted uranium resides primarily in the plenums, ventilation filters, ducting and other production equipment. Most of the systems and equipment will be managed as surface contaminated objects. The removal of systems and equipment will be straightforward, conducted using industry standard, proven D&D methods that will prevent or minimize the release of radioactive material (refer to the RSOP for Component Removal, Size Reduction, and Decommissioning Activities). All radioactive material will be removed prior to the PDS using proven controls (e.g., fixatives and containments) to prevent release to the surrounding environment.

As a result of the information presented above, B444 Cluster anticipated Type 2 facilities (i.e., B444, B445, B447, B448, B450, B451, and B455) are confirmed to be Type 2 facilities from a radiological standpoint. Other factors supporting this typing include the following:

- B444 Cluster buildings did not processed bulk radioactive liquids and therefore has little contaminated piping, unlike the major plutonium facilities
- Systems and equipment can be disposed of using proven, straightforward D&D techniques
- Minimal size reduction is required of the systems and equipment
- Areas of contamination are known and are generally localized. The levels of radioactive contamination detected were expected, and relatively low compared to the applicable uranium DCGLs, and relatively low compared to plutonium facilities and their applicable transuranic DGGLs
- No transuranic or highly enriched uranium contamination was identified
- No contamination above the uranium DCGLs was found above 2 meters
- All facility surfaces can be easily decontaminated using proven, straightforward, industry standard decontamination techniques

4.0 CHEMICAL CHARACTERIZATION AND HAZARDS

The 444 Cluster anticipated Type 2 facilities were characterized for chemical hazards per the RLCP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in these facilities. Based upon a review of historical and process knowledge, visual inspections, and RLCP DQOs, additional sampling needs were determined. A Chemical Characterization Plan (refer to RISS Characterization Project files for the Chemical Characterization Plan for the 444 Cluster Type 2 facilities) was developed during the planning phase that describes sampling requirements and the justification for the sample locations and estimated sample numbers. Contaminants of concern included asbestos, beryllium, RCRA/CERCLA constituents, and PCBs. A summary of each chemical concentration of concern is described in the following sections.

4.1 Asbestos

A survey of building materials suspected of containing asbestos was conducted in the aforementioned buildings 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 inspection was conducted in Buildings 444, 445, 447, and 448 to determine the presence of friable and non-friable asbestos containing building materials. The following asbestos containing materials were identified:

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444 Cluster Asbestos Summary Table

Building	Material	Friable or Non-Friable	Approximate Quantities
444	Transite Wall Panel	Category 2 Non-friable	72,577 square feet
444	Drywall Joint Compound	Category 1 Non-Friable	5,200 square feet
444	Paint on Concrete Mortar Unit (CMU) walls	Category 1 Non-Friable	32,199 square feet
444	Black Tar and Silver Paint on Roof	Category 1 Non-Friable	136,000 square feet
444	Linoleum	Friable	800 square feet
444	Silver Fire Curtain	Friable	64 square feet
444	9" x 9" vinyl floor tiles	Category 1 Non-Friable	40,500 square feet
444	12" x 12" vinyl floor tiles	Category 1 Non-Friable	17,822 square feet
444	2' x 4' acoustical drop ceiling tiles	Friable	31,126 square feet
444	Thermal Systems Insulation	Friable	14,489 lineal feet
445	Thermal Systems Insulation	Friable	250 lineal feet of pipe insulation < 6"OD (fittings included)
447	Thermal Systems Insulation	Friable	5,471 lineal feet
447	Exterior Transite Wall Panels	Category 2 Non-Friable	18,238 square feet
447	Transite Wall Panels	Category 2 Non-Friable	6,210 square feet
447	9" x 9" vinyl floor tile	Category 1 Non-Friable	4,620 square feet
448	Thermal Systems Insulation	Friable	100 lineal feet of pipe insulation < 6" OD (fittings included)

The filter plenum buildings (450, 451, and 455) are internally contaminated with uranium and beryllium. Since 450, 451, and 455 are part of the internal contaminated filtering system, they were not accessed in order to determine asbestos containing building materials. Any building material in these three structures that could contain asbestos is assumed to be asbestos containing or until further in-process characterization is performed.

Asbestos laboratory analysis data and location maps are contained in Attachment D, "Chemical Data Summaries and Sample Maps." Maps that did not contain any sample locations were not included in this report.

4.2 Beryllium (Be)

Buildings 444, 445, 447 and 448 were beryllium manufacturing and machining facilities that have been in operation since 1953. Based on the HSAR, Interview Checklists, and beryllium sampling data in the RFETS Industrial Hygiene Information System (IHIS), there was adequate historical and process knowledge to conclude that beryllium was present in these buildings. Sampling data indicate beryllium contamination on interior facility surfaces and equipment. Building systems, filter plenums, and some equipment are also internally contaminated. Beryllium laboratory smear results collected and entered into the IHIS from January 1999 through August 2002 are summarized in Attachment D-1. Attachment D-1 details the range of beryllium contamination by building and room. Sub-totals of smear results per building are also included. In addition, other historical data, not included in the IHIS, may be found in the following Baseline Beryllium Survey reports:

- Baseline Smear Surveys for Beryllium in Buildings 444, 447 and 448, Aug. 9, 1993
- Baseline Beryllium Survey, Building 444, Sept. 11, 1995
- Baseline Beryllium Survey, Building 447, Sept. 11, 1995

The above reports support and corroborate the beryllium data summarized in this RLCR.

To supplement the extensive historical, beryllium IHIS data, a "worst case" beryllium sampling plan was developed per the RLCP. Since the pits, trenches, drains, basins, and sumps in Building 444 have not undergone any cleaning operations, it was logical to conclude that the highest levels of beryllium contamination would be in these low-lying areas where beryllium sludge and dust would accumulate. Forty-nine beryllium smears were taken in these low-lying locations. Four (4) were above the investigative level of 0.1 $\mu g/100cm^2$, and six (6) exceeded the unrestricted release limit of 0.2 $\mu g/100cm^2$ with a maximum level of 2.86 $\mu g/100cm^2$ (refer to Attachment D-3).

This level of contamination can be effectively managed during routine decontamination operations. Moreover, it has been demonstrated by plant personnel and outside contractors (for example, decontamination and decommissioning efforts in Buildings 865 and 707) that the elimination of beryllium dust as a threat to personnel and the environment is achievable. Additionally, stabilization and hazard reduction activities have been ongoing in the 444 Cluster for the past several years with minimal incidences or spread of beryllium contamination. The beryllium contamination that remains can be managed, controlled, and effectively disposed of using proven, straightforward, industry standard decontamination techniques.

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A high percentage of the beryllium contamination in the 444 Cluster was found on manufacturing and milling equipment. As this beryllium-contaminated equipment is decontaminated and removed from the buildings, using proven, straightforward techniques, the beryllium hazard will be significantly reduced. This beryllium hazard reduction will continue throughout the decontamination and decommissioning process. Beryllium contamination levels found on facility surfaces were generally much lower that the levels found on equipment. In fact, the highest level of beryllium contamination found on non-equipment surfaces was on the floor in Room 31 of Building 447 at 17.90 $\mu g/100cm^2$. This level of beryllium contamination can be readily decontaminated within the scope of conventional decommissioning procedures. Thus, once the contaminated equipment is removed, the facility surfaces will be relatively easy to decontaminated using proven effective techniques.

4.3 RCRA/CERCLA Constituents [including metals, semi-volatile (SVOC), and volatile organic compounds (VOCs)]

Based on the HSAR, only Buildings 444 and 447 of this group have a history of storage and use of RCRA/CERCLA hazardous substances. Floor stains from historical operations in B444 were observed during facility walkdowns. Therefore, some RLC sampling was conducted in affected 444 Cluster locations. The areas identified as those needing sampling were selected based on historical knowledge and visual evidence of contamination, such as stains. Some stained areas were excluded from sampling based on analytical data obtained from oil drained from the machines responsible for the stains. Historical information, such as the Idle Equipment List, was consulted prior to excluding an area from sampling based on the most recent oil samples. The areas selected for sampling are detailed on the sample maps located in Attachment D-4. The Idle Equipment List and data from the oil samples are available for review, and is located in the RISS 444 Cluster Characterization Files.

Sample results from both the RLC sampling and the recent oil sampling efforts indicated that, although past processes have involved RCRA/CERCLA substances, the building has not suffered contamination resulting in the need to assign a RCRA waste code. Characteristic wastes were all well below RCRA limits. SVOC and VOC results were all in the parts per billion range, and were all for substances that do not qualify for a listed code based on knowledge of building history. EPA has stated that if a material cannot be determined to be a listed waste through a good faith review of process knowledge and documentation, the material does not qualify as a listed waste and, provided it does not exhibit a characteristic, the material is not RCRA regulated. Sample results and sample location maps are presented in Attachment D-4.

Some areas may have a potential for RCRA/CERCLA chemical contamination but were inaccessible at the time the RLC was conducted (i.e., the B444 and B447 elevator pits, and the chip roaster area in B447). Inaccessibility was due to the HCA postings or safety concerns with working in the elevator pits. These areas will be characterized for RCRA/CERCLA constituents during in-process characterization, once they become available.

Based on the HSAR and interviews, Buildings 445, 448, 450, 451 and 455 did not have a history that would lead to RCRA/CERCLA contamination, and a visual inspection did not indicate any areas of concern. No process activities resulting in a release of RCRA waste or CERCLA hazardous substances occurred in these buildings, therefore, sampling was not conducted.

The 444 Cluster anticipated Type 2 facilities may contain some RCRA-regulated items, such as mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury containing gauges, circuit boards, leaded glass and lead-acid batteries. These items will be removed prior to demolition and managed in accordance with the Colorado Hazardous Waste Act.

Sampling for lead in paint in the 444 Cluster anticipated Type 2 facilities 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 (HCA's) 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. Painted materials in HCA's will need to either be sampled prior to demolition, or assumed to contain lead-based paint, and assigned the RCRA code D008.

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSAR, interviews and facility walkdowns, some spills involving PCBs could have occurred in B444, therefore, sampling was conducted in potentially affected areas. The areas identified as those needing sampling were selected based on historical knowledge and visual evidence of contamination, such as floor stains. Some stained areas were excluded from sampling based on analytical data obtained from oil drained from the machines responsible for the stains. Historical information, such as the Idle Equipment List, was consulted prior to excluding an area from sampling based on the most recent oil samples. The Idle Equipment List and data from the oil samples are available for review, and is located in the RISS 444 Cluster Characterization Files.

Sample results from RLC core samples indicated that two adjacent samples in B444, Room 245, have PCB contamination above the 50 ppm regulatory limit. The area affected is approximately 100 square feet. Remediation alternatives will be evaluated and selected by building D&D personnel. This area will be managed during in-process D&D to ensure that the area is dispositioned properly. Refer to Attachment D-5 for sample locations and results.

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Some areas may have a potential for PCB contamination, but were inaccessible at the time this RLC was conducted (i.e., the B444 and B447 elevator pits, and the chip roaster area in B447). These areas will be characterized for PCBs during in-process characterization, once they become accessible.

Based on the HSAR, interviews and facility walkdowns, Buildings 445, 448, 450, 451 and 455 do not have any potential for PCB contamination. No process activities resulting in a release of PCBs occurred in these buildings. Therefore, sampling was not conducted.

Based on the age of the 444 Cluster anticipated Type 2 facilities (constructed prior to 1980, except for Building 451), paints used may contain PCBs, and painted surfaces will need to be disposed of as PCB Bulk Product Waste. Painted concrete surfaces can be used as backfill onsite (based on PCB content only) in accordance with approval received from EPA in November 2001 (letter from K. Clough, US EPA Region 8, to J. Legare, DOE RFFO, 8EPR-F, Approval of the Risk-Based Approach for Polychlorinated Biphenyls (PCB)-Based Painted Concrete), provided the concrete meets the unrestricted-release criteria outlined in the Concrete Recycling RSOP.

Some facilities may contain fluorescent light ballasts that may contain PCBs. Therefore, fluorescent light fixtures will be inspected to identify PCB ballasts during removal operations. PCB ballasts will be identified based on factors such as labeling (e.g., PCB-containing and non-PCB-containing), manufacturer, and date of manufacturing. All ballasts that do not indicate non-PCB-containing are assumed to be PCB-containing.

Based upon the chemical hazards identified above (i.e., asbestos, beryllium, RCRA/CERCLA constituents and PCBs), Buildings 444, 445, 447, 448, 450, 451, and 455 are confirmed to be Type 2 facilities from a chemical standpoint. All asbestos, beryllium and PCB contamination can be managed using proven straightforward remediation techniques. Refer to Attachments D, Chemical Summary Data and Sample Maps, for details on sample results and sample locations.

5.0 PHYSICAL HAZARDS

Physical hazards associated with the 444 Cluster anticipated Type 2 facilities consist of those common to standard industrial environments, and include hazards associated with energized systems, pressurized systems, compressed and flammable gases, forklifts, elevated surfaces, and trips and falls. For example, there are in-floor waste sumps and pits in B444, as well as elevator pits in B444 and B447. Also, gaseous hydrogen is generated by wet-cell battery charging operations in B444 and B445. There are no unique hazards associated with the facilities that cannot be managed using proven, straightforward D&D techniques.

There are eight large vertical vacuum casting furnaces located in Rooms 10, 109 and 201 that used carbon molds for metal castings. These furnaces will be dispositioned using conventional D&D techniques such as the application of fixatives and/or foaming, partial disassembly via unbolting pieces, and plastic wrapping. These furnaces may be removed from the building through a roof opening such as what was done for the Building 886 HEUN tanks in Room 103, or may be protected and left in place during demolition and later removed as SCO waste. There is other large equipment such as the Heald Model S Bore-Matic in Room 101E, the Steiger welding machine in Room T101H, the Lindberg furnace in Room 125, the Retech Arc Furnace in Room 405B, and the three vacuum furnaces in Room 403, that can also be dispositioned used conventional D&D techniques.

All areas of the facilities (e.g., ventilation chases, air tunnels, pits, etc.) are accessible and will not require the use of robotic equipment to complete D&D. The facilities have been well maintained and are in good physical condition, and therefore, do not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices. Based on this physical hazards assessment, the physical hazards of the 444 Cluster buildings confirm a Type 2 classification.

6.0 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of the 444 Cluster anticipated Type 2 facilities, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (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.

7.0 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The disposition of the subject 444 Cluster facilities will generate a variety of wastes, including radiological, asbestos, beryllium, hazardous and PCB wastes. Estimated waste types and waste volumes are presented below by facility. Asbestos containing material, PCB Bulk Product Waste, including PCB ballasts, and hazardous-waste items will be managed pursuant to Site asbestos abatement and waste management procedures.

Waste Volume Estimates and Material Types, 444 Cluster Anticipated Type 2 Facilities							
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 444	210,000	0	10,500	0	9,700	16,925	10,300 - Built-up roofing
Building 445	9,500	0	21,200	4,000	1,200	135	4,000 - insulation
Building 447	50,500	0	3,800	0	1,400	1,823	3,600 - Built-up roofing
Building 448	1,500	0	700	0	0	35	0
Building 450	4000	0	5,000	0	0	0**	0
Building 451	2800	0	3,800	0	0	0**	0
Building 455	400	0	600	0	0	0**	0

*Refer to the Asbestos Summary table in Section 3.2 for additional asbestos quantity breakdowns.
**Any building material that could contain asbestos is assumed to contain asbestos or until further in-process characterization is performed.

8.0 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, the 444 Cluster anticipated Type 2 facilities (i.e., Buildings 444, 445, 447, 448, 450, 451 & 455) 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 existing and newly acquired RLC data, and the relative complexity associated with decommissioning the facilities. Decontamination, dismantlement and demolition will be accomplished using industry standard techniques, and will not require unique or non-standard techniques. The radiological, chemical and physical hazards are not significant or overly intermingled and the hazards can be controlled through standard, conventional means.

Buildings 444, 445, 447, and 448, while listed as individual structures, were in fact a single, functioning depleted uranium and beryllium manufacturing facility from 1953 until 1994. Buildings 445, 447, and 448 were additions to 444 in order to support and assist in the casting, fabrication, milling, and assembly of weapons components. The three HEPA filter plenum structures (450, 451, and 455) established, and maintained, negative pressure airflow on the 444 Cluster throughout manufacturing operations, and continue to operate to date. The source cause of uranium and beryllium contamination was removed in 1994 when manufacturing ended.

Filtered, negative air pressure has continued unabated in the 444 Cluster. In 1994, decontamination and clean-up operations began. Since then numerous pieces of depleted uranium and beryllium contaminated equipment and machinery have been disassembled, containerized, and disposed of with minimal uncontrolled releases to personnel or the environment. Fixatives have been applied to surfaces and have proven effective in locking down fugitive uranium and beryllium dust.

While depleted uranium and beryllium contamination remains in the 444 Cluster, successful clean-up operations have been in effect since 1994. Moreover, it has been demonstrated by plant personnel and outside contractors (for example, decontamination and decommissioning efforts in Buildings 865 and 707) that the elimination of beryllium dust as a threat to personnel and the environment is achievable. The uranium and beryllium contamination that remains can be managed, controlled, and effectively disposed of during demolition of the 444 Cluster.

The Radiological RLC Survey of areas A through L confirmed depleted uranium contamination as expected for this Type 2 facility. The PDS surveys of exterior surfaces found contamination levels above the uranium DCGLs on and around loading docks. Future PDS surveys will be performed in and around the loading dock areas and building interiors after decontamination efforts are complete. All other exterior facility surfaces meet the PDSP radiological release criteria. No additional PDS radiological surveys are required except if a contamination event were to occur during decommissioning activities. Follow up action to a contamination event will require a verification survey prior to building demolition to ensure that PDSP release limits are met. Additionally, a confirmation smear survey shall be performed of the exterior surfaces prior to demolition.

Areas that were inaccessible during this RLC will be characterized during in-process and/or PDS characterization. Demolition of these facilities will generate radiological, beryllium, hazardous, PCB and asbestos wastes. All wastes will be disposed of in compliance with EPA, DOE, and CDPHE regulations. Environmental media beneath and surrounding the facilities will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC of the 444 Cluster Type 2 facilities (interior surfaces) was performed in accordance with the DDCP and RLCP, all RLCP DQOs were met, and all data satisfied the RLCP DQA criteria. The PDS of the 444 Cluster Type 2 facility exterior surfaces was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria, except as noted above. In summary, the 444 Cluster facilities (i.e., Buildings 444, 445, 447, 448, 450, 451 & 455) are confirmed to be a Type 2 classification.

9.0 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. 0, July 15, 2002.

MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual (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.

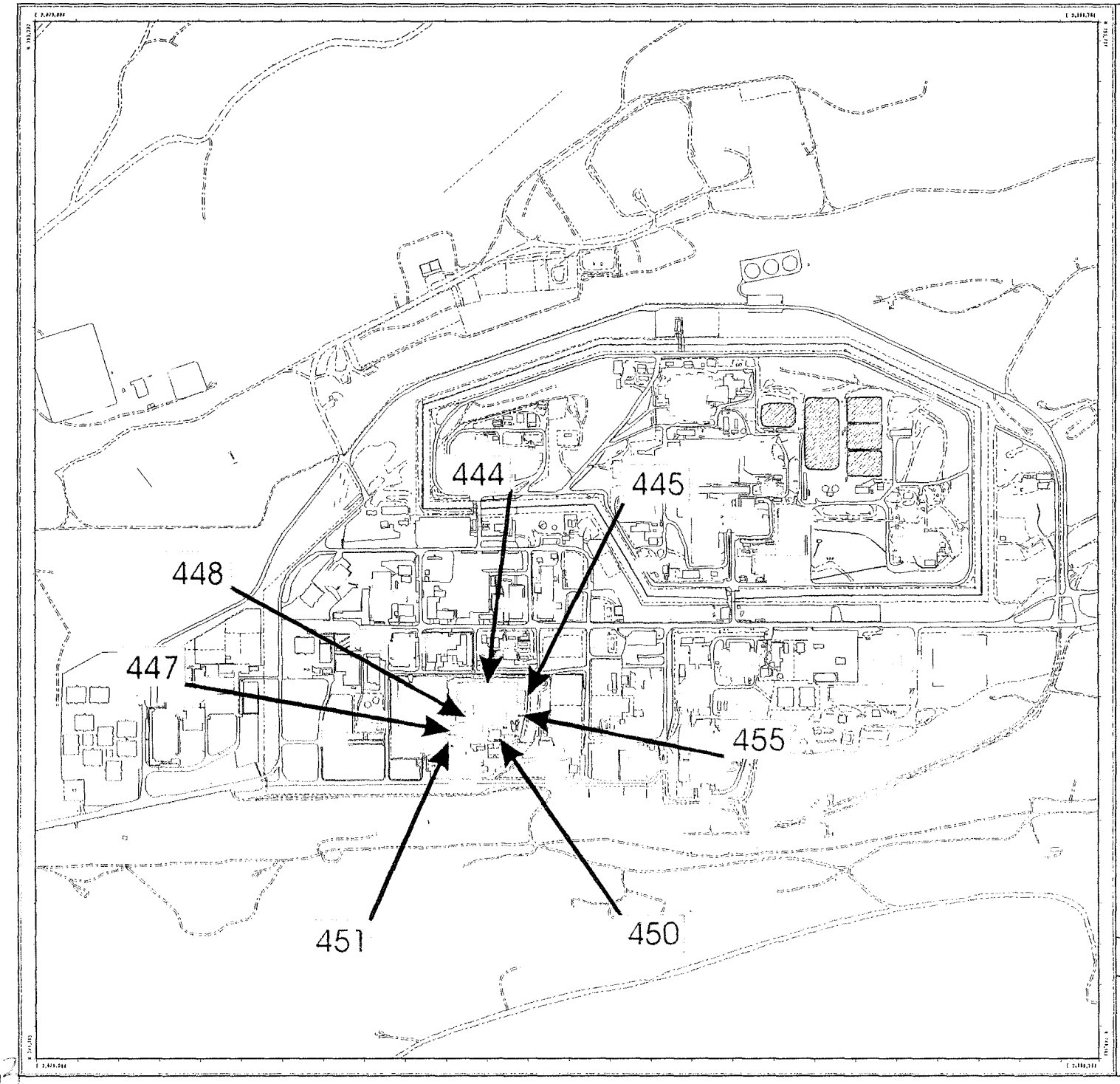
RFCA Standard Operation Protocol for Recycling Concrete, September 28, 1999.

RFETS, Historical Site Assessment Report for the 444 Cluster Type 2 Facilities, January 2002.

RFETS, Historical Site Assessment Report for the 444 Cluster Type 1 Facilities, January 2002.

ATTACHMENT A

Facility Location Map



444 Cluster
Type 2 Facilities
444, 447, 448, 450, 451, 445, 455

Standard Map Features

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

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

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

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

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

GIS Dept. 303-966-7707

Prepared by:
DynCorp
THE ART OF TECHNOLOGY

Prepared for:
KAISER-HILL COMPANY

MAP ID: FY 2002

August 28, 2002

NT Svr w:/projects/fy2002/02-0222/overview_444T2.cdr

ATTACHMENT B

Historical Site Assessment Reports

D&D RISS Facility Characterization
Historical Site Assessment Report
January, 2002 Rev. 0

Facility ID: Buildings 444, 447, 448, 450, 451, and 455.
Anticipated Facility Type (1, 2, or 3): Buildings 444, 447, 448, 450, 451,and 455 are anticipated Type 2 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 444

Building 444 has a total floor area of 162,000-sq. ft, with 112,900-sq. ft. on the ground floor, 23,700-sq. ft. in the basement and 25,400-sq. ft. in the mezzanine. The building is a reinforced concrete structure. The exterior walls are reinforced concrete between reinforces concrete beams. The roof is a pre-cast concrete panel with built-up insulation. The floor is a poured in place concrete slab. In 1955, radiographic vaults and dimensional metallurgical laboratory were added to the northwest corner of the building. The 1955 addition was constructed of re-enforced concrete walls with a steel frame support structure and a corrugated metal roof with built-up roofing. Other smaller minor additions were added around the 444 structure to enclose dock areas, and breezeways. The exact dates of these minor additions are not documented, but were primarily built on existing concrete slabs and were constructed of corrugated metal on steel frames and were usually built prior to prior to 1985.

Building 447, 448 and 445 are labeled as separate structures but are frequently referred to as additions to Building 444. Building 447 was constructed on the south side of the structure in 1956. Building 445 was added to the east side of the structure in 1957, and Building 448 was added to the north side of Building 447in 1962.

South of Building 444 is a small freestanding beryllium filter plenum and chip cyclone separator. This plenum has no building number, but was originally constructed in the basement of Building 444 in 1974 and was moved outside to its current location in 1986. This beryllium filter plenum provided ventilation to the Building 444 beryllium shop. The beryllium plenum is a steel frame structure built on a concrete slab. The walls and roof are constructed of steel plate, with several marine-type airtight access doors. The chip cyclone next to the filter plenum is constructed of sheet steel and steel support members.

Building 444 is serviced by the following utilities; water, sanitary, electric, process waste, and steam heat. Fire protection is provided by an overhead sprinkler system and wall-mounted fire extinguishers.

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Building 447

Building 447 has 23,100-sq. ft. of floor space and was used to expand the Building 444 beryllium and uranium manufacturing operations. Building 447 is a steel-framed structure built in 1956 on a concrete slab with a partial basement. The exterior walls are corrugated asbestos-cement board, corrugated metal and concrete masonry blocks. The interior walls are primarily concrete masonry blocks. In the early 1980s an addition was constructed on the south side of Building 447 to a new ark melt furnace. This furnace was never used. The addition was approximately 800-sq. ft. and was constructed of corrugated steel and asbestos board attached to a steel frame built on a concrete slab. The original Building 447 ventilation system was exhausted through stacks on the west side of Building 444. These stacks were removed in 1983 with the addition of the Building 451 filter plenum.

Building 447 is serviced by the following utilities; water, sanitary sewer (locked-and tagged out), natural gas (locked-and tagged out) electric, process waste, and steam heat. Fire protection is provided by an overhead sprinkler system and wall-mounted fire extinguishers.

Building 448

Building 448 is a single-story 4000 sq. ft. structure added to the north side of Building 447. Building 448 was constructed in 1961 and was used to ship and store beryllium and uranium parts. Building 448 is steel framed structure build on a concrete slab. The exterior walls and roof are insulated corrugated sheet metal. In 1969, Room 602 was added to the Building 448 and was constructed of the same material as the original Building 448 construction.

Building 448 is serviced by the following utilities; water, electric, and steam heat. Fire protection is provided by an overhead sprinkler system and wall-mounted fire extinguishers.

Building 450

Building 450 is a 4050 sq. ft. two stage HEPA filter plenum located south of Building 444. The filter plenum was constructed in 1958 and provides primary ventilation for most of Building 444. Building 450 is a single-story steel-framed building constructed on a concrete slab. The wall and roof are constructed of corrugated steel with several marine-type airtight access doors.

Building 450 is serviced by the following utilities; fire water, electric, fire suppression is provided by overhead water sprinkler system.

Building 451

Building 451 is a 2,780 sq. ft. two-stage HEPA filter plenum located south of Building 447. The filter plenum was constructed in 1983 and provides ventilation to Buildings 447 and 448. Building 451 is a single-story steel-framed building constructed on a concrete slab. The wall and roof are constructed of corrugated steel, with several marine-type airtight access doors.

Building 451 is serviced by the following utilities; water, electric, fire suppression is provided by over headwater sprinkler system.

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Building 455

Building 455 is a 1,800sq. ft. two-stage HEPA filter plenum (and re-circulating fan) located east of Building 444. The filter plenum was constructed in 1974 and provides ventilation to the production plating operation in the Building 444 mezzanine. Building 455 is single-story steel framed building constructed on a concrete slab. The wall and roof are constructed of steal plate, with several marine-type airtight access doors. Building 455 is currently out of service.

Building 455 is serviced by the following utilities; water, electric, fire suppression is provided by over head water sprinkler system.

Historical Operations

Building 444

Building 444 is the Depleted Uranium and Beryllium Manufacturing Facility and operated from 1953 until 1994, when the majority of the processes ceased operations. During its history a variety of manufacturing operations and special project occurred in Building 444 and its support structures. These processes include the following;

Casting - Casting operations took place in the foundry in Building 444 mezzanine, Rooms 201 and 205, and in Rooms 109 and 117A on the main floor. The foundry cast ingots were made of depleted uranium, beryllium, and to a less extent silver aluminum and copper.

Fabrication - Fabrication operations in Building 444 included machining of beryllium and depleted uranium. Machining operations included lathes, turning and milling machines, electrical-discharge machining , and chemical-machining equipment. A negative air pressure was maintained in fabrication areas to prevent the spread of contaminated dust into other areas.

Beryllium machining was conducted in Rooms 106, 106A, 106B, 107. Machining operations included sawing, milling, drilling and lathe operations. If needed, the pieces were then polished and abraded. Chemical milling of fabricated beryllium parts occurred in Room 203.

Machining of depleted uranium was conducted in Room 101. Metal parts containing depleted uranium, depleted uranium alloy, and depleted uranium with traces of iron, silica, titanium, aluminum, or stainless steel were cut in the depleted uranium machining process. Machining operations included turning, boring, milling, and sawing. Ingots and semi-finished and finished depleted uranium parts was heat treated in the induction furnace located in Room 403 of Building 447. Several uranium fires occurred in the uranium machining area throughout the building history. These fire were usually small with smoke and fumes captured by the building's ventilation system and no releases to the environment.

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Assembly – The assembly process involved the welding or brazing of stainless steel, depleted uranium, and beryllium parts. The assembly process first involved cleaning, which was performed prior to welding or brazing. The cleaning process normally used PCE, alcohol, Freon or some other solvent to clean the parts. After the individual parts were cleaned they were welded or brazed to make the components.

Testing and Inspecting - Assembled parts were then tested and inspected. Assemblies testing included leak testing, pressure testing, weight determination, swaging and electromarking. In addition, a variety of NDA testing was conducted. NDA testing included radiography, dye penetrate testing, weight and density testing, and beta back scattering. Product Inspection verifying part dimensions and conformance to specifications. These activities were primarily performed in Rooms 101A through 101F.

Coating and Plating - Coating and plating operations were performed on non-nuclear parts manufactured in Building 460. In preparation for coating, the parts were grit-blasted, ultrasonically cleaned, rinsed, and dried. The parts were then coated with erbium nitrate, dried, and heat-treated. The heat-treating decomposed the erbium nitrate to erbium oxide. Residual spray was removed using a silicon grit blast. Plating and etching operation involved acid etching the parts prior to plating with a variety of plating solutions which include silver, nickel, gold, and a acid etching bath. Chemical used in the plating process include but are not limited to ammonium hydroxide, hydrochloric acid, nitric acid, hydrogen peroxide, toluene, nickel chloride. These activities predominantly occurred in Rooms 137, 212, and 247.

Special projects - Other known special projects conducted in Building 444 included cadmium rolling and forming, research and development operations; beryllium research and development work using tetrabromoethylene for float/sink tests and machining of lithium salts.

Tool manufacturing – Building 444 manufactured a variety of special order tools for the site. This non-radiological tool manufacturing operations included tool engineering, tool grinding, tool/gauge fabrication (precision shop), tool and gauge inspection, development and application of plating techniques and materials, and graphite mold fabrication.

Laboratories – Building 444 housed a variety of laboratories which supported the depleted uranium and beryllium manufacturing operations. The laboratory activities included the dimensional metallurgical laboratory (DML) in Room 181, the plating laboratory Rooms 245, 212A and 212, and the beryllium counting laboratory in Room 14. Several inspection laboratories were in located in Rooms 101A through 101F. These laboratories were primarily used to measure and evaluate specification tolerances on machined parts.

See section below on "Environmental Restoration Concerns" for a listing of IHSSs, PACs, and UBCs associated with Building 444.

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Building 447

Building 447 is the Depleted Uranium Manufacturing Building and was constructed in 1956. This building was used to manufacture and assemble weapon components. These activities include cleaning of parts, assemble inspection, welding, and heat treating. Materials handled included stainless steel, beryllium, aluminum, depleted uranium, and vanadium components. Metal parts machined in Building 444 and 460 are cleaned, leak tested, heat treated, and assembled in Building 447.

Major manufacturing and assemble activities included electron beam welding in Room 406, electrochemical milling in Room 407, heat treating in Room 403, and parts and assemble cleaning operation in Rooms 406, 406A, and 409. Acetone and other solvents were used in the cleaning process. NDA testing in room 407.

In 1956, the chip roaster in Rooms 32 and 502 became operational. Depleted uranium chips recovered from machining areas in Building 444 were collected in 55-gallon drums, transferred to Building 447, and burned to an oxide (a more stable form) under controlled conditions in the chip roaster. The oxides were packaged and shipped off-site for disposal. Other waste management activities included depleted uranium waste chip cementation in Room 501 and low level waste packaging.

See section below on "Environmental Restoration Concerns" for a listing of IHSSs, PACs, and UBCs associated with Building 447.

Building 448

Building 448 was added in 1962 as a shipping and storage facility for activities in Building 447. In 1969 an addition was added, between the original Building 447 and Building 444 to increase the storage space.

Building 450

Building 450 contains the mechanical equipment used to ventilate Building 444. The filter plenum consists of a two-stage HEPA filer system that vents to the outside atmosphere. In the event of a fire, firewater is collected at the bottom of the filter plenum and transported to Building 374 for treatment. Building 450 is not connected to the process waste system. See the Building 450 WSRIC for a detailed explanation of the Building 450 waste streams.

Building 451

Building 451 contains the mechanical equipment used to ventilate Building 444. The filter plenum consists of a two-stage HEPA filer system that vents to the outside atmosphere. In the event of a fire, firewater is collected at the bottom of the filter plenum and transported to Building 374 for treatment. Building 451 is not connected to the process waste system. See the Building 451 WSRIC for a detailed explanation of the Building 451 waste streams.

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Building 455

Building 455 contains the mechanical equipment used to ventilate the production plating lab in the Building 444 mezzanine. The filter plenum consists of a two-stage HEPA filter system that vents to the outside atmosphere. In the event of a fire, firewater is collected at the bottom of the filter plenum and later transported to Building 374 for treatment. Building 455 is not connected to the process waste system. See the Building 455 WSRIC for a detailed explanation of the Building 455 waste streams.

Current Operational Status

Buildings 444, 447, and 448 are currently going through equipment strip out in preparation for D&D activities. Building 450 and 451 are currently operational as the filter plenums for Building 444 and 447. Building 455 is currently out of service.

Contaminants of Concern

Asbestos

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

No comprehensive asbestos surveys exist for Building 444, 447, and 488. Building 444, 447 and 448 are posted as potentially containing asbestos.

Beryllium (Be)

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

Buildings 444, 447, and 448 were used to manufacture depleted uranium and beryllium components. These beryllium process buildings are on the RFETS list of known Beryllium areas. See the RFETS list of known Be areas for a complete list of rooms. The Buildings 450, 451, and 455 are filter plenum building used to ventilate Building 444, 447 and 448 and are also on the site list of known Be areas.

Summarize any recent Be sampling results:

Building 444 Industrial Hygiene Department collects frequent Be samples from the Production Buildings 444, 447, and 448, as well as, the Buildings 450, 451, and 455 air plenums. See the Building 444 Industrial Hygiene Department for a list of resent Be samples collected.

Lead

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

Lead in paint and lead in electrical equipment may be a concern due to the age of construction of the facilities addressed in this HSA. Lead shielding was used in the Building 444 and 447 NDT testing areas, and the beryllium counter in Building 444, Room 14. The lead shielding will be removed during equipment stripout. Lead shielding should not have been used in air plenums, Buildings 450, 451, and 455.

See the section below for RCRA/CERCLA constituents for lead in waste steam references related to Building 444 447, and 448.

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RCRA/CERCLA Constituents

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

Building 444 and 447 used a variety of RCRA/CERLA constituents in the uranium and beryllium component manufacturing process. These constituents include, but are not limited to solvents, acids and metals. See the Building specific WSRIC for more detailed listing of the waste streams associated with each building addressed in this HSA.

Below is a list of RCRA units in Building 444:

RCRA Unit	Description	Status
39.01	Fabrication Unit	RCRA Stable
40.02	Acid waste Tank T-1	RCRA Stable
40.03	Acid waste Tank T-2	RCRA Stable
40.04	Process waste Tank T-2	RCRA Stable
40.05	Process waste Tank T-3	RCRA Stable
40.06	Cyanide waste Tank T-3	RCRA Stable
40.07	Cyanide waste Tank T-4	RCRA Stable
40.35	Filter System holding tank , T-4	RCRA Stable
40.36	Sump tank under Fabric filter	RCRA Stable

Below is a list of RCRA units in Building 447:

RCRA Unit	Description	Status
6	Chip Drum Storage	Closed
30	Chip Cementation Treatment Unit	Closed
39.2	Fabric Filtration Unit	Closed
40.37	Holding Tank T-6	RCRA Stable
45	Original Uranium Roaster	Closed

Buildings 448 450, 451, and 455 are not associated with any RCRA Units.

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

Small volume spills occurred in the process areas discussed in the "Process History" section above and the RCRA Units listed above. Addition, RCRA/CERCLA release information is documented in the IHSS, PAC, and UBC section below.

Describe methods in which spills were mitigated, if any:

Spills were commonly cleaned by sweeping solids and using an adsorbent for liquids.

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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 these building there may be a concern with PCBs in paint, light ballasts, and electrical equipment. PCBs where not part of the standard manufacturing and machining processes performed in Building 444, 447, and 448.

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

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

Describe methods in which spills were mitigated, if any:

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

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Radiological Contaminants

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

Building 444, 447, and 448 make up the depleted uranium and beryllium manufacturing facilities. Buildings 450, 451, and 455 are air plenums that serviced these manufacturing facilities. All of these facilities HSA are radiologically posted. Enriched uranium and plutonium were not regularly handed in these faculties because these facilities lack the standard worker protection controls used in handling enriched uranium and plutonium, such as glove boxes, airlocks and criticality safe casting furnaces. However, in two separate Interviews, interviewees have identified rumors that in the mid 1950's recycled enriched uranium parts (possibly contaminated with Pu,) were occasionally handled in the furnaces in the Building 444 mezzanine. The casting furnace rooms in the Building 444 mezzanine have not be entered for approximately 13 years, so no data is available to confirm these rumors. Rumors also state that enriched uranium may have been machines in Room 101 on several occasion in the mid 1950s. These machines have since been removed and upgraded, and the work area cleaned during normal housekeeping activities.

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

Small volume leaks occurred in many of the waste management areas discussed in the "Process History" section and the RCRA Units listed above. In addition, release information is documented in the IHSS, PAC, and UBC section below.

Describe methods in which spills were mitigated, if any:

Spills were commonly cleaned by sweeping solids and using an adsorbent for liquids.

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 is depleted uranium (except as noted above). Other than sealed sources, there were no known mixed fission products or pure beta emitters used in any of the facilities addressed in the HSA. The element that sources were commonly made of included Californium, Co-60, Sr-90, Th-204 and Pm-147.

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.

Environmental Restoration Concerns

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

Building 444 is associated with the following active IHSSs, PACs, and UBCs;

1) IHSS 400-116.2 "South loading Dock", Active.
2) IHSS 400-157.2 "Radioactive Site South Area", Active.
3) IHSS 400-160 "Radioactive Site – 444 Parking lot" ", Active.
4) IHSS 400-182 "Building 444/453 Drum Storage Area" ", Active.
5) IHSS 400-207 "inactive 444 Acid Dumpster", Active.
6) IHSS 400-208"Inactive 444/447 Waste Storage Area", Active.
7) IHSS 400-810 "Beryllium Fire – 444 Building "", Active.
8) IHSS 400-814 "Air Conditioner Compressor release. Building 444 Roof" Proposed NFA HRR Quarterly update 1994.

Building 447 is associated with the following IHSSs, PACs, and UBCs;

1) IHSS 400-116.1 "West Loading Dock – Building 447", Active.
2) IHSS 400-157.2 "Radioactive Site South Area", Active.
3) ~~IHSS 400-204 "Original Chip Roaster", Proposed NFA in the 1996 HRR Annual Update.~~
4) IHSS 400-801 "Transformer Leak on Roof of Building 447", Active.
5) PIC-14 "Building 448 cooling tower discharge", Active.

Buildings 444 and 447 have UBCs (Building 448 is included in the 447 UBC). Building 448, 450, 451, and 455 are filter Plenums and are not directly referenced in any IHSSs, PACs, and UBCs.

Additional events not documented in the individual IHSSs, but mentioned in the HRR report are:

1) In 1989 a plating bath tank overflowed releasing chromic acid to the Building 444 footing drain.
2) In 1990 a fire occurred in the plating lab in Room 245. The plating lab was moved to Rooms 212 and 212A. There was no known release to the environment.

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.):

See the Building 444 HRR for a more detailed summary of the Buildings 444, 447, 448, 450, 451, and 451 operational history.

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. Building 444, 447, 450, 451 and 455 WSRICs. In addition, a facility walkdown and interviews were performed.

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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
Building 444	210,000	0	10,500	0	9,700	TBD	Built-up Roofing 10300 cu ft
Building 447	50,500	0	3,800	0	1,400	TBD	Built-up Roofing 3,600 cu ft
Building 448	1,500	0	700	0	0	TBD	0
Building 450	4000	0	5,000	0	0	TBD	0
Building 451	2800	0	3,800	0	0	TBD	0
Building 455	400	0	600	0	0	TBD	0

Further Actions

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

Begin the RLC/PDS process.

Note:

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

Prepared By: Doug Bryant / Doug Bryant / January 2002

Name Signature Date

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D&D RISS Facility Characterization
Historical Site Assessment Report
January 15, 2002, Rev. 0

Facility ID: Area 3 - B445, (Building 444 Group, Type 1 Facilities), which includes: Building 427/427A Emergency Generator/Diesel Storage Tank (aka Tank 068) for B444, S444 Bus Stop Car Pool Shelter, Building 445 Carbon Storage and Carbon Dust Collector, S445 Storage Shed, Building 449 Oil & Paint Storage, Building 449A Maintenance Annex, Building 449C Carpenter Shop, S449 Maintenance Storage, Building 453 Maintenance Storage, Building 454 Cooling Tower (444, 800 Tons), Building 457 Cooling Tower (447, 400 Tons), Building 447 Cooling Tower 1 of 3, Building 447 Cooling Tower 2 of 3, and Building 447 Cooling Tower 3 of 3

Anticipated Facility Type (1, 2, or 3): Building 427/427A Type = 1s, S444 = Type 1, Building 445 Type = 1, S445 = Type 1, Building 449 Type = 1, Building 449A Type = 1, Building 449C Type = 1, S449 Type = 1, Building 453 Type = 1, Building 454 Type = 1, Building 457 Type = 1, Building 447 Cooling Tower 1 of 3 = Type 1, Building 447 Cooling Tower 2 of 3 = Type 1, Building 447 Cooling Tower 3 of 3 = Type 1

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 427/427A is the Emergency Generator Building and Diesel Storage Tank facilities for Building 444. Building 427 has approximately 312 square feet of floor space and it is located near the southeast corner of Building 444. Tank 427A, aka Tank 068, is the Diesel Storage Tank for Building 427and it is located directly north of the building in a concrete berm. Building 427 was constructed in 1975 and it is approximately 16 feet long X 15 feet wide X 12 feet high at the roof eve. The facility is constructed with concrete block on a steel reinforced concrete slab-floor and has a steel reinforced poured light-weight concrete flat roof.

S444 Bus Stop Car Pool Shelter is located directly north of Building 444 and north of Cottonwood Avenue. S444 is constructed from wood and covered with corrugated metal. S444 has a plywood floor. S444 has no heat and no electricity. S444 is approximately 10 feet wide X 12 feet long X 8 feet high at the roof eve and 10 feet high at the roof peak. S444 has two 3 feet X 3 feet X ¼ -inch Plexiglas® windows and two open doorways.

Building 445 has approximately 3,273 square feet of floor space. Building 445 was acquired/constructed in 1958 and is located directly east of the Building 444 and it is now attached to Building 444. Building 445 is 81 feet long X 40 feet wide X 20 high at the roof eve, and 30 feet high at the roof peak. The connecting section of Building 445 to Building 444 adds approximately 1,600 square feet (20 feet wide X 81 feet long) to the anticipated Type 1 Facility. The Building 445 to Building 444 Connecting Section has a flat built-up-roof with four roof drains and downspouts. Building 445's exterior walls and roof covered are with corrugated galvanized metal and sheet-type roof insulation and wall insulation. Building 445 is constructed on a concrete slab with a large steel roll-up door on the east and a steel personnel entry door or the north. Building 445 has 440-Volt electrical power, a natural-gas heater, electrical and gas re-circulating hot-water heat . Building 445 has a LSDW System.

S445 Storage Shed is an all wood constructed Maintenance storage facility which is located southeast of Building 445. The storage facility is approximately 18 feet long X 18 feet wide X 10 feet high at the roof eve and 16 feet high at the roof peak. S445 has 1-inch plywood walls, floor, and roof which is covered with sheet asbestos-type roofing material. S445 has one large sliding wood door. S445 has no electrical power, no heating of any kind, and does not have a LSDW System.

Building 449 Oil & Paint Storage is metal Butler-type building on a concrete slab and is located directly south of Building 444. The walls are galvanized metal sandwiched over insulation. Building 449 is 12 feet wide X 20 long X 12 feet high at the roof eve. The facility has a insulated metal roof and also has a large 16-foot wide by 10-foot high fold-up metal door on the north side and a metal personnel entry door on the northwest corner. The facility has electrical power and electrical baseboard heat.

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Physical Description (Con't):

Building 449A Maintenance Annex is located directly south of Building 444 and it consists of two 40 feet X 8 feet X 8 feet steel cargo containers connected together and 18-foot wide building and peaked roof section. The physical sized of Building 449A is approximately 34 feet wide X 40 feet long X 18 feet high at the roof peak.

Building 449C Carpenter Shop is located directly south of Building 449A and connects to the building. Building 449C is an all wood structure which is approximately 18 feet wide X 18 long feet X 12 feet at the roof eve and 18 feet tall at the roof peak. Building 449C has electrical power, electrical heat, and air-conditioning. Building 449C has a wood floor that is covered with 12" X 12" floor tile (probably not ACM tile).

S449 Maintenance Storage is an all wood constructed Maintenance storage facility which is located east of Building 449A/449C. The storage facility is approximately 40 feet long X 12 feet wide X 10 feet high at the roof eve. S449 has 1-inch plywood walls, floor, and roof which is covered with sheet asbestos-type roofing material. S449 has no electrical power, no heating of any kind, and does not have a LSDW System.

Building 453 Maintenance Storage is located directly west of Building 444 and contains approximately 384 square feet of floor space. Building 453 is approximately 16 feet wide X 24 feet long X 16 feet at the roof eve. Building 453 has a flat metal and built-up roof that slopes to the west for water drainage. Building 453 has two large metal roll-up doors; the one on the south is 10 feet wide and 12 feet tall and the one on the north is 8 feet wide and 12 feet tall. There is a personnel access door on the east side near the north wall.

Building 454 Cooling Tower is located directly east of Building 444 and its physical size is approximately 24 feet wide X 60 feet long X 10 feet high above the concrete mounting footings/foundation. Building 454 Cooling Tower is mounted on four 60-foot X 1-foot I-beams. The cooling tower's electrical panels are located on the exterior of the south wall.

Building 457 Cooling Tower is located directly west of Building 447 and its physical size is approximately 12 feet wide X 30 feet long X 12 feet high above the concrete mounting footings/foundation. Building 454 Cooling Tower is prefabricated steel structure mounted on concrete foundation/footings. The cooling tower's electrical panels are located on the east outside wall. Building 457 has a roof access steel ladder and the roof has 4-foot high hand-rails

Building 447 Cooling Tower 1 of 3 is located directly east of Building 447 at the southeast corner. The Cooling Tower 1 of 3 is approximately 12 feet wide X 16 feet long X 8 feet high and is an all metal piece of equipment mounted on a steel reinforced concrete pad approximately 13 feet wide X 17 feet long X 8 inches this plus concrete footings.

Building 447 Cooling Tower 2 of 3 is located directly south of Building 447. The Cooling Tower 2 of 3 is approximately 8 feet wide X 12 feet long X 12 feet high and is an all metal piece of equipment mounted on a steel framework that has concrete footings in the ground below.

Building 447 Cooling Tower 3 of 3 is located directly west of Building 447. The Cooling Tower 3 of 3 is approximately 5 feet wide X 6 feet long X 12 feet high and is an all metal piece of equipment mounted on a steel reinforced concrete pad approximately 7 feet wide X 7 feet long X 8 inches this plus concrete footings.

Historical Operations

Building 427/427A has always been the Emergency Generator Building and Diesel Storage Tank facilities for Building 444 since it was installed in 1975.

S444 Bus Stop Car Pool Shelter was used as such historically when Plant Buses made routine trips between the buildings at RFETS.

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Historical Operations (Con't)

Building 445 has historically been used as a carbon storage facility for the Building 444 Production Facility. Building 445 has two large saws that cut incoming carbon stock material that was machined into production casting molds for ingots and parts. Building 445 historically has also stored low-level contaminated waste drums and contaminated waste crates from Building 444. One interviewee said classified mold shapes at times were also stored in Building 445. Due to the materials stored in Building 445, it was generally posted as a RMA.
S445 Storage Shed has always been used as a Maintenance storage facility.
Building 449 Oil & Paint Storage facility was used for oil, paint, and equipment storage.
Building 449A Maintenance Annex was used by various Maintenance Groups to support Building 444 Operations.
Building 449C Carpenter Shop was used by Carpenters to support Building 444 Operations.
S449 Maintenance Storage was used by Maintenance as a miscellaneous storage facility.
Building 453 Maintenance Storage was used by Maintenance as a used Building 444 oil drum storage facility
Building 454 Cooling Tower has always been a cooling tower facility for Building 444.
Building 457 Cooling Tower has always been a cooling tower facility for Building 447.
Building 447 Cooling Tower 1 of 3 was always been a cooling tower facility for Building 447, Out of Service.
Building 447 Cooling Tower 2 of 3 was always been a cooling tower facility for Building 447, Out of Service.
Building 447 Cooling Tower 3 of 3 has always been a cooling tower facility for Building 447.

Current Operational Status

Building 427/427A currently is in service as Emergency Generator Building and Diesel Storage Tank facilities for Building 444.
S444 Bus Stop Car Pool Shelter is currently not being used.
Building 445 is currently is being used as a storage facility for Building 444. Building 445 currently has stored contaminated low-level waste drums and waste crates from Building 444. Building 445 currently has a fork-truck stored in the facility and there is a fork-truck charging station on the west wall of Room 700. There are two large graphite stock cutting saws in the west half of Room 700, along with a carbon-dust cyclone separator and vacuum pump system. Building 445 appears to be fully operational as a Building 444 Storage Facility, but the cutting saws and vacuum system do not appear to be currently used.
S445 Storage Shed currently is being used as Maintenance storage facility with a few cans of roofing tar.
Building 449 Oil & Paint Storage is currently in service with minimal use.
Building 449A Maintenance Annex is currently in service with minimal use by a Telecommunications Group.
Building 449C Carpenter Shop is currently in service with minimal use.
S449 Maintenance Storage is currently in service with minimal use.
Building 453 Maintenance Storage is Closed and Out of Service.
Building 454 Cooling Tower is currently in service.
Building 457 Cooling Tower is currently in service.
Building 447 Cooling Tower 1 of 3 is currently Out of Service.
Building 447 Cooling Tower 2 of 3 is disconnected and currently Out of Service.
Building 447 Cooling Tower 3 of 3 is disconnected and currently Out of Service.

Contaminants of Concern

Asbestos

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

Building 445 might have some asbestos containing materials (ACM) of construction because it was constructed in 1958. Building 445's wall, roof, and pipe insulation might contain asbestos. One interviewee said low-level waste drums/crates containing asbestos were stored in Building 445, but that he did not believe the facility had any ACM materials of construction. Most of the other Building 444 Type 1 Facilities may have some ACM material of construction in wall, roof, and pipe insulation.

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Beryllium (Be)

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

Building 445 is on the RFETS Beryllium (Be) Areas Historical and Present list in Rooms 700, 700A, 700B, 700C and Room 700D. One interviewee said low-level waste drums/crates containing Be were stored in Building 445 and shipped out of the building through the east Trucking Door. Interviewees said that the used oil drums stored in Building 453 might have contained some Be. One interviewee said that the cooling tower pipes and sludge in the Building 454 Cooling Tower and the Building 457 Cooling Tower, might contain Be contamination. The Building 447 small cooling towers, 1 0f 3, 2 of 3, and 3 of 3 might also contain some Be contamination. All of the rest of the Building 444 Type 1 Facilities such as Building 427, S444 Bus Stop Shelter, S445 Maintenance Storage, Building 449, Building 449A, Building 449C, and S449 Maintenance Storage would not be expected to have any Be contamination.

Summarize any recent Be sampling results:

No known resent Be sampling has been conducted in Building 445 or any of the other Building 444 Type 1 Facilities.

Lead

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

Building 445 was constructed in 1958, therefore it may contain lead-based paints. No lead operations were known to have occurred in Building 445. All of the other Building 444 Type 1 Facilities that have paint on them, might have been painted with lead-based paints. Facilities S444 and S449 do not have any paint on them.

RCRA/CERCLA Constituents

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

Building 445 was never used as a chemical storage facility. Cleaning chemicals were used and stored in Building 445. Building 445 has no WSRIC, but it is included in the Building 444 WSRIC at one time. Building 445 is not listed on "The Master List of RCRA Units". Building 453 was at one time was a 90-day RCRA Storage Unit, but it is not now. Building 449 was known to have stored drums of product oil and product paint as well as paint thinners and other painting supplies.

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

No known chemical spills ever occurred in Building 445. No known chemical spills occurred in the other Building 444 Type 1 Facilities. Oil and paint spills may have occurred in Building 449. Known oil spills did occur in and around Building 453.

Describe methods in which spills were mitigated, if any:

Unknown

PCBs

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

Building 445 may contain PCB/lead-based paints. Building 445 has lighting ballasts that might contain PCBs.. No known equipment items containing PCBs, were ever located in Building 445. Lighting ballasts in other Building 444 Type 1 Facilities might contain PCBs.

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

None

Describe methods in which spills were mitigated, if any:

None

Radiological Contaminants

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

Building 445 has had radiological contaminated drums and crates stored in Room 700. Building 445 stores low-level contaminated waste drums and low-level contaminated waste crates from Building 444 until shipments could be made out of the facility. Building 445 is currently posted as a RMA.

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

No known sealed radioactive sources were ever stored in Building 445.

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.):

None

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.):

None

Environmental Restoration Concerns

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

IHSS/PAC 400-136.2 is very near the land for Building 445 and Building 454 Cooling Tower. Building 445 is anticipated to be a Type 1 Facility, but it falls under Building 444-UBC as shown on the Under Building Contamination Site Map. Building 453 sits in IHSS/PAC 400-182.

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.):

Building 445 is not listed in the RFETS Historical Release Reports. No WSRIC data currently exists for Building 445.

References

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

Sources reviewed to complete this HSA were the RFETS Facility list, the Historical Release Report, the Listing of Beryllium Areas Historical and Present, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases. Building 445 does not have a Facility Safety Analysis Report (FSAR) but it is included in the FSAR for Building 444. Building 445 does not have a WSRIC, but it is included in the Building 444 WSRIC. In addition, a facility walkdown of Building was performed. The Facility Manager for Building 444 was interviewed for all the Building Type 1 Facilities and he was very familiar with every one of them, except he knew very little about the Maintenance and Maintenance Storage Facilities.

Waste Volume Estimates and Material Types For Building 427, Building 444 Type 1 Facility

Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
1,500	None	240	None	None	TBD	30 cu ft insulation

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Waste Volume Estimates and Material Types For S444, Building 444 Type 1 Facility						
Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
4	100	None	30	None	TBD	None
Waste Volume Estimates and Material Types For Building 445 and Carbon Dust Collector B444 Type Facility						
Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
9,500	None	21,200	4,000	1,200	TBD	4,000 cu ft Insulation
Waste Volume Estimates and Material Types For S445, Building 444 Type 1 Facility						
Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
10	1,500	6	None	None	TBD	60 cu ft Roofing Material
Waste Volume Estimates and Material Types For Building 449, Building 444 Type 1 Facility						
Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
400	None	150	300	None	TBD	2 cu ft window Glass 390 cu ft Insulation
Waste Volume Estimates and Material Types For Building 449A, Building 444 Type Facility						
Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
1,400	2,400	100	None	100	TBD	400 cu ft Insulation
Waste Volume Estimates and Material Types For Building 449C, Building 444 Type 1 Facility						
Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
120	600	60	None	300	TBD	300 cu ft Insulation

Waste Volume Estimates and Material Types For S449, Building 444 Type 1 Facility

Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
120	800	4	None	None	TBD	60 cu ft of Roofing

Waste Volume Estimates and Material Types For Building 453, Building 444 Type Facility

Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
1400	None	130	120	None	TBD	120 cu ft Styrofoam Insulation

Waste Volume Estimates and Material Types For Building 454 Cooling Tower, Building 444 Type 1 Facility

Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
3,200	None	22,000	None	None	TBD	90 cu ft Pipe Insulation

Waste Volume Estimates and Material Types For Building 457 Cooling Tower, Building 444 Type 1 Facility

Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
2,400	None	11,400	None	None	TBD	30 cu ft Pipe Insulation

Waste Volume Estimates and Material Types For Building 447 Cooling Tower 1 of 3, Building 444 Type Facility

Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
400	None	1000	None	None	TBD	200 cu ft Insulation

Waste Volume Estimates and Material Types For Building 447 Cooling Tower 2 of 3, Building 444 Type 1 Facility

Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)

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60	None	320	None	None	TBD	60 cu ft Insulation
Waste Volume Estimates and Material Types For Building 447 Cooling Tower 3 of 3, Building 444 Type 1 Facility						
Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
30	None	200	None	None	TBD	30 cu ft Insulation

Further Actions

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

Begin the RLC/PDS process.

Note:

This HAS was performed prior to SME walkdowns, and chemical and radiological characterization package preparations. SMEs should evaluate and/or verify all information during the RLC/PDS process. SMEs may need to review additional documentation and perform additional interviews. Information contained in this HSA Report only represents a "snapshot" in time. Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this HSA Report will not be amended. The RLC data will take precedence over the information in this HSA Report. RLC data will appear in the RLCR/PDSR.

Prepared By: Bob Sheets / Bob Sheets / 1/15/2002

Name Signature Date

ATTACHMENT C

Radiological Data Summaries and Survey Maps

ATTACHMENT C-1

Survey Area A

Radiological Data Summaries and Survey Maps

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1197	Serial #	821	Serial #	1379
Cal Due	4/2/02	Cal Due	5/1/02	Cal Due	5/6/02
Bkg	0.1 cpmα	Bkg	0.4 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	19.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	39 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	5/6/02
Bkg	39 cpmβ	Bkg	49 cpmβ	Bkg	795 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	442 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area A 1st floor WF
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 3/6/02 Time: 1500

RCT: [redacted] / [redacted]
Print name

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

PRN/REN # : N/A
Comments: Survey locations were on the walls at <2 meters and on the floor. All locations were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
1	See map for location	3	20	16	241
2	See map for location	6	16	11	208
3	See map for location	3	56	26	218
4	See map for location	3	44	16	2086
5	See map for location	6	0	16	2109
6	See map for location	0	0	11	799
7	See map for location	3	0	42	340
8	See map for location	0	4	26	2030
9	See map for location	0	36	53	247
10	See map for location	6	36	26	2017
11	See map for location	3	4	42	99
12	See map for location	3	4	16	2647
13	See map for location	6	4	0	927
14	See map for location	0	52	0	43
15	See map for location	3	0	21	0
16	See map for location	0	20	16	749
17	See map for location	0	20	58	729
18	See map for location	15	84	0	647
19	See map for location	3	0	0	135
20	See map for location	0	0	21	0
21	See map for location	0	0	32	469
22	See map for location	0	40	0	614
23	See map for location	3	48	37	73
24	See map for location	3	0	11	403
25	See map for location	3	0	0	492
26	See map for location	6	0	79	630
27	See map for location	0	56	0	591
28	See map for location	9	0	53	436
29	See map for location	0	12	0	0
30	See map for location	0	0	26	564

Date Reviewed: 5-28-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ		dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	<225	<11250			
11	<225	<11250			
12	<225	<11250			
13	<225	<11250			
14	<225	<11250			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1197	Serial #	763	Serial #	1379
Cal Due	4/2/02	Cal Due	6/2/02	Cal Due	5/6/02
Bkg	0.1 cpmα	Bkg	0.2 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	19.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	57 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	5/6/02
Bkg	39 cpmβ	Bkg	49 cpmβ	Bkg	1127 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	524 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area A 1st floor WF
Purpose: Reconnaissance Level Characterization
RWP #: N/A
Date: 3/11/02 Time: 1230
RCT: [redacted]
RCT:

PRN/REN # : N/A
Comments: Survey locations were on the walls at <2 meters and on the floor. All locations were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
31	See map for location	0	0	47	0
32	See map for location	9	0	26	0
33	See map for location	0	0	32	0
34	See map for location	0	0	37	0
35	See map for location	9	0	0	0
36	See map for location	0	56	47	0
37	See map for location	3	44	16	0
38	See map for location	0	16	26	0
39	See map for location	0	28	37	0
40	See map for location	0	0	5	0
41	See map for location	6	12	37	0
42	See map for location	18	16	116	277
43	See map for location	0	32	11	0
44	See map for location	3	4	37	0
45	See map for location	6	48	47	0

Date Reviewed: 5-28-02 **RS Supervision:** Teresa Johnston / [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

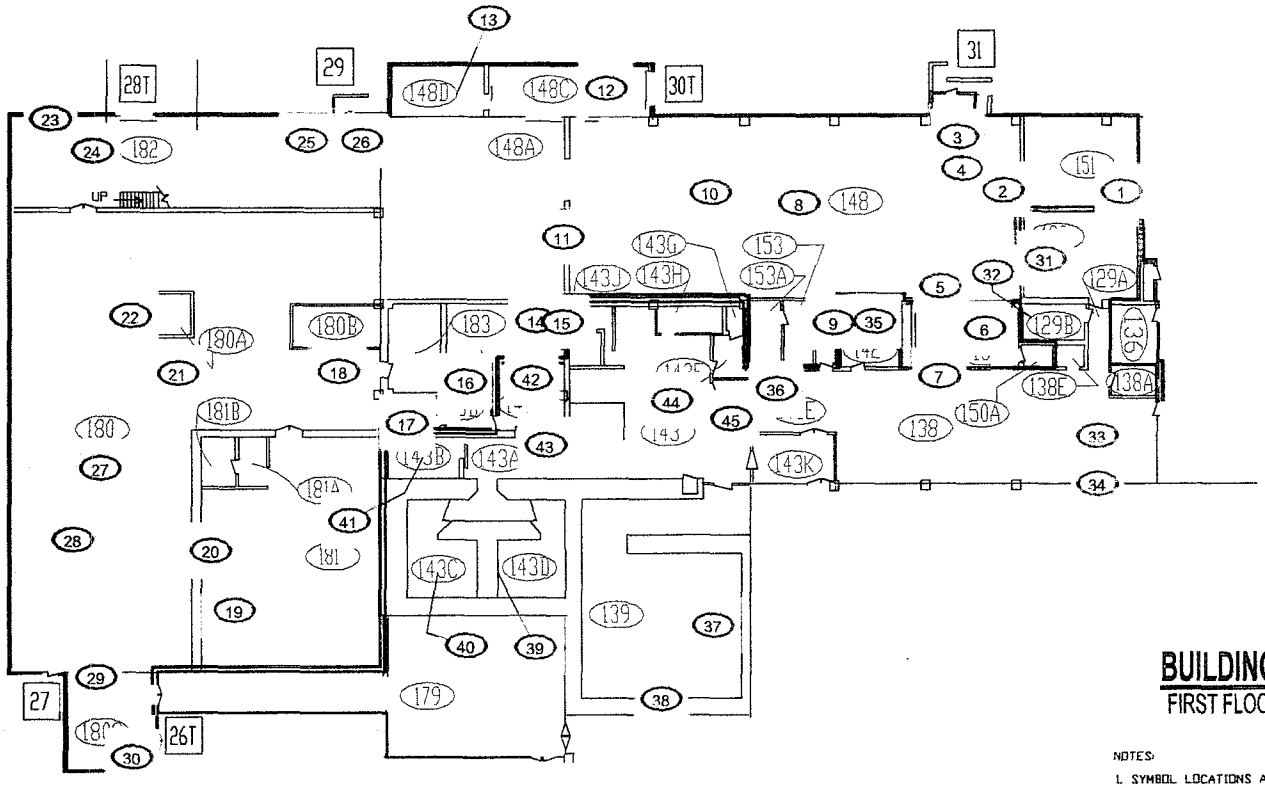
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	<11250
35	<225	<11250
36	<225	<11250
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250
41	<225	<11250
42	<225	<11250
43	<225	<11250
44	<225	<11250
45	<225	<11250

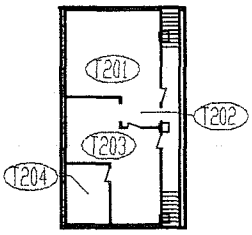
RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: A **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 1500 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



OFFICE MEZZ. PLAN

Scan Area

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s): N/A

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/FW444-1-A-SC August 29, 2002

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	767	Serial #	1164	Serial #	1379
Cal Due	4/30/02	Cal Due	5/13/02	Cal Due	5/6/02
Bkg	0 cpmα	Bkg	0.1 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	19.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	39 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	5/6/02
Bkg	39 cpmβ	Bkg	49 cpmβ	Bkg	795 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	442 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area A 1st floor WC
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 3/6/02 Time: 1430

[redacted]

PRN/REN # : N/A
Comments: Survey was taken on walls, >2 meters in height and on ceiling where possible. Scans were performed on locations with elevated readings.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	3	4	74	251
2	See map for location	6	8	68	0
3	See map for location	3	0	21	0
4	See map for location	12	108	47	0
5	See map for location	6	16	32	188
6	See map for location	0	0	68	149
7	See map for location	0	12	37	0
8	See map for location	6	36	68	795
9	See map for location	0	4	11	535
10	See map for location	3	8	68	941

Date Reviewed: 5-08-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1197	Serial #	763	Serial #	3114
Cal Due	4/2/02	Cal Due	6/30/02	Cal Due	8/15/02
Bkg	0 cpmα	Bkg	0.1 cpmα	Bkg	8 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	76 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/15/02
Bkg	36 cpmβ	Bkg	43 cpmβ	Bkg	850 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	442 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area A 1st floor WC
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 3/14/02 Time: 1000

[redacted]

PRN/REN # : N/A
Comments: Survey was taken on walls, >2 meters in height and on ceiling where possible. Scans were performed on locations with elevated readings.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
11	See map for location	6	14	0	463
12	See map for location	0	6	0	182
13	See map for location	3	56	5	735
14	See map for location	3	28	0	0
15	See map for location	0	0	0	230

Date Reviewed: 5-28-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

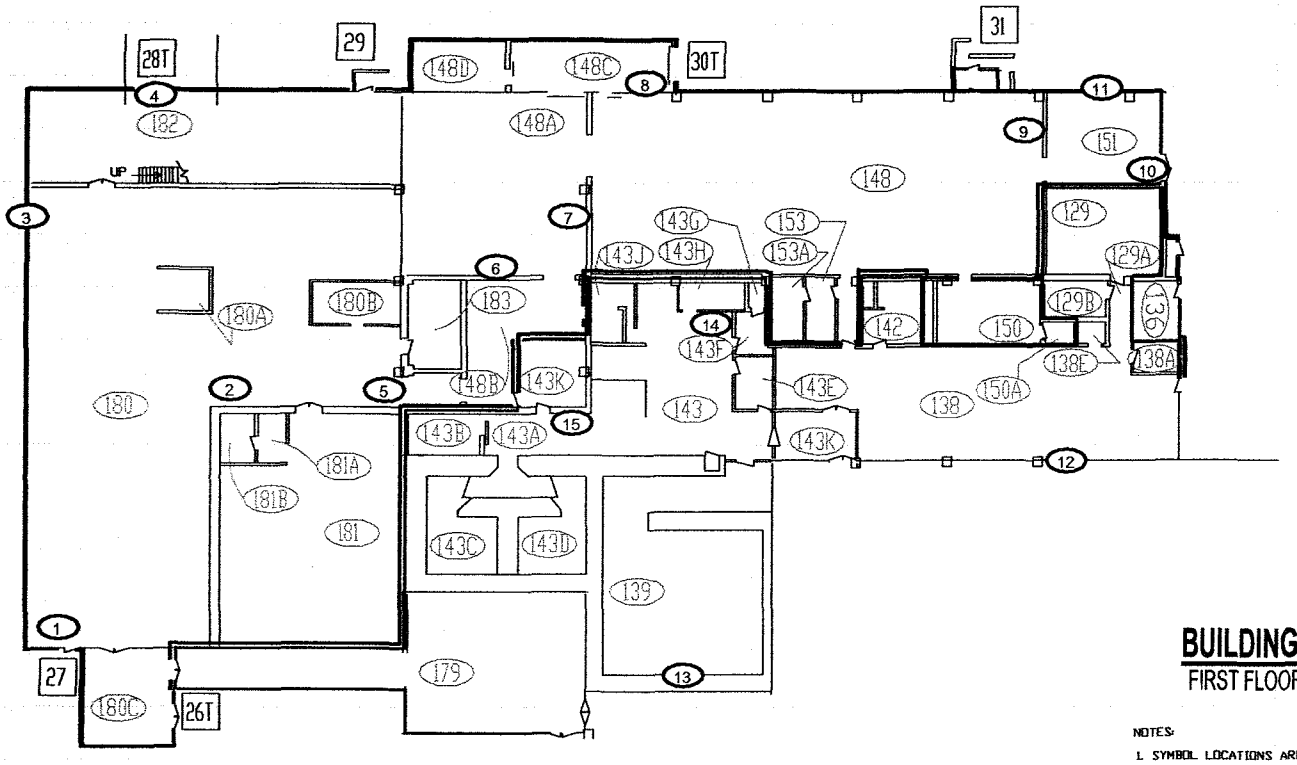
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250

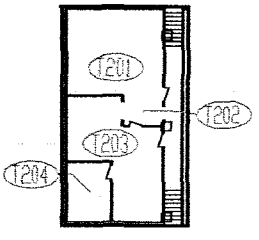
RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: A **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 1500 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



OFFICE MEZZ. PLAN

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- ◇(#) Smear, TSA & Sample Location
- ■ Open/Inaccessible Area
- □ Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): n/a
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707
DynCorp
THE ART OF TECHNOLOGY

Prepared for:
KAISER-HILL COMPANY

MAP ID: 02-0222/CW444-1-A
Mrach 2, 2002

5/6

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	5/9/02	Cal Due	6/30/02	Cal Due	5/6/02
Bkg	0.5 cpmα	Bkg	0.6 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	19.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	63 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	772	Serial #	773	Serial #	1379
Cal Due	8/14/02	Cal Due	9/18/02	Cal Due	5/6/02
Bkg	40 cpmβ	Bkg	40 cpmβ	Bkg	861 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.00 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	464 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area A 1st floor Equip.
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 3/7/02 Time: 0900

[redacted]

PRN/REN # : N/A
Comments: Survey on various pieces of equipment. Scans were performed on locations with elevated readings.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Emergency cabinet Rm 151	0	20	11	0
2	Light switch Rm 151	6	16	58	0
3	Air hose reel Rm 148	0	0	37	0
4	Door heater door #31 Rm 148	0	0	16	0
5	Bathroom sink Rm 150	3	52	0	0
6	Slop sink Rm 150A	0	0	21	0
7	Paper towel holder Rm 150A	6	64	26	0
8	Elec. Panel post P3 Rm 148	0	0	32	0
9	Door switch Rm 143	3	0	47	0
10	Air curtain switch Rm 148C	3	22	58	0
11	Fire Hose connection Rm 148A	3	40	58	0
12	Fire Ext. Rm 148 A	0	0	32	0
13	S441-1 Panel Rm 148B	6	0	16	0
14	Exhaust Fan switch Rm 148B	0	36	42	0
15	Elect. Box Rm 148B	3	24	5	0
16	Elect. Conduit Rm 180	0	0	47	0
17	Elect. Box post U3 Rm 180	3	44	37	0
18	Steel support Rm 181	0	0	63	142
19	Inspection Mach. Rm 181	3	0	63	0
20	Moore Mach. Rm 181	0	52	16	0
21	Elec. Panel Rm 182	0	0	32	0
22	Pipefitter cabinet Rm 182	3	40	42	0
23	Fan Guard Rm 182	3	20	11	0
24	Elec. Panel Rm 182	0	0	21	0
25	Exhaust Duct Rm 180	6	8	32	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	Hose Reel Rm 180	0	52	68	0
27	Fire Phone Door #27 Rm 180	0	0	32	0
28	Elec. Box Rm 180	30	0	0	0
29	Elect. Box Rm 180C	0	28	21	0
30	Charger disc. Switch Rm 180C	0	8	42	0

Date Reviewed: 5-28-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ	Location	dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	<225	<11250			
11	<225	<11250			
12	<225	<11250			
13	<225	<11250			
14	<225	<11250			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1197	Serial #	763	Serial #	3114
Cal Due	4/2/02	Cal Due	6/30/02	Cal Due	8/15/02
Bkg	0 cpmα	Bkg	0.1 cpmα	Bkg	8 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	76 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/15/02
Bkg	36 cpmβ	Bkg	43 cpmβ	Bkg	850 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.00 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	446 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area A 1st floor Equip.
Purpose: Reconnaissance Level Characterization
RWP #: N/A
Date: 3/14/02 **Time:** 0900

[redacted]

PRN/REN # : N/A
Comments: Survey on various pieces of equipment. Scans were performed on locations with elevated readings.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
31	Hoist Rm 180 C	9	40	14	77
32	Elect. Panel between 143D-143C	0	24	0	0
33	Transformer Rm 143D	6	12	24	0
34	Electrical panel Rm 143A	6	0	5	0
35	NDT Control Rm panel	3	0	24	0
36	X-Ray Mach. Rm 139	0	88	0	0
37	Elect. Panel Rm 139	3	32	0	898
38	Guard phone Rm 143K	0	88	0	0
39	Elect. Panel Rm 138	0	32	0	0
40	Carousel Rm 138	0	0	10	0
41	Lan lock box Rm 138	0	28	0	0
42	Carousel Rm 138	0	8	0	0
43	Lektriever Rm 138	0	44	0	0
44	Light Panel Rm 138	0	8	0	0
45	Elect. Switch Rm 129	0	12	0	0

Date Reviewed: 5-28-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

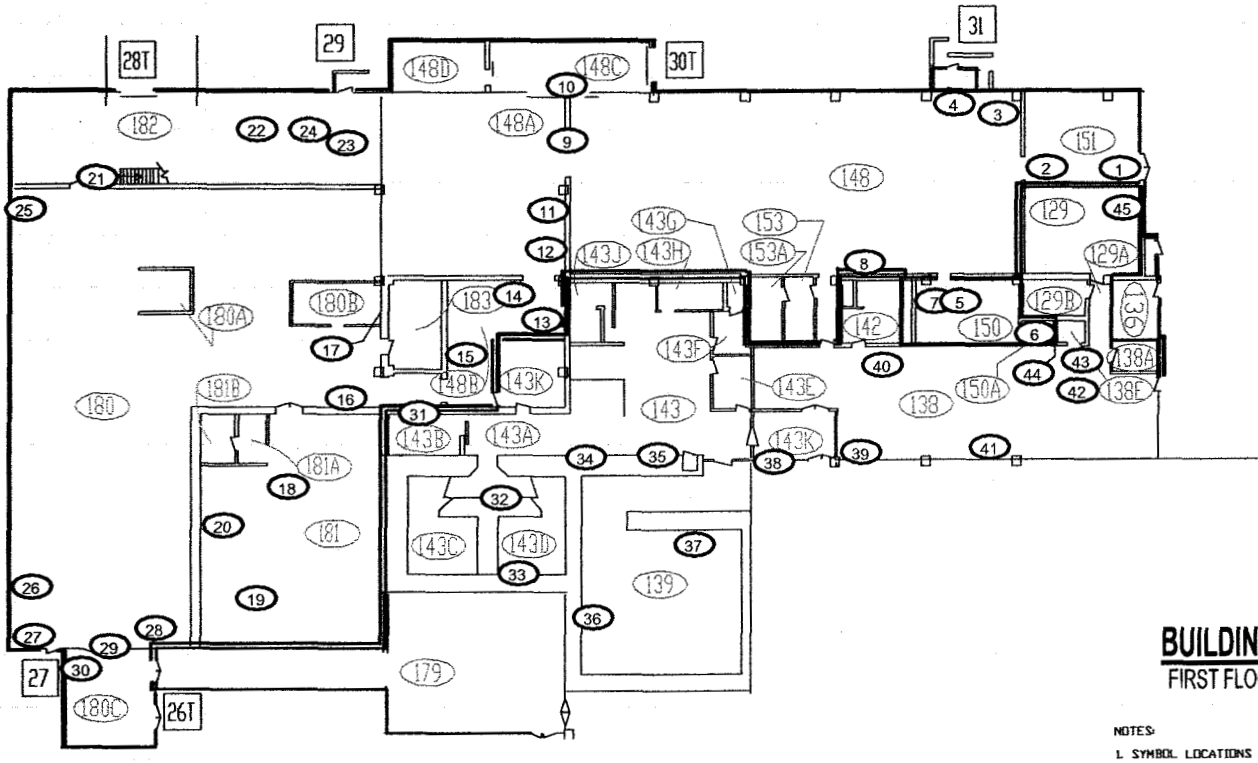
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	<11250
35	<225	<11250
36	<225	<11250
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250
41	<225	<11250
42	<225	<11250
43	<225	<11250
44	<225	<11250
45	<225	<11250

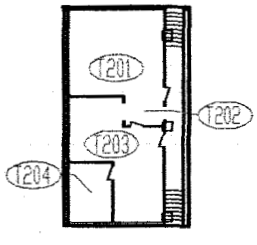
RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: A **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 1500 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



OFFICE MEZZ. PLAN

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

Scan Survey Information
Survey Instrument ID #(s): 1/4
RCT ID #(s):

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707
DynCorp
THE ART OF TECHNOLOGY

Prepared for:
KAISER-HILL COMPANY

MAP ID: 02-0222/EQ444-1-A
Mrach 2, 2002

41

ATTACHMENT C-2

Survey Area B

Radiological Data Summaries and Survey Maps

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	971	Serial #	1156	Serial #	1379
Cal Due	7/16/02	Cal Due	6/27/02	Cal Due	5/6/02
Bkg	0.1 cpmα	Bkg	0.4 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	19.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	61 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	772	Serial #	773	Serial #	1379
Cal Due	8/14/02	Cal Due	9/18/02	Cal Due	5/6/02
Bkg	43 cpmβ	Bkg	38 cpmβ	Bkg	1213 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.10 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	529 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey Area B part 2 WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 3/20/02 Time: 1300

[redacted]

PRN/REN # : N/A
Comments: Survey of floor area and walls at locations <2meters in height. All locations were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	3	28	25	0
2	See map for location	3	52	0	0
3	See map for location	0	36	15	61
4	See map for location	0	12	15	26
5	See map for location	3	104	20	45
6	See map for location	48	216	20	514
7	See map for location	6	78	91	2675
8	See map for location	12	12	10	0
9	See map for location	0	248	81	2071
10	See map for location	0	36	25	341
11	See map for location	15	144	35	2071
12	See map for location	6	156	81	3640
13	See map for location	3	0	20	0
14	See map for location	6	64	121	5711
15	See map for location	9	16	96	4974

Date Reviewed: 5-29-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	**67524**
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	**44373**
10	<225	**22347**
11	<225	**18871**
12	<225	<11250
13	<225	<11250
14	**283**	**43408**
15	<225	**65273**

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1197	Serial #	763	Serial #	2344
Cal Due	4/2/02	Cal Due	6/30/02	Cal Due	6/27/02
Bkg	0.4 cpmα	Bkg	0.4 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	35 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	2344
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	6/27/02
Bkg	34 cpmβ	Bkg	43 cpmβ	Bkg	1137 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	526 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area B part 2 WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 3/26/02 Time: 0900

[redacted]

PRN/REN # : N/A
Comments: Survey of floor area and walls at locations <2 meters in height. All location were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
16	See map for location	3	12	0	0
17	See map for location	3	8	55	34653
18	See map for location	12	84	41	861
19	See map for location	6	120	14	0
20	See map for location	6	8	100	0
21	See map for location	9	64	152	2099
22	See map for location	9	116	105	1733
23	See map for location	6	36	24	650
24	See map for location	9	28	52	0
25	See map for location	24	728	24	1809
26	See map for location	9	56	14	1528
27	See map for location	15	0	0	0
28	See map for location	18	92	43	5086
29	See map for location	15	248	33	3861
30	See map for location	12	184	19	0

Date Reviewed: 5-29-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
16	<225	<11250
17	<225	**273927**
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250
24	<225	<11250
25	<225	**19891**
26	<225	<11250
27	<225	<11250
28	<225	<11250
29	<225	**17155**
30	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	971	Serial #	1156	Serial #	2344
Cal Due	7/16/02	Cal Due	6/27/02	Cal Due	6/27/02
Bkg	0.4 cpmα	Bkg	0.6 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	35 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	772	Serial #	773	Serial #	2344
Cal Due	8/14/02	Cal Due	9/18/02	Cal Due	6/27/02
Bkg	43 cpmβ	Bkg	39 cpmβ	Bkg	624 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	392 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area B part 2 WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 3/26/02 Time: 1300

[redacted]

PRN/REN # : N/A
Comments: Survey of floor area and walls at locations <2 meters in height. All locations were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
31	See map for location	3	80	19	2459
32	See map for location	6	80	71	23779
33	See map for location	9	0	24	2825
34	See map for location	3	0	24	2264
35	See map for location	9	16	19	554
36	See map for location	0	16	5	865
37	See map for location	3	0	0	347
38	See map for location	3	20	24	317
39	See map for location	12	0	10	413
40	See map for location	3	24	48	274
41	See map for location	9	0	152	5875
42	See map for location	0	16	24	3221
43	See map for location	3	0	10	1201
44	See map for location	15	48	90	1640
45	See map for location	12	20	5	726

Date Reviewed: 5-29-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

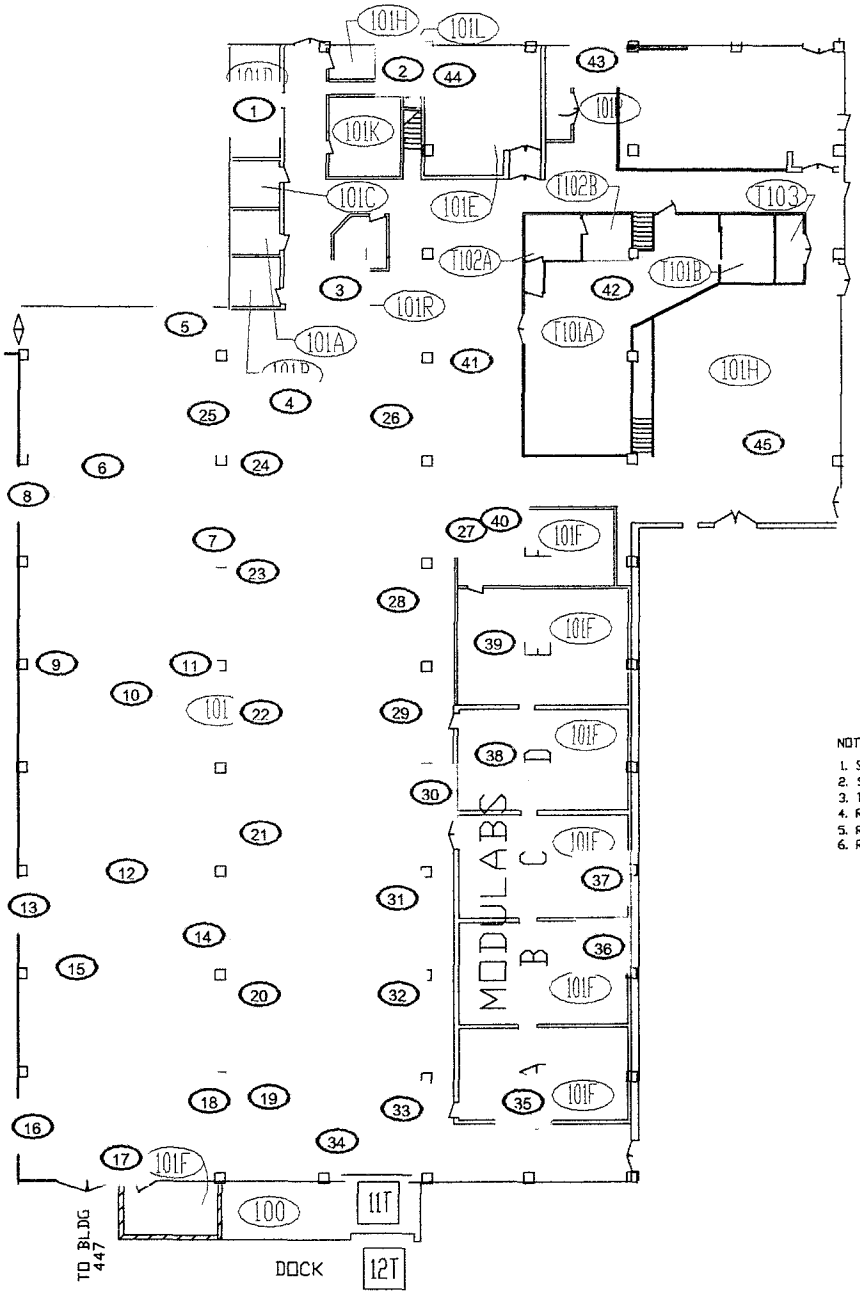
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
31	<225	<11250
32	<225	**16957**
33	<225	<11250
34	<225	<11250
35	<225	<11250
36	<225	<11250
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250
41	<225	<11250
42	<225	<11250
43	<225	<11250
44	<225	<11250
45	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: B **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 1400 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Scan Area

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s): N/A

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/FW444-1-B-SC August 29, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	971	Serial #	958	Serial #	2344
Cal Due	7/16/02	Cal Due	5/9/02	Cal Due	6/27/02
Bkg	0.3 cpmα	Bkg	0.2 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	51 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	772	Serial #	773	Serial #	2344
Cal Due	8/14/02	Cal Due	9/18/02	Cal Due	6/27/02
Bkg	46 cpmβ	Bkg	52 cpmβ	Bkg	986 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	491 dpmβ

Survey Type: Contamination
Building: 444
Location: Survey area B part 2 WC
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 4/2/02 Time: 1300

[redacted]

PRN/REN # : N/A
Comments: Survey of ceilings and wall at locations >2 meters in height.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	56	14	0
2	See map for location	3	60	19	0
3	See map for location	3	28	24	0
4	See map for location	9	0	19	0
5	See map for location	3	24	19	0
6	See map for location	0	0	29	0
7	See map for location	0	0	29	0
8	See map for location	0	0	5	0
9	See map for location	0	52	10	0
10	See map for location	9	28	10	0
11	See map for location	0	0	24	0
12	See map for location	3	16	5	0
13	See map for location	0	28	14	0
14	See map for location	0	0	10	0
15	See map for location	6	52	10	0

Date Reviewed: 5-29-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

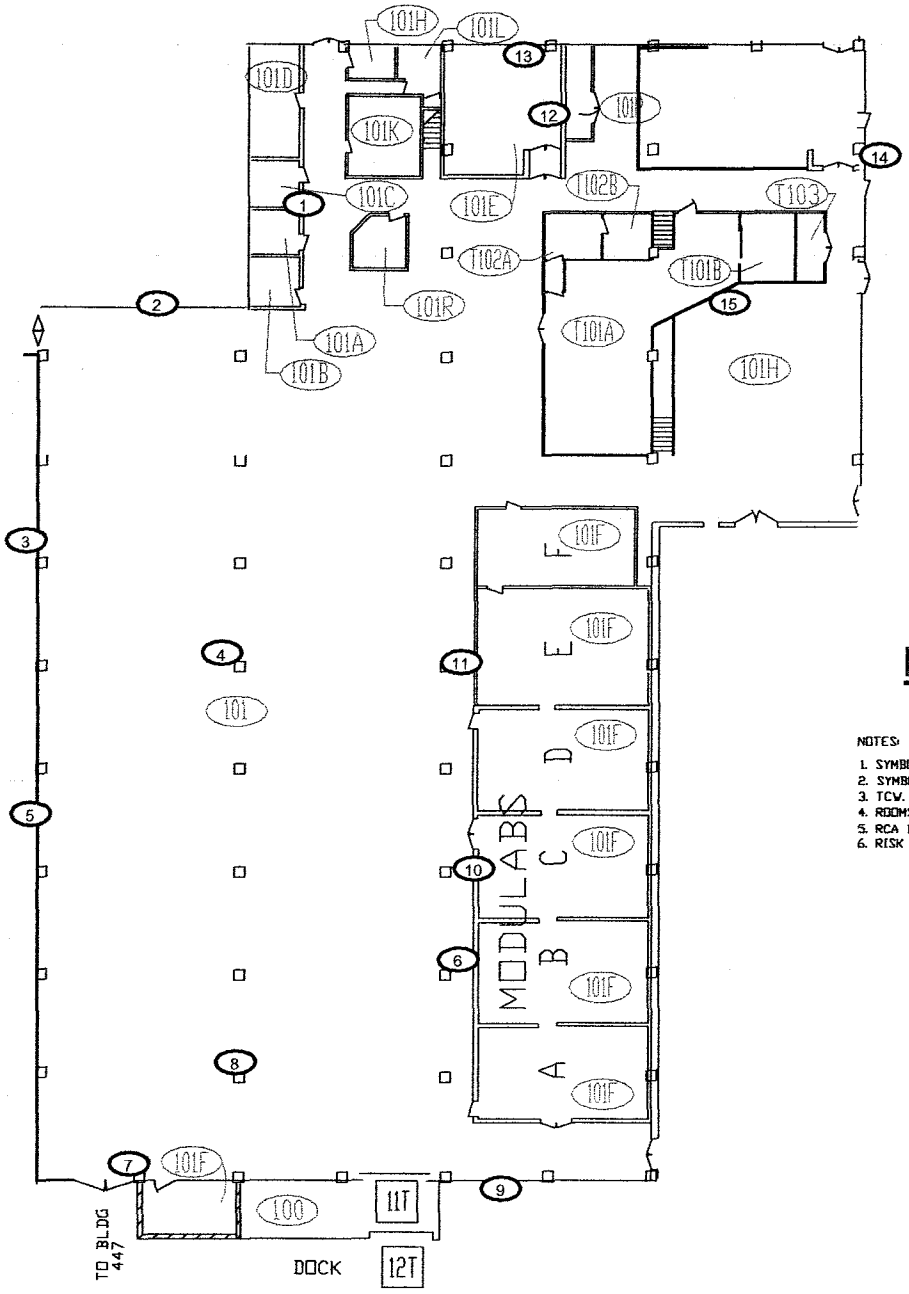
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	**296**	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: B **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 1400 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s): N/A

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/CW444-1-B March 2, 2002

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	Electra		
Model	SAC-4	Model	SAC-4	Model	DP-6		
Serial#	1156	Serial#	763	Serial#	2404		
Cal Due	6-27-02	Cal Due	6-30-02	Cal Due	9-7-02		
Bkg.	0.2c/m	Bkg.	0.4c/m	Bkg.	3.0c/m α	803c/m β	
Efficiency	0.33	Efficiency	0.33	Efficiency	0.230	0.330	
MDA	20d/m	MDA	20d/m	MDA	47d/m α	408d/m β	

Mfg.	Eberline	Mfg.	Eberline	Mfg.	N/A		
Model	BC-4	Model	BC-4	Model			
Serial#	918	Serial#	707	Serial#			
Cal Due	7-20-02	Cal Due	8-14-02	Cal Due			
Bkg.	36c/m	Bkg.	38c/m	Bkg.			
Efficiency	0.25	Efficiency	0.25	Efficiency			
MDA	200d/m	MDA	200d/m	MDA	N/A		

Survey Type: Contamination
Building: 444
Location: Survey area B part 2
Purpose: Reconnaissance Level Charictarization

RWP #: n/a

Date: 04/04/02 Time: 0900

[redacted]

PRN/REN #: n/a
Comments: Scans performed on locations that had elevated 1 minute pat readings.

SURVEY RESULTS

Swipe #	Location/Description Results in DPM/100sq cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
1	Telephone outside room 101D	6	0	4	0
2	Bench outside room 101B	0	44	52	130
3	Exhaust vent post Q3	3	12	17	0
4	Oil Chiller post S9	6	36	30	0
5	Exhaust vent post S11	3	4	17	294
6	Burning drum shroud post S12	3	20	35	0
7	Exhaust duct post S12	6	0	30	0
8	Exhaust duct post S13	0	32	52	0
9	Machine control unit post S14	9	48	61	0
10	Machine control unit post S15	0	28	9	0
11	Fire phone post R16	3	44	30	0
12	Electrical panel post Q16	9	204	30	0
13	Oil Recycler post Q15	15	144	35	0
14	Electrical panel post Q14	0	8	17	0
15	Water hose reel post Q13	12	36	152	1752

Swipe #	Location/Description Results in DPM/100sq cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta

Date Reviewed: 4-8-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1156	Serial #	763	Serial #	2316
Cal Due	6/27/02	Cal Due	6/30/02	Cal Due	8/6/02
Bkg	0.6 cpmα	Bkg	0.01 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	42 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	2316
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/6/02
Bkg	41 cpmβ	Bkg	43 cpmβ	Bkg	1157 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.00 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	519 dpmβ

Survey Type: Contamination
Building: 444
Location: Equipment in Rm # 101
Purpose: Reconnaissance Level Characterization
RWP #: 02-444-02 Rev0
Date: 4/11/02 **Time:** 0900

[redacted]

PRN/REN # : N/A
Comments: Scans performed on locations that had elevated 1 minute pat readings.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
16	Oil hose reel post Q12	0	60	9	0
17	480 volt drop post Q12	0	16	0	0
18	EB Welder panel Q11	21	124	14	0
19	Lube reel Q10	30	176	0	0
20	Hydro Pump panel Q9	6	16	5	0
21	Electrical panel Q9	6	4	0	0
22	Numertronix panel Q8	0	32	0	0
23	Ex Cell O Center Q8	3	20	0	0
24	Omnimill Q9	0	0	0	0
25	Exhaust vent Q10	0	28	32	74
26	Exhaust duct Q11	0	0	0	0
27	Oil line cover Q11-12	3	32	50	2513
28	Exhaust vent Q12	3	4	150	1732
29	Exhaust duct Q13	12	16	91	35
30	Lube reel Q14	9	60	23	103
31	Harding Lathe Q14	0	20	9	0
32	Light fixture Q15	3	20	0	0
33	Harding Lathe Q15	6	36	9	0
34	Shelves Q16	3	72	0	0
35	Vacuum Pumps P16	0	56	77	1852
36	Vacuum Tank N15	9	68	145	0
37	Vent. unit modlab N14	0	28	36	0
38	Exhaust vent N13	21	0	0	0
39	Elec. Panel vent unit N12	0	16	5	0
40	Pass Through Mod D	0	0	0	0
41	Elec. Control Unit N11	6	24	14	0
42	Hood N10	3	0	23	10574
43	Exhaust Duct N10	0	24	36	0
44	Control Unit N8	0	0	0	0
45	Electrical Box N9	0	0	5	0

Date Reviewed: 4-16-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

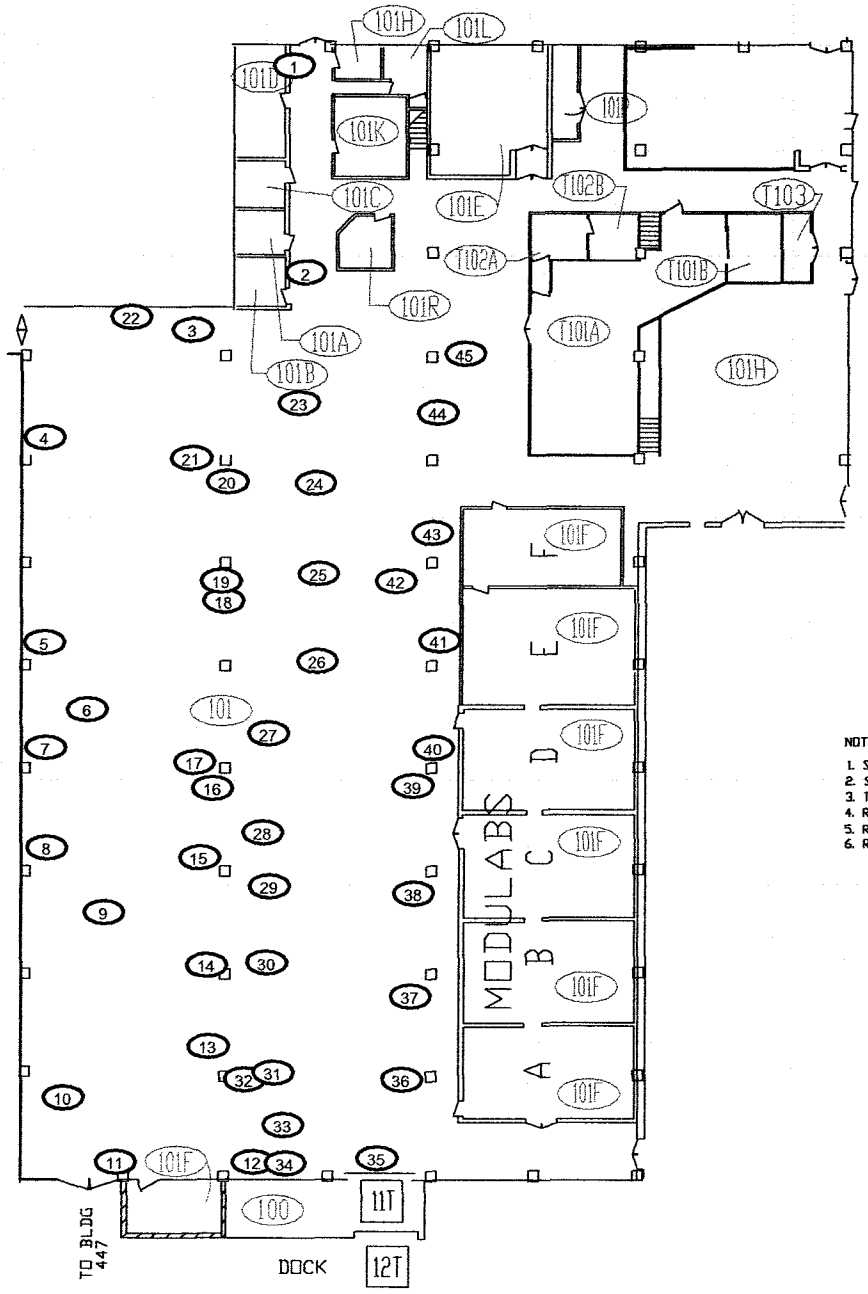
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
16	<225	<11250
17	<225	<11250
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250
24	<225	<11250
25	<225	<11250
26	<225	<11250
27	<225	<11250
28	<225	<11250
29	<225	<11250
30	<225	<11250
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	<11250
35	<225	<11250
36	**245**	<11250
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250
41	<225	<11250
42	<225	**13165**
43	<225	<11250
44	<225	<11250
45	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: B **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 1400 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): 21
RCT ID #(s): 19

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/EQ444-1-B March 2, 2002

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ATTACHMENT C-3

Survey Area C

Radiological Data Summaries and Survey Maps

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1241
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/26/02
Bkg	0.4 cpmα	Bkg	0.5 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.60 %
MDA	20 dpmα	MDA	20 dpmα	MDA	34 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1241
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/26/02
Bkg	42 cpmβ	Bkg	43 cpmβ	Bkg	489 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	321 dpmβ

Survey Type: Contamination
Building: 444
Location: Area C WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/4/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	0	25	816
2	See map for location	3	16	0	585
3	See map for location	0	0	113	299331
4	See map for location	9	0	15	344
5	See map for location	0	0	15	1980
6	See map for location	6	16	0	33
7	See map for location	0	0	0	1421
8	See map for location	9	0	0	458
9	See map for location	6	8	10	3291
10	See map for location	0	0	15	746
11	See map for location	6	0	10	1411
12	See map for location	9	0	20	1472
13	See map for location	0	0	15	1274
14	See map for location	6	0	15	1936
15	See map for location	0	12	15	385
16	See map for location	6	0	20	4278
17	See map for location	0	0	0	605
18	See map for location	0	0	0	1288
19	See map for location	3	4	10	181
20	See map for location	0	0	10	1057
21	See map for location	0	16	0	2361
22	See map for location	3	24	0	1117
23	See map for location	3	0	0	639
24	See map for location	0	36	0	408
25	See map for location	9	0	0	923

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	See map for location	0	12	5	0
27	See map for location	0	8	83	1458
28	See map for location	3	52	0	585
29	See map for location	0	0	0	1555
30	See map for location	0	28	25	271
31	See map for location	6	0	20	1127
32	See map for location	0	0	44	963
33	See map for location	0	32	49	903
34	See map for location	0	0	10	1696
35	See map for location	0	8	20	1204
36	See map for location	0	0	0	766
37	See map for location	0	4	0	2786
38	See map for location	0	0	88	1334
39	See map for location	0	0	64	1274
40	See map for location	0	0	0	672

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Thaston / [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

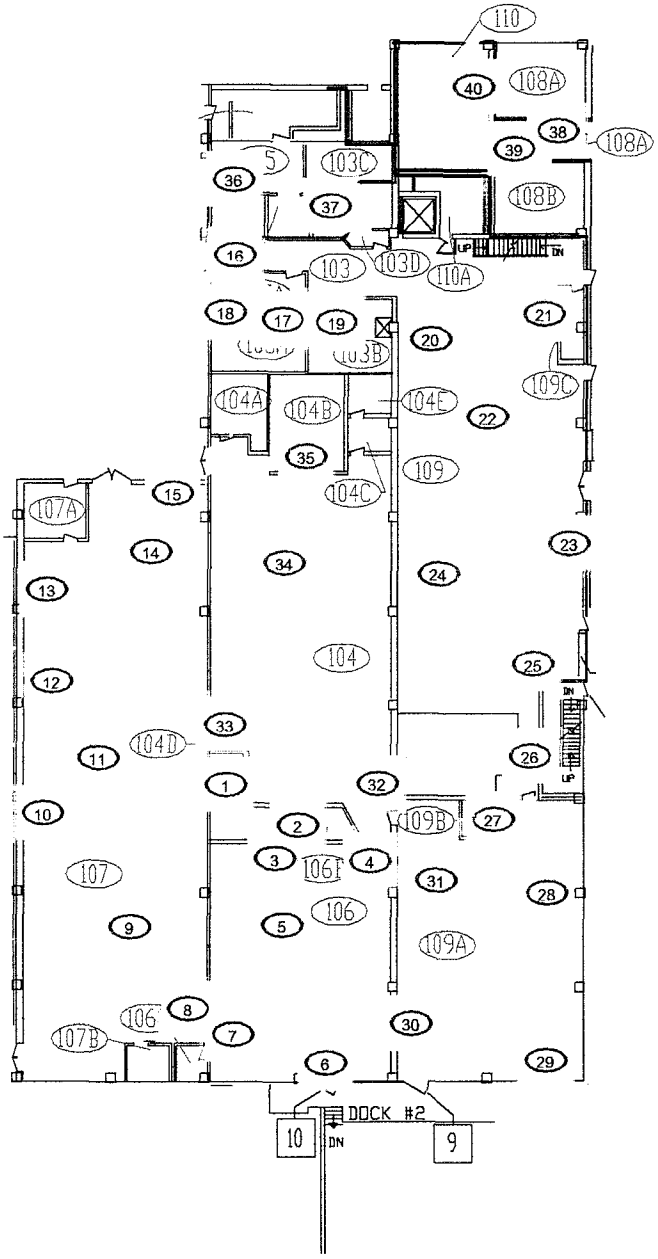
	dpmα	dpmβ		dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	**76254**	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250	31	<225	<11250
7	<225	<11250	32	<225	<11250
8	<225	<11250	33	<225	<11250
9	<225	<11250	34	<225	<11250
10	<225	<11250	35	<225	<11250
11	<225	<11250	36	<225	<11250
12	<225	<11250	37	<225	<11250
13	<225	<11250	38	<225	<11250
14	<225	<11250	39	<225	<11250
15	<225	<11250	40	<225	<11250
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: C **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 1200 sq. m.**

BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



Scan Area

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s): N/A

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/FW444-1-C-SC August 29, 2002

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	53 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	38 cpmβ	Bkg	42 cpmβ	Bkg	1305 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	571 dpmβ

Survey Type: Contamination
Building: 444
Location: Area C WC
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/5/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey was taken on walls, >2 meters in height and on ceiling where possible. Scan surveys were performed on locations only if elevated readings were detected.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	0	20	0
2	See map for location	3	36	29	0
3	See map for location	0	0	0	0
4	See map for location	0	0	29	0
5	See map for location	0	60	34	375
6	See map for location	0	8	0	0
7	See map for location	0	8	34	0
8	See map for location	0	28	5	472
9	See map for location	0	64	10	1766
10	See map for location	0	16	5	27
11	See map for location	0	40	10	1334
12	See map for location	0	20	0	0
13	See map for location	0	28	0	602
14	See map for location	0	8	0	776
15	See map for location	0	0	0	33

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

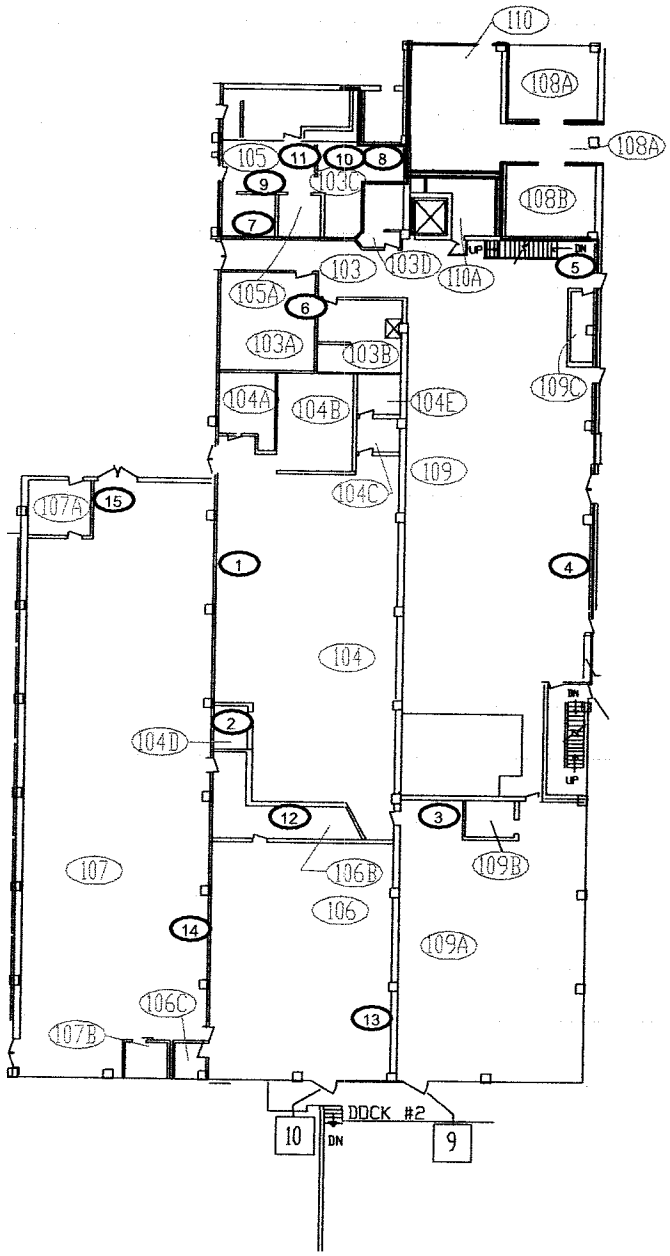
Location	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: C **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 1200 sq. m.**

BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCM. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE ON GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RESC AREAS ARE OUTLINED IN BLUE



SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): n/a
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707
DynCorp
THE ART OF TECHNOLOGY

Prepared for:
KAISER-HILL COMPANY

MAP ID: 02-0222/CW444-1-C
March 2, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	53 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	38 cpmβ	Bkg	42 cpmβ	Bkg	1305 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	571 dpmβ

Survey Type: Contamination
Building: 444
Location: Area C Equipment
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/5/02 Time: 1000

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area C of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Transformer Rm 104	0	20	10	0
2	Tank Rm 104	0	4	34	0
3	Bench Top Rm 104	6	16	10	0
4	Diff. pump control Rm 104	0	0	10	0
5	Vac pump exh. Rm 104	3	0	15	0
6	Vent chamber panel Rm 109A	0	0	5	0
7	High volt.control Rm 109A	3	0	25	0
8	Parts cabinet Rm 109A	0	40	0	0
9	Sample sink top Rm 109A	0	0	15	0
10	Bottle rack Rm 109	0	0	10	0
11	Air Tank Rm 109	12	56	20	0
12	Fire phone Rm 109	3	0	5	0
13	Ram control panel Rm 109	3	56	20	0
14	Rough pump Rm 109	6	12	15	0
15	Elect. Panel Rm 109	0	24	5	0
16	Pipe rack Rm 103	9	0	10	0
17	Air Duct Rm 103A	0	12	10	0
18	Elect. Panel Rm 103	0	0	39	0
19	Wash Basin Rm 102	0	16	0	0
20	Emer. Light Rm 105	0	12	10	1298
21	Tank Rm 105	3	4	0	1241
22	Shelving Rm 105	0	24	0	957
23	Vent. Duct Rm 105	3	40	20	0
24	Shelf Rm 105	3	24	10	0
25	Bench leg Rm 105	0	0	0	318

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250
16	<225	<11250
17	<225	<11250
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250
24	<225	<11250
25	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.1 cpmα	Bkg	0.2 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	59 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	40 cpmβ	Bkg	41 cpmβ	Bkg	828 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	457 dpmβ

Survey Type: Contamination
Building: 444
Location: Area C Equipment
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/10/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area C of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
26	Shelf Rm. 107	3	24	0	311
27	Man Lift Rm 107	3	4	0	0
28	Emer. Shower Rm 107	0	8	20	0
29	Numeritronix Rm 107	3	8	0	0
30	Shelf Rm. 107	0	0	34	482
31	Electrical box Rm 107	6	12	0	0
32	Barrel crusher Rm 107	6	20	0	0
33	Air duct Rm 107	3	56	0	579
34	Portable air cooler Rm 106	0	0	103	224
35	Firephone Rm 106	0	28	0	0
36	Alarm Panel Rm 106	0	0	0	324
37	Electrical panel Rm 106	0	12	5	328
38	Duct Rm 106B	0	48	0	0
39	Duct Rm 106	0	12	0	231
40	Sink Rm 106	6	0	5	331

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

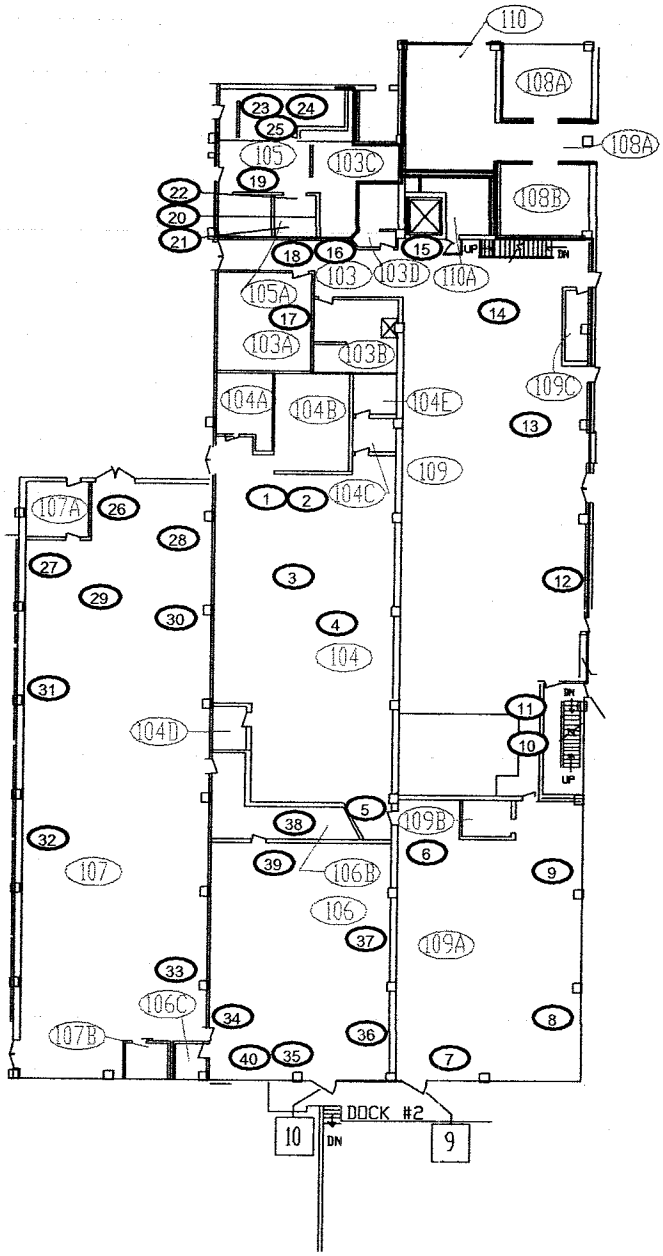
Location	dpmα	dpmβ
26	<225	<11250
27	<225	<11250
28	<225	<11250
29	<225	<11250
30	<225	<11250
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	<11250
35	<225	<11250
36	<225	<11250
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: C **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 1200 sq. m.**

BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): 2/4
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/EQ444-1-C

March 2, 2002

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ATTACHMENT C-4

Survey Area D

Radiological Data Summaries and Survey Maps

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1156	Serial #	763	Serial #	1388
Cal Due	6/27/02	Cal Due	6/30/02	Cal Due	7/29/02
Bkg	0.5 cpmα	Bkg	0.4 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	50 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1388
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	7/29/02
Bkg	40 cpmβ	Bkg	42 cpmβ	Bkg	687 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	381 dpmβ

Survey Type: Contamination
Building: 444
Location: Area D 1st Floor Part 4 WF
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 5/16/02 Time: 1030

[redacted]

PRN/REN # : N/A
Comments: RLC survey of floors and walls < 2meters in height in high traffic areas.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	4	19	110
2	See map for location	0	0	9	869
3	See map for location	9	0	5	768
4	See map for location	0	28	19	214
5	See map for location	0	0	14	685
6	See map for location	3	0	14	382
7	See map for location	0	0	0	168
8	See map for location	9	0	0	480
9	See map for location	3	0	5	0
10	See map for location	3	0	0	416
11	See map for location	3	0	14	391
12	See map for location	3	40	0	46
13	See map for location	0	4	33	86
14	See map for location	3	12	0	260
15	See map for location	3	0	0	0

Date Reviewed: 5-21-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1156	Serial #	763	Serial #	1429
Cal Due	6/27/02	Cal Due	6/30/02	Cal Due	7/9/02
Bkg	0.5 cpmα	Bkg	0.4 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	44 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1429
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	7/9/02
Bkg	40 cpmβ	Bkg	42 cpmβ	Bkg	667 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.00 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	384 dpmβ

Survey Type: Contamination
Building: 444
Location: Area D 1st Floor Part 4 WF
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 5/16/02 Time: 1530

[redacted]

PRN/REN # : N/A
Comments: RLC survey of floors and walls < 2meters in height in high traffic areas.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
16	See map for location	0	12	19	631
17	See map for location	3	0	5	559
18	See map for location	6	0	10	141
19	See map for location	0	12	14	197
20	See map for location	6	0	10	581
21	See map for location	0	12	10	966
22	See map for location	12	28	0	56
23	See map for location	0	24	24	734
24	See map for location	0	0	19	547
25	See map for location	0	0	0	903
26	See map for location	6	24	0	803
27	See map for location	0	4	14	478
28	See map for location	0	0	67	1306
29	See map for location	3	24	0	819
30	See map for location	3	20	5	422
31	See map for location	0	0	0	278
32	See map for location	3	0	5	994
33	See map for location	3	12	0	684
34	See map for location	0	0	0	278
35	See map for location	3	20	0	294
36	See map for location	6	16	0	397
37	See map for location	3	12	0	613
38	See map for location	3	0	14	378
39	See map for location	0	0	0	428
40	See map for location	0	0	0	1166
41	See map for location	6	8	0	200
42	See map for location	0	0	10	1100
43	See map for location	6	16	0	472
44	See map for location	0	40	14	525
45	See map for location	0	52	5	769

Date Reviewed: 5-21-02 **RS Supervision:** Teresa Thaxton Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

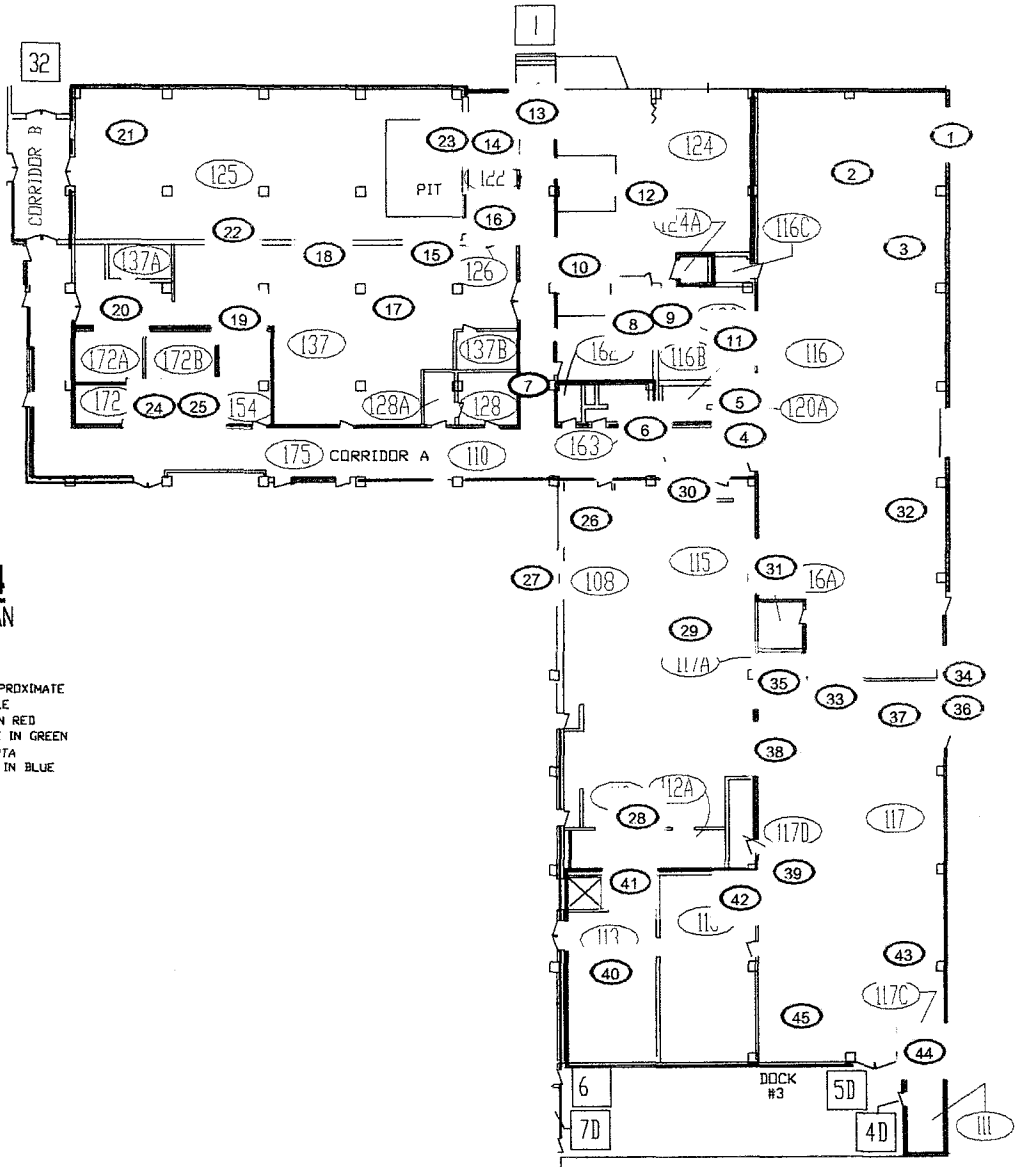
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ	Location	dpmα	dpmβ	Location	dpmα	dpmβ
			26	<225	<11250			
			27	<225	<11250			
			28	<225	<11250			
			29	<225	<11250			
			30	<225	<11250			
			31	<225	<11250			
			32	<225	<11250			
			33	<225	<11250			
			34	<225	<11250			
			35	<225	<11250			
			36	<225	<11250			
			37	<225	<11250			
			38	<225	<11250			
			39	<225	<11250			
			40	<225	<11250			
16	<225	<11250	41	<225	<11250			
17	<225	<11250	42	<225	<11250			
18	<225	<11250	43	<225	<11250			
19	<225	<11250	44	<225	<11250			
20	<225	<11250	45	<225	<11250			
21	<225	<11250						
22	<225	<11250						
23	<225	<11250						
24	<225	<11250						
25	<225	<11250						

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: D **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 1400 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Scan Area

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): 21
RCT ID #(s): 4

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/FW444-1-D-SC August 29, 2002

98

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	3114
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/13/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	49 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/13/02
Bkg	39 cpmβ	Bkg	42 cpmβ	Bkg	778 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	431 dpmβ

Survey Type: Contamination
Building: 444
Location: Area D WC
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 5/23/02 Time: 1000

[redacted]

PRN/REN # : N/A
Comments: Survey was taken on walls, >2 meters in height and on ceiling where possible. Survey was taken on 5/23/02 and smears were counted on 5/28/02.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	N/A	n/a	n/a	n/a	n/a
2	See map for location	0	0	0	0
3	See map for location	3	0	0	107
4	See map for location	0	32	14	313
5	See map for location	0	12	0	0
6	See map for location	0	16	0	0
7	See map for location	0	8	14	0
8	See map for location	0	8	0	1322
9	See map for location	0	4	14	0
10	See map for location	0	20	18	498
11	See map for location	0	0	0	511

Date Reviewed: 5-29-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	3114
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/13/02
Bkg	0.4 cpmα	Bkg	0.3 cpmα	Bkg	0 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	12 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/13/02
Bkg	38 cpmβ	Bkg	41 cpmβ	Bkg	631 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	389 dpmβ

Survey Type: Contamination
Building: 444
Location: Area D WC
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 5/28/02 Time: 1400

[redacted]

PRN/REN # : N/A
Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	3	0	9	1182
2	N/A	n/a	n/a	0	0
3	N/A	n/a	n/a	0	0
4	N/A	n/a	n/a	0	0
5	N/A	n/a	n/a	0	0
6	N/A	n/a	n/a	0	0
7	N/A	n/a	n/a	0	0
8	N/A	n/a	n/a	0	0
9	N/A	n/a	n/a	0	0
10	N/A	n/a	n/a	0	0
11	N/A	n/a	n/a	0	0
12	See map for location	3	24	14	1130
13	See map for location	3	0	9	75
14	See map for location	0	16	14	772
15	See map for location	0	8	14	925

Date Reviewed: 5-29-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

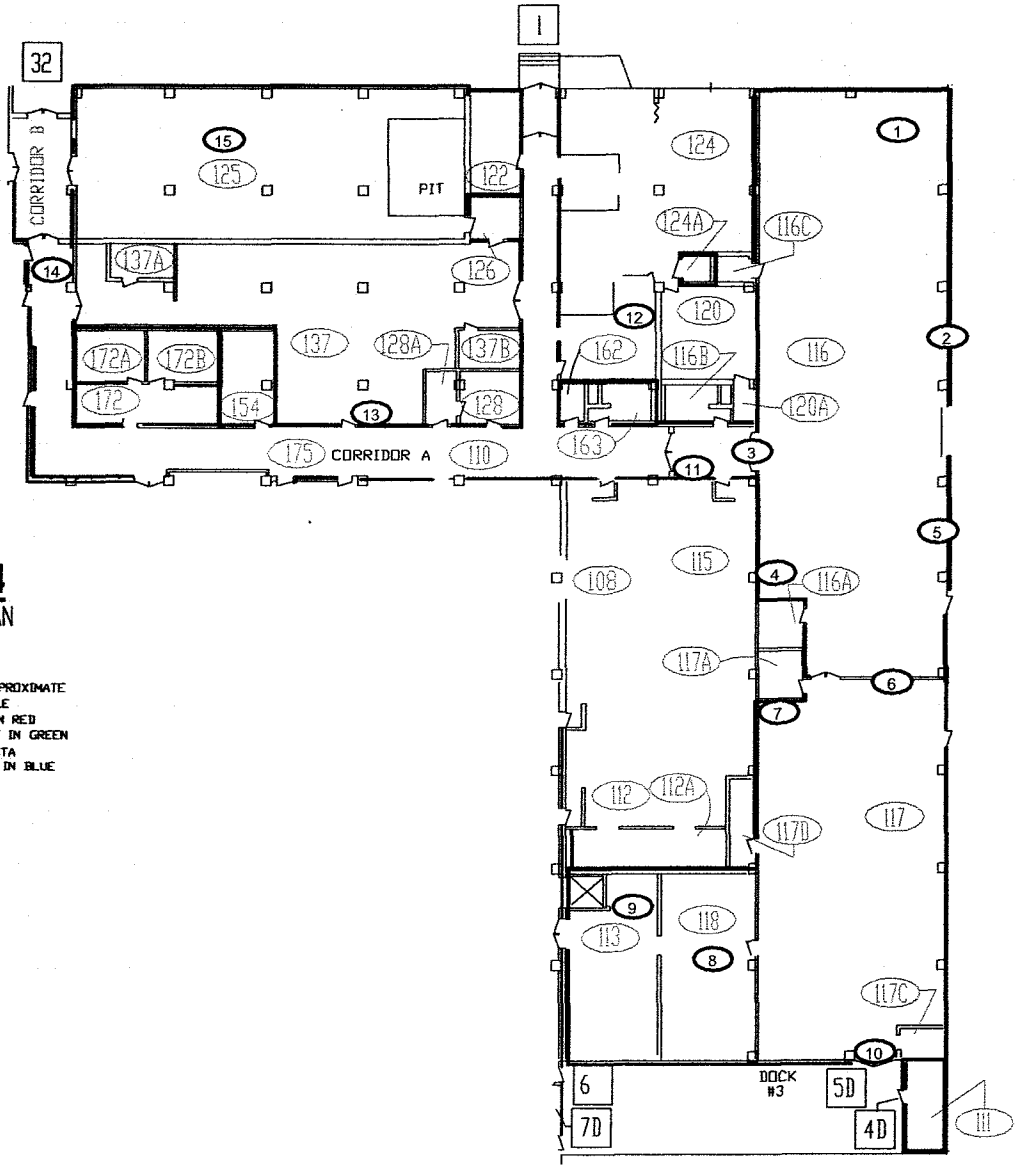
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: D **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 1400 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): 2/12
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 DynCorp THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/CW444-1-D March 2, 2002

03

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1388
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	7/29/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	43 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1388
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	7/29/02
Bkg	39 cpmβ	Bkg	42 cpmβ	Bkg	618 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	362 dpmβ

Survey Type: Contamination
Building: 444
Location: Area D Equipment
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 5/20/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Equipment located in various locations of Area D. Equipment was scanned if 1 minute pat readings were greater than instrument MDA. Location listed on map is approximate.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Exhaust fan grate Rm. 125	0	0	19	0
2	Heat Chamber Rm125	0	0	14	0
3	Crane Control Rm. 125	0	24	19	0
4	Electrical Panel Rm. 125	0	0	9	0
5	Lindberg Furnace Rm. 125	0	0	19	0
6	Miller Welder Rm. 125	3	24	0	0
7	Vapor Blaster Rm. 125	0	0	19	0
8	S & W Furnace Rm. 125	3	16	0	0
9	Air Booth Tray Rm. 137	3	0	0	199
10	Rinse Station Rm. 137	3	24	0	0
11	Hopper Rm. 137 A	0	0	9	0
12	Grit Blaster Rm. 137 A	0	24	14	0
13	Paint Sprayer Arm Rm. 137	0	8	9	0
14	Mellen Furnace Door Rm. 137	0	4	9	0
15	Spray Booth Wall Rm. 137	0	0	19	0
16	Process Waste Sink Rm. 137	0	0	14	0
17	B-Box Hood Door Rm. 137	0	0	14	0
18	Electrical Panel Rm. 137	0	0	23	0
19	Counter Top Rm. 124	0	0	5	0
20	Bookcase Rm. 124	3	4	0	0
21	Radiator Grill Rm. 124	0	8	0	291
22	Pump Charger Rm. 124	0	0	5	55
23	Refrigerator Rm. 162	0	0	9	0
24	Storage Cabinet Rm. 163	0	0	0	138
25	Hallway Shelf Corridor A	0	0	14	547

Date Reviewed: 5-29-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

	Location	
	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250
16	<225	<11250
17	<225	<11250
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250
24	<225	<11250
25	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1445
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	9/8/02
Bkg	0.4 cpmα	Bkg	0.6 cpmα	Bkg	0 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.90 %
MDA	20 dpmα	MDA	20 dpmα	MDA	12 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1445
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	9/8/02
Bkg	39 cpmβ	Bkg	43 cpmβ	Bkg	648 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	375 dpmβ

Survey Type: Contamination
Building: 444
Location: Area D Equipment
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 5/22/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Equipment located in various locations of Area D. Equipment was scanned if 1 minute pat readings were greater than instrument MDA. Location listed on map is approximate.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	JB Crane switch box Rm116	3	8	14	59
27	Topda breaker disconnet box	0	0	23	0
28	Heat grate cover Rm 116	0	28	5	1065
29	Marble Top table Rm 116	0	0	18	1087
30	Crane safety switch Rm 116	0	0	5	0
31	Telephone station booth	0	60	14	0
32	Electrical Panel Rm 116	3	0	9	0
33	480V floor box Rm 117	0	32	5	226
34	Firecabinet Rm 117	0	36	65	0
35	Lighing panel Rm 117	0	12	14	3
36	Safley elec. Dist. Panel	0	0	18	0
37	Blue shelving Rm 118	3	8	14	582
38	Process waste drain shelf	0	12	5	793
39	480V grinder dis. Box Rm118	3	0	5	245
40	Wall power strip Rm 118	0	0	5	1424
41	Handwash station Rm 115	0	0	5	433
42	Locker rm bench legs Rm115	0	36	14	1102
43	Emergency light Rm 115	0	0	18	489
44	Gray shelving Rm 115	0	8	18	375
45	Locker Rm 115	0	36	23	378

Date Reviewed: 5-30-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

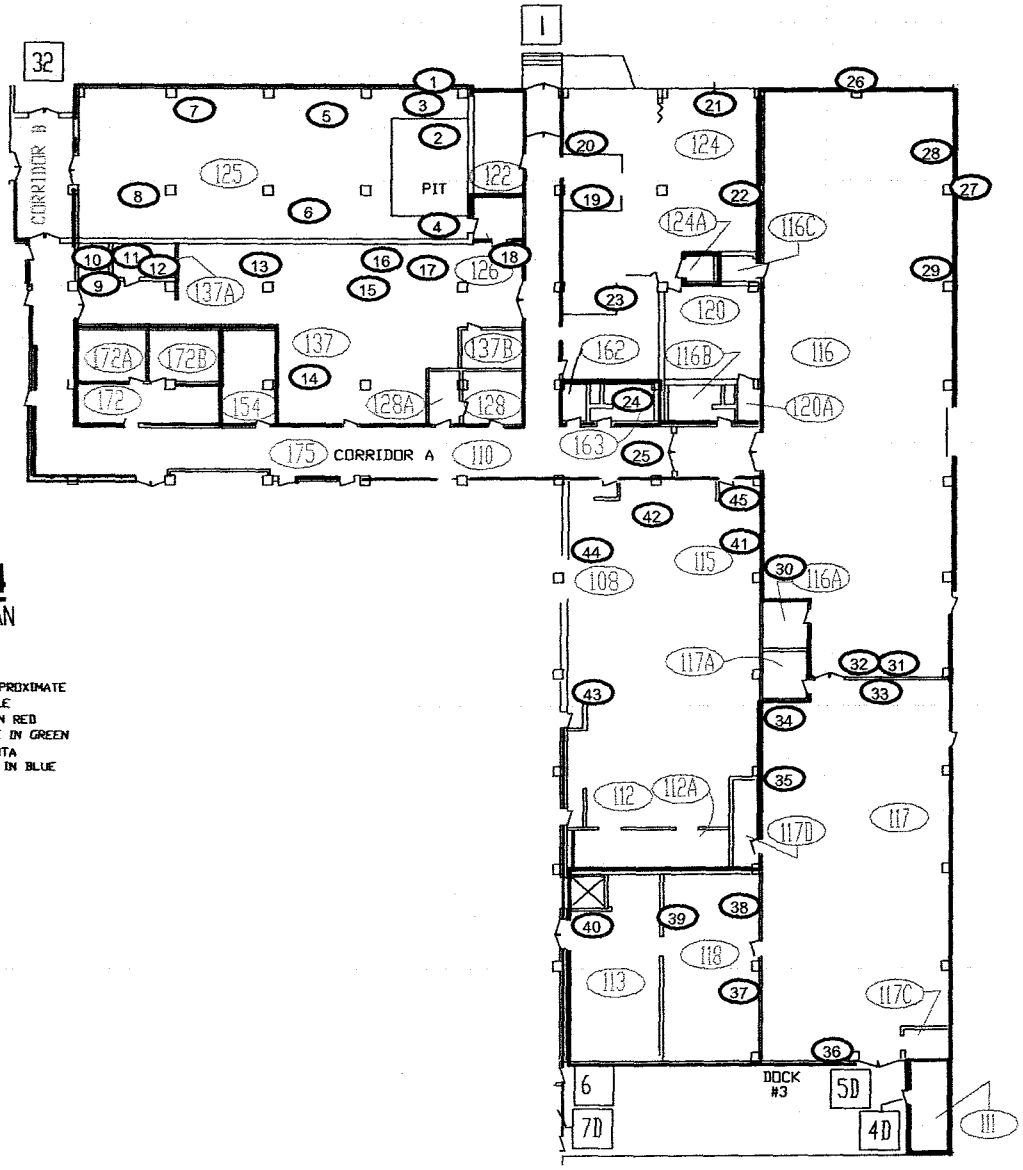
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
26	<225	<11250
27	<225	<11250
28	<225	<11250
29	<225	<11250
30	<225	<11250
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	<11250
35	<225	<11250
36	<225	<11250
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250
41	<225	<11250
42	<225	<11250
43	<225	<11250
44	<225	<11250
45	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: D **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 1400 sq. m.**



BUILDING 444
FIRST FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/EQ444-1-D March 2, 2002

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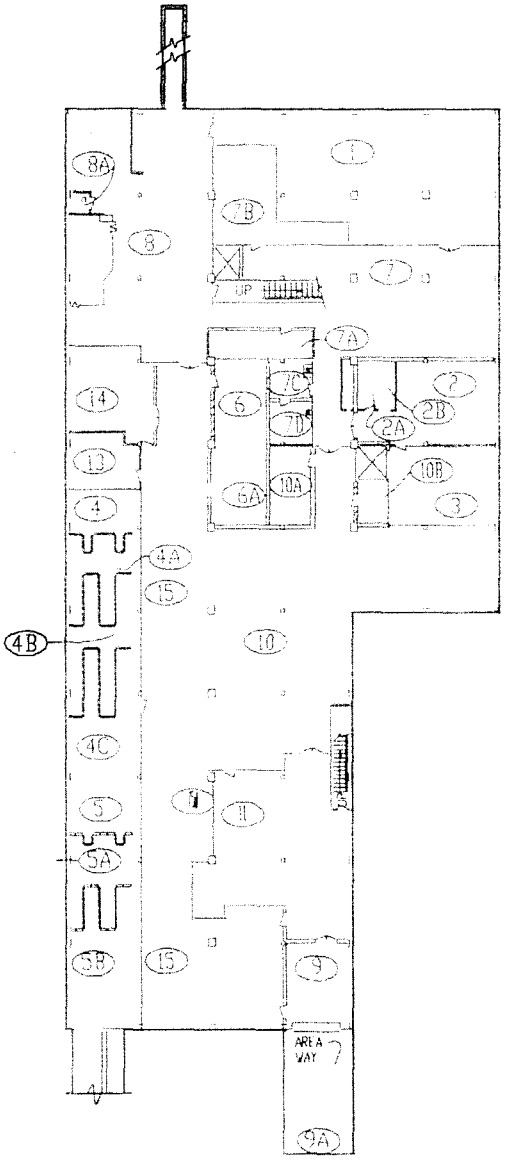
ATTACHMENT C-5

Survey Area E

Radiological Data Summaries and Survey Maps

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: E **Survey Unit: N/A** **Classification: N/A**
Building: 444 Basement
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**



BASEMENT FLOOR PLAN

FLOOR ELEVATION 6011'-0"

BUILDING 444
BASEMENT
FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Survey A = 1500 sq.m.
Survey B = 1400 sq.m.
Survey C = 1200 sq.m.
Survey D = 1400 sq.m.
Survey E = 2200 sq.m.
Survey F = 2400 sq.m.
Survey G = 2200 sq.m.
Survey H = 375 sq.m.
Survey I = 380 sq.m.
Survey J = 280 sq.m.
Survey K = N/A sq. m.
Survey L = 430 sq.m.

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

N

0 FEET 0
0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707 DynCorp THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL

MAP ID: 02-0222/444-2-ECLR August 29, 2002

110

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1156	Serial #	763	Serial #	2344
Cal Due	6/27/02	Cal Due	6/30/02	Cal Due	6/27/02
Bkg	0.6 cpmα	Bkg	0.4 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.00 %
MDA	20 dpmα	MDA	20 dpmα	MDA	44 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	2344
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	6/27/02
Bkg	38 cpmβ	Bkg	41 cpmβ	Bkg	565 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	374 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev 0

Date: 5/14/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: RLC survey of floors and walls < 2meters in height in high traffic areas.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	0	10	673
2	See map for location	15	24	81	1455
3	See map for location	9	24	33	1924
4	See map for location	3	4	33	1954
5	See map for location	0	0	33	2274
6	See map for location	18	60	67	2010
7	See map for location	3	0	19	426
8	See map for location	0	28	24	508
9	See map for location	9	76	38	611
10	See map for location	12	8	38	1630
11	See map for location	0	16	10	201
12	See map for location	15	0	52	1238
13	See map for location	3	12	19	4248
14	See map for location	6	0	62	218
15	See map for location	6	0	29	2779
16	See map for location	6	12	14	640
17	See map for location	3	64	29	809
18	See map for location	9	12	5	1066

N/A

N/A

Date Reviewed: 5-21-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

	Location	
	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250
16	<225	<11250
17	<225	<11250
18	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	1156	Serial #	763	Serial #	1388
Cal Due	6/27/02	Cal Due	6/30/02	Cal Due	7/29/02
Bkg	0.4 cpmα	Bkg	0.5 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	43 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1388
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	7/29/02
Bkg	43 cpmβ	Bkg	45 cpmβ	Bkg	1137 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	488 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev 0

Date: 5/15/02 Time: 1435

[redacted]

PRN/REN # : N/A
Comments: RLC survey of floors and walls < 2meters in height in high traffic areas.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
19	See map for location	9	64	33	706
20	See map for location	3	0	9	0
21	See map for location	18	0	47	1043
22	See map for location	0	19980	28	1765
23	See map for location	3	0	37	0
24	See map for location	9	76	79	8569
25	See map for location	6	0	19	6602
26	See map for location	3	0	23	1150
27	See map for location	9	32	19	3015
28	See map for location	3	16	19	248
29	See map for location	3	0	42	0
30	See map for location	6	32	14	0
31	See map for location	0	0	23	0
32	See map for location	3	0	9	0
33	See map for location	6	8	28	0
34	See map for location	0	28	33	0
35	See map for location	6	0	47	324
36	See map for location	0	0	42	0
37	See map for location	6	0	65	1226
38	See map for location	3	0	19	0
39	See map for location	0	0	14	144
40	See map for location	6	0	23	0

Date Reviewed: 5-21-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

113 **3-PRO-164-RSP-07.01 (effective 7/12/01)**

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ		dpmα	dpmβ		dpmα	dpmβ
			26	<225	<11250			
			27	<225	<11250			
			28	<225	<11250			
			29	<225	<11250			
			30	<225	<11250			
			31	<225	<11250			
			32	<225	<11250			
			33	<225	<11250			
			34	<225	<11250			
			35	<225	<11250			
			36	<225	<11250			
			37	<225	<11250			
			38	<225	<11250			
			39	<225	<11250			
			40	<225	<11250			
19	<225	<11250						
20	<225	<11250						
21	<225	<11250						
22	<225	<11250						
23	<225	<11250						
24	<225	<11250						
25	<225	**15596**						

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1136
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/6/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	34 dpmα

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1136
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/6/02
Bkg	39 cpmβ	Bkg	42 cpmβ	Bkg	714 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.20 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	407 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev 0

Date: 5/17/02 Time: 1100

[redacted]

PRN/REN # : N/A
Comments: RLC survey of floors and walls < 2meters in height in high traffic areas. Smears and 1 minute pats were performed on 5/17/02 and smears were counted on 5/20/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
41	See map for location	3	0	51	1202
42	See map for location	0	12	9	644
43	See map for location	3	28	19	532
44	See map for location	0	52	28	29
45	See map for location	3	0	0	651
46	See map for location	3	28	23	1224
47	See map for location	0	20	5	45
48	See map for location	0	0	19	128
49	See map for location	3	0	33	865
50	See map for location	0	12	0	0

Date Reviewed: 5-21-02 **RS Supervision:** Teresa Thorton [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1136
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/6/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	34 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1136
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/6/02
Bkg	39 cpmβ	Bkg	42 cpmβ	Bkg	714 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.20 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	407 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev 0

Date: 5/17/02 Time: 1100

[redacted]

PRN/REN # : N/A
Comments: RLC survey of floors and walls < 2meters in height in high traffic areas. Smears and 1 minute pats were performed on 5/17/02 and smears were counted on 5/20/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
51	See map for location	6	0	33	519
52	See map for location	0	12	14	0
53	See map for location	9	16	9	641
54	See map for location	3	0	5	619
55	See map for location	3	12	42	833
56	See map for location	0	20	9	0
57	See map for location	3	40	0	1500
58	See map for location	0	36	23	939
59	See map for location	3	61	0	1228
60	See map for location	6	20	28	2772
61	See map for location	0	42	9	353
62	See map for location	6	56	28	1022
63	See map for location	3	0	51	1163
64	See map for location	3	72	23	1593
65	See map for location	9	24	5	830
66	See map for location	24	148	33	708
67	See map for location	3	4	33	1167
68	See map for location	6	44	14	260
69	See map for location	6	48	28	740
70	See map for location	18	44	9	1340

Date Reviewed: 5-21-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

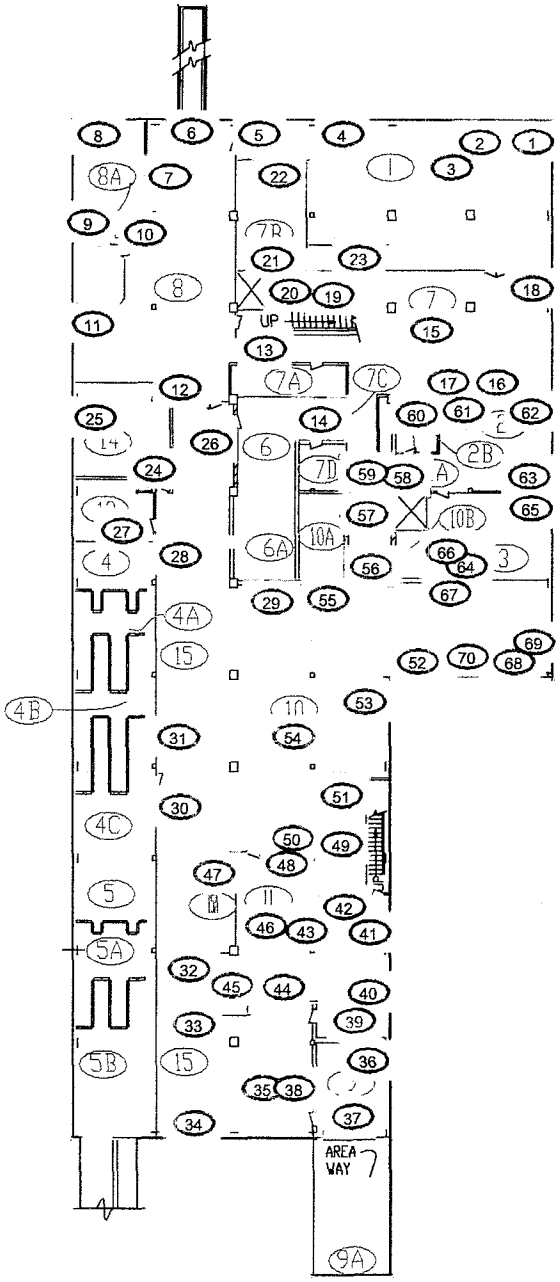
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

dpmα	dpmβ		dpmα	dpmβ		dpmα	dpmβ
					51	<225	<11225
					52	<225	<11225
					53	<225	<11225
					54	<225	<11225
					55	<225	<11225
					56	<225	<11225
					57	<225	<11225
					58	<225	<11225
					59	<225	<11225
					60	<225	<11225
					61	<225	<11225
					62	<225	<11225
					63	<225	<11225
					64	<225	<11225
					65	<225	<11225
		41	<225	<11225	66	<225	<11225
		42	<225	<11225	67	<225	<11225
		43	<225	<11225	68	<225	<11225
		44	<225	<11225	69	<225	<11225
		45	<225	<11225	70	<225	<11225
		46	<225	<11225			
		47	<225	<11225			
		48	<225	<11225			
		49	<225	<11225			
		50	<225	<11225			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: E **Survey Unit: N/A** **Classification: N/A**
Building: 444 Basement
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**



BUILDING 444
BASEMENT FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Scan Area

BASEMENT FLOOR PLAN

FLOOR ELEVATION 6011'-0"

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): 3
RCT ID #(s): 16

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/FW444-2-E-SC August 29, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	3114
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/13/02
Bkg	0.2 cpmα	Bkg	0.2 cpmα	Bkg	0 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	12 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/13/02
Bkg	40 cpmβ	Bkg	44 cpmβ	Bkg	924 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	469 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E WC
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 5/29/02 Time: 1530

[redacted]

PRN/REN # : N/A
Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	76	9	0
2	See map for location	3	12	28	413
3	See map for location	0	0	28	3795
4	See map for location	3	4	28	297
5	See map for location	3	0	14	407
6	See map for location	6	0	14	587
7	See map for location	6	12	18	505
8	See map for location	0	4	18	5596
9	See map for location	0	0	9	457
10	See map for location	0	12	5	0
11	See map for location	3	0	50	353
12	See map for location	0	0	41	1205
13	See map for location	0	20	28	151
14	See map for location	0	12	23	132
15	See map for location	0	0	18	199
16	See map for location	3	56	23	0
17	See map for location	6	0	18	312
18	See map for location	0	12	23	265
19	See map for location	0	0	23	186
20	See map for location	0	0	32	0
21	See map for location	6	0	9	79
22	See map for location	3	0	32	0
23	See map for location	0	28	37	95
24	See map for location	6	0	60	0
25	See map for location	9	24	50	3801

Date Reviewed: 6-3-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

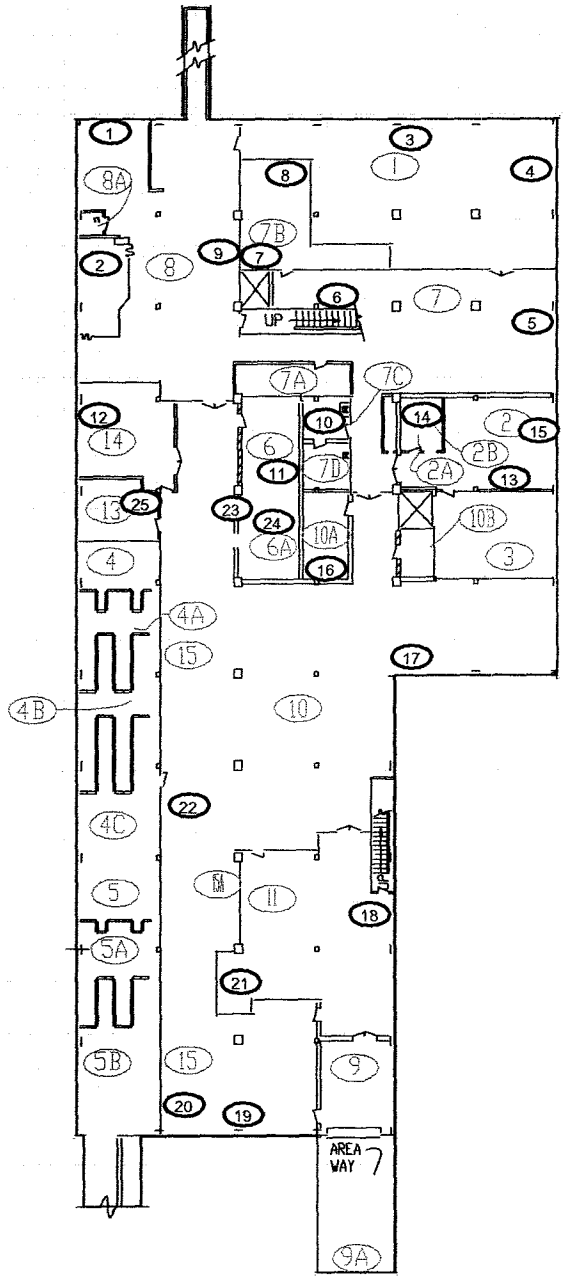
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250
16	<225	<11250
17	<225	<11250
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250
24	<225	<11250
25	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: E **Survey Unit: N/A** **Classification: N/A**
Building: 444 Basement
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**



BUILDING 444
BASEMENT FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

BASEMENT FLOOR PLAN

FLOOR ELEVATION 6011'-0"

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/CW444-2-E March 5, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	3114
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/13/02
Bkg	0.6 cpmα	Bkg	0 cpmα	Bkg	0 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	12 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/13/02
Bkg	39 cpmβ	Bkg	43 cpmβ	Bkg	994 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	486 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E Equipment
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 5/30/02 Time: 1520

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in basement of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Control-flo water heater Rm 1	3	0	14	0
2	Plant air tank Rm 1	3	0	18	0
3	Rotary oil pump Rm1	0	0	9	0
4	Process waste tank Rm 1	3	16	60	124
5	Hose reel Rm 7	3	8	18	0
6	Emergency light Rm 7	0	0	14	0
7	Hose reel Rm 7	0	0	23	0
8	Elect. Panel Box Rm 7	0	56	14	0
9	Elect. Switch box Rm 7	3	8	18	0
10	Fire extinguisher Rm 7	3	0	14	0
11	Orange Hoist Rm 7	3	0	23	3883
12	Fire hose valve Rm 7	3	20	18	505
13	Rollup door Rm 7	6	4	9	0
14	Metal Shelf Rm 7B	6	0	14	0
15	Metal Shelf Rm 7B	0	8	14	0
16	Storage locker Rm 7B	3	0	9	0
17	Metal Shelf Rm 7B	60	264	64	0
18	Metal Shelf Rm 7B	12	20	23	368
19	Elect. Panel Box Rm 8	3	20	5	0
20	Elect. Panel Box Rm 8	0	0	14	0
21	Transformer Rm 8	3	0	5	0
22	Cabinet Rm 8	3	0	32	0
23	Emergency light Rm 8	0	0	9	0

Date Reviewed: 6-4-02 **RS Supervision:** Teresa Johnston /Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250
16	<225	<11250
17	<225	<11250
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	3114
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/13/02
Bkg	0.4 cpmα	Bkg	0.2 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	34 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/13/02
Bkg	39 cpmβ	Bkg	44 cpmβ	Bkg	935 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	472 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E Equipment
Purpose: Reconnaissance Level Characterization
RWP #: 02-444-02 Rev0
Date: 5/31/02 **Time:** 1430

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in basement of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
24	Transformer Rm 8	0	24	32	0
25	Elect. Panel Rm 8A	0	32	23	0
26	Switchbox outside of Rm 6	0	0	28	55
27	Air Duct Rm 14	0	32	18	8111
28	Counter Top Rm 14	3	16	9	4671
29	Hood Rm 14	3	0	37	1485
30	Beast (BE counter) Rm 14	3	0	28	0
31	Elect. Test Panel Rm 13	3	0	23	4329
32	Plenum Duct Rm 13	6	0	28	2336
33	Elect. Equip Rm 10	0	28	23	472
34	Switch Change gear Rm 10	6	0	41	352
35	Drain Pipe Rm 10	0	0	60	0
36	Ladder Holder Rm 10	3	0	14	0
37	Elect. Equip Rm 10	0	56	18	0
38	Transformer Rm 10	15	0	5	0
39	Hose Reel Rm 10	3	0	18	0
40	Hydraulic Tank Rm 10	9	24	18	0
41	B-Box Rm 10	0	0	18	0
42	Transformer Rm 10	3	12	23	0
43	Water pipe (fire dept) Rm 9	0	0	9	0
44	Hood Rm 9	3	0	14	0
45	Shelf Rm 11	6	0	69	3052
46	Phone (Guard) Rm 11	3	0	55	0
47	Air Duct Rm 11	0	0	28	29
48	Bench Top Rm 11	3	28	28	0
49	Process sink Rm 11	0	56	37	0
50	Bench Top Rm 11	3	12	0	0

Date Reviewed: 6-4-02 **RS Supervision:** Teresa Johnston Teresa Johnston
Print Name Signature

[redacted]

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	3114
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/13/02
Bkg	0.4 cpmα	Bkg	0.2 cpmα	Bkg	1 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	34 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	3114
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/13/02
Bkg	39 cpmβ	Bkg	44 cpmβ	Bkg	935 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	472 dpmβ

Survey Type: Contamination
Building: 444
Location: Basement Area E Equipment
Purpose: Reconnaissance Level Characterization
RWP #: 02-444-02 Rev0
Date: 5/31/02 **Time:** 1430

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in basement of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
51	Elect. Panel Rm 10	0	0	9	0
52	Elect. Equip Rm 10	0	0	0	0
53	Belt Guard Rm 10	3	0	46	0
54	Belt Guard Rm 10	0	0	14	0
55	Elect. Equip Rm 10	3	0	18	0
56	Drain Pipe Rm 10	0	72	5	0
57	Elect. Equip Rm 10	3	4	23	0
58	Drain Pipe Rm 10	0	12	0	0
59	Elect. Equip Rm 10	0	24	9	0
60	Conduit Rm 10	3	0	5	0
61	Fire phone Rm 10	3	16	41	0
62	Tank Rm 10	6	0	9	0
63	Elect. Panel Rm 10	0	0	18	0
64	Tower return pipe Rm 10	3	0	37	0
65	Elect. Panel Rm 2	0	4	28	0
66	Test Bench Rm 2	3	0	46	189
67	Air duct Rm 3	0	0	5	0
68	Water pipe Rm 3	3	20	41	0
69	Cabinet Rm 3	3	0	18	0
70	Sink Rm 3	0	0	18	10

Date Reviewed: 6-4-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

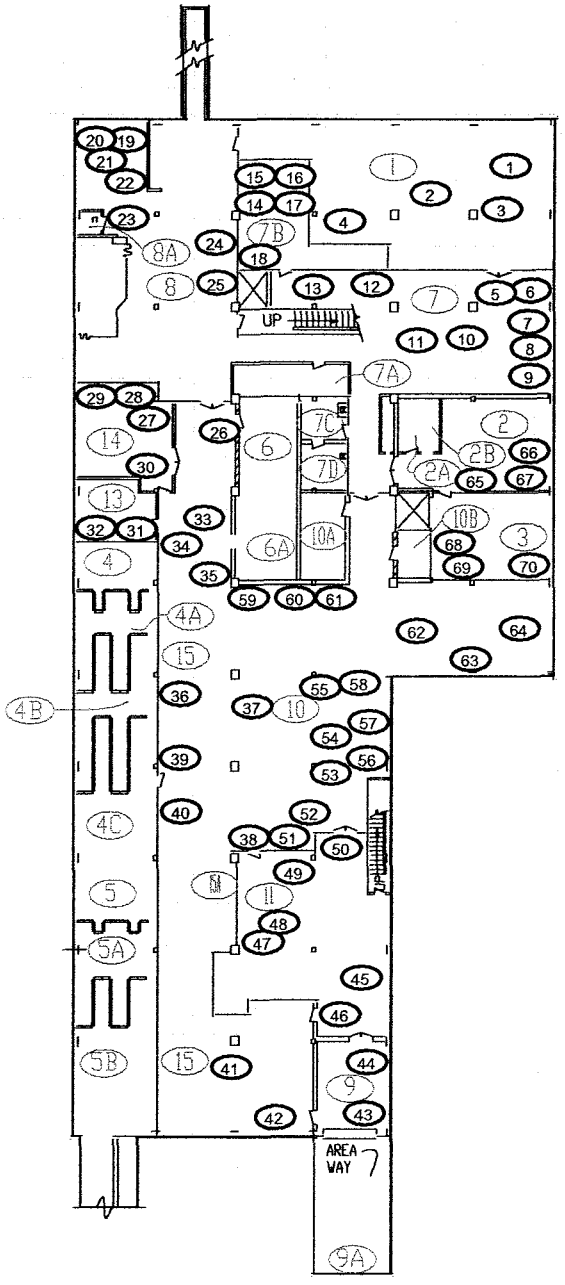
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ		dpmα	dpmβ		dpmα	dpmβ
			26	<225	<11250	51	<225	<11250
			27	<225	<11250	52	<225	<11250
			28	<225	<11250	53	<225	<11250
			29	<225	<11250	54	<225	<11250
			30	<225	<11250	55	<225	<11250
			31	<225	<11250	56	<225	<11250
			32	<225	<11250	57	<225	<11250
			33	<225	<11250	58	<225	<11250
			34	<225	<11250	59	<225	<11250
			35	<225	<11250	60	<225	<11250
			36	<225	<11250	61	<225	<11250
			37	<225	<11250	62	<225	<11250
			38	<225	<11250	63	<225	<11250
			39	<225	<11250	64	<225	<11250
			40	<225	<11250	65	<225	<11250
			41	<225	<11250	66	<225	<11250
			42	<225	<11250	67	<225	<11250
			43	<225	<11250	68	<225	<11250
			44	<225	<11250	69	<225	<11250
			45	<225	<11250	70	<225	<11250
			46	<225	<11250			
			47	<225	<11250			
			48	<225	<11250			
24	<225	<11250	49	<225	<11250			
25	<225	<11250	50	<225	<11250			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: E **Survey Unit: N/A** **Classification: N/A**
Building: 444 Basement
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**



BUILDING 444
BASEMENT
FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

BASEMENT FLOOR PLAN

FLOOR ELEVATION 6011'-0"

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/EQ444-2-E March 5, 2002

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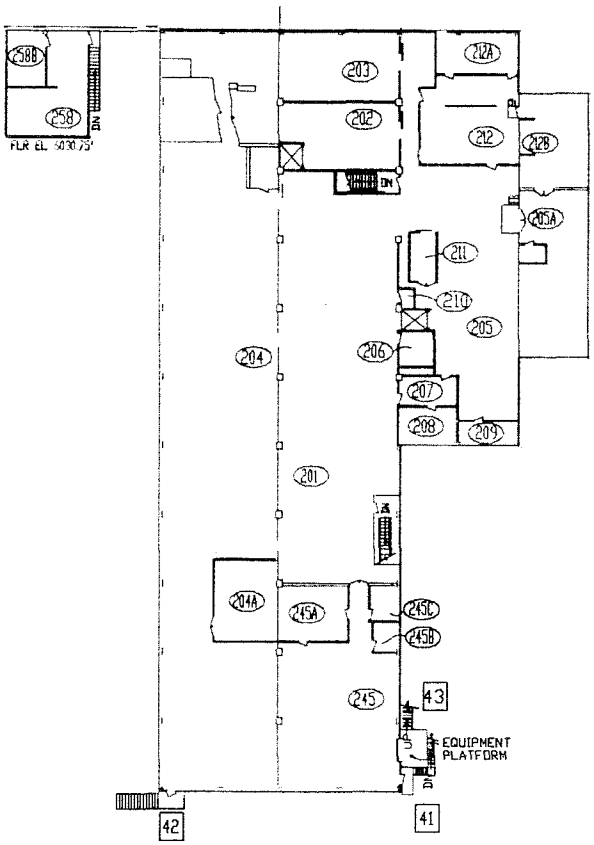
ATTACHMENT C-6

Survey Area F

Radiological Data Summaries and Survey Maps

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: F **Survey Unit: N/A** **Classification: N/A**
Building: 444 Second Floor
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: 2400 sq. m.**



MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6038'-0"

BUILDING 444
SECOND FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

	Survey A = 1500 sq.m.
	Survey B = 1400 sq.m.
	Survey C = 1200 sq.m.
	Survey D = 1400 sq.m.
	Survey E = 2200 sq.m.
	Survey F = 2400 sq.m.
	Survey G = 2200 sq.m.
	Survey H = 375 sq.m.
	Survey I = 380 sq.m.
	Survey J = 280 sq.m.
	Survey K = N/A sq. m.
	Survey L = 430 sq.m.

NORTHWEST MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6037'-0"

SURVEY MAP LEGEND

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

N

0 FEET 0

0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/444-2-FCLR **August 29, 2002**

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1388
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	7/29/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	43 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1388
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	7/29/02
Bkg	47 cpmβ	Bkg	46 cpmβ	Bkg	1040 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	467 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F WF
Purpose: Reconnaissance Level Characterization
RWP #: 02-444-02 Rev0
Date: 6/11/02 **Time:** 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2. Smears were counted on 6/12/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	18	52	391	1875
2	See map for location	9	52	405	9502
3	See map for location	18	56	242	1465
4	See map for location	0	0	9	138
5	See map for location	6	8	558	6664
6	See map for location	123	620	56	0
7	See map for location	33	304	870	6404
8	See map for location	51	333	405	6884
9	See map for location	27	220	270	1190
10	See map for location	6	84	93	0
11	See map for location	18	32	307	1232
12	See map for location	0	48	879	14789
13	See map for location	24	260	47	0
14	See map for location	54	132	335	633
15	See map for location	9	0	23	0
16	See map for location	45	31	1079	15443
17	See map for location	6	0	42	0
18	See map for location	42	220	442	3896
19	See map for location	9	24	260	1177
20	See map for location	6	0	28	0
21	See map for location	18	40	70	1453
22	See map for location	0	0	33	0
23	See map for location	12	28	144	336
24	See map for location	3	28	37	0
25	See map for location	6	36	51	1043

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	**479**	**18110**
2	**462**	**17743**
3	**374**	<11250
4	<225	<11250
5	**758**	<11250
6	<225	<11250
7	**2228**	<11250
8	**1558**	**24569**
9	**544**	<11250
10	<225	<11250
11	**374**	<11250
12	**1344**	**214067**
13	<225	<11250
14	**392**	<11250
15	<225	<11250
16	**1507**	**21480**
17	<225	<11250
18	**586**	<11250
19	**530**	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	**235**	<11250
24	<225	<11250
25	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1381
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	9/28/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	56 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1381
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	9/28/02
Bkg	47 cpmβ	Bkg	46 cpmβ	Bkg	717 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.80 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	388 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/12/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	See map for location	15	0	14	274
27	See map for location	0	16	0	345
28	See map for location	3	0	0	500
29	See map for location	6	52	51	351
30	See map for location	9	80	51	0
31	See map for location	3	8	0	314
32	See map for location	6	0	51	607
33	See map for location	9	52	37	381
34	See map for location	3	0	65	2323
35	See map for location	6	16	0	485
36	See map for location	15	32	28	1345
37	See map for location	9	32	65	2698
38	See map for location	0	0	0	308
39	See map for location	12	48	84	5973
40	See map for location	24	100	79	2274
41	See map for location	48	336	205	8445
42	See map for location	9	28	14	787
43	See map for location	36	236	312	16710
44	See map for location	3	0	0	1524
45	See map for location	42	256	372	4384

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
26	<225	<11250
27	<225	<11250
28	<225	<11250
29	<225	<11250
30	<225	<11250
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	**11890**
35	<225	<11250
36	<225	<11250
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250
41	**2181**	**466463**
42	<225	<11250
43	**260**	**19223**
44	<225	<11250
45	**1967**	**310976**

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1250
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/10/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	0 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	13 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1250
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/10/02
Bkg	47 cpmβ	Bkg	46 cpmβ	Bkg	1489 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	593 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/11/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2. Smears were counted on 6/12/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
46	See map for location	72	264	1252	9088
47	See map for location	9	8	23	0
48	See map for location	39	88	565	22801
49	See map for location	6	28	196	0
50	See map for location	9	784	1042	4173

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Thaxton / [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1250
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/10/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	0 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	13 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1250
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/10/02
Bkg	47 cpmβ	Bkg	46 cpmβ	Bkg	1489 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	593 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/11/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2. Smears were counted on 6/12/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
51	See map for location	6	0	19	0
52	See map for location	9	56	65	0
53	See map for location	3	0	14	0
54	See map for location	9	12	28	0
55	See map for location	9	204	178	0
56	See map for location	18	0	5	0
57	See map for location	12	100	145	0
58	See map for location	12	52	75	0
59	See map for location	0	44	14	0
60	See map for location	15	4	33	0
61	See map for location	9	128	33	0
62	See map for location	9	0	19	0
63	See map for location	3	16	9	0
64	See map for location	21	120	981	5948
65	See map for location	3	36	0	0
66	See map for location	6	0	197	162866
67	See map for location	3	8	5	0
68	See map for location	15	0	37	0
69	See map for location	3	190	56	388
70	See map for location	12	0	14	0
71	See map for location	3	36	9	0
72	See map for location	15	0	0	0
73	See map for location	15	44	37	261
74	See map for location	30	260	430	7261
75	See map for location	78	488	84	0

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston / [signature]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

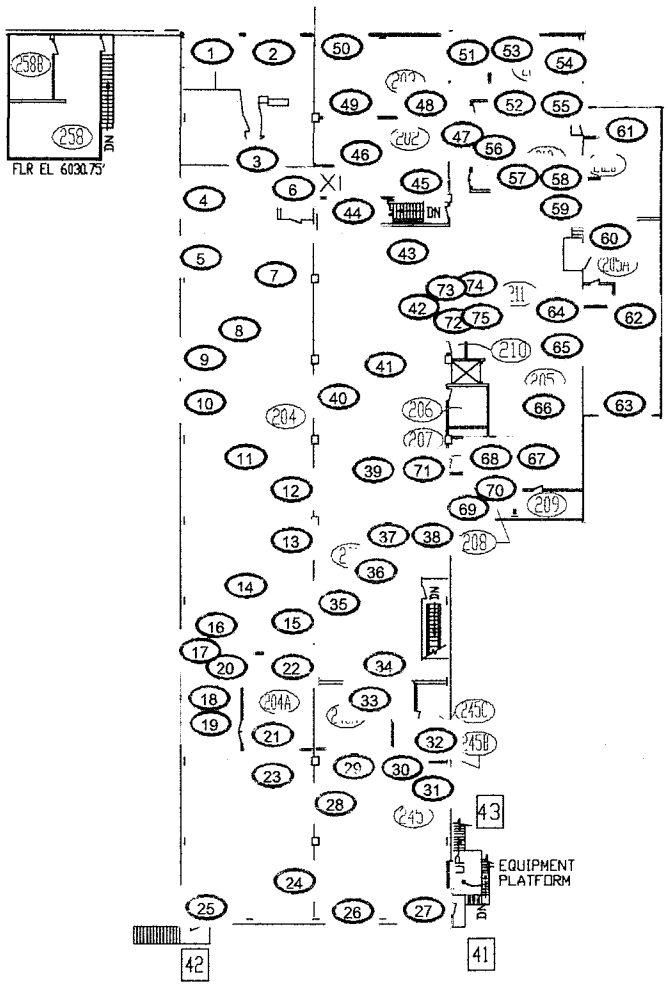
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
46	**1589**	**19544**
47	<225	**14658**
48	**654**	**26059**
49	<225	<11250
50	**2710**	**12052**
51	<225	**14332**
52	<225	<11250
53	<225	<11250
54	<225	<11250
55	**280**	<11250
56	<225	<11250
57	<225	<11250
58	<225	<11250
59	<225	<11250
60	<225	<11250
61	<225	<11250
62	<225	<11250
63	<225	<11250
64	<225	<11250
65	<225	**29316**
66	<225	**1091205**
67	<225	<11250
68	<225	<11250
69	<225	**21173**
70	<225	<11250
71	<225	<11250
72	<225	<11250
73	<225	<11250
74	**701**	**29316**
75	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: F **Survey Unit: N/A** **Classification: N/A**
Building: 444 Second Floor
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 2400 sq. m.**



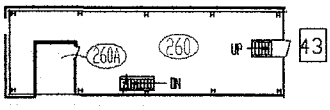
MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6038'-0"

BUILDING 444
SECOND FLOOR PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



NORTHWEST MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6037'-0"

Scan Area

SURVEY MAP LEGEND

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

N

0 FEET 0

0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/FW444-2-F-SC August 29, 2002

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.6 cpmα	Bkg	0.6 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.20 %
MDA	20 dpmα	MDA	20 dpmα	MDA	59 dpmα

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	45 cpmβ	Bkg	47 cpmβ	Bkg	931 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	484 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F WC
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/13/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	3	0	25	0
2	See map for location	0	0	20	913
3	See map for location	0	0	30	97
4	See map for location	6	0	50	254
5	See map for location	0	0	10	0
6	See map for location	3	0	10	0
7	See map for location	0	4	25	50
8	See map for location	6	0	10	171
9	See map for location	3	36	35	0
10	See map for location	0	0	0	54
11	See map for location	3	0	25	391
12	See map for location	3	16	15	164
13	See map for location	0	8	15	43
14	See map for location	0	0	20	0
15	See map for location	0	0	0	0
16	See map for location	0	0	15	0
17	See map for location	0	0	30	0
18	See map for location	15	88	64	0
19	See map for location	6	0	25	819
20	See map for location	18	0	35	391
21	See map for location	0	0	15	0
22	See map for location	6	0	10	0
23	See map for location	9	0	20	0
24	See map for location	3	0	25	856
25	See map for location	0	0	5	0

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Thaston / Teresa Thaston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

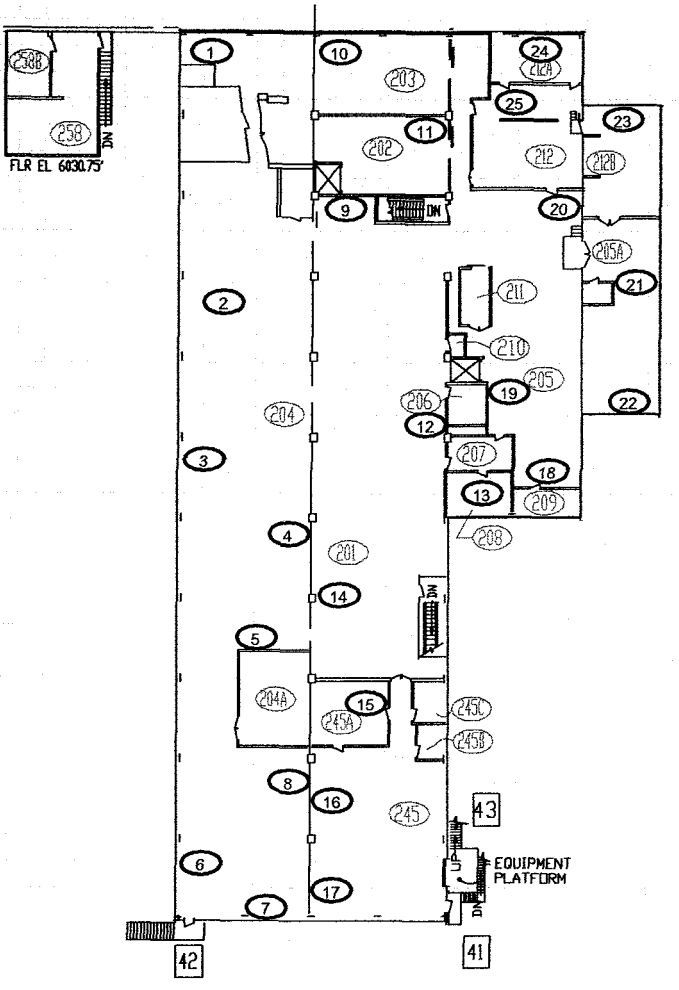
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250
16	<225	<11250
17	<225	<11250
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250
24	<225	<11250
25	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: F **Survey Unit: N/A** **Classification: N/A**
Building: 444 Second Floor
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 2400 sq. m.**



MEZZANINE FLOOR PLAN

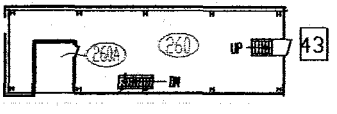
FLOOR ELEVATION 6038'-0"

BUILDING 444

SECOND FLOOR PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



NORTHWEST MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6037'-0"

SURVEY MAP LEGEND

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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707

Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/CW444-2-F January 1, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1250
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/10/02
Bkg	0.6 cpmα	Bkg	0.2 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	43 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1250
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/10/02
Bkg	40 cpmβ	Bkg	44 cpmβ	Bkg	805 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	439 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F Equipment
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/12/02 Time: 1530

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area F of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned. Smears were counted on 6/13/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Tank Rm 204	12	8	28	0
2	Shelves Rm 204	9	8	75	0
3	Vent duct Rm 204	0	0	47	0
4	Control panel Rm 204	12	0	14	0
5	Pump motor Rm 204	15	20	42	0
6	Ladder rack Rm 204	9	0	19	0
7	Rack base I-Beam Rm 204	429	4216	3192	27186
8	Inlet piping Rm 204	6	16	19	0
9	Access door to duct Rm 204	6	156	14	0
10	Work bench Rm 204A	9	32	206	391
11	Inertia welder Rm 204A	15	40	0	0
12	Compressed air dryer Rm 204	0	0	14	0
13	FirePhone Rm 204	0	0	9	0
14	Lighting panel Rm 201	6	24	0	0
15	Air cooler to furnace Rm 201	57	260	178	977
16	Control panel Rm 201	3	0	5	0
17	Top of furnace Rm 201	21	188	98	0
18	Mail box Rm 201	3	24	5	107
19	Pressure gauge stand Rm 201	36	96	70	65
20	Air cooler to furnace Rm 201	27	16	70	0
21	Counter top Rm 201	6	60	84	7
22	Back of control panel Rm 201	3	12	9	0
23	Air cooler to furnace Rm 201	6	116	33	0
24	Ceramic disk Rm 201	33	208	766	11469
25	Top of furnace Rm 201	6	0	33	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	Hose bib Rm 201	3	0	28	0
27	Inlet to plenum Rm 201	3	0	23	0
28	Cabinet floor Rm 201	3	20	14	0
29	Shelf Rm 201	0	0	28	0
30	Shelf Rm 201	30	100	61	0
31	Refridg. Compressor Rm 201	15	16	47	0
32	Alarm panel Rm 245	3	0	5	0
33	Counter top Rm 245A	3	28	0	0
34	Heating tank Rm 245	3	0	19	0
35	Control panel Rm 245	0	0	9	0
36	Alum. Cleaner Rm 245	0	24	0	0
37	Conduit Rm 245	0	0	14	0
38	Pipe on back wall Rm 245	0	0	0	0
39	Fume Hood Rm 245	3	0	23	476
40	Tank Rm 245	3	0	23	0

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ	Location	dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250	31	<225	<11250
7	**2570**	**152443**	32	<225	<11250
8	<225	<11250	33	<225	<11250
9	<225	<11250	34	<225	<11250
10	**561**	<11250	35	<225	<11250
11	<225	<11250	36	<225	<11250
12	<225	<11250	37	<225	<11250
13	<225	<11250	38	<225	<11250
14	<225	<11250	39	<225	<11250
15	<225	<11250	40	<225	<11250
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	**411**	**28984**			
25	<225	<11250			

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1250
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/10/02
Bkg	0.4 cpmα	Bkg	0.5 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	56 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1250
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/10/02
Bkg	51 cpmβ	Bkg	46 cpmβ	Bkg	687 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	406 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F Equipment
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/13/02 Time: 1530

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area F of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned. Smears were counted on 6/14/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
41	Eye wash Rm 245	3	0	14	0
42	Plating bath Rm 245	6	0	9	0
43	Plating bath Rm 245	0	0	14	0
44	Plating bath Rm 245	0	4	0	0
45	Hose bib Rm 245	0	0	19	7
46	Plating bath Rm 245	0	0	23	0
47	Plating bath Rm 245	12	0	14	0
48	Plating bath Rm 245	3	12	19	0
49	Stainless Steel bin Rm 245	0	0	19	0
50	Cabinet Rm 245	3	0	9	0

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1250
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/10/02
Bkg	0.4 cpmα	Bkg	0.5 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	56 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1250
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/10/02
Bkg	51 cpmβ	Bkg	46 cpmβ	Bkg	687 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	406 dpmβ

Survey Type: Contamination
Building: 444
Location: Area F Equipment
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/13/02 Time: 1530

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area F of 444. Locations on equipment that were above investigation limits of 225α and 11250B were scanned. Smears were counted on 6/14/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
51	Small transformer Rm 208	3		9	368
52	Elect. Outlet Rm 208	0		9	0
53	Thermostat Rm 208	0		33	0
54	Panel TP-10 Rm 207	9		0	0
55	Phone alcove Rm 207	3		14	889
56	Counter top Rm 205	9		23	306
57	Towel dispenser Rm 205	6		14	46
58	Drill press Rm 205	12	28	28	463
59	Metal Shelf Rm 205	30	20	430	3417
60	Press Rm 205	63	1348	164	21664
61	Scale Rm 205	0	0	2364	527687
62	Furnace cover Rm 205	105	212	2411	251792
63	480V transformer Rm 205	21	292	664	5870
64	Control panel Rm 205	12	4	47	0
65	Robot controller Rm 205	6	0	9	0
66	Drill press Rm 205	6	0	3112	345277
67	Glovebox Vapor blast Rm 205	3	12	23	0
68	Shelf Rm 205A	9	12	0	0
69	Pegboard Rm 205A	39	256	42	0
70	Back of fume hood Rm 212B	177	540	210	264
71	Inside of fume hood Rm 212B	3	0	33	0
72	Inside storage cab. Rm 212B	30	68	28	0
73	Plating sink Rm 212	0	0	112	3264
74	Fume hood Rm 212A	12	24	19	23
75	Fume hood Rm 212A	0	0	19	65
76	Fume hood Rm 212	9	4	9	218
77	Elect. Panel Rm 205	48	100	229	472
78	Fume hood Rm 203	18	132	257	1277
79	Dryer (Fume hood) Rm 203	0	0	9	0
80	Shelf brace Rm 202	30	80	70	4756

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston /Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

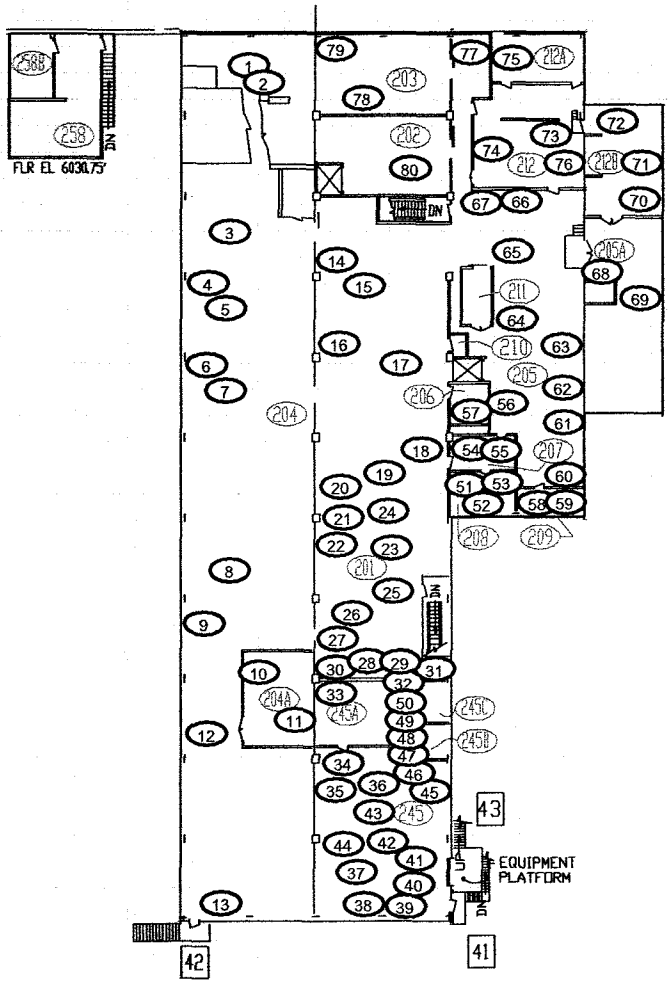
Scan Investigation Sheet

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
41	<225	<11250
42	<225	<11250
43	<225	<11250
44	<225	<11250
45	<225	<11250
46	<225	<11250
47	<225	<11250
48	<225	<11250
49	<225	<11250
50	<225	<11250
51	<225	<11250
52	<225	<11250
53	<225	<11250
54	<225	<11250
55	<225	<11250
56	<225	<11250
57	<225	<11250
58	<225	<11250
59	**368**	<11250
60	<225	**755700**
61	**2528**	**579805**
62	**2710**	**501629**
63	**472**	<11250
64	<225	<11250
65	<225	<11250
66	**4864**	**889251**
67	<225	<11250
68	<225	<11250
69	<225	<11250
70	<225	<11250
71	<225	<11250
72	<225	<11250
73	<225	<11250
74	<225	<11250
75	<225	<11250
76	<225	<11250
77	<225	<11250
78	**350**	<11250
79	<225	<11250
80	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: F **Survey Unit: N/A** **Classification: N/A**
Building: 444 Second Floor
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 2400 sq. m.**



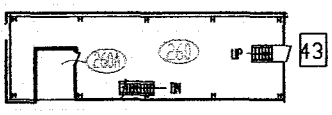
MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6038'-0"

BUILDING 444
SECOND FLOOR PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW, MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



NORTHWEST MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6037'-0"

SURVEY MAP LEGEND

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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/EQ444-2-F March 5, 2002

14 6

ATTACHMENT C-7

Survey Area G

Radiological Data Summaries and Survey Maps

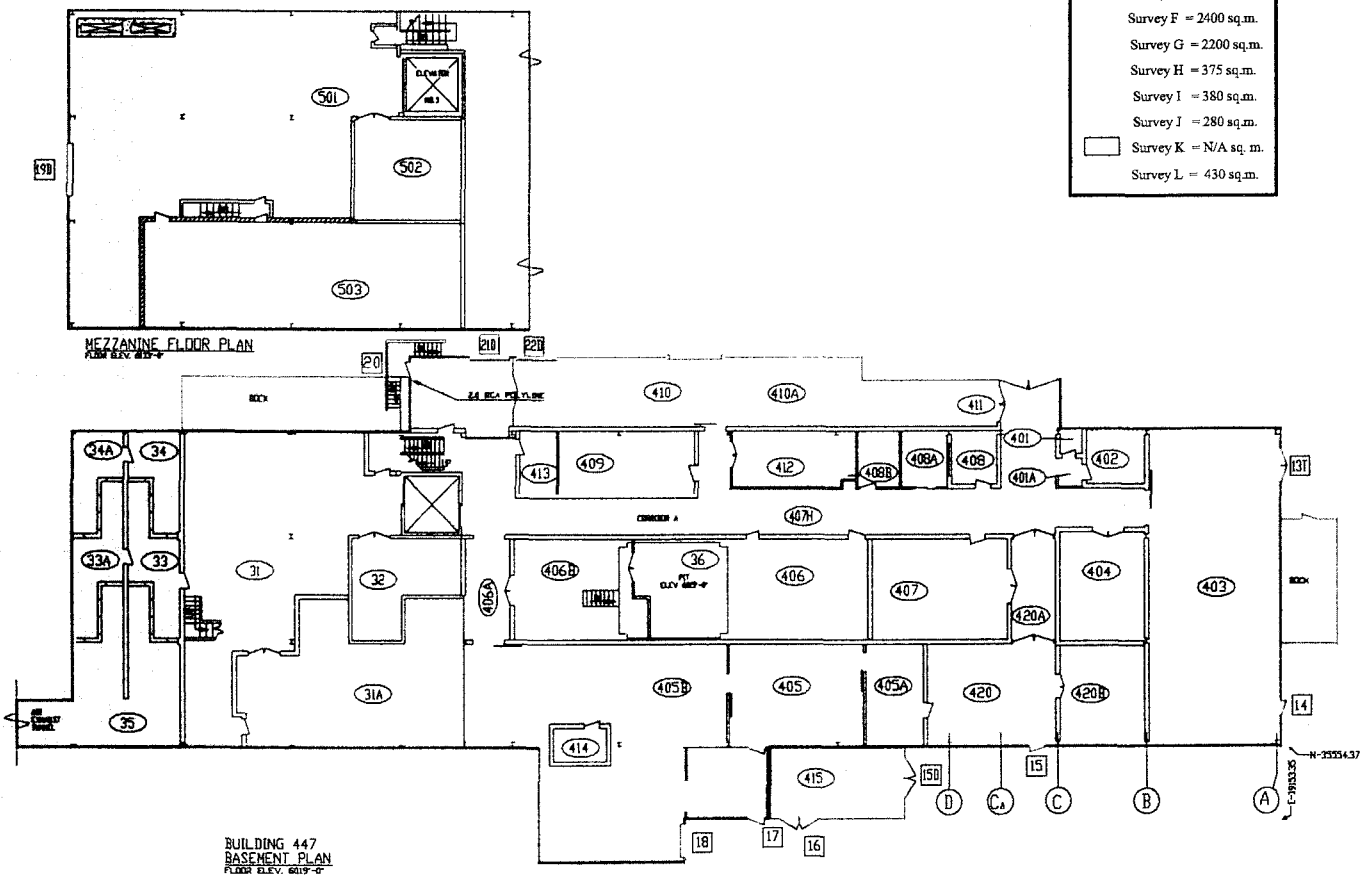
RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: G **Survey Unit: N/A** **Classification: N/A**
Building: 447
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**

BUILDING 447
FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

Survey A = 1500 sq.m.
Survey B = 1400 sq.m.
Survey C = 1200 sq.m.
Survey D = 1400 sq.m.
Survey E = 2200 sq.m.
Survey F = 2400 sq.m.
Survey G = 2200 sq.m.
Survey H = 375 sq.m.
Survey I = 380 sq.m.
Survey J = 280 sq.m.
Survey K = N/A sq. m.
Survey L = 430 sq.m.



SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/447-GCLR August 29, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	8 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.20 %
MDA	20 dpmα	MDA	20 dpmα	MDA	79 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	41 cpmβ	Bkg	45 cpmβ	Bkg	594 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	388 dpmβ

Survey Type: Contamination
Building: 447
Location: Area G WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/17/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2. Smears counted on 06-18-02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	9	4	25	201
2	See map for location	0	0	15	1926
3	See map for location	3	68	35	4033
4	See map for location	0	12	3282	242809
5	See map for location	6	4	20	0

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Thorton [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

447 AREA G WF

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	**11706**
4	**5475**	**765886**
5	<225	<11250
~~6~~	~~<225~~	~~<11250~~

7.10.02

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1260
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/27/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	48 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1260
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/27/02
Bkg	41 cpmβ	Bkg	45 cpmβ	Bkg	714 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	386 dpmβ

Survey Type: Contamination
Building: 447
Location: Area G WF
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-02 Rev0

Date: 6/17/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2. Smears counted on 06-18-02.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
6	See map for location	0	4	71	7353
7	See map for location	0	0	40	365
8	See map for location	9	48	36	1040
9	See map for location	3	44	13	0
10	See map for location	9	24	31	2061
11	See map for location	3	0	36	1064
12	See map for location	3	24	18	0
13	See map for location	6	16	22	2049
14	See map for location	3	16	36	2426
15	See map for location	3	16	102	3930
16	See map for location	0	8	13	0
17	See map for location	3	8	36	0
18	See map for location	3	12	49	2179
19	See map for location	3	0	31	3024
20	See map for location	0	8	40	3951
21	See map for location	3	68	44	82
22	See map for location	6	0	9	0
23	See map for location	0	16	0	845
24	See map for location	6	0	9	0
25	See map for location	3	48	27	0
26	See map for location	3	8	40	1492
27	See map for location	3	28	40	2055
28	See map for location	3	4	13	0
29	See map for location	3	12	44	5322
30	See map for location	3	24	22	207
31	See map for location	0	12	27	219
32	See map for location	3	0	18	699
33	See map for location	3	4	53	4112
34	See map for location	6	16	31	973
35	See map for location	3	16	13	158

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

447 Area G WF Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
6	<225	25532
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250
11	<225	<11250
12	<225	<11250
13	<225	<11250
14	<225	<11250
15	<225	<11250
16	<225	<11250
17	<225	<11250
18	<225	<11250
19	<225	<11250
20	<225	<11250
21	<225	<11250
22	<225	<11250
23	<225	<11250
24	<225	<11250
25	<225	<11250
26	<225	<11250
27	<225	<11250
28	<225	<11250
29	<225	<11250
30	<225	<11250
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	<11250
35	<225	<11250

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1260
Cal Due	11/30/02	Cal Due	6/30/02	Cal Due	8/27/02
Bkg	0.6 cpmα	Bkg	0.3 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	53 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1260
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/27/02
Bkg	37 cpmβ	Bkg	45 cpmβ	Bkg	605 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	356 dpmβ

Survey Type: Contamination
Building: 447
Location: Area G WF 36-70
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/18/02 Time: 1230

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
36	See Map for Locations	0	28	44	2468
37	See Map for Locations	0	0	18	1884
38	See Map for Locations	15	52	36	1204
39	See Map for Locations	0	69	18	4091
40	See Map for Locations	0	48	178	7426
41	See Map for Locations	6	0	27	310
42	See Map for Locations	12	40	36	4219
43	See Map for Locations	0	44	58	2921
44	See Map for Locations	6	36	40	2921
45	See Map for Locations	12	56	111	3422
46	See Map for Locations	6	4	62	760
47	See Map for Locations	0	16	164	23723
48	See Map for Locations	0	4	84	3489
49	See Map for Locations	15	68	27	0
50	See Map for Locations	6	0	62	3812

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston /Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1260
Cal Due	11/30/02	Cal Due	6/30/02	Cal Due	8/27/02
Bkg	0.6 cpmα	Bkg	0.3 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.50 %
MDA	20 dpmα	MDA	20 dpmα	MDA	53 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1260
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/27/02
Bkg	37 cpmβ	Bkg	45 cpmβ	Bkg	605 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	32.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	356 dpmβ

Survey Type: Contamination
Building: 447
Location: Area G WF 36-70
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/18/02 Time: 1230

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
51	See Map for Locations	3	0	102	3948
52	See Map for Locations	9	0	40	5474
53	See Map for Locations	0	40	471	7894
54	See Map for Locations	3	12	151	3991
55	See Map for Locations	0	0	40	1669
56	See Map for Locations	3	20	18	0
57	See Map for Locations	6	0	4	1954
58	See Map for Locations	3	0	84	5237
59	See Map for Locations	3	8	27	1486
60	See Map for Locations	3	52	27	0
61	See Map for Locations	6	12	80	3334
62	See Map for Locations	6	8	49	2237
63	See Map for Locations	12	96	382	12377
64	See Map for Locations	3	24	129	5353
65	See Map for Locations	24	96	36	3517
66	See Map for Locations	3	52	40	945
67	See Map for Locations	3	8	53	5632
68	See Map for Locations	3	16	40	6252
69	See Map for Locations	12	0	44	5198
70	See Map for Locations	6	76	67	1404

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston /Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

447 Area G WF 36-70 Reconnaissance Level Characterization

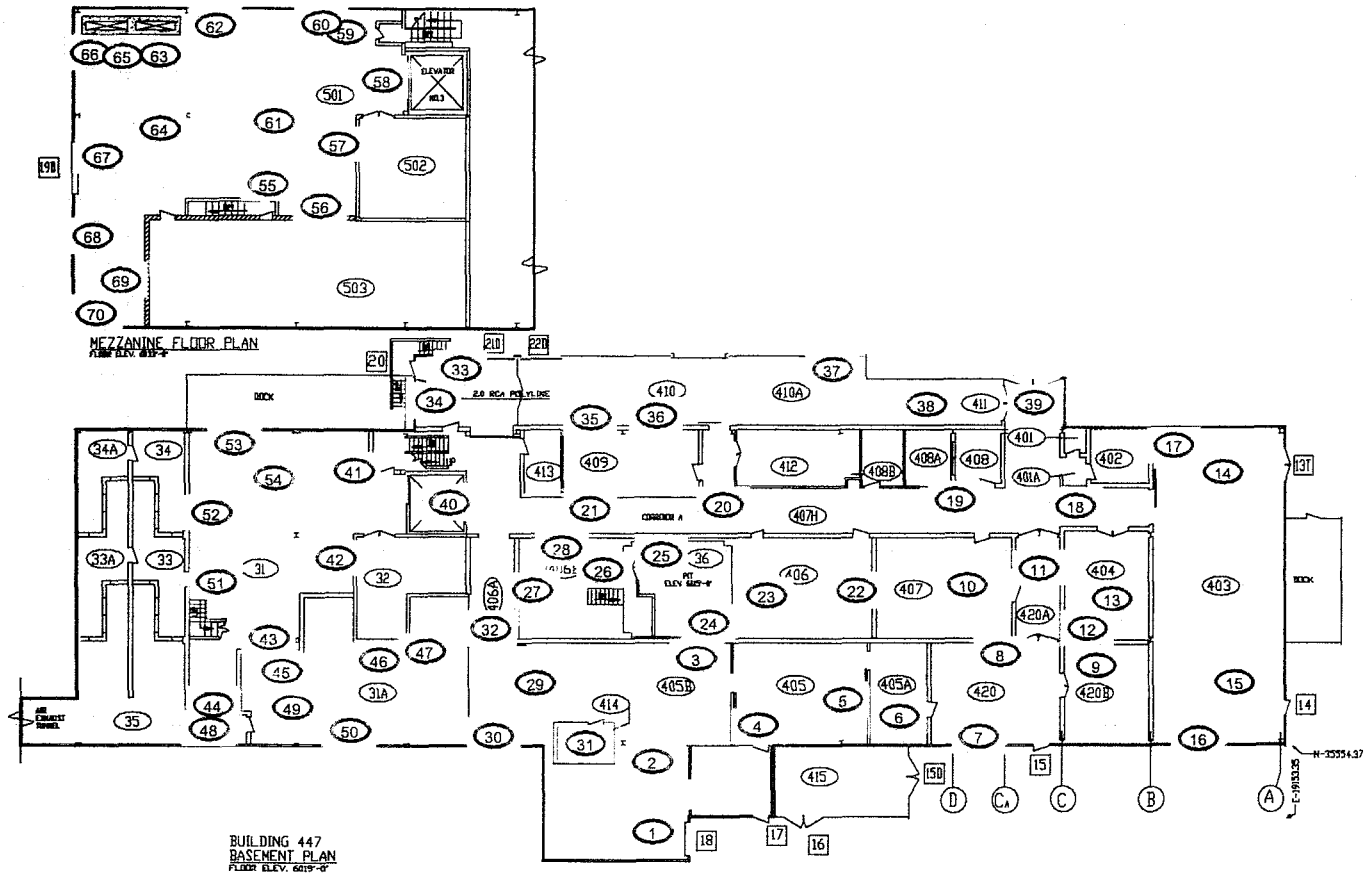
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
36	<225	<11250
37	<225	<11250
38	<225	<11250
39	<225	**17280**
40	<225	<11250
41	<225	<11250
42	<225	<11250
43	<225	<11250
44	<225	**15836**
45	<225	<11250
46	<225	<11250
47	**299**	**39514**
48	<225	<11250
49	<225	<11250
50	<225	**11307**
51	<225	<11250
52	<225	<11250
53	**471**	<11250
54	<225	<11250
55	<225	<11250
56	<225	<11250
57	<225	<11250
58	<225	<11250
59	<225	<11250
60	<225	<11250
61	<225	<11250
62	<225	<11250
63	<225	**19453**
64	<225	<11250
65	<225	<11250
66	<225	<11250
67	<225	<11250
68	<225	<11250
69	<225	**17325**
70	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: G **Survey Unit: N/A** **Classification: N/A**
Building: 447
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**

BUILDING 447
FLOOR PLAN



NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

Scan Area

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

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

N

0 FEET 0
0 METERS 0

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER HILL COMPANY

MAP ID: 02-0222/FW447-G-SC August 29, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1513
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/23/02
Bkg	0.6 cpmα	Bkg	0.3 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	43 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1513
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/23/02
Bkg	37 cpmβ	Bkg	45 cpmβ	Bkg	702 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.20 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	417 dpmβ

Survey Type: Contamination
Building: 447
Location: Area G WC
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/19/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See Map for Location	9	36	28	1599
2	See Map for Location	3	44	18	2060
3	See Map for Location	6	20	46	3950
4	See Map for Location	3	12	37	1500
5	See Map for Location	3	20	37	1781
6	See Map for Location	0	8	37	1523
7	See Map for Location	0	0	32	2248
8	See Map for Location	3	12	46	1742
9	See Map for Location	0	16	32	1219
10	See Map for Location	3	76	37	1930
11	See Map for Location	0	48	55	1265
12	See Map for Location	3	32	46	1480
13	See Map for Location	6	40	37	2295
14	See Map for Location	24	48	32	1695
15	See Map for Location	6	36	32	1348
16	See Map for Location	0	28	73	1513
17	See Map for Location	3	0	41	2464
18	See Map for Location	0	8	32	2169
19	See Map for Location	0	0	18	5682
20	See Map for Location	0	16	9	2354
21	See Map for Location	6	20	46	3344
22	See Map for Location	6	28	23	1858
23	See Map for Location	3	0	14	4000
24	See Map for Location	3	0	50	3348
25	See Map for Location	0	20	41	2285

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

447 Area G WC Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A
6	N/A	N/A
7	N/A	N/A
8	N/A	N/A
9	N/A	N/A
10	N/A	N/A
11	N/A	N/A
12	N/A	N/A
13	N/A	N/A
14	N/A	N/A
15	N/A	N/A
16	N/A	N/A
17	N/A	N/A
18	N/A	N/A
19	N/A	N/A
20	N/A	N/A
21	N/A	N/A
22	N/A	N/A
23	N/A	N/A
24	N/A	N/A
25	N/A	N/A

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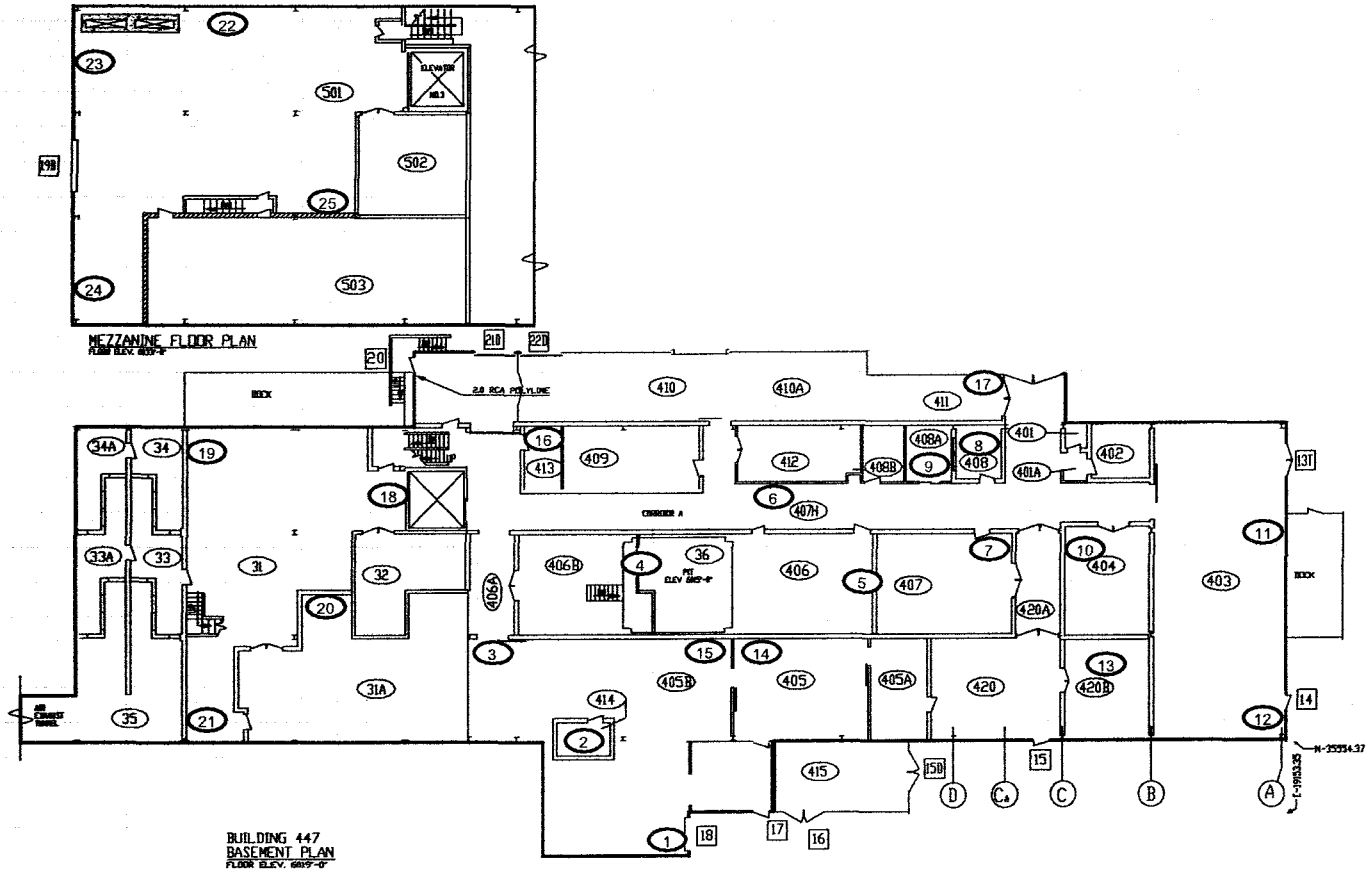
RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: G **Survey Unit: N/A** **Classification: N/A**
Building: 447
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**

BUILDING 447
FLOOR PLAN



NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/CW447-G March 2, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1513
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/23/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	49 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1513
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/23/02
Bkg	41 cpmβ	Bkg	45 cpmβ	Bkg	720 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.20 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	422 dpmβ

Survey Type: Contamination
Building: 447
Location: Area G Equipment
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/18/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area G of 447. Locations on equipment that were above investigation limits of 225α and 11250B were scanned. Smears were counted on 6/18/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	House Vacuum	3	12	606	17348
2	Roll up door	6	0	32	3377
3	Electric Motor	6	88	46	2483
4	S.S. Pen	3	12	9	1934
5	Counter Top	3	340	23	0
6	Transformer	3	8	14	0
7	Gauge Panel	3	56	32	291
8	Piping	3	8	46	1530
9	Piping	6	0	46	76
10	Guard Telephone	3	56	50	0
11	RCRA Tank	12	100	514	2166
12	Condensate Pump	9	0	92	0
13	Electric Panels	3	0	9	0
14	Bottle Rack	12	24	174	371
15	Control Panel	0	24	14	172
16	Tank	3	24	5	0
17	Electric Switch box	12	0	5	2212
18	S.S. Tank	0	0	50	66
19	Ladder rack	3	0	55	0
20	fire phone	3	8	41	0
21	Recharger	3	16	64	0
22	Electric Cabinet	9	0	23	0
23	Electric Panels	6	40	14	0
24	Electric Panels	6	32	32	0
25	Waer Fountain	0	28	23	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	Hepa Vacuum	6	16	32	831
27	Duct	3	0	28	0
28	Furnace	6	40	5	0
29	Temp. Recorder	0	32	23	0
30	AC	0	28	14	0
31	Hydrolix Tank	3	56	28	0
32	Electric Box	0	8	0	0
33	Electron Beam Welder	0	4	5	0
34	Lathe Table	3	0	5	0
35	Control Panel	9	36	0	0
36	Vent Duct	0	28	9	0
37	Electric Box	0	0	28	0
38	Compressor	15	52	14	0
39	Control Panel	0	69	23	0
40	Furnace	0	48	23	0
41	Power Supply	6	0	5	0
42	Drill press	12	40	23	0
43	Process waste sink	0	44	50	99
44	Hood	6	36	50	0
45	Autoclave	12	56	5	0
46	Control Panel	6	4	28	0
47	Counter Top	0	16	9	0
48	Leak Detector	0	4	5	0
49	Sink	15	68	32	4596
50	Hood	6	0	14	0

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston /Teresa Johnston [redacted]
Print Name Signature

Page 1 of 3

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1513
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/23/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	49 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1513
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/23/02
Bkg	41 cpmβ	Bkg	45 cpmβ	Bkg	720 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.20 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	422 dpmβ

Survey Type: Contamination
Building: 447
Location: Area G Equipment
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/18/02 Time: 1500

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area G of 447. Locations on equipment that were above investigation limits of 225α and 11250B were scanned. Smears were counted on 6/18/02

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
51	Grit Blaster Glovebox	3	0	32	0
52	Air Dryer	9	0	46	0
53	VacuBlast	0	40	18	0
54	AutoClave	3	12	9	0
55	Control Panel	0	0	32	0
56	AutoClave	3	20	555	0
57	Tank	6	0	14	0
58	AutoClave	3	0	41	0
59	Pump	3	8	46	2056
60	Hood	3	52	32	0
61	A.C.	6	12	37	0
62	Press	6	8	37	0
63	Shelf	12	96	587	7159
64	Hood	3	24	119	248
65	B-Box	24	96	294	1616
66	Tank	3	52	23	0
67	TableTop	3	8	0	0
68	Switchbox	3	16	5	0
69	Pipe	12	0	9	0
70	I-Beam	6	76	32	0
71					
72					
73					
74					
75					

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

447 Area G Equipment Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

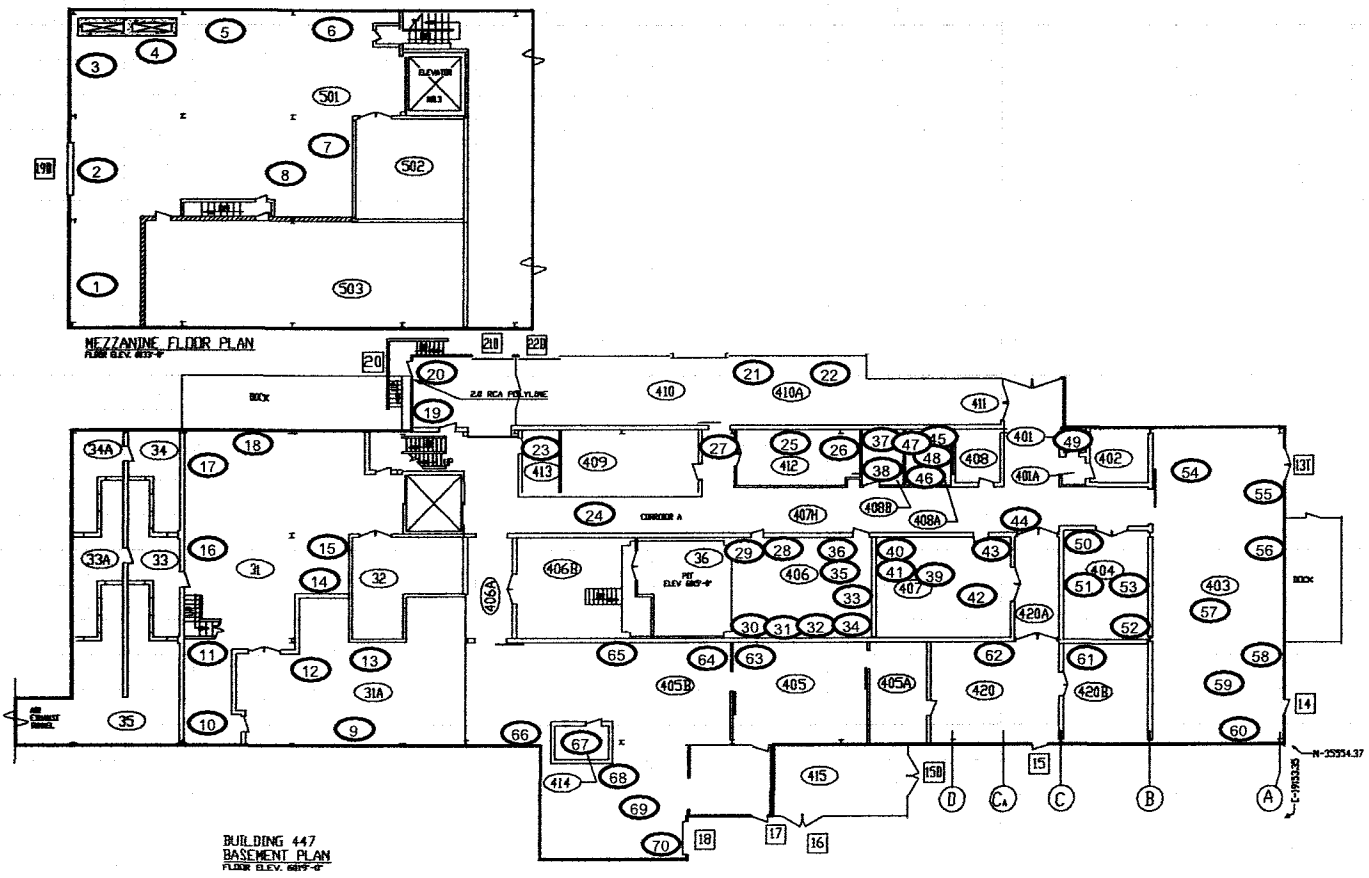
Location

	dpmα	dpmβ		dpmα	dpmβ		dpmα	dpmβ
1	**1087**	**38411**	26	n/a	n/a	51	n/a	n/a
2	n/a	n/a	27	n/a	n/a	52	n/a	n/a
3	n/a	n/a	28	n/a	n/a	53	n/a	n/a
4	n/a	n/a	29	n/a	n/a	54	n/a	n/a
5	n/a	n/a	30	n/a	n/a	55	n/a	n/a
6	n/a	n/a	31	n/a	n/a	56	n/a	n/a
7	n/a	n/a	32	n/a	n/a	57	n/a	n/a
8	n/a	n/a	33	n/a	n/a	58	n/a	n/a
9	n/a	n/a	34	n/a	n/a	59	n/a	n/a
10	n/a	n/a	35	n/a	n/a	60	n/a	n/a
11	**451**	n/a	36	n/a	n/a	61	n/a	n/a
12	n/a	n/a	37	n/a	n/a	62	n/a	n/a
13	n/a	n/a	38	n/a	n/a	63	**1638**	**15513**
14	n/a	n/a	39	n/a	n/a	64	n/a	n/a
15	n/a	n/a	40	n/a	n/a	65	n/a	**56291**
16	n/a	n/a	41	n/a	n/a	66	n/a	n/a
17	n/a	n/a	42	n/a	n/a	67	n/a	n/a
18	n/a	n/a	43	n/a	n/a	68	n/a	n/a
19	n/a	n/a	44	n/a	n/a	69	n/a	n/a
20	n/a	n/a	45	n/a	n/a	70	n/a	n/a
21	n/a	n/a	46	n/a	n/a			
22	n/a	n/a	47	n/a	n/a			
23	n/a	n/a	48	n/a	n/a			
24	n/a	n/a	49	n/a	n/a			
25	n/a	n/a	50	n/a	n/a			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: G **Survey Unit: N/A** **Classification: N/A**
Building: 447
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 2200 sq. m.**

BUILDING 447
FLOOR PLAN



NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/EQ447-G March 2, 2002

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ATTACHMENT C-8

Survey Area H

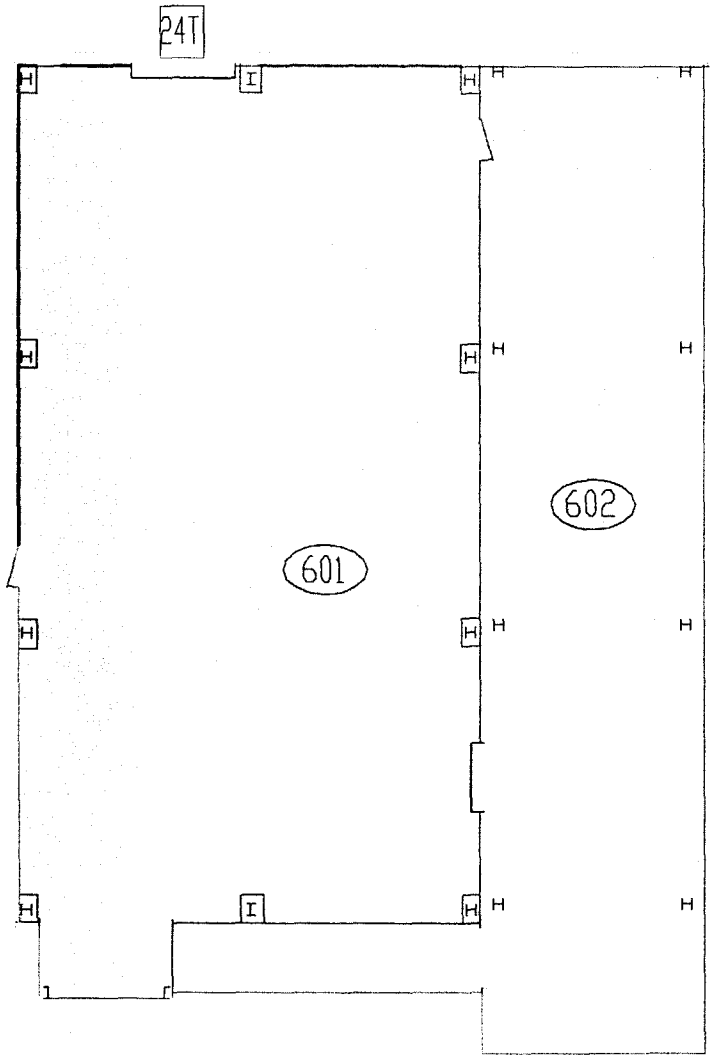
Radiological Data Summaries and Survey Maps

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: H **Survey Unit: N/A** **Classification: N/A**
Building: 448
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: 373 sq. m.**

BUILDING 448
FLOOR PLAN
FLOOR ELEV 6025'-0"

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA



Survey A = 1500 sq.m.
Survey B = 1400 sq.m.
Survey C = 1200 sq.m.
Survey D = 1400 sq.m.
Survey E = 2200 sq.m.
Survey F = 2400 sq.m.
Survey G = 2200 sq.m.
Survey H = 375 sq.m.
Survey I = 380 sq.m.
Survey J = 280 sq.m.
Survey K = N/A sq. m.
Survey L = 430 sq.m.

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

N

0 FEET 0
0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707 DynCorp THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL

MAP ID: 02-0222/448-HCLR August 29, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1249
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/5/02
Bkg	0.4 cpmα	Bkg	0.5 cpmα	Bkg	5 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.70 %
MDA	20 dpmα	MDA	20 dpmα	MDA	63 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1249
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/5/02
Bkg	40 cpmβ	Bkg	45 cpmβ	Bkg	415 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	33.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	289 dpmβ

Survey Type: Contamination
Building: 448
Location: Area H WF 1-30
Purpose: Reconnaissance Level Characterization
RWP #: N/A
Date: 6/19/02 Time: 1300

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See Map for Location	6	0	14	1507
2	See Map for Location	0	0	14	320
3	See Map for Location	3	0	53	1448
4	See Map for Location	3	0	63	1641
5	See Map for Location	15	0	29	418
6	See Map for Location	6	32	0	1846
7	See Map for Location	3	16	39	326
8	See Map for Location	0	16	0	1852
9	See Map for Location	0	0	5	1878
10	See Map for Location	3	0	10	234
11	See Map for Location	3	0	5	1944
12	See Map for Location	9	36	0	1418
13	See Map for Location	9	20	24	1223
14	See Map for Location	6	36	19	1677
15	See Map for Location	3	16	5	519
16	See Map for Location	3	0	19	1359
17	See Map for Location	3	0	14	208
18	See Map for Location	0	24	5	573
19	See Map for Location	9	0	5	1249
20	See Map for Location	3	0	0	2024
21	See Map for Location	3	20	0	608
22	See Map for Location	3	0	24	1917
23	See Map for Location	0	0	0	1050
24	See Map for Location	6	8	5	1786
25	See Map for Location	3	0	5	276

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	See Map for Location	3	0	10	1748
27	See Map for Location	0	40	0	626
28	See Map for Location	6	8	39	2196
29	See Map for Location	0	28	0	1715
30	See Map for Location	0	0	0	1104

Date Reviewed: 7-8-02 **RS Supervision:** Teresa Thaxton / Teresa Thaxton
Print Name Signature

[redacted]

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

448 | Area H WF 1-30 | Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

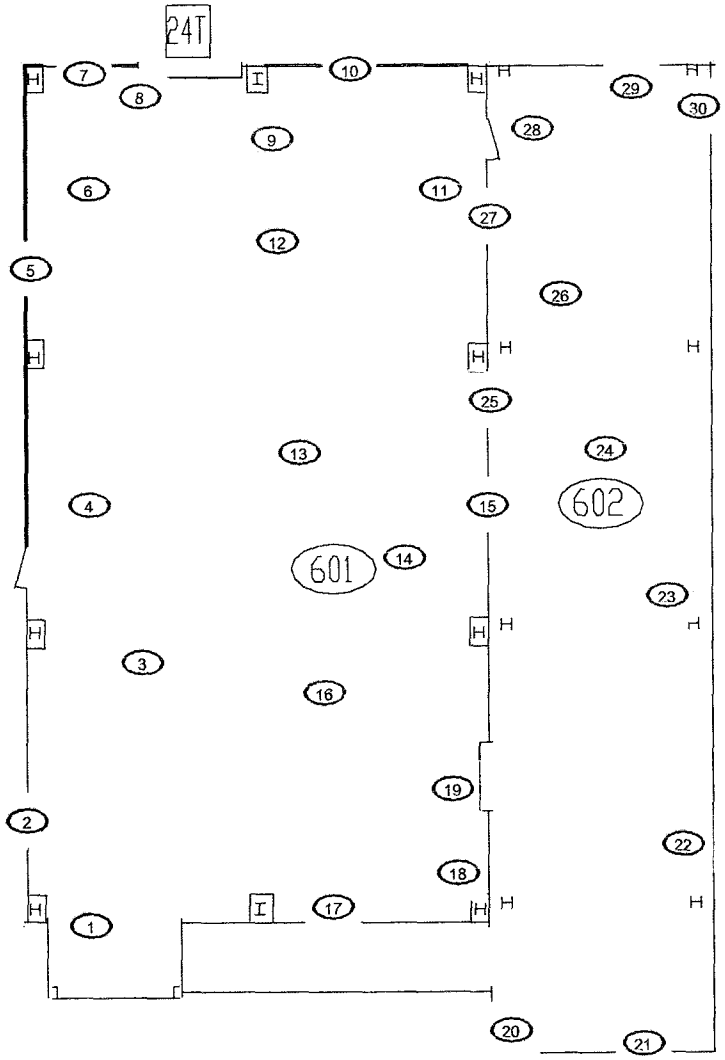
	dpmα	dpmβ		dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	<225	<11250			
11	<225	<11250			
12	<225	<11250			
13	<225	<11250			
14	<225	<11250			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: H **Survey Unit: N/A** **Classification: N/A**
Building: 448
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 373 sq. m.**

BUILDING 448
FLOOR PLAN

FLOOR ELEV 6025'-0"



Scan Area

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/FW448-H-SC August 29, 2002

168

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1513
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/23/02
Bkg	0.4 cpmα	Bkg	0.5 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	43 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1513
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/23/02
Bkg	40 cpmβ	Bkg	45 cpmβ	Bkg	702 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.20 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	417 dpmβ

Survey Type: Contamination
Building: 448
Location: Area H WC 1-10
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/19/02 Time: 1300

[redacted]

PRN/REN # : N/A
Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See Map for Locations	3	0	50	1546
2	See Map for Locations	0	24	41	1530
3	See Map for Locations	9	72	32	1344
4	See Map for Locations	0	0	18	1500
5	See Map for Locations	3	8	18	1699
6	See Map for Locations	6	4	32	1503
7	See Map for Locations	0	28	46	1381
8	See Map for Locations	0	0	23	2050
9	See Map for Locations	3	0	28	1454
10	See Map for Locations	9	0	41	1460

Date Reviewed: 7-8-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

448 Area H WC 1-10 Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

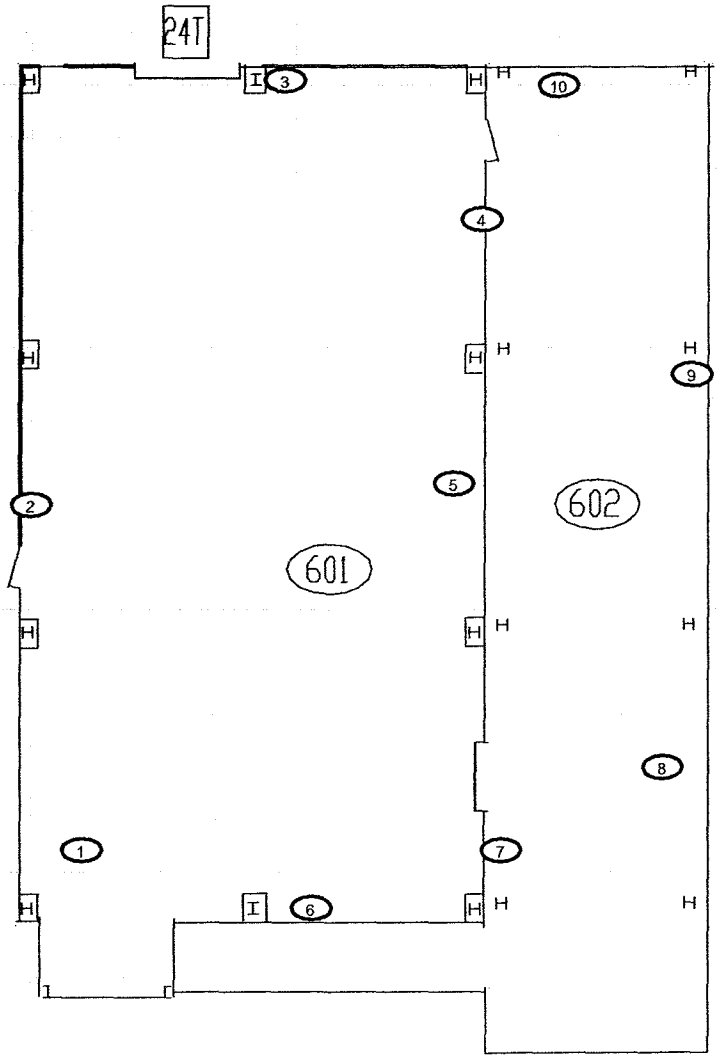
Location

	dpmα	dpmβ
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A
6	N/A	N/A
7	N/A	N/A
8	N/A	N/A
9	N/A	N/A
10	N/A	N/A

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: H **Survey Unit: N/A** **Classification: N/A**
Building: 448
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 373 sq. m.**

BUILDING 448
FLOOR PLAN
FLOOR ELEV 6025'-0"



NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

SURVEY MAP LEGEND
- (#) Smear & TSA Location
- (#) Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): n/a
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/CW448-H

March 2, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	N/A	Serial #	N/A	Serial #	1379
Cal Due	N/A	Cal Due	N/A	Cal Due	11/20/02
Bkg	N/A cpmα	Bkg	N/A cpmα	Bkg	2 cpmα
Efficiency	N/A %	Efficiency	N/A %	Efficiency	20.40 %
MDA	N/A dpmα	MDA	N/A dpmα	MDA	46 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	N/A	Serial #	N/A	Serial #	1379
Cal Due	N/A	Cal Due	N/A	Cal Due	11/20/02
Bkg	N/A cpmβ	Bkg	N/A cpmβ	Bkg	800 cpmβ
Efficiency	N/A %	Efficiency	N/A %	Efficiency	29.40 %
MDA	N/A dpmβ	MDA	N/A dpmβ	MDA	457 dpmβ

Survey Type: Contamination
Building: 448
Location: Area H Equip 1-22
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/20/02 Time: 1300

[redacted]

PRN/REN # : N/A
Comments: Twenty-two one minute pats were done on this day with no swipes.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Alarm Pull Box	N/A	N/A	25	0
2	Bell Control Panel	N/A	N/A	5	0
3	Electric Plug Box	N/A	N/A	39	0
4	TPI Electric Box	N/A	N/A	39	0
5	TPII Electric Box	N/A	N/A	29	0
6	Floor Ramp	N/A	N/A	20	0
7	Electric Box	N/A	N/A	29	0
8	Steel Cage Pole	N/A	N/A	54	0
9	Electric Box	N/A	N/A	25	0
10	Door Heater Switch Box	N/A	N/A	20	0
11	Swamp Cooler Switch	N/A	N/A	25	0
12	Guard Phone	N/A	N/A	152	0
13	Fire Dept. Water Main	N/A	N/A	34	0
14	Door Heater	N/A	N/A	29	0
15	Cork Board	N/A	N/A	20	0
16	Swamp Cooler Switch	N/A	N/A	34	0
17	Fire Extinguisher	N/A	N/A	10	0
18	Fire Phone	N/A	N/A	34	0
19	Door Alarm Box	N/A	N/A	64	0
20	Door Handle	N/A	N/A	78	0
21	Electric Box	N/A	N/A	34	0
22	Stand Up Table	N/A	N/A	34	0

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston / Teresa Johnston
Print Name Signature

[redacted]

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

448 Area H Equip 1-22 Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A
6	N/A	N/A
7	N/A	N/A
8	N/A	N/A
9	N/A	N/A
10	N/A	N/A
11	N/A	N/A
12	N/A	N/A
13	N/A	N/A
14	N/A	N/A
15	N/A	N/A
16	N/A	N/A
17	N/A	N/A
18	N/A	N/A
19	N/A	N/A
20	N/A	N/A
21	N/A	N/A
22	N/A	N/A

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1682
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/16/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	10 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.70 %
MDA	20 dpmα	MDA	20 dpmα	MDA	80 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1682
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/16/02
Bkg	44 cpmβ	Bkg	41 cpmβ	Bkg	532 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.80 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	346 dpmβ

Survey Type: Contamination
Building: 448
Location: Area H Equip 23-30
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/24/02 Time: 0900

[redacted]

PRN/REN # : N/A
Comments: The first twenty-two total contamination readings are on a previous survey done on 06-20-02.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Alarm Pull Box	0	28	N/A	N/A
2	Bell Control Panel	3	0	N/A	N/A
3	Electric Plug Box	9	8	N/A	N/A
4	TPI Electric Box	0	0	N/A	N/A
5	TPII Electric Box	9	20	N/A	N/A
6	Floor Ramp	3	0	N/A	N/A
7	Electric Box	3	20	N/A	N/A
8	Steel Cage Pole	0	0	N/A	N/A
9	Electric Box	0	16	N/A	N/A
10	Door Heater Switch Box	0	12	N/A	N/A
11	Swamp Cooler Switch	6	44	N/A	N/A
12	Guard Phone	3	44	N/A	N/A
13	Fire Dept. Water Main	0	0	N/A	N/A
14	Door Heater	3	0	N/A	N/A
15	Cork Board	3	44	N/A	N/A
16	Swamp Cooler Switch	3	0	N/A	N/A
17	Fire Extinguisher	0	0	N/A	N/A
18	Fire Phone	6	0	N/A	N/A
19	Door Alarm Box	6	0	N/A	N/A
20	Door Handle	9	36	N/A	N/A
21	Electric Box	9	8	N/A	N/A
22	Stand Up Table	3	20	N/A	N/A
23	Electric Box Plug	0	48	0	0
24	Thermostat	3	16	0	0
25	Electric Access Box Blank	6	4	14	0
26	Fire Extinguisher	3	0	0	0
27	Cooler Switch	3	0	0	0
28	Electric Box Plug	6	0	55	462
29	Cooler Switch	15	0	0	0
30	Light Switch	0	32	0	0

Date Reviewed: 7-10-02 **RS Supervision:** Tara Johnston / [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

448 Area H Equip 23-30 Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

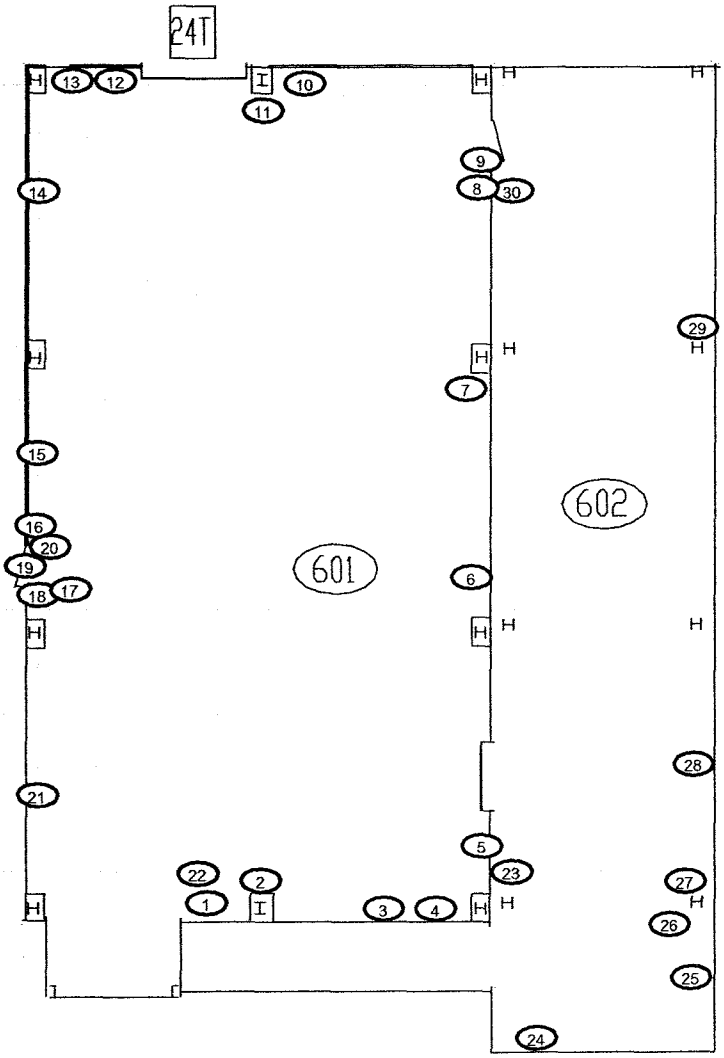
Location	dpmα	dpmβ
23	N/A	N/A
24	N/A	N/A
25	N/A	N/A
26	N/A	N/A
27	N/A	N/A
28	N/A	N/A
29	N/A	N/A
30	N/A	N/A

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: H **Survey Unit: N/A** **Classification: N/A**
Building: 448
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 373 sq. m.**

BUILDING 448
FLOOR PLAN

FLOOR ELEV 6025'-0"



NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

SURVEY MAP LEGEND

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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): n/a
RCT ID #(s): 14

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/EQ448-H

March 2, 2002

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ATTACHMENT C-9

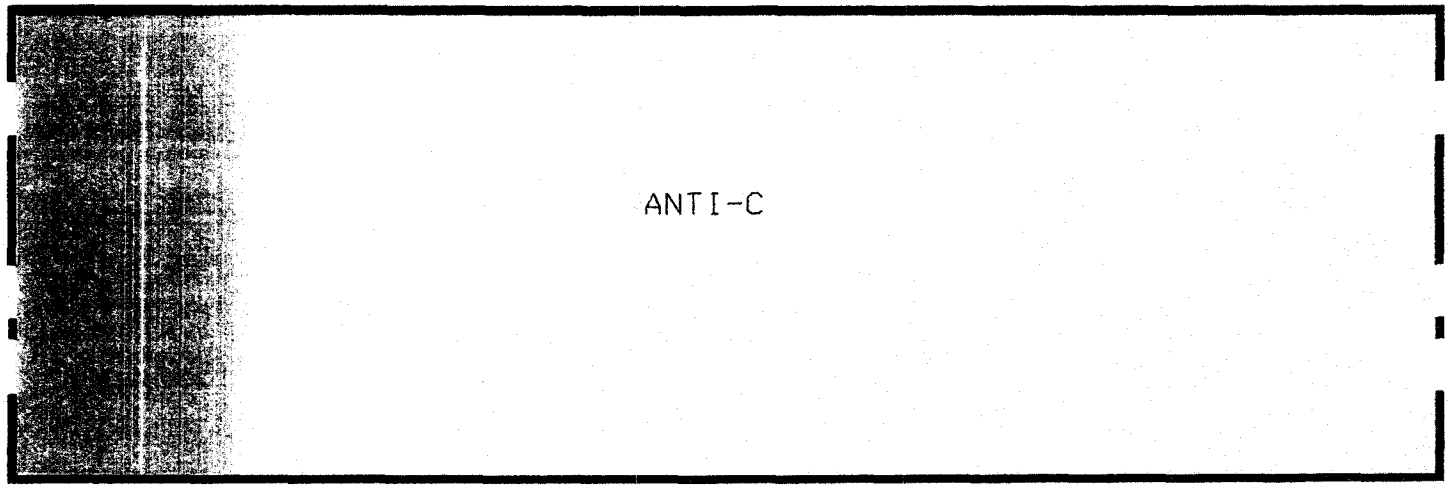
Survey Area I

Radiological Data Summaries and Survey Maps

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: I **Survey Unit: N/A** **Classification: N/A**
Building: 450
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: 378 sq. m.**

BUILDING 450
FLOOR PLAN



Survey A	= 1500 sq.m.	Survey G	= 2200 sq.m.
Survey B	= 1400 sq.m.	Survey H	= 375 sq.m.
Survey C	= 1200 sq.m.	Survey I	= 380 sq.m.
Survey D	= 1400 sq.m.	Survey J	= 280 sq.m.
Survey E	= 2200 sq.m.	Survey K	= N/A sq. m.
Survey F	= 2400 sq.m.	Survey L	= 430 sq.m.

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

SURVEY MAP LEGEND

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

N

0 FEET 0

0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/450-ICLR August 29, 2002

178

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1260
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/27/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	41 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1260
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/27/02
Bkg	42 cpmβ	Bkg	47 cpmβ	Bkg	599 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.50 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	395 dpmβ

Survey Type: Contamination
Building: 450
Location: Area I WF 1-30
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/27/02 Time: 0900

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See Map for Locations	0	8	0	0
2	See Map for Locations	0	0	79	2803
3	See Map for Locations	6	0	193	2044
4	See Map for Locations	0	0	96	0
5	See Map for Locations	3	0	39	1722
6	See Map for Locations	0	0	18	0
7	See Map for Locations	3	8	79	1346
8	See Map for Locations	0	0	18	0
9	See Map for Locations	0	0	114	2332
10	See Map for Locations	0	0	154	3044
11	See Map for Locations	6	8	39	1746
12	See Map for Locations	3	44	136	2034
13	See Map for Locations	6	4	0	1403
14	See Map for Locations	0	0	79	0
15	See Map for Locations	6	8	39	2034
16	See Map for Locations	0	0	79	1885
17	See Map for Locations	0	16	79	0
18	See Map for Locations	3	0	39	0
19	See Map for Locations	3	0	79	1461
20	See Map for Locations	3	0	0	1942
21	See Map for Locations	6	0	39	1895
22	See Map for Locations	0	0	18	0
23	See Map for Locations	6	0	154	1125
24	See Map for Locations	0	0	154	1953
25	See Map for Locations	12	0	57	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	See Map for Locations	3	0	79	1515
27	See Map for Locations	0	20	154	1529
28	See Map for Locations	0	0	136	1678
29	See Map for Locations	9	0	211	2895
30	See Map for Locations	3	0	57	0

Date Reviewed: 7-12-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

450 | Area I WF 1-30 | Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

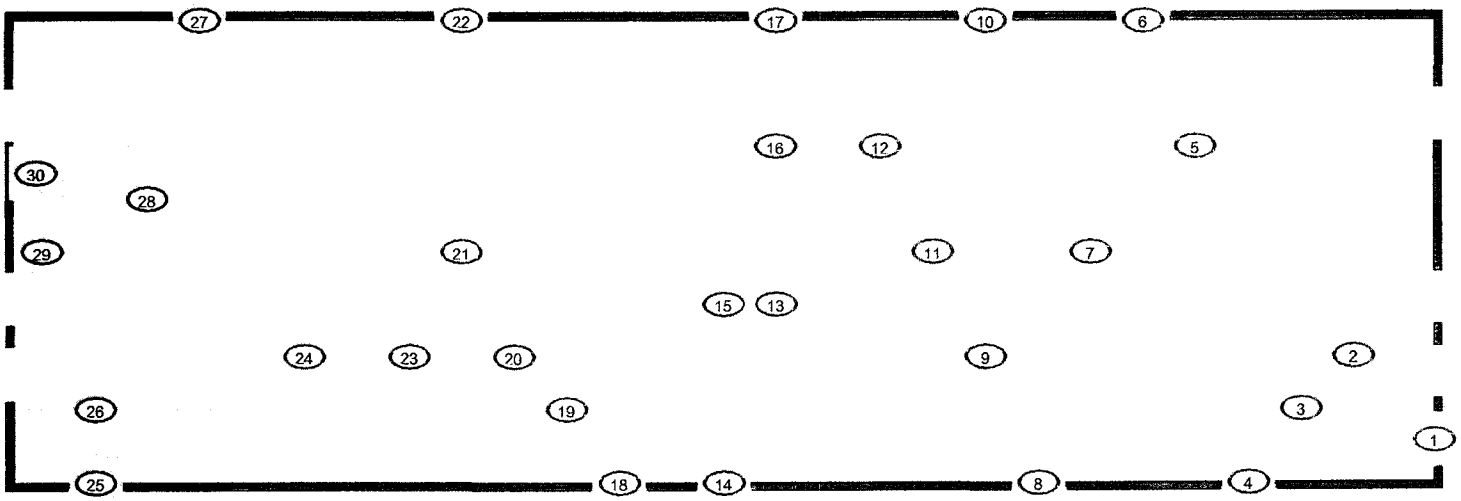
Location

	dpmα	dpmβ		dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	<225	<11250			
11	<225	<11250			
12	<225	<11250			
13	<225	<11250			
14	<225	<11250			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: I **Survey Unit: N/A** **Classification: N/A**
Building: 450
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 378 sq. m.**

BUILDING 450
FLOOR PLAN



NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

Scan Area

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): 22/
RCT ID #(s): /4

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

Prepared by: GIS Dept. 303-966-7707 *Prepared for:*

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/FW450-I-SC August 29, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	5 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	64 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	BC-918	Serial #	BC-707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	42 cpmβ	Bkg	47 cpmβ	Bkg	762 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.40 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	446 dpmβ

Survey Type: Contamination
Building: 450
Location: Area I WC 1-10
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/27/02 Time: 0900

[redacted]

PRN/REN # : N/A

Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See Map for Locations	3	0	29	0
2	See Map for Locations	0	0	0	0
3	See Map for Locations	0	32	0	0
4	See Map for Locations	3	8	25	0
5	See Map for Locations	3	0	0	0
6	See Map for Locations	6	4	0	0
7	See Map for Locations	0	0	15	0
8	See Map for Locations	6	0	5	0
9	See Map for Locations	0	28	10	0
10	See Map for Locations	3	0	5	0

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston Teresa Johnston

Print Name Signature [redacted]

Page 1 of 2

RADIOLOGICAL SAFETY

Scan Investigation Sheet

450 | Area I WC 1-10 | Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

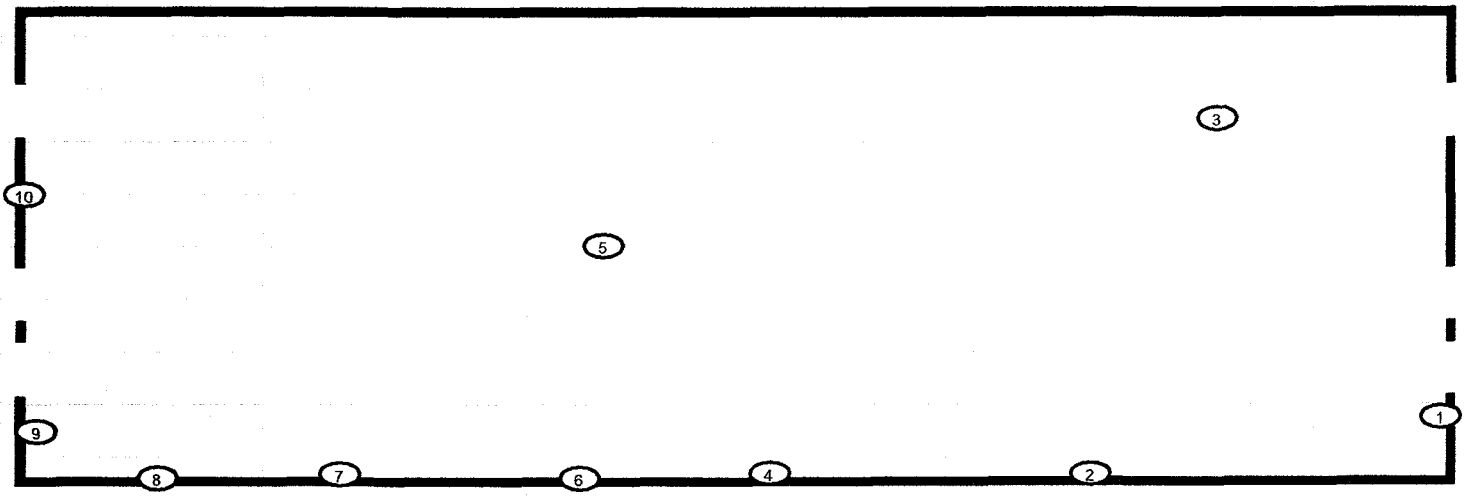
Location

	dpmα	dpmβ
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A
6	N/A	N/A
7	N/A	N/A
8	N/A	N/A
9	N/A	N/A
10	N/A	N/A

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: I **Survey Unit: N/A** **Classification: N/A**
Building: 450
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 378 sq. m.**

BUILDING 450
FLOOR PLAN



NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/CW450-I

March 2, 2002

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1260
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/27/02
Bkg	0.5 cpmα	Bkg	0.5 cpmα	Bkg	2 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	41 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1260
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/27/02
Bkg	42 cpmβ	Bkg	47 cpmβ	Bkg	599 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.50 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	395 dpmβ

Survey Type: Contamination
Building: 450
Location: Area I Equip 1-30
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/27/02 Time: 0900

[redacted]

PRN/REN # : N/A
Comments:

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
1	Plenum Status Panel	3	12	0	0
2	HEPA Gauge Power Box	3	0	29	0
3	Inst. Air Panel	0	28	15	0
4	Pump Base	0	0	25	0
5	Fan Housing	3	0	0	0
6	Motor	0	0	25	0
7	Belt Housing	0	0	0	0
8	Fan Housing	6	8	20	0
9	Electrical Box	3	0	15	0
10	Electrical Panel	0	64	34	0
11	Transformer	0	0	0	0
12	Electrical Power Box	0	0	20	0
13	Chair	0	0	0	0
14	Cabinet	0	0	15	0
15	Window	3	0	25	0
16	Step Ladder	3	16	34	0
17	Black Bottle	0	0	0	0
18	Fan Housing	6	0	10	0
19	Window	0	28	25	0
20	Fan Housing	3	24	5	0
21	Fan Belt Housing	0	0	0	0
22	Motor	0	0	5	0
23	Conduit	3	0	15	0
24	Window	3	4	5	0
25	Safety Cone	3	0	20	0
26	Light Switch	0	12	25	0
27	Chair	0	0	10	0
28	Electrical Box	0	36	20	0
29	Snow Shovel	0	0	0	0
30	Fan Thermometer	3	0	20	0

Date Reviewed: 7-12-02 **RS Supervision:** Teresa Johnston / Teresa Johnston [redacted]
Print Name Signature

Page 1 of 2

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

450 | Area I Equip 1-30 | Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

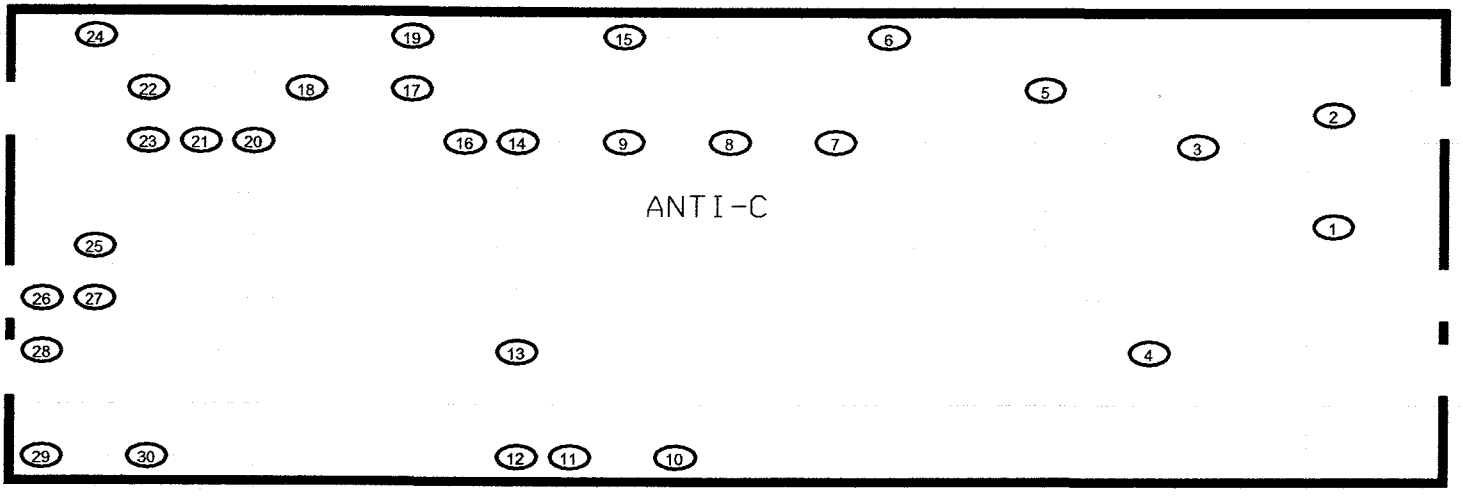
Location

	dpmα	dpmβ		dpmα	dpmβ
1	N/A	N/A	26	N/A	N/A
2	N/A	N/A	27	N/A	N/A
3	N/A	N/A	28	N/A	N/A
4	N/A	N/A	29	N/A	N/A
5	N/A	N/A	30	N/A	N/A
6	N/A	N/A			
7	N/A	N/A			
8	N/A	N/A			
9	N/A	N/A			
10	N/A	N/A			
11	N/A	N/A			
12	N/A	N/A			
13	N/A	N/A			
14	N/A	N/A			
15	N/A	N/A			
16	N/A	N/A			
17	N/A	N/A			
18	N/A	N/A			
19	N/A	N/A			
20	N/A	N/A			
21	N/A	N/A			
22	N/A	N/A			
23	N/A	N/A			
24	N/A	N/A			
25	N/A	N/A			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: I **Survey Unit: N/A** **Classification: N/A**
Building: 450
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 378 sq. m.**

BUILDING 450
FLOOR PLAN



NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/EQ450-I March 2, 2002

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ATTACHMENT C-10

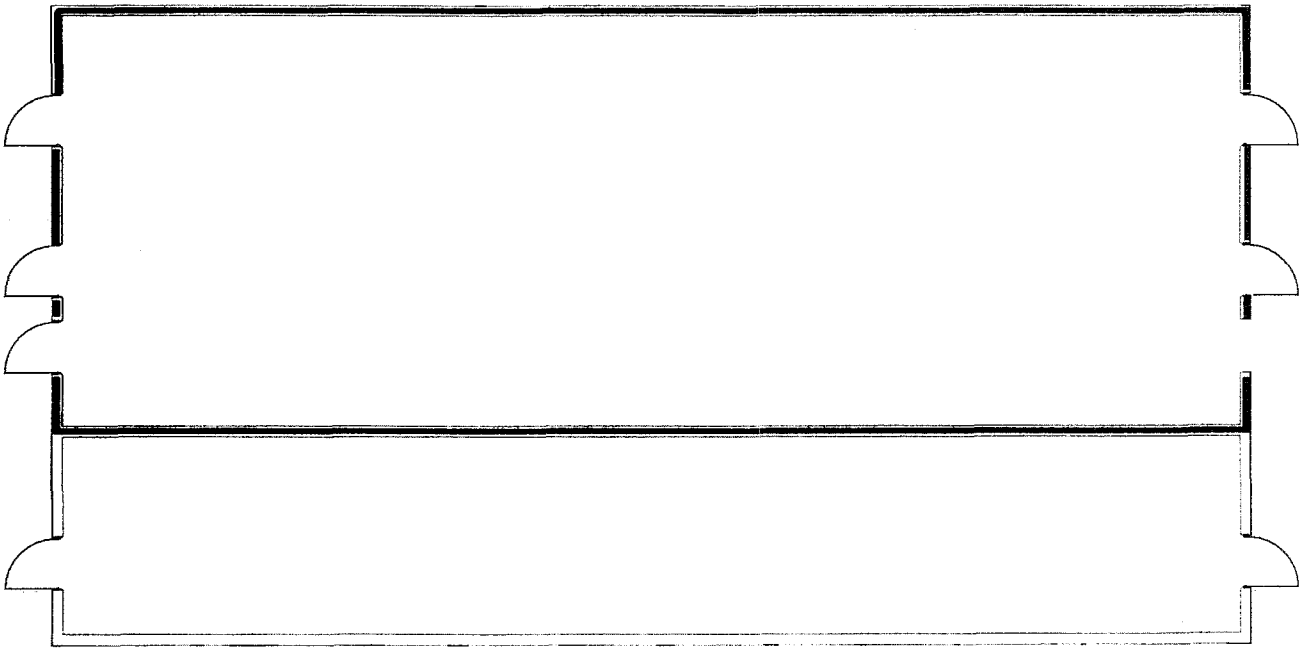
Survey Area J

Radiological Data Summaries and Survey Maps

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: J **Survey Unit: N/A** **Classification: N/A**
Building: 451
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: 279 sq. m.**

BUILDING 451
FLOOR PLAN
FLOOR PLAN



Survey A	= 1500 sq.m.	Survey G	= 2200 sq.m.
Survey B	= 1400 sq.m.	Survey H	= 375 sq.m.
Survey C	= 1200 sq.m.	Survey I	= 380 sq.m.
Survey D	= 1400 sq.m.	Survey J	= 280 sq.m.
Survey E	= 2200 sq.m.	Survey K	= N/A sq. m.
Survey F	= 2400 sq.m.	Survey L	= 430 sq.m.

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

SURVEY MAP LEGEND

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

N

0 FEET 0

0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/451-JCLR **August 29, 2002**

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.3 cpmα	Bkg	0.4 cpmα	Bkg	4 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.90 %
MDA	20 dpmα	MDA	20 dpmα	MDA	57 dpmα

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	44 cpmβ	Bkg	41 cpmβ	Bkg	750 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.40 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	442 dpmβ

Survey Type: Contamination
Building: 451
Location: Area J WF 1-30
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/24/02 Time: 1230

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
1	See Map for Locations	3	76	0	0
2	See Map for Locations	3	0	33	0
3	See Map for Locations	6	36	14	0
4	See Map for Locations	3	24	14	0
5	See Map for Locations	3	28	43	0
6	See Map for Locations	0	0	0	0
7	See Map for Locations	3	44	10	0
8	See Map for Locations	0	60	0	537
9	See Map for Locations	3	24	0	0
10	See Map for Locations	6	16	5	524
11	See Map for Locations	0	40	0	0
12	See Map for Locations	3	0	53	701
13	See Map for Locations	6	0	0	0
14	See Map for Locations	0	0	0	0
15	See Map for Locations	3	12	5	537
16	See Map for Locations	15	0	0	0
17	See Map for Locations	0	0	24	616
18	See Map for Locations	6	12	10	303
19	See Map for Locations	3	0	14	425
20	See Map for Locations	3	0	120	0
21	See Map for Locations	6	0	14	476
22	See Map for Locations	3	44	14	85
23	See Map for Locations	3	4	0	0
24	See Map for Locations	0	8	0	0
25	See Map for Locations	0	0	24	401

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
26	See Map for Locations	3	0	43	0
27	See Map for Locations	3	0	0	0
28	See Map for Locations	9	0	29	0
29	See Map for Locations	6	0	19	395
30	See Map for Locations	0	68	0	0

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

RADIOLOGICAL SAFETY

Scan Investigation Sheet

451 | Area J WF 1-30 | Reconnaissance Level Characterization

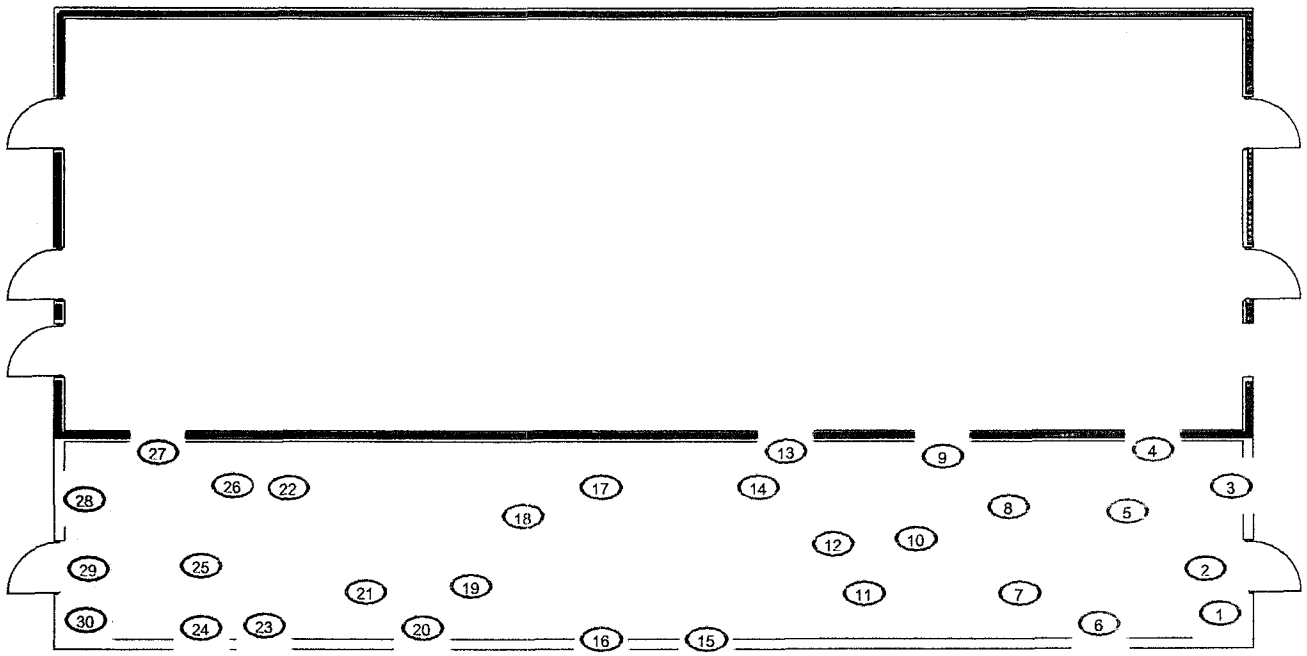
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ	Location	dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	<225	<11250			
11	<225	<11250			
12	<225	<11250			
13	<225	<11250			
14	<225	<11250			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: J **Survey Unit: N/A** **Classification: N/A**
Building: 451
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 279 sq. m.**

BUILDING 451
FLOOR PLAN
FLOOR PLAN



NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

Scan Area

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/FW451-J-SC **August 29, 2002**

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PRN Page 1 of 3 Page 1 of 3
7-12-02

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.6 cpmα	Bkg	0.5 cpmα	Bkg	5 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	64 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	BC 918	Serial #	BC 707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	41 cpmβ	Bkg	cpmβ	Bkg	751 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.40 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	443 dpmβ

Survey Type: Contamination
Building: 451
Location: Area J WC 1-10
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/26/02 Time: 0900

[redacted]

PRN/REN # : N/A
Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See Map for Locatioins	0	12	0	0
2	See Map for Locatioins	0	0	5	0
3	See Map for Locatioins	3	0	0	0
4	See Map for Locatioins	3	16	15	0
5	See Map for Locatioins	9	0	0	0
6	See Map for Locatioins	3	28	20	0
7	See Map for Locatioins	0	28	0	0
8	See Map for Locatioins	3	0	34	0
9	See Map for Locatioins	0	3	5	0
10	See Map for Locatioins	3	12	5	0

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston / Teresa Johnston / [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

451 Area J WC 1-10 Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

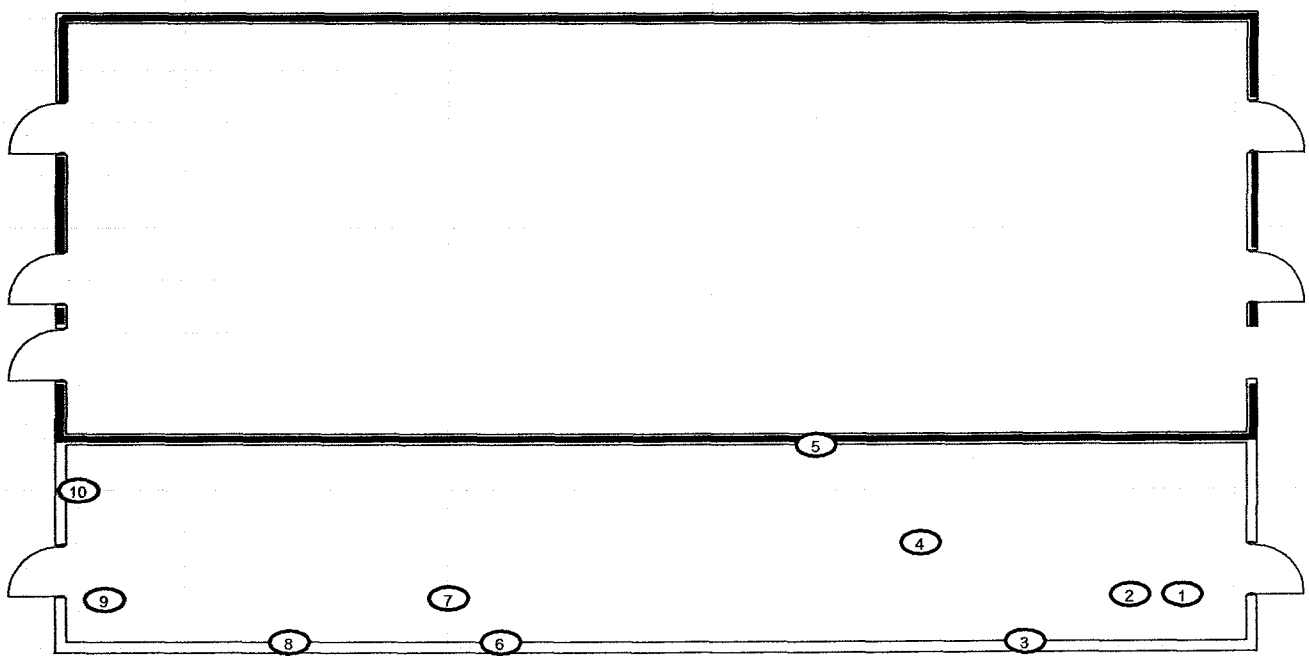
Location

	dpmα	dpmβ
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A
6	N/A	N/A
7	N/A	N/A
8	N/A	N/A
9	N/A	N/A
10	N/A	N/A

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: J **Survey Unit: N/A** **Classification: N/A**
Building: 451
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 279 sq. m.**

BUILDING 451
FLOOR PLAN
FLOOR PLAN



NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

SURVEY MAP LEGEND

- (#) Smear & TSA Location
- ◇(#) Smear, TSA & Sample Location
- ■ Open/Inaccessible Area
- □ Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

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

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/CW451-J **March 2, 2002**

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1260
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	8/27/02
Bkg	0.6 cpmα	Bkg	0.5 cpmα	Bkg	0 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.80 %
MDA	20 dpmα	MDA	20 dpmα	MDA	12 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	BC-918	Serial #	BC-707	Serial #	1260
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	8/27/02
Bkg	41 cpmβ	Bkg	48 cpmβ	Bkg	500 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.50 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	362 dpmβ

Survey Type: Contamination
Building: 451
Location: Area J Equipment 1-30
Purpose: Reconnaissance Level Characterization
RWP #: N/A
Date: 6/26/02 Time: 0900

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in area J of B451. Smears were counted on 6/26/02.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	Electrical Outlet	6	0	26	0
2	Plenum Status Panel	0	12	39	0
3	Hydraulic Pump	3	0	9	0
4	Exhaust Control Panel	0	0	22	0
5	Inst. Air Control Center	9	0	44	0
6	Storage Cabinet Door	3	12	22	0
7	Plenum Motor	0	0	48	0
8	Filter Plenum Panel	0	56	13	0
9	480 Electrical Box	3	36	4	0
10	Plenum Belt Housing	0	56	31	0
11	Transformer	6	0	31	0
12	Plenum Duct Work	0	0	13	0
13	480 Breaker Box	6	0	44	0
14	Plenum Exhaust Housing	0	0	9	0
15	Plenum Duct	0	40	31	85
16	Plenum Belt Housing	0	8	22	0
17	Electrical Breaker Box	3	0	26	0
18	Electrical Breaker Box	0	12	26	0
19	Electrical Breaker Box	0	44	13	0
20	Belts(Replacements)	3	0	18	0
21	Ladder Bracket	3	0	22	0
22	Plenum Belt Housing	0	0	13	0
23	Plenum Exhaust Housing	3	0	35	0
24	Plenum Duct	3	0	18	0
25	HEPA Filter Gauge Brace	9	0	31	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	Electrical Panel Box	0	0	13	0
27	Electrical Outlet	0	0	31	0
28	Fan Housing	3	12	35	0
29	Electrical Outlet	3	0	31	0
30	Heater	6	20	18	166

Date Reviewed: 7-10-02 **RS Supervision:** Teresa Johnston / Teresa Johnston
Print Name Signature

[redacted]

RADIOLOGICAL SAFETY

Scan Investigation Sheet

451 Area J Equipment 1-30 Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

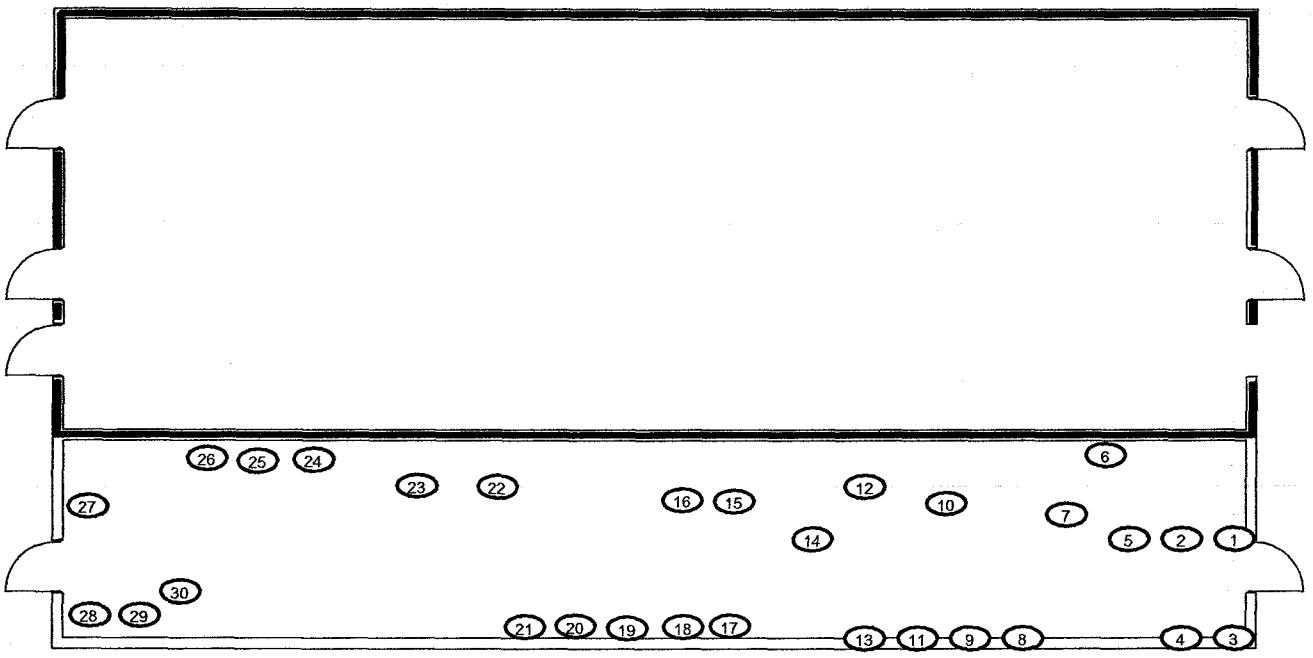
Location

	dpmα	dpmβ		dpmα	dpmβ
1	N/A	N/A	26	N/A	N/A
2	N/A	N/A	27	N/A	N/A
3	N/A	N/A	28	N/A	N/A
4	N/A	N/A	29	N/A	N/A
5	N/A	N/A	30	N/A	N/A
6	N/A	N/A			
7	N/A	N/A			
8	N/A	N/A			
9	N/A	N/A			
10	N/A	N/A			
11	N/A	N/A			
12	N/A	N/A			
13	N/A	N/A			
14	N/A	N/A			
15	N/A	N/A			
16	N/A	N/A			
17	N/A	N/A			
18	N/A	N/A			
19	N/A	N/A			
20	N/A	N/A			
21	N/A	N/A			
22	N/A	N/A			
23	N/A	N/A			
24	N/A	N/A			
25	N/A	N/A			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: J **Survey Unit: N/A** **Classification: N/A**
Building: 451
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 279 sq. m.**

BUILDING 451
FLOOR PLAN
FLOOR PLAN



NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA OUTLINED IN MAGENTA

SURVEY MAP LEGEND

- (#) Smear & TSA Location
- ◇(#) Smear, TSA & Sample Location
- ■ Open/Inaccessible Area
- □ Area in Another Survey Unit

N

0 FEET 0
0 METERS 0

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

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707 DynCorp THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/EQ451-J March 2, 2002

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ATTACHMENT C-11

Survey Area K

Radiological Data Summaries and Survey Maps

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	1197	Serial #	1379
Cal Due	11/30/02	Cal Due	10/3/02	Cal Due	11/20/02
Bkg	0.6 cpmα	Bkg	0.4 cpmα	Bkg	6 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	17.30 %
MDA	20 dpmα	MDA	20 dpmα	MDA	82 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	772	Serial #	773	Serial #	1379
Cal Due	6/19/03	Cal Due	9/18/02	Cal Due	11/20/02
Bkg	34 cpmβ	Bkg	41 cpmβ	Bkg	1077 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.30 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	530 dpmβ

Survey Type: Contamination
Building: 444
Location: Area K Sumps, pits, and trenches
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-002

Date: 8/1/02 Time: 1400

[redacted]

PRN/REN # : N/A
Comments: Survey of sumps, pits, and trenches. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	20	0	205
2	See map for location	3	0	0	437
3	See map for location	0	0	0	109
4	See map for location	0	4	40	2362
5	See map for location	0	0	64	1522
6	See map for location	0	16	58	1908
7	See map for location	3	0	69	1560
8	See map for location	0	0	17	1420
9	See map for location	0	16	6	1198
10	See map for location	6	16	1480	135495
11	See map for location	18	20	336	183959
12	See map for location	45	136	366	304096
13	See map for location	36	112	52	145392
14	See map for location	0	0	428	14775
15	See map for location	3	4	60	4229
16	See map for location	12	56	54	7611
17	See map for location	6	96	106	2283
18	See map for location	9	32	65	1853
19	See map for location	15	182	88	1027
20	See map for location	0	84	65	1096
21	See map for location	175	4468	279	14294
22	See map for location	9	300	233	2242
23	See map for location	45	248	1104	65870
24	See map for location	6	12	216	13096
25	See map for location	0	4	19	1720

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
26	See map for location	6	16	179	6601
27	See map for location	15	100	465	76792
28	See map for location	3	0	46	54266

Date Reviewed: 8-21-02 **RS Supervision:** Teresa Thaxton / Teresa Thaxton [redacted]
Print Name Signature

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RADIOLOGICAL SAFETY

Scan Investigation Sheet

444 Area K Sumps, pits, and trenches Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ		dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	**78498**
3	<225	<11250	28	<225	<11250
4	<225	<11250			
5	<225	<11250			
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	**1590**	**136519**			
11	**347**	**204778**			
12	**376**	**307167**			
13	<225	**153584**			
14	**405**	**15358**			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	**283**	**14676**			
22	<225	<11250			
23	**1040**	**68259**			
24	<225	**27986**			
25	<225	<11250			

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	1197	Serial #	2344
Cal Due	11/30/02	Cal Due	10/3/02	Cal Due	1/17/03
Bkg	0.2 cpmα	Bkg	0.3 cpmα	Bkg	4.7 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.20 %
MDA	20 dpmα	MDA	20 dpmα	MDA	58 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	772	Serial #	773	Serial #	2344
Cal Due	6/19/03	Cal Due	9/18/02	Cal Due	1/17/03
Bkg	43 cpmβ	Bkg	44 cpmβ	Bkg	1110 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	31.50 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	500 dpmβ

Survey Type: Contamination
Building: 447
Location: Area K Sumps, pits, and trenches
Purpose: Reconnaissance Level Characterization
RWP #: 02-444-002
Date: 8/19/02 Time: 1400

[redacted]

PRN/REN # : N/A
Comments: Survey of sumps, pits, and trenches. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
29	See map for location	3	0	24	38730
30	See map for location	33	240	14	2222
31	See map for location	24	128	36	1270
32	See map for location	3	20	212	3175
33	See map for location	0	44	36	2540
34	See map for location	12	128	212	67302
35	See map for location	3	0	410	38413
36	See map for location	30	116	617	101270
37	See map for location	0	0	0	610
38	See map for location	6	20	9	0
39	See map for location	3	28	9	3394
40	See map for location	0	36	14	3270

Date Reviewed: 8-21-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

RADIOLOGICAL SAFETY

Scan Investigation Sheet

447 Area K Sumps, pits, and trenches Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location	dpmα	dpmβ
29	<225	**39048**
30	<225	<11250
31	<225	<11250
32	<225	<11250
33	<225	<11250
34	<225	**95238**
35	<225	**37778**
36	**482**	**177778**
37	<225	<11250
38	<225	<11250
39	<225	<11250
40	<225	<11250

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	1197	Serial #	2343
Cal Due	11/30/02	Cal Due	10/3/02	Cal Due	10/2/02
Bkg	0.1 cpmα	Bkg	0.1 cpmα	Bkg	3 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	22.30 %
MDA	20 dpmα	MDA	20 dpmα	MDA	48 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	772	Serial #	773	Serial #	2343
Cal Due	6/19/03	Cal Due	9/18/02	Cal Due	10/2/02
Bkg	51 cpmβ	Bkg	51 cpmβ	Bkg	684 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.40 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	423 dpmβ

Survey Type: Contamination
Building: 444
Location: Area K Sumps, pits, and trenches
Purpose: Reconnaissance Level Characterization

RWP #: 02-444-002

Date: 8/20/02 Time: 1400

[redacted]

PRN/REN # : N/A
Comments: Survey of sumps, pits, and trenches. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
41	See map for location	21	140	193	4551
42	See map for location	12	56	18	23721
43	See map for location	18	156	0	3520
44	See map for location	6	40	18	1986
45	See map for location	3	0	54	1847
46	See map for location	3	52	27	1857
47	See map for location	0	0	31	1980
48	See map for location	3	16	27	8456
49	See map for location	9	16	22	15969

Date Reviewed: 8-21-02 **RS Supervision:** [redacted]
Print Name Signature

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RADIOLOGICAL SAFETY

Scan Investigation Sheet

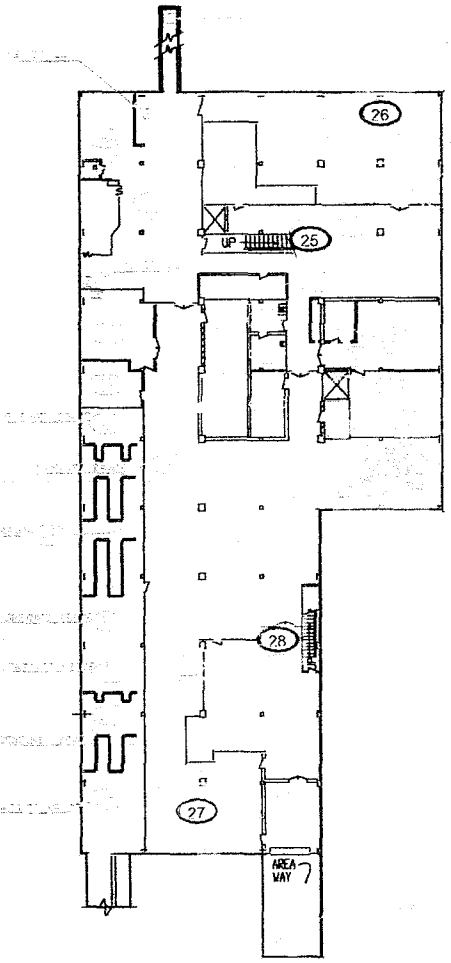
444 Area K Sumps, pits, and trenches Reconnaissance Level Characterization

All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

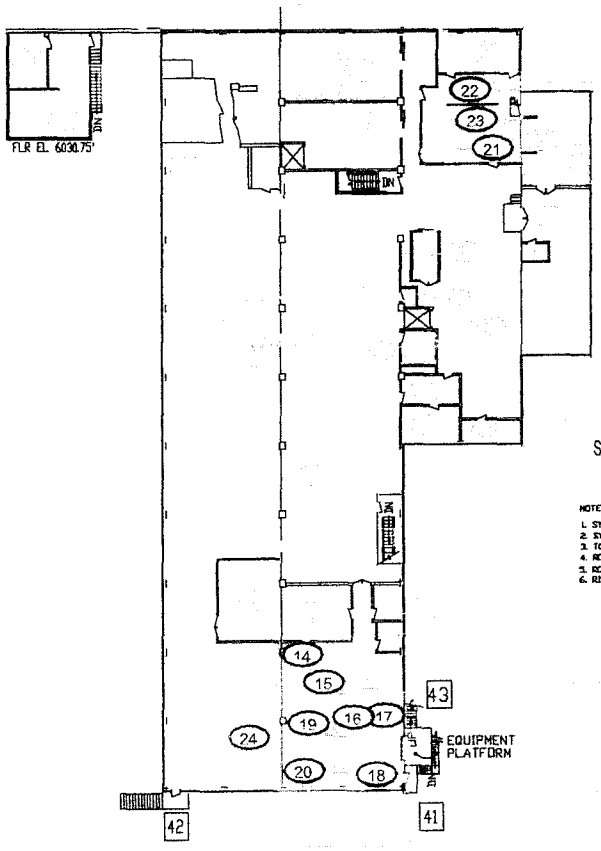
Location	dpmα	dpmβ
41	<225	**40816**
42	<225	**20408**
43	<225	**112245**
44	<225	<11250
45	<225	<11250
46	<225	<11250
47	<225	<11250
48	<225	<11250
49	<225	**16014**

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: K **Survey Unit: N/A** **Classification: N/A**
Building: 444 Second Floor & Basement
Survey Unit Description: Sumps, Pit, & Trenches
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**



BASEMENT FLOOR PLAN
FLOOR ELEVATION 6011'-0"



MEZZANINE FLOOR PLAN
FLOOR ELEVATION 6038'-0"

BUILDING 444
SECOND & BASEMENT
FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

NORTHWEST MEZZANINE FLOOR PLAN
FLOOR ELEVATION 6037'-0"

Scan Area

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): N/A
RCT ID #(s): N/A

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

Prepared by: GIS Dept. 303-966-7707
DynCorp THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL

MAP ID: 02-0222/444K-2-SC August 27, 2002

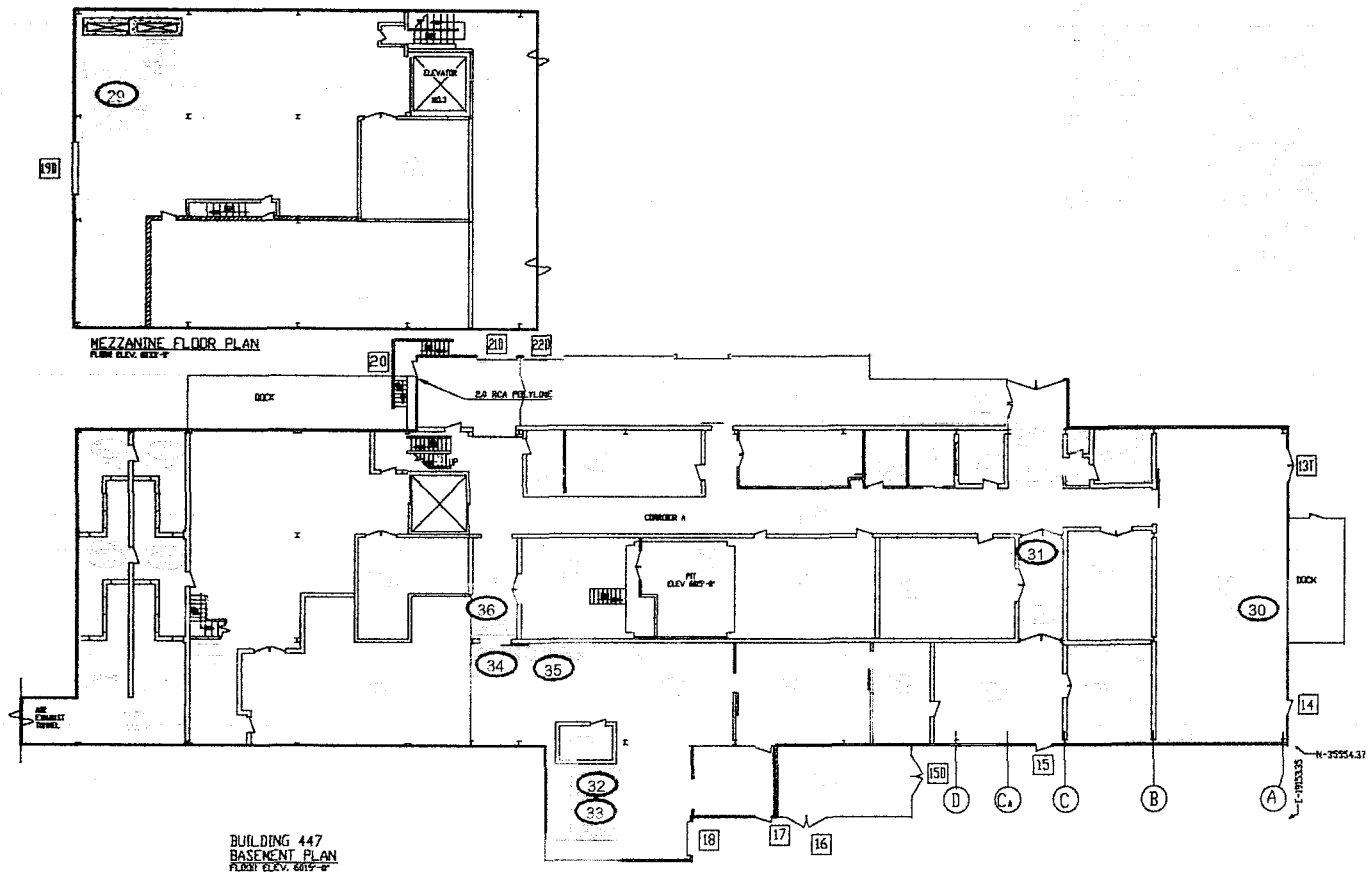
207

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: K **Survey Unit: N/A** **Classification: N/A**
Building: 447
Survey Unit Description: Sumps, Pit, & Trenches
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**

BUILDING 447
FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA



Scan Area

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): n/a
RCT ID #(s): n/a

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/447K-3-SC August 27, 2002

208

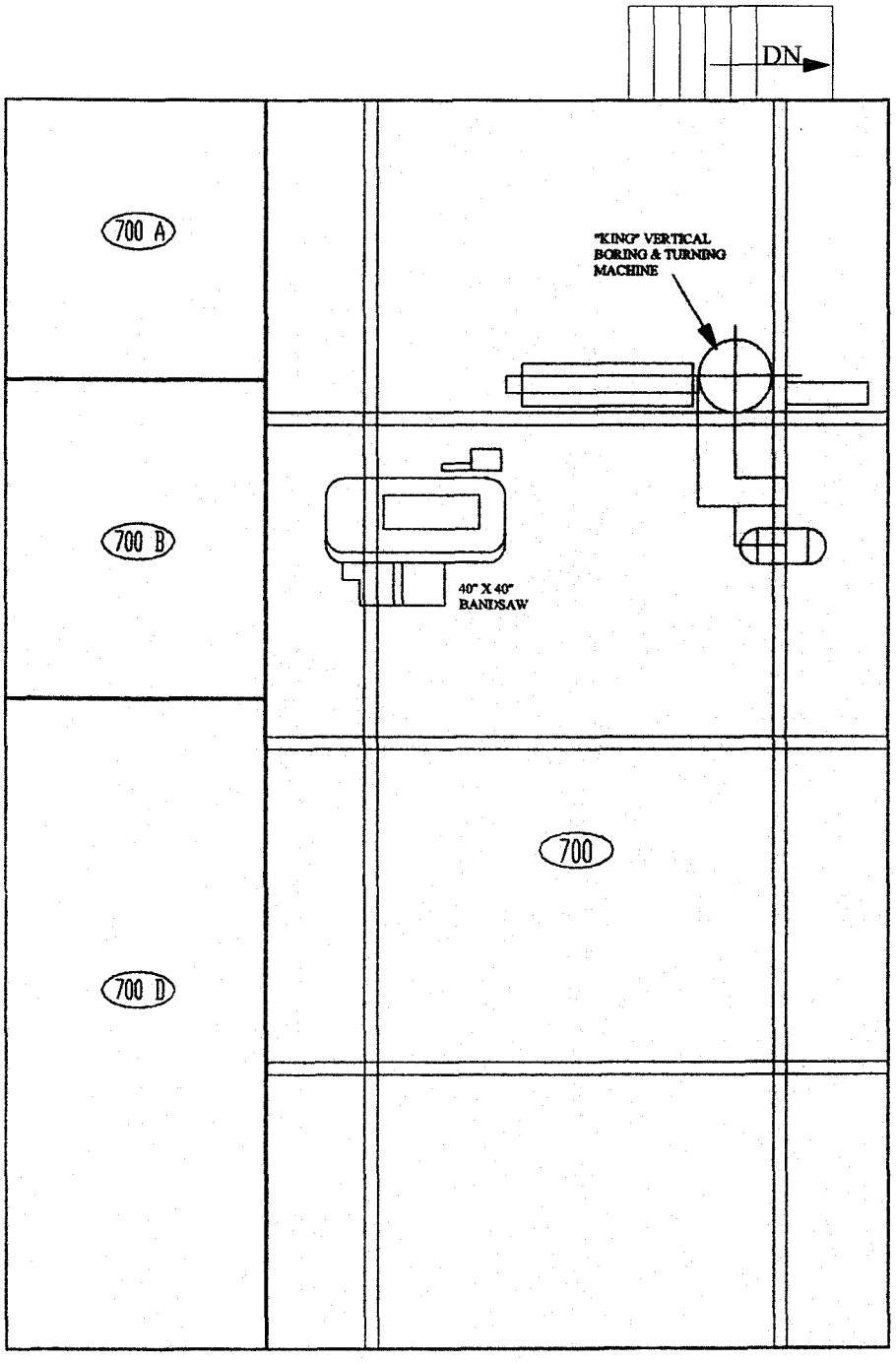
ATTACHMENT C-12

Survey Area L

Radiological Data Summaries and Survey Maps

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: L **Survey Unit: N/A** **Classification: N/A**
Building: 445
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: 428 sq. m.**



- Survey A = 1500 sq.m.
- Survey B = 1400 sq.m.
- Survey C = 1200 sq.m.
- Survey D = 1400 sq.m.
- Survey E = 2200 sq.m.
- Survey F = 2400 sq.m.
- Survey G = 2200 sq.m.
- Survey H = 375 sq.m.
- Survey I = 380 sq.m.
- Survey J = 280 sq.m.
- Survey K = N/A sq. m.
- Survey L = 430 sq.m.

SURVEY MAP LEGEND

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

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

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

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/445-LCLR August 29, 2002

210

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.6 cpmα	Bkg	0.6 cpmα	Bkg	6 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.20 %
MDA	20 dpmα	MDA	20 dpmα	MDA	70 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	45 cpmβ	Bkg	47 cpmβ	Bkg	619 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	396 dpmβ

Survey Type: Contamination
Building: 445
Location: Area L WF
Purpose: Reconnaissance Level Characterization
RWP #: N/A
Date: 6/13/02 **Time:** 1030

[redacted]

PRN/REN # : N/A
Comments: Survey of floors and walls at locations < 2m. All locations were scanned and readings greater than investigation limits are shown on pg. 2.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	0	0	15	1348
2	See map for location	0	0	20	462
3	See map for location	9	0	20	1020
4	See map for location	3	4	10	1050
5	See map for location	3	0	0	0
6	See map for location	0	0	0	542
7	See map for location	3	0	40	1351
8	See map for location	12	0	50	779
9	See map for location	0	0	25	769
10	See map for location	6	60	40	381
11	See map for location	6	0	54	1776
12	See map for location	3	0	0	1037
13	See map for location	0	0	50	1151
14	See map for location	3	24	0	870
15	See map for location	0	8	10	983
16	See map for location	0	0	10	880
17	See map for location	0	4	5	1164
18	See map for location	3	44	10	1000
19	See map for location	3	0	10	1341
20	See map for location	0	0	0	1057
21	See map for location	3	0	10	1064
22	See map for location	3	4	30	1395
23	See map for location	0	0	15	1114
24	See map for location	3	0	5	920
25	See map for location	3	0	0	997
26	See map for location	3	24	10	692
27	See map for location	0	0	0	886
28	See map for location	3	0	50	1060
29	See map for location	0	0	10	866
30	See map for location	0	8	35	1398

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston Teresa Johnston [redacted]
Print Name Signature

211

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

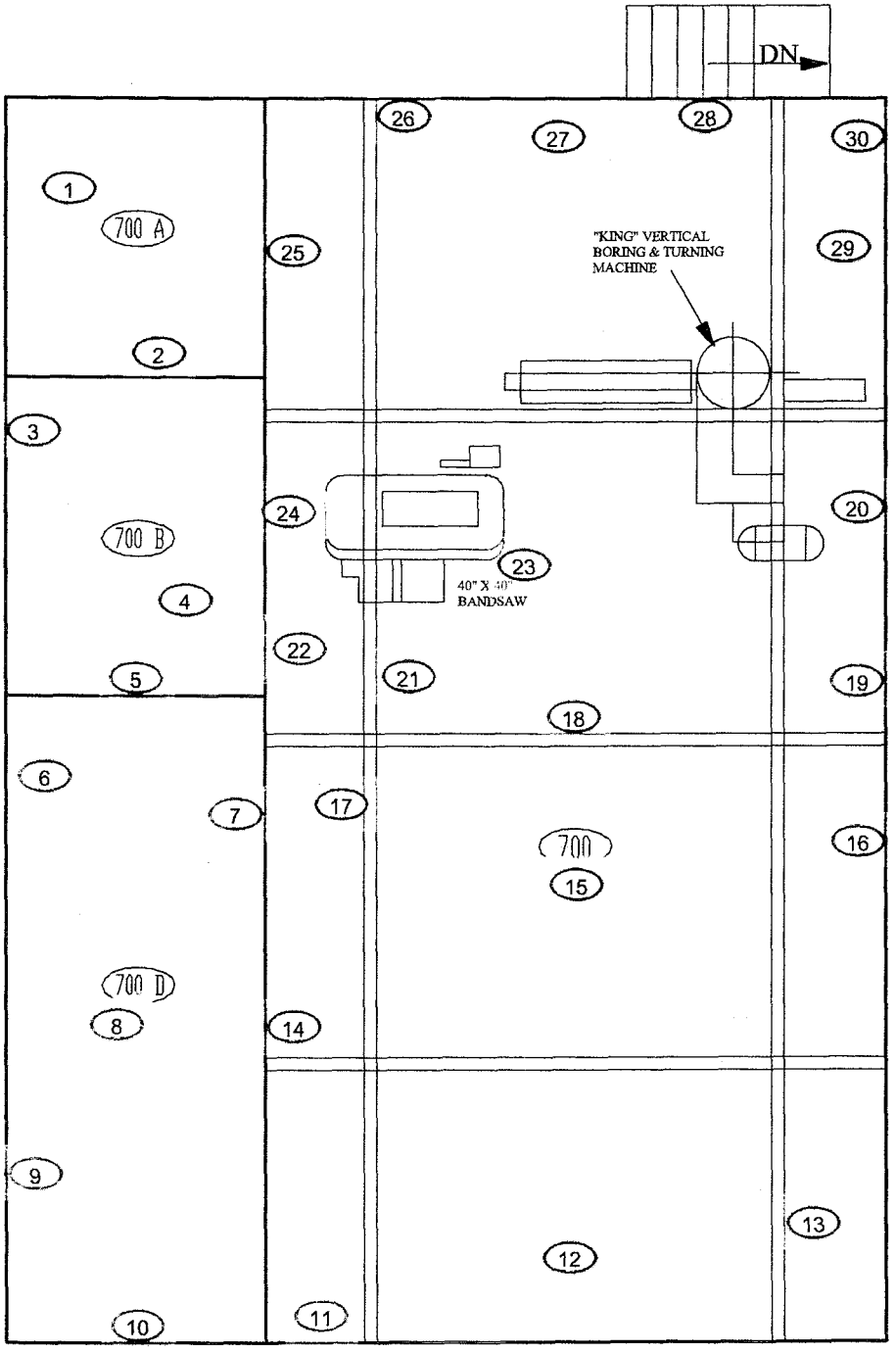
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ		dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	<225	<11250			
11	<225	<11250			
12	<225	<11250			
13	<225	<11250			
14	<225	<11250			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: L **Survey Unit: N/A** **Classification: N/A**
Building: 445
Survey Unit Description: <2m Floor & Walls
Total Area: N/A sq. m. **Total Floor Area: 428 sq. m.**



Scan Area

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): 21
RCT ID #(s): 14

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

Prepared by: GIS Dept. 303-966-7707 DynCorp THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL

MAP ID: 02-0222/FW445-L-SC August 29, 2002

213

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1379
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	11/20/02
Bkg	0.6 cpmα	Bkg	0.6 cpmα	Bkg	6 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	20.20 %
MDA	20 dpmα	MDA	20 dpmα	MDA	70 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1379
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	11/20/02
Bkg	45 cpmβ	Bkg	47 cpmβ	Bkg	619 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	29.90 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	396 dpmβ

Survey Type: Contamination
Building: 445
Location: Area L WC
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/13/02 Time: 1030

[redacted]

PRN/REN # : N/A

Comments: Survey on walls at height >2 meters and ceiling where possible. Areas above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable		Total	
		Alpha	Beta	Alpha	Beta
1	See map for location	6	32	0	181
2	See map for location	6	20	10	0
3	See map for location	0	0	0	388
4	See map for location	0	0	25	0
5	See map for location	3	0	0	0
6	See map for location	0	0	30	0
7	See map for location	0	8	35	418
8	See map for location	3	20	15	809
9	See map for location	0	0	10	669
10	See map for location	0	0	0	0

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston / [redacted]
Print Name Signature

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

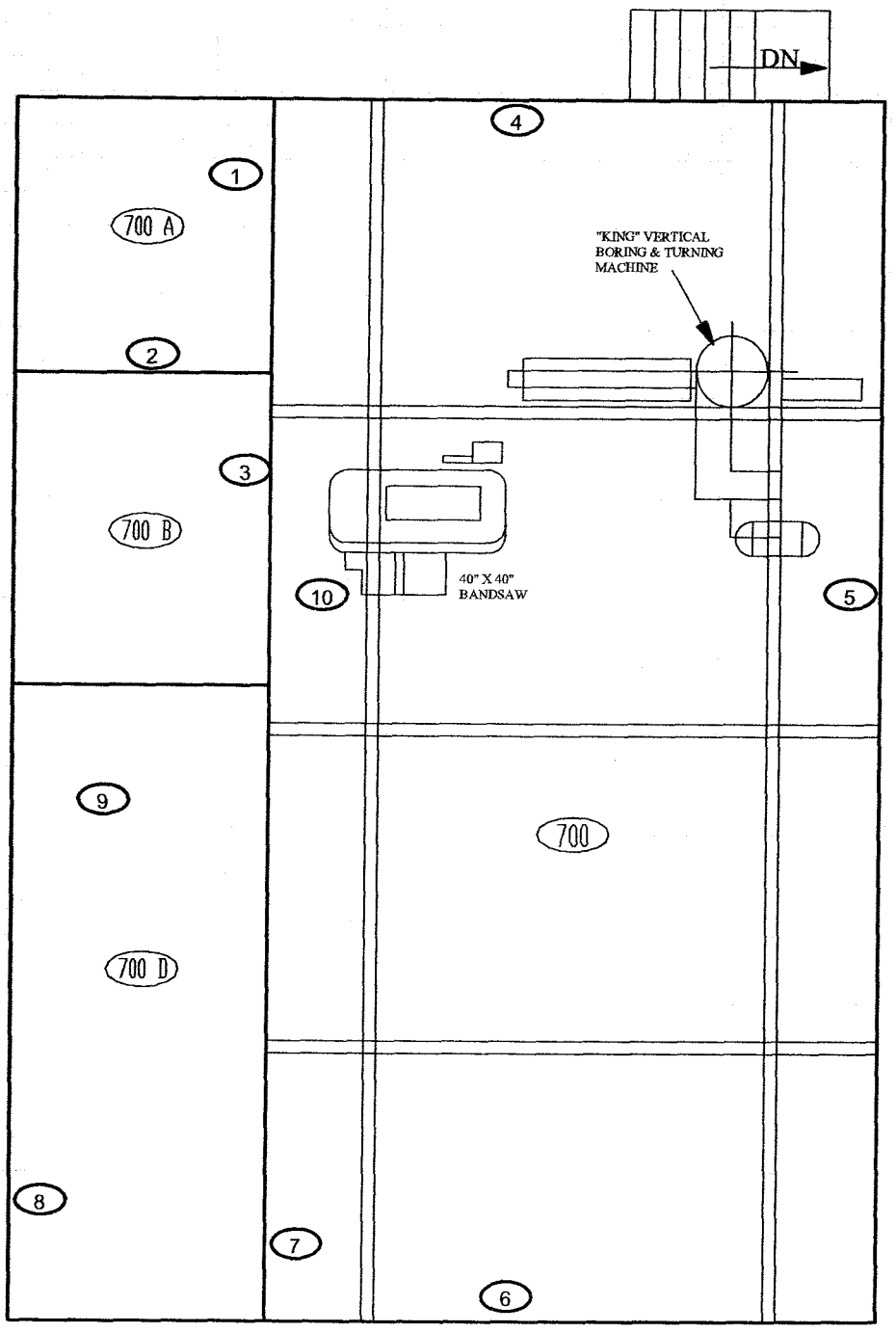
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ
1	<225	<11250
2	<225	<11250
3	<225	<11250
4	<225	<11250
5	<225	<11250
6	<225	<11250
7	<225	<11250
8	<225	<11250
9	<225	<11250
10	<225	<11250

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: L **Survey Unit: N/A** **Classification: N/A**
Building: 445
Survey Unit Description: >2m Ceiling & Walls
Total Area: N/A sq. m. **Total Floor Area: 428 sq. m.**



SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): n/a
RCT ID #(s):

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/CW445-L March 8, 2002

216

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	SAC-4	Model	DP-6
Serial #	958	Serial #	763	Serial #	1250
Cal Due	11/3/02	Cal Due	6/30/02	Cal Due	10/10/02
Bkg	0.6 cpmα	Bkg	0.6 cpmα	Bkg	7 cpmα
Efficiency	33.00 %	Efficiency	33.00 %	Efficiency	21.40 %
MDA	20 dpmα	MDA	20 dpmα	MDA	70 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	BC-4	Model	BC-4	Model	DP-6
Serial #	918	Serial #	707	Serial #	1250
Cal Due	7/20/02	Cal Due	8/14/02	Cal Due	10/10/02
Bkg	45 cpmβ	Bkg	47 cpmβ	Bkg	597 cpmβ
Efficiency	25.00 %	Efficiency	25.00 %	Efficiency	30.70 %
MDA	200 dpmβ	MDA	200 dpmβ	MDA	379 dpmβ

Survey Type: Contamination
Building: 445
Location: Area L Equip
Purpose: Reconnaissance Level Characterization

RWP #: N/A

Date: 6/13/02 Time: 1030

[redacted]

PRN/REN # : N/A
Comments: Survey of equipment in 445. Locations on equipment that were above investigation limits of 225α and 11250B were scanned.

SURVEY RESULTS

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
1	Elec. Panel Rm 700	0	0	0	0
2	Guard telephone Rm 700	6	0	0	0
3	Crate scale Rm 700	3	0	0	0
4	Bandsaw exhaust tube Rm 700	0	16	9	0
5	Bldg. support beam Rm 700	3	0	0	0
6	Hose reel Rm 700	0	0	5	0
7	Vacuum elect. Supply Rm 700	0	0	0	0
8	Hose reel Rm 700	0	8	0	0
9	Storage cabinet Rm 700	12	0	0	0
10	Cage Rm 700	0	0	0	0
11	Elect. Switch box Rm 700	3	0	5	0
12	Crane switch	0	0	0	0
13	Elect. Supply Rm 700	3	0	0	0
14	Shelf Rm 700	3	0	0	0
15	Hoist Tuff lift Rm 700	0	0	0	0
16	Gauge Rm 700	0	0	0	0
17	Toolbox Rm 700	3	0	5	114
18	Rollers Rm 700	0	0	0	0
19	Ionex Air mover Rm 700	0	0	0	0
20	Bldg. support beam Rm 700	3	36	0	0
21	Pallet Jack Rm 700	0	0	0	0
22	Bench 3 Rm 700D	3	0	23	0
23	Metal plate Rm 700D	0	8	42	0
24	Air conditioner Rm 700D	0	0	0	0
25	Cabinet Rm 700A	3	0	0	0

Swipe #	Location / Description Results in DPM/100sq.cm	Removable Alpha	Removable Beta	Total Alpha	Total Beta
26	Elect. Box Rm Rm 700A	3	36	0	0
27	Elect. Outlet Rm 700A	0	0	0	0
28	Speaker Rm 700B	3	20	0	0
29	Marble Table Rm 700B	0	0	0	577
30	Size controller Rm 700B	3	24	0	0

Date Reviewed: 6-17-02 **RS Supervision:** Teresa Johnston [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

RADIOLOGICAL SAFETY

Scan Investigation Sheet

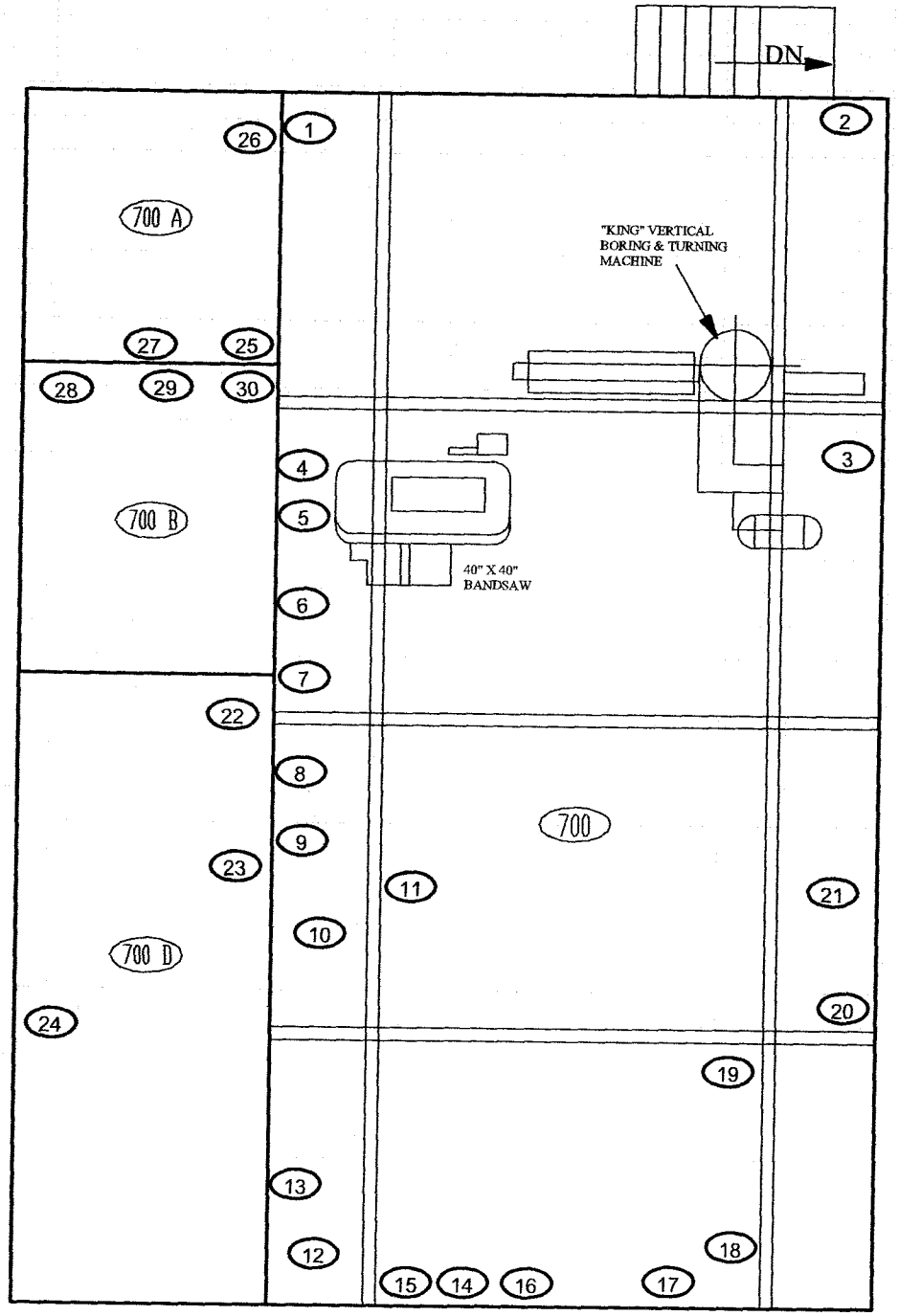
All scans were less than the investigation limits of 225 dpmα and 11250 dpmβ except as noted.

Location

	dpmα	dpmβ		dpmα	dpmβ
1	<225	<11250	26	<225	<11250
2	<225	<11250	27	<225	<11250
3	<225	<11250	28	<225	<11250
4	<225	<11250	29	<225	<11250
5	<225	<11250	30	<225	<11250
6	<225	<11250			
7	<225	<11250			
8	<225	<11250			
9	<225	<11250			
10	<225	<11250			
11	<225	<11250			
12	<225	<11250			
13	<225	<11250			
14	<225	<11250			
15	<225	<11250			
16	<225	<11250			
17	<225	<11250			
18	<225	<11250			
19	<225	<11250			
20	<225	<11250			
21	<225	<11250			
22	<225	<11250			
23	<225	<11250			
24	<225	<11250			
25	<225	<11250			

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: L **Survey Unit: N/A** **Classification: N/A**
Building: 445
Survey Unit Description: Equipment Location
Total Area: N/A sq. m. **Total Floor Area: 428 sq. m.**



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

N

0 FEET 0
0 METERS 0

DRAWING NOT TO SCALE

Scan Survey Information
Survey Instrument ID #(s): N/
RCT ID #(s): /

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/EQ445-L

March 8, 2002

219

ATTACHMENT C-13

Survey Unit 444-B-009

Radiological Data Summaries and Survey Maps

SURVEY UNIT 444-B-009
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B444 Exterior

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Total Surface Activity Measurements

	231 Number Required	231 Number Obtained	
MIN	-19.9		dpm/100 cm^2
MAX	99.8		dpm/100 cm^2
MEAN	28.5		dpm/100 cm^2
STD DEV	24.0		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	231 Number Required	231 Number Obtained	
MIN	-0.3		dpm/100 cm^2
MAX	5.8		dpm/100 cm^2
MEAN	0.6		dpm/100 cm^2
STD DEV	1.1		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

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SURVEY UNIT 444-B-009
TSA - DATA SUMMARY

Instrument ID#:	Manufacturer:	Model:	Serial #:	Cal Due Date:	Alpha Eff. (c/d):	MDC (dpm/100cm^2)
1	NE Electra	DP-6	1249	10/05/02	0.207	48.0
2	NE Electra	DP-6	1420	09/27/02	0.223	48.0
3	NE Electra	DP-6	1379	11/20/02	0.173	48.0
4	NE Electra	DP-6	1513	10/23/02	0.218	48.0
5	NE Electra	DP-6	1260	08/22/02	0.225	48.0
6	NE Electra	DP-6	1250	10/10/02	0.213	48.0
7	NE Electra	DP-6	1241	08/26/02	0.217	48.0
8	NE Electra	DP-6	2352	02/07/03	0.238	48.0
9	NE Electra	DP-6	1271	02/01/03	0.211	48.0

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)[1]
1	5	12.0	53.3	3.3	14.7	33.5
2	5	5.3	23.6	1.3	5.8	3.7
3	4	10.7	49.1	2.7	12.4	29.2
4	2	12.3	55.2	1.3	5.8	35.3
5	3	16.7	96.5	3.3	19.1	76.7
6	5	6.0	26.7	0.0	0.0	6.8
7	2	4.7	21.1	2.0	9.0	1.2
8	5	5.3	23.6	4.0	17.8	3.7
9	3	12.7	73.4	8.7	50.3	53.6
10	5	8.0	35.6	2.7	12.0	15.7
11	5	17.3	76.9	0.0	0.0	57.0
12	3	8.7	50.3	4.0	23.1	30.4
13	1	12.7	61.4	1.3	6.3	41.5
14	3	8.7	50.3	4.7	27.2	30.4
15	5	16.0	71.1	2.0	8.9	51.3
16	2	13.3	59.6	5.3	23.8	39.8
17	3	12.0	69.4	10.0	57.8	49.5
18	3	8.0	46.2	6.0	34.7	26.4
19	2	12.0	53.8	2.7	12.1	34.0
20	3	10.7	61.8	3.3	19.1	42.0
21	2	6.7	30.0	5.3	23.8	10.2
22	3	8.0	46.2	3.3	19.1	26.4
23	2	6.0	26.9	2.7	12.1	7.1
24	3	10.0	57.8	6.0	34.7	38.0
25	5	20.7	92.0	0.0	0.0	72.1
26	4	4.0	18.3	4.7	21.6	-1.5
27	1	8.7	42.0	2.7	13.0	22.2
28	1	7.3	35.3	1.3	6.3	15.4
29	2	20.7	92.8	6.0	26.9	73.0
30	5	12.7	56.4	0.0	0.0	36.6
31	2	6.7	30.0	0.7	3.1	10.2
32	3	10.7	61.8	5.3	30.6	42.0
33	2	6.7	30.0	4.7	21.1	10.2
34	5	19.3	85.8	0.0	0.0	65.9
35	7	5.3	24.4	4.0	18.4	4.6
36	2	10.0	44.8	1.3	5.8	25.0
37	3	4.7	27.2	6.0	34.7	7.3
38	5	9.3	41.3	0.0	0.0	21.5
39	2	6.0	26.9	4.0	17.9	7.1
40	3	11.3	65.3	4.0	23.1	45.5

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SURVEY UNIT 444-B-009
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)[1]
41	2	12.0	53.8	8.7	39.0	34.0
42	5	4.7	20.9	3.3	14.7	1.0
43	5	14.7	65.3	0.7	3.1	45.5
44	5	19.0	84.4	2.0	8.9	64.6
45	7	10.7	49.3	3.3	15.2	29.5
46	3	11.3	65.3	5.3	30.6	45.5
47	3	13.3	76.9	4.0	23.1	57.0
48	3	7.3	42.2	5.3	30.6	22.3
49	5	0.0	0.0	0.0	0.0	-19.9
50	2	23.3	104.5	10.0	44.8	84.6
51	2	18.0	80.7	4.0	17.9	60.9
52	3	17.3	100.0	4.7	27.2	80.1
53	1	10.7	51.7	3.3	15.9	31.8
54	2	7.3	32.7	2.7	12.1	12.9
55	4	10.0	45.9	4.0	18.3	26.0
56	4	6.7	30.7	6.7	30.7	10.9
57	1	14.0	67.6	4.0	19.3	47.8
58	2	14.0	62.8	1.3	5.8	42.9
59	1	2.7	13.0	2.7	13.0	-6.8
60	3	10.7	61.8	6.0	34.7	42.0
61	1	8.7	42.0	8.0	38.6	22.2
62	3	10.7	61.8	6.7	38.7	42.0
63	5	4.7	20.9	1.3	5.8	1.0
64	5	10.0	44.4	0.7	3.1	24.6
65	1	10.7	51.7	1.3	6.3	31.8
66	2	8.7	39.0	1.3	5.8	19.2
67	3	4.7	27.2	8.7	50.3	7.3
68	2	10.0	44.8	4.0	17.9	25.0
69	1	4.0	19.3	2.7	13.0	-0.5
70	3	6.7	38.7	3.3	19.1	18.9
71	3	8.0	46.2	5.3	30.6	26.4
72	3	6.7	38.7	4.7	27.2	18.9
73	5	7.3	32.4	0.0	0.0	12.6
74	2	6.7	30.0	6.0	26.9	10.2
75	3	12.0	69.4	4.7	27.2	49.5
76	5	9.3	41.3	2.7	12.0	21.5
77	2	8.7	39.0	1.7	7.6	19.2
78	2	20.7	92.8	4.7	21.1	73.0
79	3	13.3	76.9	6.7	38.7	57.0
80	5	8.0	35.6	8.0	35.6	15.7
81	5	12.0	53.3	2.0	8.9	33.5
82	3	13.4	77.5	4.7	27.2	57.6
83	2	14.0	62.8	4.7	21.1	42.9
84	5	4.7	20.9	1.3	5.8	1.0
85	3	21.3	123.1	8.0	46.2	0.0
86	1	6.7	32.4	3.3	15.9	12.5
87	2	6.0	26.9	2.0	9.0	7.1
88	5	13.3	59.1	5.3	23.6	39.3
89	3	12.7	73.4	6.0	34.7	53.6
90	2	36.0	161.4	1.7	7.6	0.0
91	5	11.3	50.2	1.3	5.8	30.4
92	3	9.3	53.8	0.0	0.0	33.9
93	1	7.3	35.3	1.3	6.3	15.4
94	3	7.3	42.2	6.0	34.7	22.3
95	3	10.0	57.8	5.3	30.6	38.0

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SURVEY UNIT 444-B-009
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)[1]
96	5	7.3	32.4	0.0	0.0	12.6
97	1	4.7	22.7	1.3	6.3	2.9
98	3	7.3	42.2	4.0	23.1	22.3
99	2	9.3	41.7	4.7	21.1	21.9
100	2	2.0	9.0	4.7	21.1	-10.9
101	5	11.3	50.2	3.3	14.7	30.4
102	2	12.0	53.8	1.3	5.8	34.0
103	3	13.3	76.9	8.0	46.2	57.0
104	3	18.0	104.0	6.0	34.7	84.2
105	1	4.7	22.7	2.0	9.7	2.9
106	2	4.0	17.9	5.3	23.8	-1.9
107	5	8.0	35.6	6.0	26.7	15.7
108	1	4.0	19.3	0.7	3.4	-0.5
109	5	14.0	62.2	5.3	23.6	42.4
110	3	7.3	42.2	2.7	15.6	22.3
111	5	12.0	53.3	0.7	3.1	33.5
112	5	31.3	139.1	11.3	50.2	0.0
113	1	8.0	38.6	5.3	25.6	18.8
114	3	14.0	80.9	6.7	38.7	61.1
115	2	0.0	0.0	3.3	14.8	-19.9
116	3	11.3	65.3	4.7	27.2	45.5
117	1	5.3	25.6	3.3	15.9	5.8
118	1	6.0	29.0	4.7	22.7	9.1
119	3	17.3	100.0	7.3	42.2	80.1
120	3	16.0	92.5	2.7	15.6	72.6
121	2	14.7	65.9	1.3	5.8	46.1
122	5	26.7	118.7	4.7	20.9	98.8
123	1	6.7	32.4	2.0	9.7	12.5
124	3	8.7	50.3	3.3	19.1	30.4
125	5	4.0	17.8	4.7	20.9	-2.1
126	5	12.7	56.4	5.3	23.6	36.6
127	3	11.3	65.3	4.0	23.1	45.5
128	5	10.7	47.6	1.3	5.8	27.7
129	5	8.0	35.6	1.3	5.8	15.7
130	2	4.7	21.1	4.0	17.9	1.2
131	5	6.7	29.8	2.7	12.0	9.9
132	4	10.7	49.1	6.7	30.7	29.2
133	5	8.7	38.7	0.0	0.0	18.8
134	3	10.7	61.8	7.3	42.2	42.0
135	5	6.7	29.8	0.0	0.0	9.9
136	2	4.0	17.9	7.3	32.7	-1.9
137	3	51.3	296.5	8.7	50.3	0.0
138	1	4.7	22.7	2.0	9.7	2.9
139	3	12.7	73.4	4.0	23.1	53.6
140	3	6.7	38.7	6.0	34.7	18.9
141	1	14.0	67.6	4.0	19.3	47.8
142	1	6.0	29.0	0.7	3.4	9.1
143	9	15.3	72.5	1.3	6.2	52.7
144	3	16.0	92.5	5.3	30.6	72.6
145	5	11.3	50.2	4.7	20.9	30.4
146	5	3.3	14.7	0.7	3.1	-5.2
147	3	10.7	61.8	6.7	38.7	42.0
148	5	5.3	23.6	3.0	13.3	3.7
149	5	11.3	50.2	4.7	20.9	30.4
150	1	16.7	80.7	3.3	15.9	60.8

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SURVEY UNIT 444-B-009
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)[1]
151	8	6.0	25.2	5.3	22.3	5.4
152	2	6.0	26.9	6.0	26.9	7.1
153	1	6.7	32.4	4.7	22.7	12.5
154	5	14.0	62.2	0.7	3.1	42.4
155	2	12.0	53.8	5.3	23.8	34.0
156	2	14.0	62.8	7.3	32.7	42.9
157	3	9.3	53.8	2.7	15.6	33.9
158	2	3.3	14.8	2.0	9.0	-5.1
159	3	8.0	46.2	5.3	30.6	26.4
160	5	8.0	35.6	0.0	0.0	15.7
161	1	14.7	71.0	3.3	15.9	51.2
162	5	5.3	23.6	2.7	12.0	3.7
163	5	6.0	26.7	3.3	14.7	6.8
164	5	14.0	62.2	3.3	14.7	42.4
165	5	8.7	38.7	3.3	14.7	18.8
166	3	9.3	53.8	6.7	38.7	33.9
167	3	8.0	46.2	6.7	38.7	26.4
168	3	18.0	104.0	8.7	50.3	84.2
169	5	7.3	32.4	4.7	20.9	12.6
170	3	6.1	35.3	5.3	30.6	15.4
171	2	7.3	32.7	7.3	32.7	12.9
172	3	16.7	96.5	2.7	15.6	76.7
173	3	6.0	34.7	4.7	27.2	14.8
174	5	21.3	94.7	0.0	0.0	74.8
175	3	16.7	96.5	2.5	14.5	76.7
176	2	17.3	77.6	9.3	41.7	57.7
177	3	11.3	65.3	6.7	38.7	45.5
178	2	6.0	26.9	1.3	5.8	7.1
179	5	14.7	65.3	5.3	23.6	45.5
180	3	18.0	104.0	8.0	46.2	84.2
181	3	8.0	46.2	3.3	19.1	26.4
182	3	5.3	30.6	2.7	15.6	10.8
183	2	64.7	290.1	2.7	12.1	0.0
184	3	10.7	61.8	10.0	57.8	42.0
185	1	5.3	25.6	4.0	19.3	5.8
186	2	10.7	48.0	1.3	5.8	28.1
187	2	10.0	44.8	6.0	26.9	25.0
188	2	18.7	83.9	4.0	17.9	64.0
189	3	20.7	119.7	4.7	27.2	99.8
190	3	14.7	85.0	8.0	46.2	65.1
191	3	2.0	11.6	4.7	27.2	-8.3
192	5	8.7	38.7	1.3	5.8	18.8
193	5	6.7	29.8	3.3	14.7	9.9
194	1	12.0	58.0	5.3	25.6	38.1
195	2	0.0	0.0	0.7	3.1	-19.9
196	3	10.0	57.8	8.7	50.3	38.0
197	4	4.7	21.6	2.7	12.4	1.7
198	2	64.0	287.0	2.0	9.0	0.0
199	5	5.3	23.6	7.3	32.4	3.7
200	5	8.7	38.7	2.0	8.9	18.8
201	5	13.3	59.1	0.7	3.1	39.3
202	3	7.3	42.2	2.7	15.6	22.3
203	3	5.3	30.6	5.3	30.6	10.8
204	3	15.3	88.4	6.0	34.7	68.6
205	1	16.7	80.7	2.7	13.0	60.8

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SURVEY UNIT 444-B-009
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)[1]
206	5	4.7	20.9	2.7	12.0	1.0
207	2	7.3	32.7	2.7	12.1	12.9
208	3	26.7	154.3	8.7	50.3	0.0
209	5	12.7	56.4	0.0	0.0	36.6
210	1	8.7	42.0	6.0	29.0	22.2
211	5	3.3	14.7	1.3	5.8	-5.2
212	2	12.0	53.8	1.3	5.8	34.0
213	1	6.7	32.4	3.3	15.9	12.5
214	3	7.3	42.2	2.7	15.6	22.3
215	3	10.0	57.8	1.3	7.5	38.0
216	4	8.7	39.9	2.7	12.4	20.1
217	3	10.0	57.8	2.7	15.6	38.0
218	5	6.7	29.8	2.0	8.9	9.9
219	3	10.7	61.8	7.3	42.2	42.0
220	5	16.7	74.2	2.7	12.0	54.4
221	4	4.7	21.6	5.3	24.3	1.7
222	2	6.7	30.0	4.7	21.1	10.2
223	2	4.7	21.1	2.7	12.1	1.2
224	5	8.7	38.7	1.3	5.8	18.8
225	3	6.0	34.7	3.3	19.1	14.8
226	2	7.3	32.7	4.7	21.1	12.9
227	3	10.7	61.8	6.7	38.7	42.0
228	3	14.7	85.0	5.3	30.6	65.1
229	3	14.7	85.0	6.7	38.7	65.1
230	2	14.7	65.9	6.0	26.9	46.1
231	5	9.3	41.3	2.7	12.0	21.5

1 - Average LAB used to subtract from Gross Sample Activity

19.9	Sample LAB Average
MIN	-19.9
MAX	99.8
MEAN	28.5
SD	24.0
Transuranic $DCGL_W$	**100**

QC Measurements

12 QC	1	6.7	32.4	3.3	15.9	14.8
108 QC	1	10.0	48.3	3.3	15.9	30.8
207 QC	1	2.7	13.0	2.7	13.0	-4.5
69 QC	2	5.3	23.8	5.3	23.8	6.2
21 QC	2	11.3	50.7	10.0	44.8	33.1
138 QC	3	6.0	34.7	2.7	15.6	17.1
77 QC	2	10.0	44.8	6.0	26.9	27.3
86 QC	3	8.7	50.3	0.7	4.0	32.8
146 QC	3	5.3	30.6	6.7	38.7	13.1
113 QC	2	10.0	44.8	0.0	0.0	27.3
174 QC	3	28.7	165.9	2.0	11.6	148.4
229 QC	3	14.7	85.0	0.0	0.0	67.4

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

17.5	QC LAB Average
MIN	-4.5
MAX	148.4
MEAN	34.5
Transuranic $DCGL_W$	**100**

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SURVEY UNIT 444-B-009
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)[1]

TSA Data Summary Comments

Initial Sample Net Activity results:

Location	Initial Survey result (dpm/100cm^2)	Action/Investigation
35	52.7	High background - re-survey results reported - See Note 1 below
45	64.3	High background - re-survey results reported - See Note 1 below
85	102.4	re-survey still elevated - operating plenum, coupon not collected - See Note 2 below
90	140.8	coupon collected and analyzed - See Note 3 below
112	118.4	media sample collected and analyzed - See Note 5 below
137	275.9	re-survey still elevated - operating plenum, coupon not collected - See Note 2 below
143	102.4	re-survey results reported
151	126.0	re-survey results reported
183	269.5	coupon collected and analyzed - See Note 3 below
198	266.3	coupon collected and analyzed - See Note 3 below
208	133.7	re-survey still elevated - operating plenum, coupon not collected - See Note 2 below
174 QC	148.4	on dock - all docks will undergo another PDS prior to demolition

1.) The initial survey for locations 35 and 45 had elevated background levels (65.3 and 116.8 dpm/100cm^2, respectively) These locations were re-surveyed. Re-survey results are reported.

2.) Locations 85, 137, and 208 are exposed metal on the exterior of operating plenums. Coupon samples were not obtained because the plenums are still in use. However, nine (9) coupon samples were collected from similar surfaces from roof locations in the B444 cluster and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected from these metal coupons. All sample activity on exposed metal was determined to be from uranium and naturally occuring isotopes. The Sample Net Activity for each location is below the $DCGL_W$ limits (5000 dpm/100cm2) for uranium. All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis , transuranic values for locations 85, 137, and 208 are reported as zero (O) net activity in the TSA Data Summary.

3.) Coupon samples were collected from locations 90, 183, and 198 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. Roof sample activity was determined to be from uranium and naturally occuring isotopes. The Sample Net Activity for each location is below the $DCGL_W$ limits (5000 dpm/100cm2) for uranium. All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis , transuranic values for locations 90, 183, and 198 are reported as zero (O) net activity in the TSA Data Summary.

4.) Locations 143 and 151 had initial elevated survey results. These locations were re-surveyed. Re-survey results are reported.

5.) A media sample was collected from the concrete surface at location 112 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected, therefore a value of zero is reported in the TSA data summary. The media sample results were converted to dpm/100cm^2 as calculated on the Media Sample Conversion sheet. The calculated uranium value of 245.7 dpm/100cm^2 is below the $DCGL_W$ limits (5000 dpm/100cm^2) for uranium. All survey results are less than the applicable DCGLs, therefore, no further investigation is required.

6.) Elevated fixed contamination levels were discovered during the scan survey of the southeast wall and dock. Follow up action included notification of building and characterizaton team supervision, additional removable contamination surveys, and additional beta scan surveys at each access portal (doors, docks, roll-up doors, etc.) throughout the B444 cluster. Beta scans were performed because uranium is the primary radioactive contaminant. All scanned areas with elevated beta count rates were were marked to indicate probable fixed contamination areas. Many parts of these areas are not contaminated above the $DCGL_W$ limits, however they are marked to ensure that all contamination is bounded within the markings as indicated on the map.. Fixed contamination was also found on some asphalt and is shown on the map. All access portals within the B444 Cluster will be re-surveyed to PDS criteria prior to final demolition of the buildings.

7.) Location QC 174 was surveyed twice. The second survey result was 126 dpm/100cm^2. This confirms the elevated activity of the initial QC measurement at this location. This location is located on a dock with sporadic contamination and will be re-surveyed to PDS criteria prior to final demolition of the buildings.

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Media Sample Conversion Calculation Sheet

LOCATION DESCRIPTION	SAMPLE LOCATION NUMBER	SITE SAMPLE ID	NUCLIDE	pCi/g[1]	MDA (pCi/g)	WEIGHT (g)	SURFACE AREA (in^2)	INDIVIDUAL NUCLIDE ($dpm/100cm^2$)	ESTIMATED MDA ($dpm/100cm^2$)	URANIUM TOTAL ($dpm/100cm^2$)	TRANSURANIC TOTAL ($dpm/100cm^2$)
457 pad	14	O2D0210.020.001	U-235	0.896	0.118	29	24.5	36	5		
			U-238	5.220	0.805			210	32	**245.7**	
			Pu-239 Pu-240	0.000	1.462			0	59		
			Am-241	0.000	0.196			0	8		**0.0**

1 - Critical Level test criterion were used in this analysis. If the peak area was less than L_C(critical level), then a "not detected" or "zero" decision was made.

SURVEY UNIT 444-B-009
RSC - DATA SUMMARY

Instrument ID#:	Manufacturer:	Model:	Serial #:	Cal Due Date	Bckground (cpm)	Alpha Eff. (c/d):	MDC ($dpm/100cm^2$)
1	Eberline	SAC-4	770	7/25/02	0.0	0.33	9.0
2	Eberline	SAC-4	851	10/29/02	0.1	0.33	9.0
3	Eberline	SAC-4	959	7/14/02	0.0	0.33	9.0
4	Eberline	SAC-4	966	11/6/02	0.1	0.33	9.0
5	Eberline	SAC-4	963	1/3/03	0.1	0.33	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity ($dpm/100\ cm^2$)
1	1	0.0	0.0
2	5	0.0	-0.3
3	4	1.0	1.2
4	1	0.0	0.0
5	2	0.0	-0.3
6	3	0.0	0.0
7	2	0.0	-0.3
8	3	0.0	0.0
9	4	0.0	-0.3
10	2	1.0	1.2
11	2	0.0	-0.3
12	4	1.0	1.2
13	2	0.0	-0.3
14	4	1.0	1.2
15	4	0.0	-0.3
16	3	1.0	1.5
17	3	0.0	0.0
18	2	0.0	-0.3
19	2	0.0	-0.3
20	3	0.0	0.0
21	4	0.0	-0.3
22	4	0.0	-0.3
23	2	1.0	1.2
24	4	1.0	1.2
25	4	1.0	1.2
26	2	1.0	1.2
27	4	0.0	-0.3
28	3	0.0	0.0
29	1	0.0	0.0
30	2	1.0	1.2
31	4	0.0	-0.3
32	5	0.0	-0.3
33	2	0.0	-0.3
34	1	1.0	1.5
35	5	2.0	2.7
36	3	0.0	0.0
37	1	2.0	3.0
38	4	1.0	1.2
39	4	0.0	-0.3
40	1	1.0	1.5

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SURVEY UNIT 444-B-009
RSC - DATA SUMMARY

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
41	3	1.0	1.5
42	2	4.0	5.8
43	2	3.0	4.2
44	3	0.0	0.0
45	3	1.0	1.5
46	2	0.0	-0.3
47	4	0.0	-0.3
48	3	1.0	1.5
49	4	1.0	1.2
50	2	0.0	-0.3
51	2	0.0	-0.3
52	4	0.0	-0.3
53	4	1.0	1.2
54	4	0.0	-0.3
55	1	0.0	0.0
56	3	0.0	0.0
57	3	0.0	0.0
58	4	0.0	-0.3
59	3	1.0	1.5
60	1	1.0	1.5
61	1	1.0	1.5
62	4	0.0	-0.3
63	4	0.0	-0.3
64	3	0.0	0.0
65	1	1.0	1.5
66	1	0.0	0.0
67	1	1.0	1.5
68	3	1.0	1.5
69	2	3.0	4.2
70	1	0.0	0.0
71	1	1.0	1.5
72	2	0.0	-0.3
73	2	2.0	2.7
74	4	0.0	-0.3
75	1	1.0	1.5
76	1	0.0	0.0
77	3	0.0	0.0
78	1	1.0	1.5
79	3	1.0	1.5
80	4	0.0	-0.3
81	4	0.0	-0.3
82	4	0.0	-0.3
83	2	1.0	1.2
84	4	0.0	-0.3
85	5	1.0	1.2
86	4	1.0	1.2
87	3	0.0	0.0
88	1	0.0	0.0
89	4	0.0	-0.3
90	2	3.0	4.2
91	3	0.0	0.0
92	4	0.0	-0.3
93	4	0.0	-0.3

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SURVEY UNIT 444-B-009
RSC - DATA SUMMARY

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
94	4	1.0	1.2
95	3	0.0	0.0
96	3	0.0	0.0
97	4	1.0	1.2
98	3	0.0	0.0
99	2	1.0	1.2
100	2	0.0	-0.3
101	1	0.0	0.0
102	3	0.0	0.0
103	2	0.0	-0.3
104	2	1.0	1.2
105	1	0.0	0.0
106	4	0.0	-0.3
107	1	0.0	0.0
108	3	0.0	0.0
109	2	0.0	-0.3
110	3	1.0	1.5
111	4	0.0	-0.3
112	4	1.0	1.2
113	2	1.0	1.2
114	1	1.0	1.5
115	2	1.0	1.2
116	2	0.0	-0.3
117	1	0.0	0.0
118	2	1.0	1.2
119	1	3.0	4.5
120	4	0.0	-0.3
121	3	0.0	0.0
122	3	0.0	0.0
123	4	0.0	-0.3
124	1	0.0	0.0
125	2	0.0	-0.3
126	3	1.0	1.5
127	5	1.0	1.2
128	1	0.0	0.0
129	3	0.0	0.0
130	4	1.0	1.2
131	4	1.0	1.2
132	1	0.0	0.0
133	3	1.0	1.5
134	1	1.0	1.5
135	4	0.0	-0.3
136	1	0.0	0.0
137	1	1.0	1.5
138	2	0.0	-0.3
139	2	0.0	-0.3
140	4	2.0	2.7
141	1	0.0	0.0
142	3	1.0	1.5
143	1	0.0	0.0
144	2	3.0	4.2
145	2	1.0	1.2
146	4	0.0	-0.3

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SURVEY UNIT 444-B-009
RSC - DATA SUMMARY

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
147	4	0.0	-0.3
148	1	1.0	1.5
149	3	0.0	0.0
150	1	0.0	0.0
151	1	1.0	1.5
152	4	0.0	-0.3
153	1	0.0	0.0
154	2	1.0	1.2
155	3	0.0	0.0
156	1	0.0	0.0
157	3	0.0	0.0
158	2	0.0	-0.3
159	1	0.0	0.0
160	1	0.0	0.0
161	2	1.0	1.2
162	3	0.0	0.0
163	2	0.0	-0.3
164	4	0.0	-0.3
165	4	0.0	-0.3
166	1	0.0	0.0
167	2	0.0	-0.3
168	2	0.0	-0.3
169	2	1.0	1.2
170	2	0.0	-0.3
171	3	1.0	1.5
172	1	1.0	1.5
173	1	0.0	0.0
174	4	0.0	-0.3
175	3	1.0	1.5
176	1	1.0	1.5
177	3	0.0	0.0
178	2	2.0	2.7
179	3	1.0	1.5
180	1	0.0	0.0
181	1	0.0	0.0
182	2	0.0	-0.3
183	3	2.0	3.0
184	1	1.0	1.5
185	4	0.0	-0.3
186	1	0.0	0.0
187	3	0.0	0.0
188	4	0.0	-0.3
189	4	1.0	1.2
190	3	0.0	0.0
191	2	1.0	1.2
192	1	0.0	0.0
193	4	0.0	-0.3
194	2	0.0	-0.3
195	4	4.0	5.8
196	2	0.0	-0.3
197	2	1.0	1.2
198	1	0.0	0.0
199	2	2.0	2.7

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SURVEY UNIT 444-B-009
RSC - DATA SUMMARY

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
200	3	0.0	0.0
201	1	0.0	0.0
202	3	1.0	1.5
203	1	1.0	1.5
204	3	1.0	1.5
205	2	2.0	2.7
206	3	0.0	0.0
207	1	0.0	0.0
208	2	0.0	-0.3
209	3	0.0	0.0
210	4	1.0	1.2
211	2	0.0	-0.3
212	2	0.0	-0.3
213	3	0.0	0.0
214	3	0.0	0.0
215	3	1.0	1.5
216	2	1.0	1.2
217	1	0.0	0.0
218	3	0.0	0.0
219	1	0.0	0.0
220	1	0.0	0.0
221	1	0.0	0.0
222	3	1.0	1.5
223	3	0.0	0.0
224	3	0.0	0.0
225	4	0.0	-0.3
226	3	0.0	0.0
227	3	1.0	1.5
228	1	0.0	0.0
229	2	1.0	1.2
230	2	1.0	1.2
231	2	1.0	1.2
		MIN	-0.3
		MAX	5.8
		MEAN	0.6
		SD	1.1
		Transuranic $DCGL_W$	**20**

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

Report Generated On : 8/15/2002 11:12:32 AM

RIN Number : 02S0210
Analytical Batch ID : 0208124732
Line Item Code : RC10B019

Concrete media Sample

Location 112

Filename: A:\G1900053.CNF

Sample Number : 02S0210-020.001
Lab Sample Number : CMLS-1594
Sample Receipt Date : 8/12/2002
Sample Volume Received : 2.86E+001 Grams

Result Identifier : N/A

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1.000 keV

Sample (Final Aliquot Size) : 2.863E+001 Grams
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 8/09/2002 10:37:00 AM
Acquisition Started : 8/13/2002 3:27:47 PM

Count Time : 86400.0 seconds
Real Time : 86468.6 seconds
Dead Time : 0.08 %

Energy Calibration Used Done On : 7/01/02
Energy = -0.102 + 0.250*ch + -3.87E-008*ch^2 + 2.95E-012*ch^3

Corrections Applied:
None

Efficiency Calibration Used Done On : 8/13/02
Efficiency Geometry ID : 02S0210-020.001

Analyzed By: Marilyn Umbaugh Date: 8/15/02

Reviewed By: Larry Umbaugh Date: 8/15/02

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

Site Sample ID : 02S0210-020.001

Analytical Batch ID : 0208124732

Sample Type (Result Identifier): G19

Lab Sample Number : CMLS-1594

Geometry ID : 02S0210-020.001

Filename: A:\G1900053.CNF

Detector Name: BEGE4732

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

Analyte	Activity (pCi/Grams)	2-Sigma Uncertainty (pCi/Grams)	MDA (pCi/Grams)
K-40	5.73E+001	2.96E+000	3.39E+000
CS-137	2.04E-001	6.89E-002	1.60E-001
TL-208	8.65E-001	1.69E-001	2.66E-001
PO-210	2.21E+004	6.25E+003	1.43E+004
BI-212	2.05E+000	1.60E+000	2.67E+000
PB-212	2.01E+000	1.16E-001	1.77E-001
BI-214	1.24E+000	2.76E-001	4.58E-001
PB-214	8.95E-001	1.90E-001	3.47E-001
RA-226	0.00E+000	0.00E+000	3.06E+000
AC-228	2.60E+000	4.67E-001	8.25E-001
TH-230	0.00E+000	0.00E+000	1.77E+001
Th-231	1.04E+000	2.98E-001	6.67E-001
PA-234	0.00E+000	0.00E+000	2.40E-001
PA-234M	0.00E+000	0.00E+000	3.20E+001
U-235	8.96E-001	1.18E-001	1.90E-001
U238/234	5.22E+000	9.84E-001	8.05E-001
AM-241	0.00E+000	0.00E+000	1.96E-001

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CANBERRA

Analysis Results Header 8/15/2002 10:55:50 AM Page 1

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

Report Generated On : 8/15/2002 10:55:50 AM

RIN Number : 02S0210
Analytical Batch ID : 0208124732
Line Item Code : RC10B019

9 metal coupons from B444 cluster

Filename: A:\G1900051.CNF

Sample Number : 02S0210-018.001
Lab Sample Number : CMLS-1592
Sample Receipt Date : 8/12/2002
Sample Volume Received : 1.05E+002 Grams

Result Identifier : N/A

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1.000 keV

Sample (Final Aliquot Size) : 1.051E+002 Grams
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 8/09/2002 2:45:00 PM
Acquisition Started : 8/13/2002 11:46:33 AM

Count Time : 3600.0 seconds
Real Time : 3602.8 seconds
Dead Time : 0.08 %

Energy Calibration Used Done On : 7/01/02
Energy = -0.102 + 0.250*ch + -3.87E-008*ch^2 + 2.95E-012*ch^3

Corrections Applied:
None

Efficiency Calibration Used Done On : 8/13/02
Efficiency Geometry ID : 02S0210-018.001

Analyzed By: Marilyn Umbaugh Date: 8/15/02

Reviewed By: Larry Umbaugh Date: 8/15/02

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

Site Sample ID : 02S0210-018.001

Analytical Batch ID : 0208124732

Sample Type (Result Identifier): G19

Lab Sample Number : CMLS-1592

Geometry ID : 02S0210-018.001

Filename: A:\G1900051.CNF

Detector Name: BEGE4732

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

Analyte	Activity (pCi/Grams)	2-Sigma Uncertainty (pCi/Grams)	MDA (pCi/Grams)
K-40	5.80E+000	1.94E+000	2.60E+000
CS-137	0.00E+000	0.00E+000	2.18E-001
TL-208	0.00E+000	0.00E+000	2.16E-001
PO-210	0.00E+000	0.00E+000	1.95E+004
BI-212	0.00E+000	0.00E+000	3.08E+000
PB-212	0.00E+000	0.00E+000	2.46E-001
BI-214	4.03E-001	1.91E-001	2.79E-001
PB-214	0.00E+000	0.00E+000	4.07E-001
RA-226	0.00E+000	0.00E+000	3.22E+000
AC-228	0.00E+000	0.00E+000	8.61E-001
TH-230	0.00E+000	0.00E+000	3.65E+001
Th-231	0.00E+000	0.00E+000	1.51E+000
PA-234	0.00E+000	0.00E+000	2.94E-001
PA-234M	0.00E+000	0.00E+000	2.53E+001
U-235	0.00E+000	0.00E+000	1.97E-001
U238/234	2.44E+000	9.33E-001	1.37E+000
AM-241	0.00E+000	0.00E+000	4.94E-001

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ATTACHMENT C-14

Survey Unit 444-B-010

Radiological Data Summaries and Survey Maps

SURVEY UNIT 444-B-010
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B447Exterior

243

Total Surface Activity Measurements

	40	40	
	Number Required	Number Obtained	
MIN	-3.9		dpm/100 cm^2
MAX	79.2		dpm/100 cm^2
MEAN	35.3		dpm/100 cm^2
STD DEV	22.4		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	40	40	
	Number Required	Number Obtained	
MIN	-1.5		dpm/100 cm^2
MAX	6.1		dpm/100 cm^2
MEAN	0.6		dpm/100 cm^2
STD DEV	2.2		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

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SURVEY UNIT 444-B-010
TSA - DATA SUMMARY

Manufacturer:	NE Electra	NE Electra	NE Electra	NE Electra
Model:	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	7	8	9	10
Serial #:	1379	1249	1249	1420
Cal Due Date:	11/20/02	10/5/02	10/5/02	9/27/02
Analysis Date:	7/2/02	7/2/02	7/3/02	7/3/02
Alpha Eff. (c/d):	0.202	0.207	0.207	0.223
Alpha Bkgd (cpm)	4.7	2.7	0.7	2.7
Sample Time (min)	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5
MDC ($dpm/100cm^2$)	48.0	48.0	48.0	48.0

Manufacturer:	NE Electra	NE Electra	NE Electra	NE Electra	NE Electra
Model:	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	11	12	19	20	21
Serial #:	1379	1379	1260	1250	1241
Cal Due Date:	11/20/02	11/20/02	8/27/02	10/10/02	8/26/02
Analysis Date:	7/3/02	7/10/02	7/10/02	7/10/02	8/6/02
Alpha Eff. (c/d):	0.202	0.202	0.225	0.213	0.217
Alpha Bkgd (cpm)	4.3	4.7	2.0	2.0	2.0
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 ($dpm/100cm^2$)	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)[2]	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
1	8	6.7	32.4	2.0	9.7	8.7
2	12	14.7	72.8	3.3	16.3	49.1
3	11	15.3	75.7	5.3	26.2	52.1
4	12	12.0	59.4	4.7	23.3	35.7
5	11	20.0	99.0	8.7	43.1	75.3
6	7	10.7	53.0	4.0	19.8	29.3
7	12	11.3	55.9	4.0	19.8	32.3
8	11	11.3	55.9	11.3	55.9	32.3
9	11	10.0	49.5	6.0	29.7	25.8
10	10	7.3	32.7	2.0	9.0	9.1
11	11	18.7	92.6	4.0	19.8	68.9
12	21	16.7	77.0	4.0	18.4	53.3
13	9	11.3	54.6	0.7	3.4	30.9
14	9	8.0	38.6	1.3	6.3	15.0
15	11	14.0	69.3	6.7	33.2	45.6
16	10	10.0	44.8	7.3	32.7	21.2
17	8	10.0	48.3	3.0	14.5	24.6
18	12	17.3	85.6	3.3	16.3	62.0
19	12	18.7	92.6	5.3	26.2	68.9
20	11	13.3	65.8	6.0	29.7	42.2
21	8	6.0	29.0	2.0	9.7	5.3
22	12	18.0	89.1	4.7	23.3	65.4
23	7	10.0	49.5	5.3	26.2	25.8
24	12	11.3	55.9	6.0	29.7	32.3
25	7	6.0	29.7	4.7	23.3	6.0
26	7	14.7	72.8	9.3	46.0	49.1
27	11	11.3	55.9	6.7	33.2	32.3
28	12	14.7	72.8	1.3	6.4	49.1
29	11	4.0	19.8	4.0	19.8	-3.9
30	12	20.7	102.5	2.7	13.4	78.8
31	9	6.7	32.4	2.0	9.7	8.7
32	9	10.0	48.3	2.7	13.0	24.6
33	10	14.0	62.8	2.7	12.1	39.1

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SURVEY UNIT 444-B-010
TSA - DATA SUMMARY

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)[2]	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
34	9	21.3	102.9	4.0	19.3	79.2
35	9	10.3	49.8	0.7	3.4	26.1
36	7	8.7	43.1	4.0	19.8	19.4
37	11	13.3	65.8	10.7	53.0	42.2
38	11	4.0	19.8	7.3	36.1	-3.9
39	11	13.3	65.8	6.7	33.2	42.2
40	11	7.3	36.1	12.7	62.9	12.5
					23.7	Sample LAB Average
					MIN	-3.9
					MAX	79.2
					MEAN	35.3
					SD	22.4
					Transuranic $DCGL_W$	**100**

1 - Average LAB used to subtract from Gross Sample Activity

2- TSA and LAB measurements for location 12 are from re-survey performed on 8/6/02.

Initial Sample Net Activity was 128 dpm/100cm

QC Measurements

21 QC	10	4.7	21.1	5.3	23.8	-2.7
15 QC	10	8.7	39.0	5.3	23.8	15.2
					23.8	QC LAB Average
					MIN	-2.7
					MAX	15.2
					MEAN	6.3
					Transuranic $DCGL_W$	**100**

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

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SURVEY UNIT 444-B-010
RSC - DATA SUMMARY

Manufacturer:	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	1	2	3	4
Serial #:	770	851	959	966
Cal Due Date:	7/25/02	10/29/02	7/14/02	11/6/02
Analysis Date:	7/3/02	7/3/02	7/3/02	7/3/02
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.1	0.5	0.3	0.4
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm^2)	7.0	10.0	8.8	9.4

Manufacturer:	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	5	6	13	14
Serial #:	770	851	959	966
Cal Due Date:	7/25/02	10/29/02	7/14/02	11/6/02
Analysis Date:	7/12/02	7/12/02	7/12/02	7/12/02
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.1	0.4	0.1	0.1
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm^2)	7.0	10.0	8.8	9.4

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	1	1.0	0.9
2	5	2.0	6.1
3	2	0.0	-1.5
4	6	1.0	3.0
5	3	0.0	-0.9
6	4	0.0	-1.2
7	14	1.0	3.0
8	1	0.0	-0.3
9	2	1.0	1.5
10	3	2.0	5.2
11	4	0.0	-1.2
12	5	2.0	6.1
13	1	1.0	2.7
14	2	0.0	-1.5
15	3	1.0	2.1
16	4	0.0	-1.2
17	1	0.0	-0.3
18	5	0.0	0.0
19	13	0.0	0.0
20	2	0.0	-1.5
21	3	0.0	-0.9
22	5	0.0	0.0
23	4	0.0	-1.2
24	13	0.0	0.0
25	1	0.0	-0.3
26	2	1.0	1.5
27	3	0.0	-0.9

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SURVEY UNIT 444-B-010
RSC - DATA SUMMARY

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
28	14	0.0	0.0
29	4	0.0	-1.2
30	6	0.0	0.0
31	1	1.0	2.7
32	2	1.0	1.5
33	3	2.0	5.2
34	4	0.0	-1.2
35	1	1.0	2.7
36	2	0.0	-1.5
37	3	0.0	-0.9
38	4	0.0	-1.2
39	1	0.0	-0.3
40	2	0.0	-1.5
		MIN	-1.5
		MAX	6.1
		MEAN	0.6
		SD	2.2
		Transuranic $DCGL_W$	**20**

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ATTACHMENT C-15

Survey Unit 444-B-011

Radiological Data Summaries and Survey Maps

SURVEY UNIT 444-B-011
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B448 & B450 Exterior

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444-B-011
PDS Data Summary

Total Surface Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-20.0		dpm/100 cm^2
MAX	65.0		dpm/100 cm^2
MEAN	29.1		dpm/100 cm^2
STD DEV	24.4		dpm/100 cm^2
TRANSURANIC $DCGL_W$	100		dpm/100 cm^2

Removable Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-0.6		dpm/100 cm^2
MAX	5.9		dpm/100 cm^2
MEAN	0.9		dpm/100 cm^2
STD DEV	1.6		dpm/100 cm^2
TRANSURANIC $DCGL_W$	20		dpm/100 cm^2

1 -The initial Sample Net Activity for roof locations 5, 6, and 9 were 245.9, 238.4, and 179.1 dpm/100cm^2 respectively. A coupon sample was collected from locations 5 and 9 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. Roof sample activity was determined to be from uranium and naturally occuring isotopes. The Sample Net Activity for each of these locations is below the uranium $DCGL_W$ limits (5000 dpm/100cm2) . All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis, transuranic values for locations 5, 6, and 9 are reported as zero (O) net activity in the TSA Data Summary.

SURVEY UNIT 444-B-011
TSA - DATA SUMMARY

Manufacturer:	NE Electra	NE Electra	NE Electra	NE Electra	NE Electra
Model:	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	7	8	9	10	11
Serial #:	1554	1379	1379	1260	1250
Cal Due Date:	8/26/02	11/20/02	11/20/20	8/27/02	10/10/02
Analysis Date:	7/10/02	7/12/02	7/12/02	7/12/02	7/12/02
Alpha Eff. (c/d):	0.221	0.173	0.173	0.221	0.213
Alpha Bkgd (cpm)	6.0	4.7	2.0	2.7	2.0
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^2)	48.0	48.0	48.0	48.0	48.0

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)[1, 2]
1	9	12.7	73.4	6.0	34.7	53.4
2	8	10.7	61.8	4.7	27.2	41.8
3	10	0.0	0.0	0.0	0.0	-20.0
4	9	10.7	61.8	5.3	30.6	41.8
5	8	46.0	265.9	3.3	19.1	0.0
6	8	44.7	258.4	4.7	27.2	0.0
7	9	14.0	80.9	3.3	19.1	60.9
8	10	13.3	60.2	0.0	0.0	40.2
9	7	44.0	199.1	3.3	14.9	0.0
10	10	15.0	67.9	0.0	0.0	47.9
11	9	14.0	80.9	3.3	19.1	60.9
12	9	14.7	85.0	2.7	15.6	65.0
13	9	9.3	53.8	5.3	30.6	33.7
14	9	10.0	57.8	4.7	27.2	37.8
15	9	8.7	50.3	5.3	30.6	30.3
16	8	9.3	53.8	3.3	19.1	33.7
17	9	9.3	53.8	4.0	23.1	33.7
18	11	8.7	40.8	6.7	31.5	20.8
19	11	6.7	31.5	4.7	22.1	11.4
20	11	6.0	28.2	2.7	12.7	8.2
21	10	7.3	33.0	0.0	0.0	13.0
22	10	0.0	0.0	0.0	0.0	-20.0
23	9	8.7	50.3	5.3	30.6	30.3
24	9	12.0	69.4	8.0	46.2	49.4
25	9	12.7	73.4	3.3	19.1	53.4
					20.0	Sample LAB Average
					MIN	-20.0
					MAX	65.0
					MEAN	29.1
					SD	24.4
					Transuranic DCGL$_W$	100

1 - Average LAB used to subtract from Gross Sample Activity

2 -The initial Sample Net Activity for roof locations 5, 6, and 9 were 245.9, 238.4, and 179.1 dpm/100cm^{2}respectively. A coupon sample was collected from locations 5 and 9 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. Roof sample activity was determined to be from uranium and naturally occuring isotopes. The Sample Net Activity for each of these locations is below the uranium DCGL$_W$ limits (5000 dpm/100cm2). All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis, transuranic values for locations 5, 6, and 9 are reported as zero (O) net activity in the TSA Data Summary.

QC Measurements

17 QC	11	6.0	28.2	2.0	9.4	9.9
20 QC	9	4.7	27.2	4.7	27.2	8.9
					18.3	QC LAB Average
					MIN	8.9
					MAX	9.9
					MEAN	9.4
					Transuranic DCGL$_W$	100

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

253

SURVEY UNIT 444-B-011
RSC - DATA SUMMARY

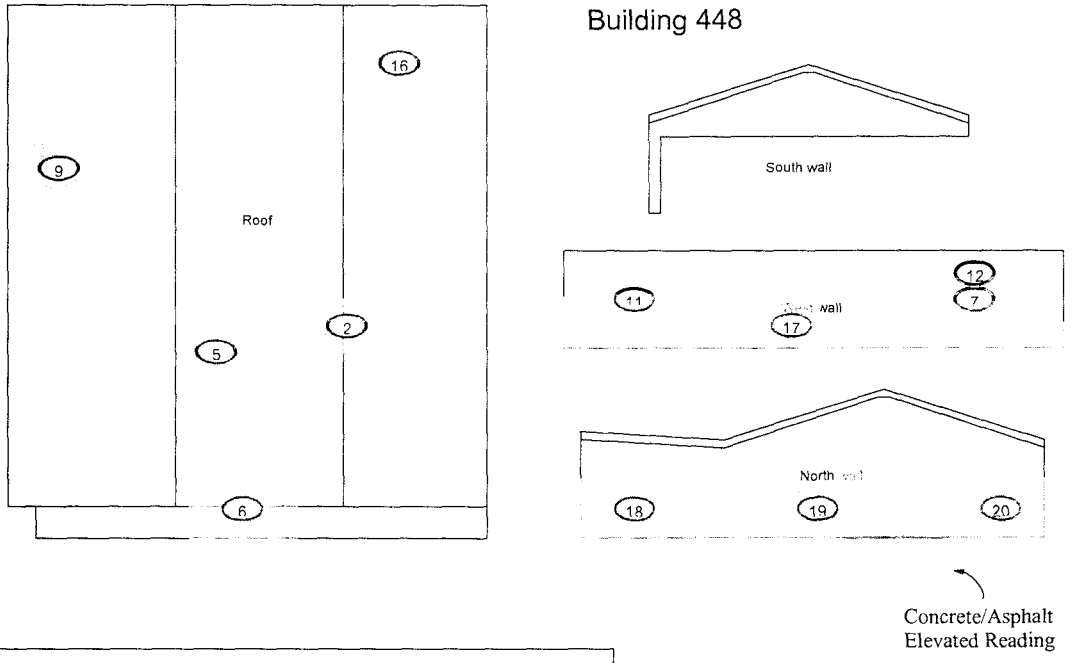
Manufacturer:	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	1	2	2	2
Serial #:	770	851	959	966
Cal Due Date:	7/25/02	10/29/02	7/14/02	11/6/02
Analysis Date:	7/12/02	7/12/02	7/12/02	7/12/02
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.1	0.4	0.1	0.1
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm^2)	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	1	2.0	2.9
2	2	2.0	2.4
3	3	1.0	1.4
4	4	0.0	-0.2
5	1	0.0	-0.2
6	2	1.0	0.9
7	3	0.0	-0.2
8	4	1.0	1.4
9	1	4.0	5.9
10	2	0.0	-0.6
11	3	0.0	-0.2
12	4	0.0	-0.2
13	1	1.0	1.4
14	2	0.0	-0.6
15	3	1.0	1.4
16	4	0.0	-0.2
17	1	0.0	-0.2
18	2	0.0	-0.6
19	3	2.0	2.9
20	4	0.0	-0.2
21	1	2.0	2.9
22	2	2.0	2.4
23	3	0.0	-0.2
24	4	0.0	-0.2
25	1	0.0	-0.2
		MIN	-0.6
		MAX	5.9
		MEAN	0.9
		SD	1.6
		Transuranic DCGL$_W$	20

264

PRE-DEMOLITION SURVEY FOR B444 CLUSTER

Survey Area: B Survey Unit: 444-B-011 Classification: N/A
Building: 448 & 450
Survey Unit Description: Exteriors
Total Area: 734 sq. m. Total Floor Area: 1,264 sq. m.



SURVEY MAP LEGEND

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

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: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

Scan Survey Information
Survey Instrument ID #(s): 8, 10, 11
RCT ID #(s): 2, 3, 4

MAP ID: 02-0222/448_450-EX-SC2 Sept. 4, 2002

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ATTACHMENT C-16

Survey Unit 444-B-012

Radiological Data Summaries and Survey Maps

SURVEY UNIT 444-B-012
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B451 & B455 Exterior

257

444-B-012
PDS Data Summary

Total Surface Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-19.3		dpm/100 cm^2
MAX	80.7		dpm/100 cm^2
MEAN	36.6		dpm/100 cm^2
STD DEV	24.2		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-0.6		dpm/100 cm^2
MAX	4.4		dpm/100 cm^2
MEAN	0.6		dpm/100 cm^2
STD DEV	1.4		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

1 - The initial Sample Net Activity for Sample Location 17 was 107.7 dpm/100cm2. This location was resurveyed after a decay period. Resurvey results (174.3 dpm/100cm2) were still above the transuranic DCGL$_W$ (100 dpm/100cm^2). A coupon sample was not obtained because the plenum is still in use. However, nine (9) coupon samples were collected from similar surfaces throughout the B444 cluster and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected from these exposed metal coupons. All roof sample activity was determined to be from uranium and naturally occuring isotopes. The Sample Net Activity of 174.3 dpm/100cm^2 is below the uranium DCGL$_W$ limits (5000 dpm/100cm2). All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis, the transuranic value for location 17 is reported as zero (O) net activity in the TSA Data Summary.

258

SURVEY UNIT 444-B-012
TSA - DATA SUMMARY

Manufacturer:	NE Electra	NE Electra	NE Electra	NE Electra	NE Electra
Model:	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	7	8	9	10	11
Serial #:	1379	1260	1250	1420	1241
Cal Due Date:	11/20/02	8/27/02	10/10/02	9/27/02	8/26/02
Analysis Date:	7/12/02	7/12/02	7/12/02	7/12/02	8/6/02
Alpha Eff. (c/d):	0.173	0.221	0.213	0.223	0.217
Alpha Bkgd (cpm)	2.0	4.0	2.0	2.0	2.0
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^2)	48.0	48.0	48.0	48.0	48.0

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)[1,2]
1	7	10.0	57.8	4.5	26.0	38.5
2	7	10.7	61.8	7.3	42.2	42.6
3	7	8.0	46.2	5.3	30.6	27.0
4	7	9.2	53.2	1.6	9.2	33.9
5	7	10.0	57.8	3.3	19.1	38.5
6	8	8.7	39.4	1.3	5.9	20.1
7	7	13.3	76.9	6.7	38.7	57.6
8	8	0.0	0.0	0.0	0.0	-19.3
9	7	9.3	53.8	2.7	15.6	34.5
10	7	8.0	46.2	7.3	42.2	27.0
11	7	13.3	76.9	3.3	19.1	57.6
12	7	15.3	88.4	3.3	19.1	69.1
13	8	10.0	45.2	0.7	3.2	26.0
14	7	8.7	50.3	4.7	27.2	31.0
15	7	4.7	27.2	4.7	27.2	7.9
16	8	6.0	27.1	1.3	5.9	7.9
17	11	42.0	193.5	2.7	12.4	0.0
18	8	18.7	84.6	0.0	0.0	65.3
19	7	13.3	76.9	7.3	42.2	57.6
20	7	8.0	46.2	2.7	15.6	27.0
21	7	5.3	30.6	4.7	27.2	11.3
22	8	18.7	84.6	0.0	0.0	65.3
23	7	13.3	76.9	4.0	23.1	57.6
24	7	12.0	69.4	4.0	23.1	50.1
25	7	17.3	100.0	1.3	7.5	80.7

19.3	Sample LAB Average
MIN	-19.3
MAX	80.7
MEAN	36.6
SD	24.2
Transuranic DCGL$_W$	100

1 - Average LAB used to subtract from Gross Sample Activity

2 - The initial Sample Net Activity for Sample Location 17 was 107.7 dpm/100cm2. This location was resurveyed after a decay period. Resurvey results (174.3 dpm/100cm2) were still above the transuranic DCGL$_W$ (100 dpm/100cm^2). A coupon sample was not obtained because the plenum is still in use. However, nine (9) coupon samples were collected from similar surfaces throughout the B444 cluster and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected from these exposed metal coupons. All sample activity was determined to be from uranium and naturally occuring isotopes.

The Sample Net Activity of 174.3 dpm/100cm2 is below the uranium DCGL$_W$ limits (5000 dpm/100cm2).

All survey results are less than the applicable DCGLs, therefore, no further investigation is required.

On this basis, the transuranic value for location 17 is reported as zero (0) net activity in the TSA Data Summary.

QC Measurements

19 QC	8	10.0	45.2	0.0	0.0	45.2
10 QC	8	9.3	42.1	0.0	0.0	42.1

0.0	QC LAB Average
MIN	42.1
MAX	45.2
MEAN	43.7
Transuranic DCGL$_W$	100

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

359

SURVEY UNIT 444-B-012
RSC - DATA SUMMARY

Manufacturer:	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	1	2	3	4
Serial #:	770	851	959	966
Cal Due Date:	7/25/02	10/29/02	7/14/02	11/6/02
Analysis Date:	7/12/02	7/12/02	7/12/02	7/12/02
Alpha Eff. (c/d):	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.1	0.4	0.1	0.1
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm^2)	9.0	9.0	9.0	9.0

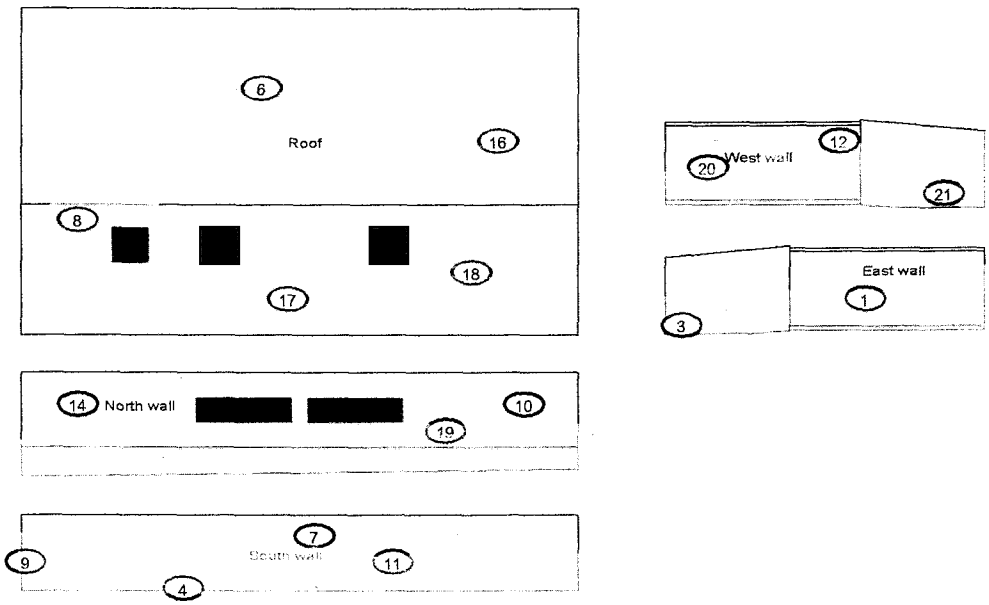
Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	1	0.0	-0.2
2	2	0.0	-0.6
3	3	0.0	-0.2
4	4	0.0	-0.2
5	1	1.0	1.4
6	2	0.0	-0.6
7	3	1.0	1.4
8	4	0.0	-0.2
9	1	0.0	-0.2
10	2	0.0	-0.6
11	3	0.0	-0.2
12	4	1.0	1.4
13	1	0.0	-0.2
14	2	3.0	3.9
15	3	1.0	1.4
16	4	0.0	-0.2
17	1	1.0	1.4
18	2	2.0	2.4
19	3	1.0	1.4
20	4	0.0	-0.2
21	1	1.0	1.4
22	2	0.0	-0.6
23	3	0.0	-0.2
24	4	0.0	-0.2
25	1	3.0	4.4
		MIN	-0.6
		MAX	4.4
		MEAN	0.6
		SD	1.4
		Transuranic DCGL$_W$	**20**

260

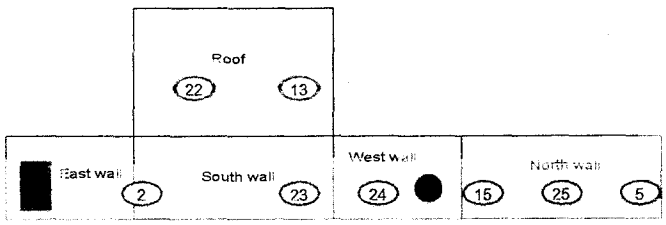
PRE-DEMOLITION SURVEY FOR B444 CLUSTER

Survey Area: B Survey Unit: 444-B-012 Classification: ~~N/A~~ 3 (Dpc 1/4/02)
Building: 451 & 455
Survey Unit Description: Exterior
Total Area: 582 sq. m. Total Roof Area: 295 sq. m.

451 Plenum Bldg



455 Plenum Bldg



Scan Area

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

N

0 FEET 30
0 METERS 10

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

Scan Survey Information
Survey Instrument ID #(s): 7, 9, 10
RCT ID #(s): 3, 4, 5

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY KAISER-HILL

MAP ID: 02-0222/B451_455-Ex-SC July 18, 2002

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ATTACHMENT C-17

Survey Unit 444-B-013

Radiological Data Summaries and Survey Maps

SURVEY UNIT 444-B-013
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B445 Exterior

J03

444-B-013
PDS DATA SUMMARY

Total Surface Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-8.9		dpm/100 cm^2
MAX[1]	83.1		dpm/100 cm^2
MEAN	26.4		dpm/100 cm^2
STD DEV[2]	27.3		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-1.5		dpm/100 cm^2
MAX	0.9		dpm/100 cm^2
MEAN	-0.4		dpm/100 cm^2
STD DEV	0.7		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

1 -The initial Sample Net Activity for roof locations 3, 8, and 9 were 162.3, 145.9, and 159.3 dpm/100cm^2 respectively. A coupon sample was collected from locations 3 and 9 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. Roof sample activity was determined to be from uranium and naturally occuring isotopes. The Sample Net Activity for each of these locations is below the uranium DCGL$_W$ limits (5000 dpm/100cm2) . All survey results are less than the applicable DCGLs, therefore, no further investigation is required. On this basis , transuranic values for locations 3, 8, and 9 are reported as zero (O) net activity in the TSA Data Summary.

2604

444-B-013
TSA - DATA SUMMARY

Manufacturer:	NE Electra	NE Electra	NE Electra	NE Electra	NE Electra
Model:	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	7	8	9	10	11
Serial #:	1379	1420	1260	1379	1420
Cal Due Date:	11/20/02	9/27/02	8/27/02	11/20/02	9/27/02
Analysis Date:	7/3/02	7/3/02	7/9/02	7/10/02	7/10/02
Alpha Eff. (c/d):	0.202	0.223	0.202	0.202	0.223
Alpha Bkgd (cpm)	4.7	3.3	4.7	4.7	3.3
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^2)	48.0	48.0	48.0	48.0	48.0

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)[1,2]
1	7	10.0	49.5	6.0	29.7	27.1
2	7	14.0	69.3	4.0	19.8	46.9
3	10	37.3	184.7	5.3	26.2	0.0
4	7	15.3	75.7	5.3	26.2	53.4
5	10	16.0	79.2	4.0	19.8	56.8
6	7	10.7	53.0	1.3	6.4	30.6
7	10	19.3	95.5	1.3	6.4	73.2
8	10	34.0	168.3	2.7	13.4	0.0
9	10	36.7	181.7	9.0	44.6	0.0
10	7	16.0	79.2	6.7	33.2	56.8
11	7	9.3	46.0	8.0	39.6	23.7
12	10	21.3	105.4	6.7	33.2	83.1
13	7	14.0	69.3	9.3	46.0	46.9
14	7	19.3	95.5	5.3	26.2	73.2
15	7	8.0	39.6	3.3	16.3	17.2
16	8	3.0	13.5	2.0	9.0	-8.9
17	8	6.7	30.0	4.7	21.1	7.7
18	8	4.7	21.1	4.7	21.1	-1.3
19	8	5.3	23.8	3.3	14.8	1.4
20	8	7.3	32.7	1.3	5.8	10.4
21	8	5.3	23.8	4.0	17.9	1.4
22	8	7.3	32.7	4.0	17.9	10.4
23	8	10.0	44.8	7.7	34.5	22.5
24	8	6.0	26.9	2.0	9.0	4.5
25	8	10.0	44.8	4.7	21.1	22.5

22.4	Sample LAB Average
MIN	-8.9
MAX	83.1
MEAN	26.4
SD	27.3
Transuranic DCGL$_W$	**100**

1 - Average LAB used to subtract from Gross Sample Activity

2 -The initial Sample Net Activity for roof locations 3, 8, and 9 were 162.3, 145.9, and 159.3 dpm/100cm^2 respectively.
A coupon sample was collected from locations 3 and 9 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. Roof sample activity was determined to be from uranium and naturally occuring isotopes.
The Sample Net Activity for each of these locations is below the uranium DCGL$_W$ limits (5000 dpm/100cm2).
All survey results are less than the applicable DCGLs, therefore, no further investigation is required.
On this basis, transuranic values for locations 3, 8, and 9 are reported as zero (0) net activity in the TSA Data Summary.

QC Measurements

17 QC	7	9.3	46.0	4.7	23.3	11.4
22 QC	7	16.7	82.7	9.3	46.0	48.0

34.7	QC LAB Average
MIN	11.4
MAX	48.0
MEAN	29.7
Transuranic DCGL$_W$	**100**

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

260

444-B-013
RSC - DATA SUMMARY

Manufacturer:	Eberline	Eberline	Eberline	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#:	1	2	3	4	5	6
Serial #:	770	851	959	**966**	770	851
Cal Due Date:	7/25/02	10/29/02	7/14/02	**11/6/02**	7/25/02	10/29/02
Analysis Date:	7/3/02	7/3/02	7/3/02	**7/3/02**	7/12/02	7/12/02
Alpha Eff. (c/d):	0.33	0.33	0.33	**0.33**	0.33	0.33
Alpha Bkgd (cpm)	0.1	0.5	0.3	**0.4**	0.1	0.4
Sample Time (min)	2	2	2	**2**	2	2
Bkgd Time (min)	10	10	10	**10**	10	10
MDC (dpm/100cm^2)	9.0	9.0	9.0	**9.0**	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	1	1	0.9
2	2	0	-1.5
3	5	0	0.0
4	1	0	-0.1
5	6	1	0.7
6	2	1	-0.5
7	5	0	0.0
8	6	1	0.7
9	5	0	0.0
10	3	0	-0.9
11	4	0	-1.2
12	6	0	-0.3
13	1	0	-0.1
14	3	0	-0.9
15	4	0	-1.2
16	1	1	0.9
17	2	1	-0.5
18	2	2	0.5
19	3	0	-0.9
20	4	0	-1.2
21	1	0	-0.1
22	2	1	-0.5
23	3	0	-0.9
24	4	0	-1.2
25	4	0	-1.2
		MIN	-1.5
		MAX	0.9
		MEAN	-0.4
		SD	0.7
		Transuranic DCGL$_W$	**20**

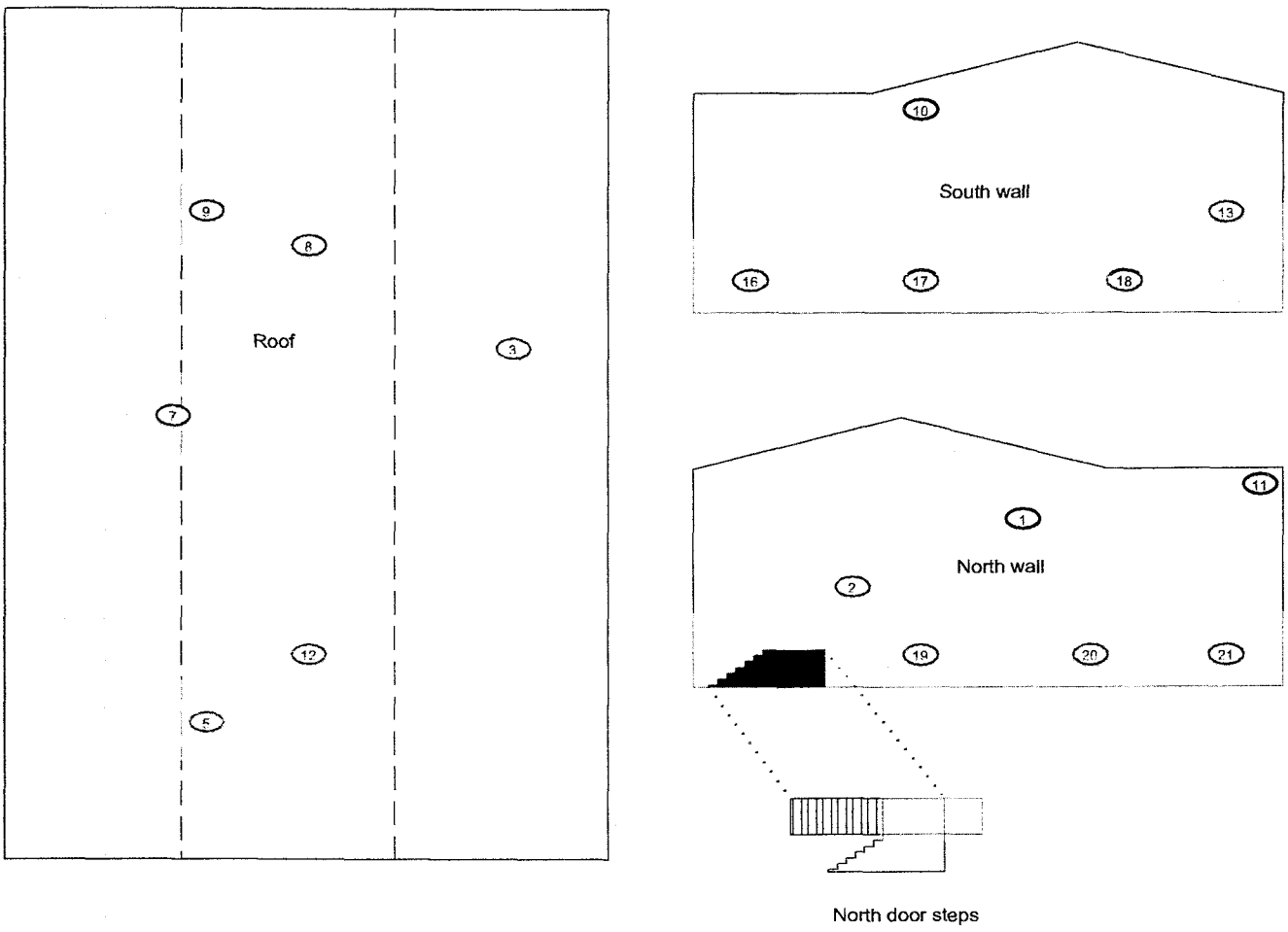
7/29

PRE-DEMOLITION SURVEY FOR B444 CLUSTER

DNFSI 4/4/02

Survey Area: B **Survey Unit: 444-B-013** **Classification: ~~N/A~~ 3**
Building: 445
Survey Unit Description: Interior & Exterior
Total Area: 844 sq. m. **Total Roof Area: 442 sq. m.**

445 Exterior



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

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s): 9 & 11
RCT ID #(s): 3 & 4

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/B445-EX-SC **July 18, 2002**

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ATTACHMENT C-18

Survey Area A – L Swipes

Gamma Spectroscopy Results

CANBERRA

Analysis Results Header 8/23/2002 1:34:37 PM Page 1

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**********************************************************************
*****      G A M M A   S P E C T R U M   A N A L Y S I S       *****
** C a n b e r r a  M o b i l e  L a b o r a t o r y  S e r v i c e s **
**********************************************************************
```

Report Generated On : 8/23/2002 1:34:37 PM

RIN Number : 02S0223
Analytical Batch ID : 0208224732
Line Item Code : RC10B019

Survey Areas A-L
All swipes counted on gamma spec
(1,171 swipes total)

Filename: A:\G1900054.CNF

Sample Number : 02S0223-.001.001
Lab Sample Number : CMLS-1632
Sample Receipt Date : 8/22/2002
Sample Volume Received : 4.68E+002 GRAMS

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) : 4.684E+002 GRAMS
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 8/21/2002 1:00:00 PM
Acquisition Started : 8/23/2002 10:01:13 AM

Count Time : 3600.0 seconds
Real Time : 3602.9 seconds
Dead Time : 0.08 %

Energy Calibration Used Done On : 7/01/02
Energy = -0.102 + 0.250*ch + -3.87E-008*ch^2 + 2.95E-012*ch^3

Corrections Applied:
None

Efficiency Calibration Used Done On : 8/23/02
Efficiency Geometry ID : 02S0223-001.001

Analyzed By: Marilyn Umbaugh Date: 8/23/02

Reviewed By: Larry Umbaugh Date: 8/26/02

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CANBERRA

Sample and QC Sample Results Summary 8/23/02 1:34:37 PM Page 2

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

Site Sample ID : 02S0223-.001.001

Analytical Batch ID : 0208224732

Sample Type (Result Identifier): G19

Lab Sample Number : CMLS-1632

Geometry ID : 02S0223-001.001

Filename: A:\G1900054.CNF

Detector Name: BEGE4732

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

Analyte	Activity (pCi/GRAMS)	2-Sigma Uncertainty (pCi/GRAMS)	MDA (pCi/GRAMS)
K-40	4.22E+000	8.69E-001	1.26E-001
CS-137	0.00E+000	0.00E+000	1.41E-001
TL-208	0.00E+000	0.00E+000	1.31E-001
PO-210	5.06E+003	3.76E+003	5.71E+003
BI-212	0.00E+000	0.00E+000	1.74E+000
PB-212	0.00E+000	0.00E+000	1.56E-001
BI-214	0.00E+000	0.00E+000	2.65E-001
PB-214	0.00E+000	0.00E+000	2.08E-001
RA-226	0.00E+000	0.00E+000	1.42E+000
AC-228	0.00E+000	0.00E+000	5.44E-001
TH-230	0.00E+000	0.00E+000	9.86E+000
Th-231	0.00E+000	0.00E+000	6.38E-001
PA-234	0.00E+000	0.00E+000	1.52E-001
PA-234M	1.61E+001	8.50E+000	1.22E+001
U-235	2.26E-001	5.85E-002	8.77E-002
U238/234	8.70E+000	4.14E+000	9.31E-001
AM-241	0.00E+000	0.00E+000	1.14E-001

No transuranics were detected.

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ATTACHMENT D

Chemical Data Summaries and Sample Maps

ATTACHMENT D-1

Asbestos Data

Chemical Data Summaries and Sample Maps

Asbestos Data Summary

Sample Number	Survey Map Location Point	Material Sampled & Location	Analytical Results
		Building 444	
444-05082002-315-201	**201**	**Corridor A – 2' x 4" white Transite wall panel**	**25% Chrysotile**
444-05082002-315-202	202	Corridor A – 2' x 4' white "worm" drop ceiling tile	None Detected
444-05082002-315-203	203	Corridor A – 2' x 4' white "worm" drop ceiling tile	None Detected
444-05082002-315-204	204	Corridor A – 2' x 4' white "worm" drop ceiling tile	None Detected
444-05082002-315-205	**205**	**Corridor A – Corner drywall with joint compound**	**4% Chrysotile**
444-05082002-315-206	206	Corridor A – 2' x 4' white "small worm" drop ceiling tile	None Detected
444-05082002-315-207	207	Corridor A – Corner of wall, joint compound	None Detected
444-05082002-315-208	208	Room 137 – North CMU wall, white paint	None Detected
444-05082002-315-209	**209**	**Room 137 – 2' x 4' white Transite wall**	**30% Chrysotile**
444-05082002-315-210	210	Room 122 – 4' x 8' drywall panel, west wall	None Detected
444-05082002-315-211	211	Room 120 – 2' x 4' white "worm" drop ceiling tile	None Detected
444-05082002-315-212	212	Room 148 – 4' x 8' drywall panel, west wall	None Detected
444-05082002-315-213	**213**	**Room 153 – 4' x 4' tan Transite wall panel, east exterior**	**70% Chrysotile**
444-05082002-315-214	214	Room 148A – South CMU wall, off-white paint	None Detected
444-05082002-315-215	215	Room 148A – South CMU wall, tan paint	Trace Chrysotile; < 0.25% Point Count
444-05082002-315-216	216	Room 148B – Drywall only	None Detected
444-05082002-315-217	217	Room 148B – West CMU wall, off-white paint	None Detected
444-05082002-315-218	218	Room 180 – White "string" wall, east wall	None Detected
444-05082002-315-219	219	Room 180 – West wall, 4' x 12' off-white drywall panel	None Detected
444-05082002-315-220	**220**	**Room 180 – 2' x 8' white Transite wall panel, east wall**	**70% Chrysotile**
444-05082002-315-221	221	Room 180 – Dark beige drywall, west wall	None Detected
444-05082002-315-222	**222**	**Room 182 – White CMU paint, south wall**	**4% Chrysotile**
444-05082002-315-223	223	Room 182 – 2' x 4' white "worm" drop ceiling tile	None Detected
444-05082002-315-224	**224**	**Room 182 – Light blue CMU paint, west wall**	**4% Chrysotile**
444-05082002-315-225	225	Room 180 – Dark beige drywall, west wall	None Detected
444-05082002-315-226	226	Room 180 – 4' x 12' off-white drywall panel, west wall	None Detected
444-05082002-315-227	227	Room 143K – Joint compound only, with dark beige paint, exterior corner	None Detected
444-05082002-315-228	**228**	**Room 148B – 2" x 8" off-white Transite wall panel, east wall**	**25% Chrysotile**
444-05082002-315-229	**229**	**Room 125 – Beige CMU paint, south wall**	**4% Chrysotile**
444-05082002-315-230	230	Room 124 – Gray and white linoleum in lunch room	None Detected
444-05082002-315-231	231	Room 181 – Drywall, upper level office	None Detected
444-05082002-315-232	232	Room 181A – 2' x 4' white acoustical drop ceiling tile	None Detected
444-05082002-315-233	233	Room 181A – Drywall panel, west wall	None Detected
444-05082002-315-234	234	Room 115 – 2' x 4' white, "worm" drop ceiling tile	None Detected
444-05082002-315-235	235	Room 115 – 2' x 4' white, "worm" drop ceiling tile	None Detected
444-05082002-315-236	236	Corridor A – 2' x 4' white, "worm" drop ceiling tile	None Detected
444-05082002-315-237	237	Room 700A – Beige CMU paint, east wall	2% Chrysotile; < 0.5% Point Count
444-05082002-315-238	238	Room 700A – Drywall, south wall	None Detected
444-05082002-315-239	239	Room 116A – Drywall, east wall exterior	None Detected

Sample Number	Survey Map Location Point	Material Sampled & Location	Analytical Results
444-05082002-315-240	240	Room 117 – Drywall, south wall	None Detected
444-05082002-315-241	241	Room 700D – Beige CMU paint, east wall	1% Chrysotile; 0.25% Point Count
444-05082002-315-242	242	Dock #3 – Tan, troweled-on textured paint, north exterior wall, concrete substrate	None Detected
444-05082002-315-243	243	Dock #3 – Tan, troweled-on textured paint, north exterior wall, CMU substrate	None Detected
444-05082002-315-244	244	Dock #3 – Tan, troweled-on textured paint, west exterior wall, concrete window sill	None Detected
444-05082002-315-245	245	SE exterior wall – Tan, troweled-on textured paint, east exterior wall, concrete substrate	Trace Chrysotile; < 0.25% Point Count
444-05082002-315-246	246	SE exterior wall – Tan, troweled-on textured paint, east exterior wall, concrete substrate	None Detected
444-05082002-315-247	247	SE exterior wall – Tan, troweled-on textured paint, east exterior wall, concrete substrate	Trace Chrysotile; < 0.25% Point Count
444-05082002-315-248	248	SE exterior wall – Tan, troweled-on textured paint, east exterior wall, concrete substrate	None Detected
444-05082002-315-249	**249**	**Roof – Black tar and silver paint, south edge**	**5% Chrysotile**
444-05082002-315-250	250	Roof – White CMU paint, penthouse north wall	None Detected
444-05082002-315-251	**251**	**Roof – Black tar, silver paint at white metal penthouse**	**5% Chrysotile**
444-05082002-315-252	252	Roof – Gray caulking at white metal penthouse	None Detected
444-05082002-315-253	**253**	**Roof – Black tar, silver paint at HVAC exhaust port**	**5% Chrysotile**
444-05082002-315-254	254	Roof – Black tar only, lower roof	None Detected
444-05082002-315-255	**255**	**Roof – Black tar, silver paint at exhaust hood, lower roof**	**5% Chrysotile (Silver Paint); 10% Chrysotile (Black Tar)**
444-05082002-315-256	256	Roof – Black tar only, at exhaust fan unit, north lowest roof	None Detected
444-05082002-315-257	**257**	**Roof – Black tar and silver paint at roof drain, north lowest roof**	**15% Chrysotile**
444-05082002-315-258	258	Roof – Reddish brown troweled-on textured paint on CMU, roof bunker	None Detected
444-05082002-315-259	**259**	**Roof – Black tar and silver paint at roof drain, east side**	**10% Chrysotile**
444-05082002-315-260	**260**	**Roof – Black tar and silver paint at HVAC ducting, east side**	**4% Chrysotile**
444-05152002-315-261	261	Room 101 – Beige CMU paint on west wall	None Detected
444-05152002-315-262	262	Hall by Room 101F – Beige drywall panel, north of 101F in hallway	None Detected
444-05152002-315-263	263	Room 101 – Beige drywall panel ,west wall, 4' from floor	None Detected
444-05152002-315-264	**264**	**Room 101D – Tan and white linoleum**	**45% Chrysotile**
444-05152002-315-265	265	Room 101 – White, nylon type fire curtain	None Detected
444-05152002-315-266	266	Room 101 – Beige drywall panel, west wall, 4' from floor	None Detected
444-05152002-315-267	**267**	**Room 101 – Silver fire curtain**	**50% Chrysotile**
444-05152002-315-268	268	Room 104D – Beige CMU paint on west wall	None Detected
444-05152002-315-269	269	Room 104D – 2' x 2' white "worm" drop ceiling tile	None Detected
444-05152002-315-270	270	Room 104D –Joint compound with beige paint	None Detected
444-05152002-315-271	271	Room 109A – White drywall panel	None Detected
444-05152002-315-272	272	Room 109A – 2' x 4' white "worm" drop ceiling tile	None Detected
444-05152002-315-273	273	Room 104C – Beige drywall panel	None Detected
444-05152002-315-274	274	Room 104C – 2' x 4' white "worm" drop ceiling tile	None Detected
444-05152002-315-275	**275**	**Room 109C – Orange paint on CMU, south wall**	**4% Chrysotile**
444-05152002-315-276	276	Room 109C – Dark beige paint on CMU, west exterior wall	Trace Chrysotile; <.25% Point Count

Sample Number	Survey Map Location Point	Material Sampled & Location	Analytical Results
444-05152002-315-277	**277**	**Room 103B – Gray transite wall, north wall with white paint**	**20% Chrysotile, 2% Amosite**
444-05152002-315-278	278	Room 103A – 12' x 12" perforated acoustical ceiling tiles	None Detected
444-05152002-315-279	279	Room 258A – 2' x 2' white "worm" drop ceiling tiles	None Detected
444-05152002-315-280	280	Room 258A – Drywall panel, light blue	None Detected
444-06052002-315-281	**281**	**Room 101A – 9" x 9" brown and dark brown vinyl floor tiles with black mastic adhesive**	**12% Chrysotile**
444-06052002-315-282	**282**	**Room 101C – 9" x 9" brown and dark brown vinyl floor tiles with black mastic adhesive**	**6% Chrysotile**
444-06052002-315-283	283	Room 101K – 12" x 12" beige and brown vinyl floor tiles with yellow mastic adhesive	None Detected
444-06052002-315-284	284	Room 101E – Beige paint on CMU, exterior wall	Trace Chrysotile; < 0.25% Point Count
444-06052002-315-285	285	Room T101A – Exterior west wall, hard beige TSI elbow < 6" OD (Cooling Water Return)	None Detected
444-06052002-315-286	286	Room T101A – Exterior north wall, hard beige TSI elbow < 6" OD (Steam)	None Detected
444-06052002-315-287	287	Room 101 – White TSI elbow < 6"OD, Steam	None Detected
444-06052002-315-288	288	Room 107 – Beige paint on west CMU wall	2% Chrysotile; 0.5% Point Count
444-06052002-315-289	**289**	**Room 104C – 9" x 9" brown and dark brown vinyl floor tiles with black mastic adhesive**	**3% Chrysotile; 2.75 % Point Count**
444-06052002-315-290	**290**	**Room 104D – 12" x 12" beige and brown vinyl floor tile with yellow mastic adhesive**	**6% Chrysotile**
444-06052002-315-291	**291**	**Room 109 – Green pipe insulation above ductwork < 6" OD**	**55% Amosite**
444-06052002-315-292	**292**	**Room 109 – Green fitting insulation above ductwork < 6" OD**	**4% Chrysotile, 15% Amosite**
444-06052002-315-293	293	Room 204 – Mechanical Room, Green pipe insulation marked "ACM", > 6" OD	50% Amosite
444-06052002-315-294	294	Room 204 – White wrap over fiberglass < 6" OD, Hot Water Return	None Detected
444-06052002-315-295	295	Room 204 – White, hard TSI elbow < 6" OD, Steam	Trace Chrysotile, None Detected, Point Count; Trace Amosite, < 0.25% Point Count
444-06052002-315-296	**296**	**Room 204 – White, hard TSI T < 6" OD, Condensate Steam**	**20% Chrysotile**
444-06052002-315-297	297	Room 204 – White seam cloth with fiberglass on ductwork	None Detected
444-06052002-315-298	298	Room 204A – Drywall only, west exterior wall	None Detected
444-06052002-315-299	**299**	**Room 204 – Green TSI elbow < 6" OD**	**10% Chrysotile; 5% Amosite**
444-06052002-315-300	300	Room 209 – Drywall only, north exterior wall	None Detected
444-06052002-315-301	**301**	**Room 207 – NE corner exterior, transite panel**	**13 % Chrysotile**
444-06052002-315-302	302	Room 207/208 – 12" x 12" beige and brown vinyl floor tile with yellow mastic adhesive, over 9" x 9" tiles	None Detected
444-06052002-315-303	**303**	**Room 207/208 – 9" x 9" brown and dark brown vinyl floor tiles with black mastic adhesive, under 12 " x 12" tiles**	**12 % Chrysotile**
444-06102002-315-304	304	Room 212A – Green paint on CMU, south wall	None Detected
444-06102002-315-305	305	Room 212A – 2' x 4' white drop ceiling tiles with large "worm" pattern	None Detected
444-06102002-315-306	306	Room 212 – White paint on CMU, middle room wall	None Detected
444-06102002-315-307	307	Room 205A – Dry wall only, south wall	None Detected
444-06102002-315-308	308	Room 205A – Drywall and joint compound, SW corner	None Detected
444-06102002-315-309	309	Room 205A – 12" x 12" white and tan vinyl floor tile with yellow mastic adhesive	None Detected

Sample Number	Survey Map Location Point	Material Sampled & Location	Analytical Results
444-06102002-315-310	310	South Stairwell – Hard, tan TSI elbow < 6" OD, east side	None Detected
444-06102002-315-311	311	South Stairwell – Tan TSI pipe < 6" OD, east side	None Detected
444-06102002-315-312	**312**	**South Stairwell – Tan TSI elbow < 6" OD, Heating Water Return**	**75% Chrysotile**
444-06102002-315-313	**313**	**South Stairwell – Tan TSI elbow < 6" OD, Heating Water Supply**	**80%Chrysotile**
444-06102002-315-314	314	Room 245 – Black TSI elbow < 6" OD, 15 Low Pressure Steam Line	None Detected
444-06102002-315-315	315	Room 245 – White TSI elbow < 6" OD, from Blue M to exhaust manifold	None Detected
444-06102002-315-316	316	Room 245A – 12" x 12" white and tan vinyl floor tile with yellow mastic adhesive	None Detected
444-06102002-315-317	317	Room 245A – 2' x 4' white "worm" drop ceiling tile	None Detected
444-06102002-315-318	318	Room 245A – Tan paint on CMU, north wall	None Detected
444-06102002-315-319	**319**	**Room 11 – Stairwell next to Room 11, tan TSI elbow < 6" OD, Heating Water Supply**	**75% Chrysotile; 12% Amosite**
444-06102002-315-320	320	Room 11 – Tan paint on CMU, south wall	None Detected
444-06102002-315-321	321	Room 8 – White outer wrap over HVAC sheet metal duct insulation	None Detected
444-06102002-315-322	**322**	**Room 8 – 9" x 9" blue and white vinyl floor tiles with black mastic adhesive**	**3% Chrysotile; 2% Point Count**
444-06102002-315-323	323	Room 8 – White TSI elbow < 6" OD, entrance to steam tunnel	None Detected
444-06102002-315-324	**324**	**Room 1 – Green TSI elbow < 6" OD, Cooling Water Supply**	**3% Chrysotile; 15% Amosite**
444-06102002-315-325	325	Room 1 – White TSI valve insulation < 6" OD, Domestic Cold Water	None Detected
444-06102002-315-326	326	Room 2A – 9" x 9" white, glue-on ceiling tiles	2% Chrysotile; 0.5% Point Count
444-06102002-315-327	327	Room 2A – Dark brown adhesive glue spots for 9" x 9" ceiling tiles	None Detected
444-06102002-315-328	**328**	**Room 2A – 9" x 9" tan and brown vinyl floor tiles and black mastic adhesive**	**3% Chrysotile; 1.75% Point Count**
444-06102002-315-329	329	Room 2B – White paint on CMU, north wall	Trace Chrysotile; 0.25 Point Count
444-06102002-315-330	330	Room 3 – Brown paint on CMU, south wall	2% Chrysotile; 0.75% Point Count
444-06102002-315-331	331	Room 7C – 2' x 4' white "worm" drop ceiling tile	None Detected
444-06102002-315-332	332	Room 3 – Brown drywall only, north wall	None Detected
444-06102002-315-333	333	Room 7 – Brown paint on CMU, north wall	None Detected
Building 448			
448-06112002-315-334	334	Room 602 – Beige paint on CMU, south wall	None Detected
448-06112002-315-335	335	Room 602 – Beige paint on CMU, east wall	None Detected
Building 447			
447-06112002-315-336	**336**	**Room 410A – Gray, corrugated transite, south wall**	**23% Chrysotile; 5% Amosite**
447-06112002-315-337	337	Room 410A –Light green paint on CMU, north wall	None Detected
447-06112002-315-338	338	Room 410A – Beige paint on CMU, north wall	2% Chrysotile; 0.75 % Point Count
447-06112002-315-339	**339**	**Room 410A – Gray, corrugated transite, south wall**	**20% Chrysotile; 8% Amosite**
447-06112002-315-340	**340**	**Room 410A – TSI elbow < 6" OD on elevated steam line**	**65% Chrysotile**
447-06112002-315-341	341	Room 412 – Drywall only, west exterior wall	None Detected
447-06112002-315-342	342	Room 406 – Beige paint on CMU, south wall	None Detected
447-06112002-315-343	343	Room 412 – White cloth wrap on HVAC ducting in plenum	None Detected
447-06112002-315-344	344	Room 412 – White cloth wrap on HVAC ducting in plenum	None Detected
447-06112002-315-345	**345**	**Room 412 – White TSI elbow < 6" OD above Room 412**	**1% Chrysotile, 0.5% Point Count; 2% Amosite, 1.25%**

Sample Number	Survey Map Location Point	Material Sampled & Location	Analytical Results
			Point Count
447-06112002-315-346	**346**	**Room 412 – White TSI elbow < 6" OD above Room 412**	**1% Chrysotile, 0.75% Point Count; 2% Amosite, 1.25% Point Count**
447-06112002-315-347	347	Room 407 – Beige paint on CMU, south wall	None Detected
447-06112002-315-348	**348**	**Room 420B – 9" x 9" tan and brown vinyl floor tile with black mastic adhesive**	**4% Chrysotile**
447-06112002-315-349	**349**	**Room 408 – 9" x 9" tan and brown vinyl floor tile with black mastic adhesive**	**10% Chrysotile**
447-06112002-315-350	350	Room 420 – Beige drywall only, south wall	Trace Tremolite/Actinolite; 0.25% Point Count
447-06112002-315-351	351	Room 420 – Beige drywall and joint compound, south wall	None Detected
447-06112002-315-352	352	Room 404 – Beige paint on CMU, east wall	None Detected
447-06112002-315-353	353	Room 404 – Black base cove with brown adhesive, east wall	None Detected
447-06112002-315-354	**354**	**Room 403 – White TSI on line to heater, SE corner**	**15% Amosite**
447-06112002-315-355	355	Room 407A – Beige drywall only	None Detected
447-06112002-315-356	**356**	**Room 405B – White TSI elbow < 6" OD, Heating Water Return, west wall**	**6% Chrysotile; 16% Amosite**
447-06112002-315-357	**357**	**Room 405B – White TSI elbow < 6" OD, Heating Water Supply, west wall**	**5% Chrysotile; 15% Amosite**
447-06112002-315-358	358	Room 405B – Beige paint on CMU, north wall	None Detected
447-06112002-315-359	359	Room 414 – 2' x 2' white drop ceiling tile	None Detected
447-06112002-315-360	**360**	**Room 405B – White TSI elbow < 6" OD, Domestic Cold Water, west wall**	**15% Amosite**

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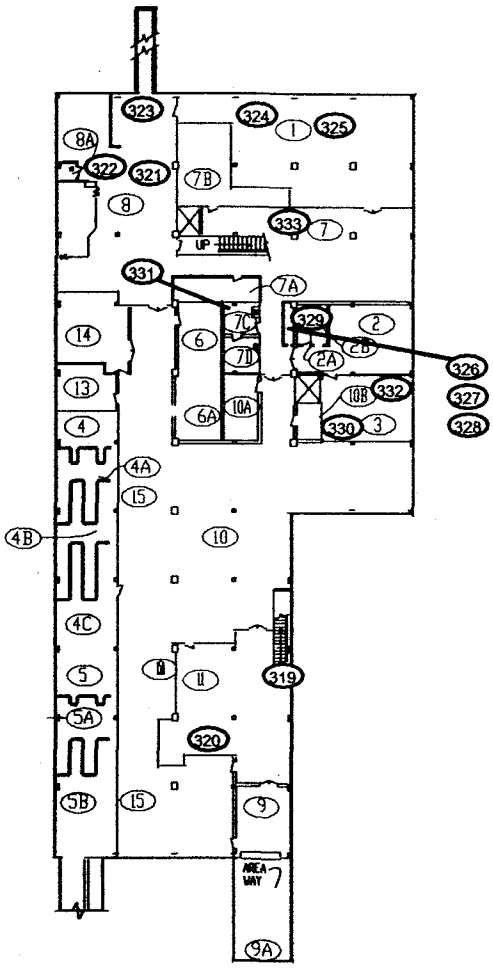
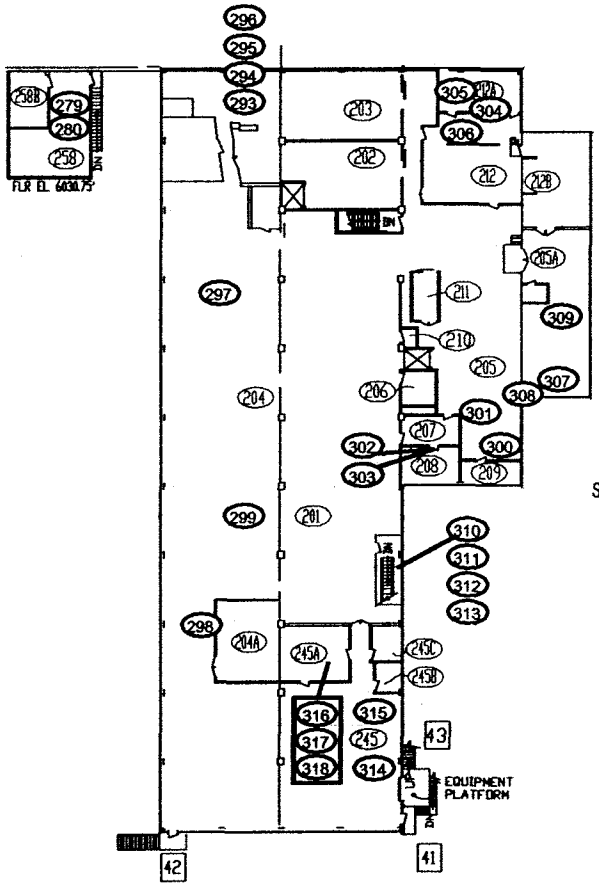
CHEMICAL SAMPLE MAP FOR GROUP 444

Building: 444 - 2nd Floor & Basement (Interior)



BASEMENT FLOOR PLAN

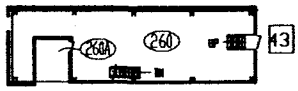
FLOOR ELEVATION 6011'-0"



MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6038'-0"

BUILDING 444
SECOND & BASEMENT FLOOR PLAN



NORTHWEST MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6037'-0"

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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER HILL

MAP ID: 02-0222/B444K-2 February 18, 2002

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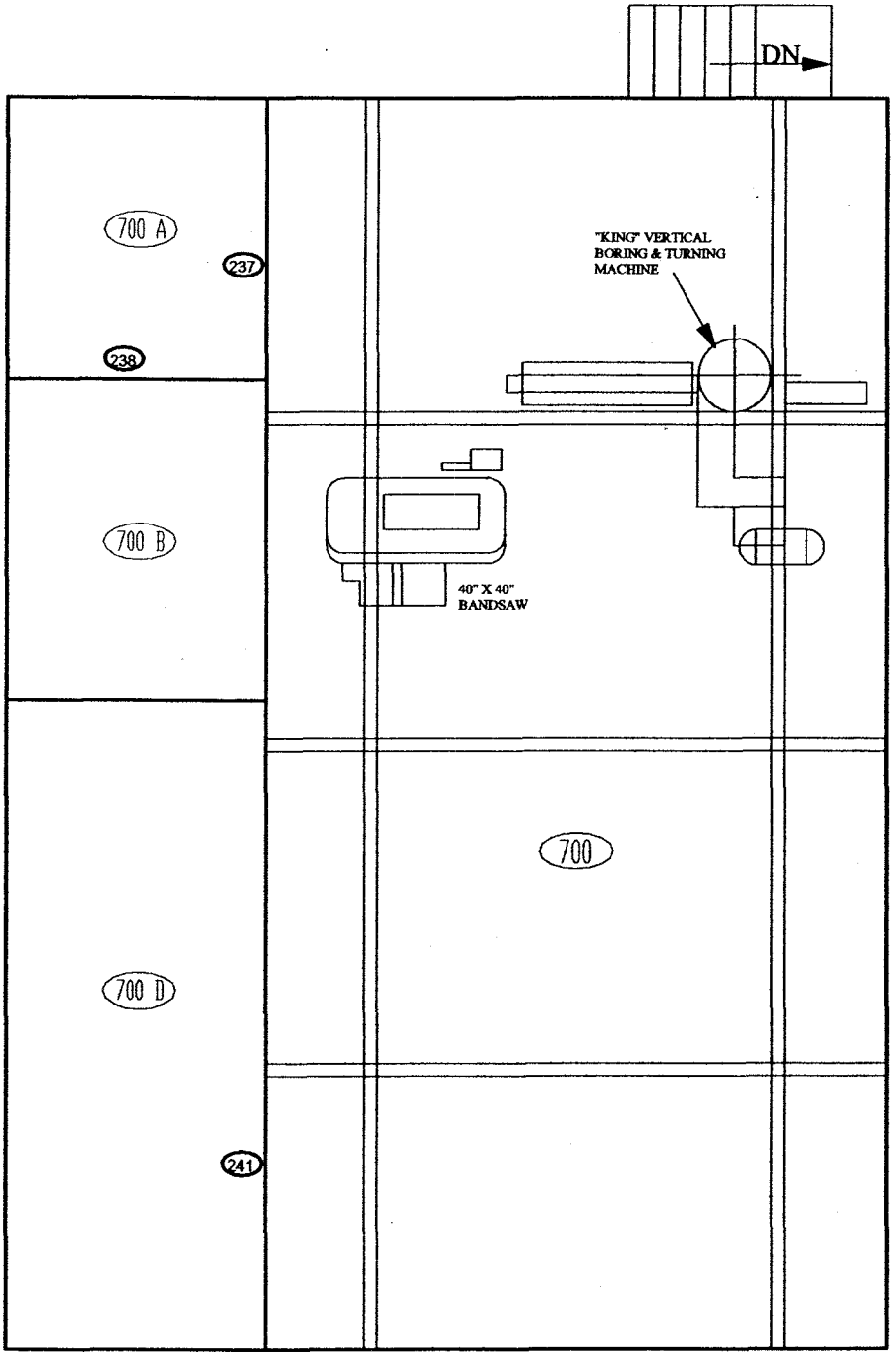
CHEMICAL SAMPLE MAP

Building: 445 Interior



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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for:

[redacted]

MAP ID: 02-0222/445

March 8, 2002

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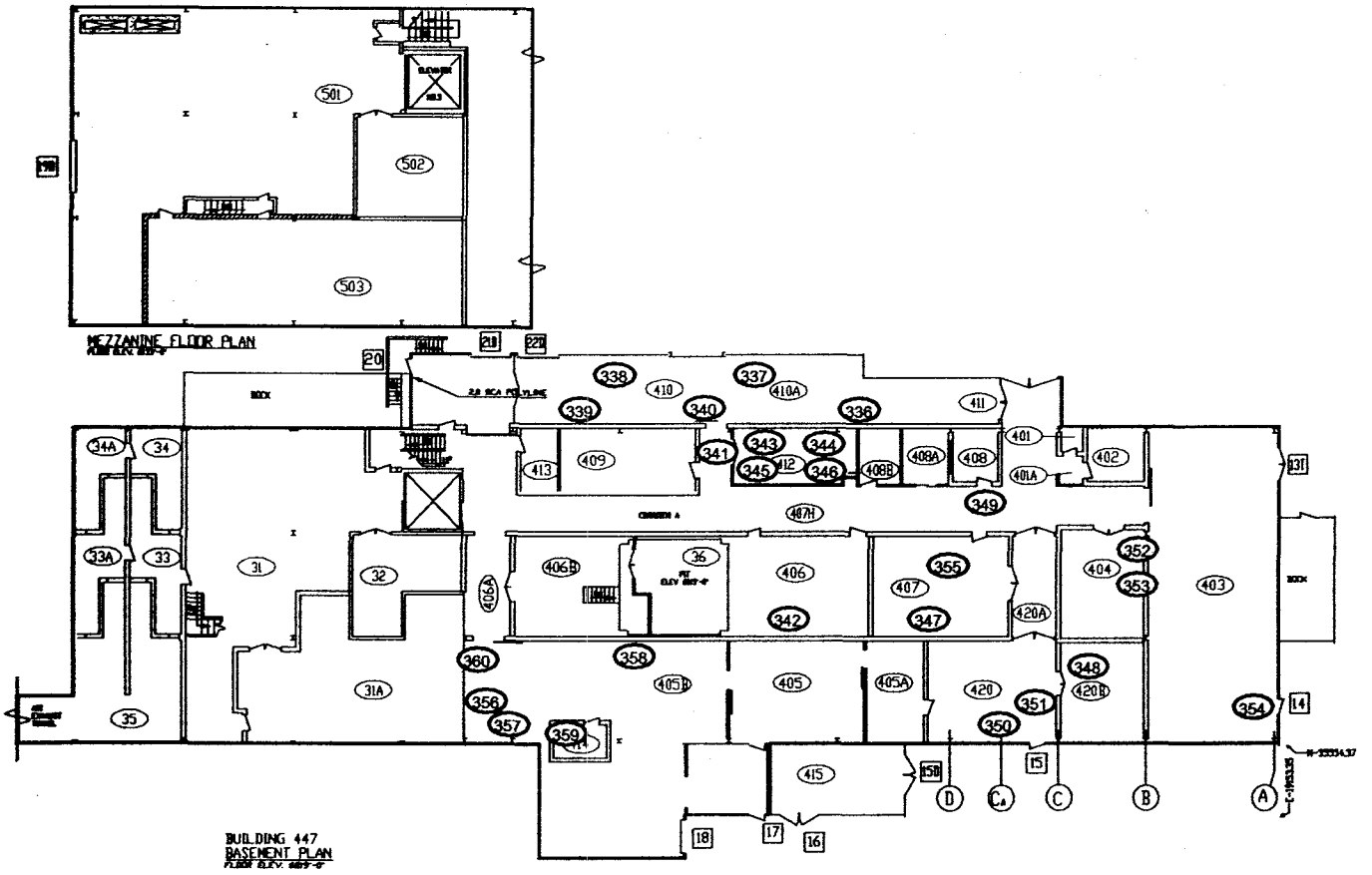
CHEMICAL SAMPLE MAP FOR GROUP 444

Building: 447 Interior

BUILDING 447
FLOOR PLAN



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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707

Prepared for:

DynCorp
THE ART OF TECHNOLOGY

MAP ID: 02-0222/B447K-3

March 5, 2002

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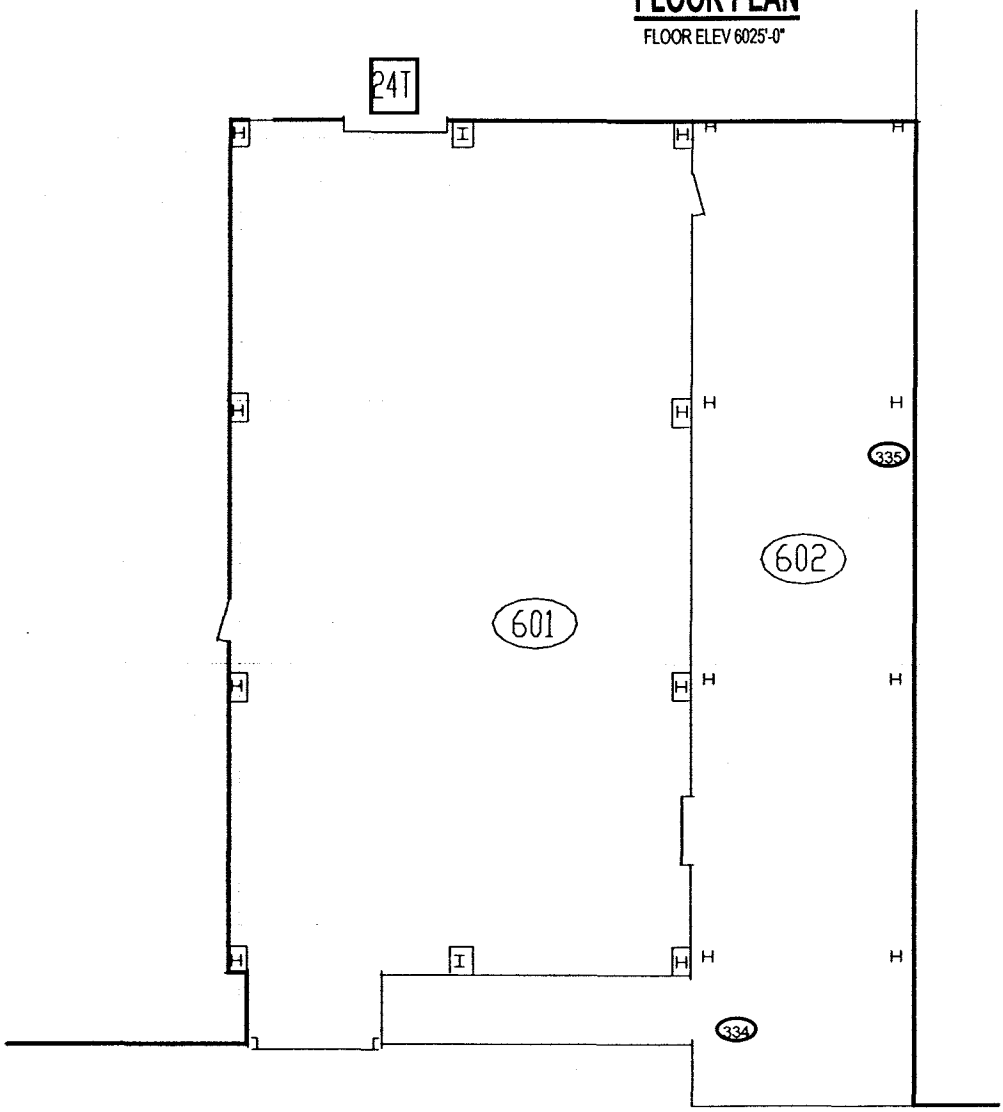
CHEMICAL SAMPLE MAP FOR GROUP 444

Building: 448 Interior

BUILDING 448
FLOOR PLAN

FLOOR ELEV 6025'-0"



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

N

0 FEET 15

0 METERS 5

1 inch = 12 feet 1 grid sq. = 1 sq. m.

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER HILL

MAP ID: 02-0222/B448A

February 18, 2002

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ATTACHMENT D-2

Summary of IHIS Beryllium Data for Buildings 444, 445, 447, 448, 450, 451, and 455 January, 1999 through August, 2002

Chemical Data Summaries and Sample Maps

Summary of IHIS Beryllium Data for Buildings 444, 445, 447, 448, and Plenums 450, 451, 455 January, 1999 through August, 2002						
Room	# of Swipes Collected	# of Swipes < 0.1ug/100 cm2	# of Swipes 0.1 -- 0.199 ug/100cm2	# of Swipes >0.2 ug/100cm2	Highest ug/100cm2	Current* Posting
Building 444						
1	53	7	33	13	104.80	Controlled
2	33	7	26	0	1.68	Controlled
2A	10	4	5	1	2.54	Controlled
2B	5	1	4	0	0.70	Controlled
3	19	10	9	0	1.77	Controlled
3T	151	149	2	0	0.71	Controlled
6	5	0	5	0	0.68	Controlled
6A	5	0	5	0	0.71	Controlled
7	33	3	20	10	4.31	Controlled
7B	13	0	2	11	14.80	Regulated
7C	3	0	3	0	1.97	Controlled
8	34	3	24	7	8.51	Controlled
8A	1	0	0	1	2.27	Controlled
9	13	9	4	0	0.22	Controlled
10	50	0	48	2	2.40	Controlled
10A	7	0	7	0	1.29	Controlled
11	16	1	15	0	1.29	Controlled
13	10	0	7	3	5.20	Controlled
15	47	1	44	2	5.22	Controlled
100	85	72	12	1	1.56	Controlled
101	608	266	289	53	**1,820.00**	Controlled
101B	12	3	8	1	3.00	Controlled
101C	6	2	4	0	0.40	Controlled
101D	22	21	1	0	0.10	Controlled
101E	36	20	15	1	18.80	Controlled
101F	70	69	1	0	0.10	Controlled
101H	6	6	0	0	< 0.10	Controlled
101K	6	6	0	0	< 0.10	Controlled
101L	6	5	1	0	0.10	Controlled
101P	63	62	1	0	1.68	Controlled
T101A	24	23	1	0	0.10	Controlled
T101H	10	9	1	0	0.50	Controlled
102	13	13	0	0	< 0.10	Controlled
T102A	12	11	1	0	0.10	PBCS
T102B	6	6	0	0	< 0.10	PBCS
103B	102	98	2	2	27.00	Controlled
104	57	34	22	1	2.00	Controlled
104B	10	6	3	1	0.21	Controlled
105	169	166	3	0	1.36	Controlled
106	3	0	1	2	10.38	Regulated
106B	2	0	1	1	2.55	Regulated

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Summary of IHIS Beryllium Data for Buildings 444, 445, 447, 448, and Plenums 450, 451, 455 January, 1999 through August, 2002						
Room	# of Swipes Collected	# of Swipes < 0.1ug/100 cm2	# of Swipes 0.1 -- 0.199 ug/100cm2	# of Swipes >0.2 ug/100cm2	Highest ug/100cm2	Current* Posting
107	80	32	26	22	114.00	Regulated
107A	14	14	0	0	< 0.10	Controlled
107B	9	2	7	0	1.71	Regulated
108	7	7	0	0	< 0.10	PBCS
109	47	45	2	0	0.19	Controlled
109A	116	66	48	2	66.20	Controlled
109B	16	7	8	1	2.19	Controlled
111	15	12	3	0	1.23	Controlled
112A	7	4	0	3	3.00	Controlled
113	191	183	7	1	4.75	Controlled
115	1205	1092	102	11	35.30	Controlled
116	400	368	30	2	5.83	PBCS
116A	1	1	0	0	< 0.10	PBCS
116B	2	2	0	0	< 0.10	PBCS
117	277	249	26	2	2.30	PBCS
117A	13	13	0	0	< 0.10	PBCS
117C	6	5	1	0	0.21	PBCS
118	134	130	2	2	0.33	PBCS
120	38	38	0	0	< 0.10	PBCS
120A	2	2	0	0	< 0.10	PBCS
122	9	9	0	0	< 0.10	PBCS
124	158	158	0	0	< 0.10	PBCS
124A	1	1	0	0	< 0.10	PBCS
125	78	76	2	0	0.12	PBCS
126	31	29	1	1	4.00	PBCS
128	9	9	0	0	< 0.10	PBCS
128A	6	6	0	0	< 0.10	PBCS
129	23	18	5	0	1.40	Controlled
129B	6	6	0	0	< 0.10	Controlled
136	74	74	0	0	< 0.10	PBCS
137	270	269	1	0	0.15	PBCS
137A	1	1	0	0	< 0.10	PBCS
137B	1	1	0	0	< 0.10	PBCS
138	19	18	1	0	< 0.10	Controlled
138A	4	4	0	0	< 0.10	Controlled
139	67	62	5	0	0.28	Controlled
143	8	7	1	0	0.21	Controlled
143A	24	23	1	0	0.30	Controlled
143C	6	6	0	0	< 0.10	Controlled
143D	7	6	1	0	0.12	Controlled
143E	6	6	0	0	< 0.10	Controlled
143F	6	4	2	0	0.11	Controlled
143G	6	0	5	1	2.30	Controlled

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Summary of IHIS Beryllium Data for Buildings 444, 445, 447, 448, and Plenums 450, 451, 455 January, 1999 through August, 2002						
Room	# of Swipes Collected	# of Swipes < 0.1ug/100 cm2	# of Swipes 0.1 -- 0.199 ug/100cm2	# of Swipes >0.2 ug/100cm2	Highest ug/100cm2	Current* Posting
143H	6	6	0	0	< 0.10	Controlled
143J	6	2	4	0	0.62	Controlled
143K	13	11	2	0	0.50	Controlled
148	382	299	82	1	8.82	Controlled
148A	103	98	5	0	0.40	Controlled
148C	12	12	0	0	< 0.10	Controlled
148D	44	42	2	0	0.23	PBCS
150	7	7	0	0	< 0.10	Controlled
150A	1	1	0	0	< 0.10	Controlled
151	92	80	11	1	2.44	PBCS
153	13	13	0	0	< 0.10	Controlled
154	10	10	0	0	< 0.10	PBCS
162	8	8	0	0	< 0.10	PBCS
163	17	17	0	0	< 0.10	PBCS
170	30	21	8	1	5.47	PBCS
172	27	27	0	0	< 0.10	PBCS
172A	14	14	0	0	< 0.10	PBCS
172B	14	14	0	0	< 0.10	PBCS
175	19	19	0	0	< 0.10	Controlled
179	20	20	0	0	< 0.10	Controlled
180	267	247	19	1	21.30	Controlled
180C	75	75	0	0	< 0.10	PBCS
181	226	222	4	0	0.49	PBCS
181A	18	16	2	0	0.12	PBCS
182	22	20	1	1	0.20	PBCS
183	3	1	2	0	0.39	Controlled
201	130	121	9	0	1.40	Controlled
T201	6	6	0	0	< 0.10	PBCS
202	9	0	8	1	2.00	Controlled
203	9	4	5	0	0.70	Controlled
T203	6	0	0	0	< 0.10	Controlled
204	92	52	30	10	44.60	Controlled
T204	6	0	0	0	< 0.10	Controlled
205	9	4	5	0	1.30	Controlled
205A	11	11	0	0	< 0.10	Controlled
206	6	6	0	0	< 0.10	Controlled
208	6	6	0	0	< 0.10	Controlled
212	13	8	5	0	1.35	Controlled
212A	6	6	0	0	< 0.10	Controlled
212B	7	6	1	0	0.10	Controlled
245	29	23	5	1	3.10	Controlled
245A	25	23	2	0	0.91	Controlled
245B	6	5	1	0	0.20	Controlled

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Summary of IHIS Beryllium Data for Buildings 444, 445, 447, 448, and Plenums 450, 451, 455 January, 1999 through August, 2002						
Room	**# of Swipes Collected**	**# of Swipes < 0.1ug/100 cm2**	**# of Swipes 0.1 -- 0.199 ug/100cm2**	**# of Swipes >0.2 ug/100cm2**	**Highest ug/100cm2**	**Current* Posting**
245C	6	6	0	0	< 0.10	Controlled
258	5	4	1	0	0.10	Controlled
260	30	27	3	0	0.17	Controlled
Crrdr. A	55	55	0	0	< 0.10	PBCS
Crrdr. B	24	24	0	0	< 0.10	PBCS
Modulab A	211	204	7	0	0.62	Controlled
Modulab B	13	11	2	0	0.30	Controlled
Modulab C	12	10	2	0	0.20	Controlled
Modulab D	24	10	4	0	0.44	Controlled
Modulab E	8	7	1	0	0.30	Controlled
Modulab F	8	7	0	1	5.28	Controlled
Outside	237	231	6	0	0.25	PBCS
SouthDock	16	16	0	0	< 0.10	PBCS
Sub-total	**7,710**	**6,353**	**1,156**	**179**	**1,820.00**	**NA**
Building 445						
700	355	337	11	7	**11.00**	PBCS
700A	25	24	1	0	0.11	PBCS
700B	89	86	3	0	0.41	PBCS
700C	4	3	1	0	0.19	PBCS
700D	300	295	5	0	0.53	PBCS
Sub-total	**773**	**745**	**21**	**7**	**11.00**	**NA**
Building 447						
31	33	15	16	2	17.90	Controlled
31A	2	0	1	1	2.40	Controlled
32	46	16	28	2	7.47	Controlled
33	1	0	1	0	0.56	Controlled
403	55	4	50	1	2.30	Controlled
404	21	1	18	2	**55.20**	Controlled
405	46	11	32	3	7.26	Controlled
405A	14	12	2	0	0.20	Controlled
405B	40	35	4	1	3.95	Controlled
406	15	4	11	0	0.43	Controlled
406B	27	6	19	2	2.99	Controlled
407	41	3	28	10	48.80	Controlled
407H	20	7	13	0	1.22	Controlled
408	9	7	2	0	0.30	Controlled
408A	11	2	9	0	0.58	Controlled
409	6	5	0	1	0.20	Controlled
410	59	48	11	0	1.40	Controlled
410A	2	0	2	0	0.14	Controlled
411	13	4	9	0	0.50	Controlled
420	5	3	2	0	1.14	Controlled

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Summary of IHIS Beryllium Data for Buildings 444, 445, 447, 448, and Plenums 450, 451, 455 January, 1999 through August, 2002						
Room	**# of Swipes Collected**	**# of Swipes < 0.1ug/100 cm2**	**# of Swipes 0.1 -- 0.199 ug/100cm2**	**# of Swipes >0.2 ug/100cm2**	**Highest ug/100cm2**	**Current* Posting**
420B	26	19	7	0	0.18	Controlled
501	83	43	36	4	7.05	Controlled
502	27	7	20	0	0.54	Controlled
Sub-total	**602**	**252**	**321**	**29**	**55.20**	**NA**
Building 448						
601	57	49	8	0	0.36	Controlled
602	373	366	7	0	**0.81**	Controlled
Sub-total	**430**	**415**	**15**	**0**	**0.81**	**NA**
Buildings 450, 451, 455						
Plenums	22	22	0	0	< 0.1000	Controlled

* Regulated - Beryllium Regulated Area
Controlled - Beryllium Controlled Area
PBCS - Potential Beryllium Contaminated Systems

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ATTACHMENT D-3

Beryllium Data

Chemical Data Summaries and Sample Maps

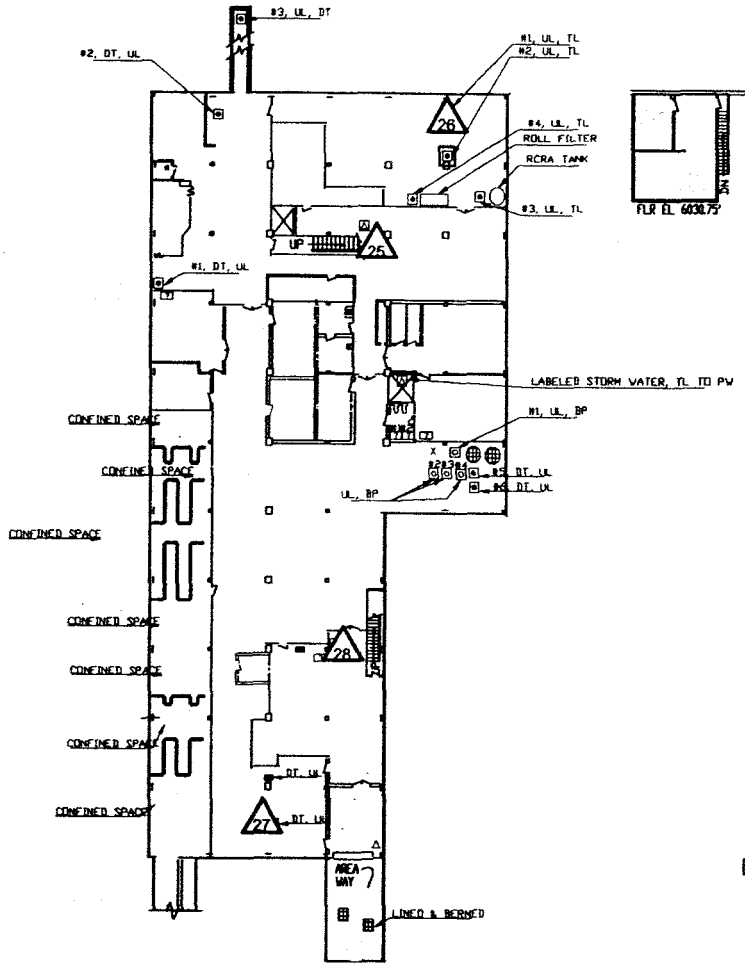
Beryllium Data Summary

Sample Number	Map Survey Point Location	Sample Location	Result ($\mu g/100\ cm^2$)
Building 444 – Pits, Trenches, Sumps, Basins, Drains			
444-07312002-315-101	**1**	**Room 125 – Furnace Pit**	**0.124**
444-07312002-315-102	2	Room 125 – Furnace Pit	< 0.1
444-07312002-315-103	3	Room 125 – Furnace Pit	< 0.1
444-07312002-315-104	4	Room 180 – Trench	< 0.1
444-07312002-315-105	5	Room 180 – Trench	< 0.1
444-07312002-315-106	6	Room 180 – Trench	< 0.1
444-07312002-315-107	7	Room 180 – Trench	< 0.1
444-07312002-315-108	8	Room 180 – Trench	< 0.1
444-07312002-315-109	9	Room 180 – Machine Chase	< 0.1
444-07312002-315-110	10	Room 101 – Machine Chase	< 0.1
444-07312002-315-111	11	Room 101 – Machine Chase	< 0.1
444-07312002-315-112	12	Room 101 – Machine Chase	< 0.1
444-07312002-315-113	**13**	**Room 101 – Machine Chase**	**0.117**
444-07312002-315-114	14	Room 245 – Plating catch basin	< 0.1
444-07312002-315-115	15	Room 245 – Plating catch basin	< 0.1
444-07312002-315-116	16	Room 245 – Plating catch basin	< 0.1
444-07312002-315-117	17	Room 245 – Plating catch basin	< 0.1
444-07312002-315-118	18	Room 245 – Plating catch basin	< 0.1
444-07312002-315-119	19	Room 245 – Plating catch basin	< 0.1
444-07312002-315-120	**20**	**Room 245 – Plating catch basin**	**0.141**
444-07312002-315-121	**21**	**Room 212 – Plating catch basin**	**1.35**
444-07312002-315-122	22	Room 212 – Plating catch basin	< 0.1
444-07312002-315-123	23	Room 212 – Plating catch basin	< 0.1
444-07312002-315-124	24	Room 204 – Floor drain	< 0.1
444-07312002-315-125	25	Room 7 – Sump	< 0.1
444-07312002-315-126	**26**	**Room 1 – Sump**	**0.337**
444-07312002-315-127	27	Room 15 – Sump	< 0.1
444-07312002-315-128	28	Room 11 – Sump	< 0.1
444-07312002-315-137	37	Room 116 – Pit	< 0.1
444-07312002-315-138	38	Room 116 – Pit	< 0.1
444-07312002-315-139	39	Room 116 – Pit	< 0.1
444-07312002-315-140	40	Room 116 – Pit	< 0.1
444-07312002-315-141	**41**	**Room 101P – Utility trench**	**0.962**
444-07312002-315-142	**42**	**Room 101E – Machine trench**	**0.373**
444-07312002-315-143	**43**	**Room 101E – Machine trench**	**0.306**
444-07312002-315-144	44	Room 181 – Vent chase	< 0.1
444-07312002-315-145	45	Room 181 – Vent chase	< 0.1
444-07312002-315-146	46	Room 181 – Vent chase	< 0.1
444-07312002-315-147	47	Room 181 – Vent chase	< 0.1
444-07312002-315-148	48	Room 181 – Electrical trench, chase	< 0.1
444-07312002-315-149	49	Room 181 – Electrical trench, chase	< 0.1

Sample Number	Map Survey Point Location	Sample Location	Result ($ug/100\ cm^2$)
Building 447 – Pits, Trenches, Sumps, Basins, Drains			
444-07312002-315-129	29	Room 501 – Floor drain	< 0.1
444-07312002-315-130	**30**	**Room 403 – Machine Pit**	**0.162**
444-07312002-315-131	**31**	**Room 420A – Process waste drain**	**2.86**
444-07312002-315-132	32	Room 405B – Machine Pit	< 0.1
444-07312002-315-133	33	Room 405B – Machine Pit	< 0.1
444-07312002-315-134	34	Room 405B – Trench	< 0.1
444-07312002-315-135	35	Room 405B – Trench	< 0.1
444-07312002-315-136	36	Room 406A – Trench	< 0.1

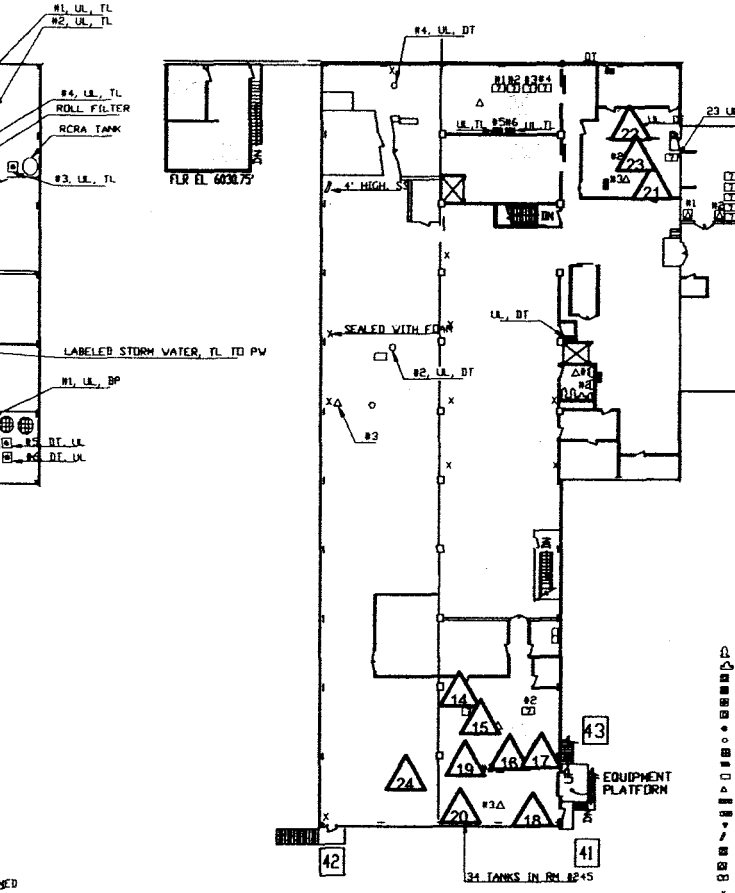
CHEMICAL SAMPLE MAP FOR GROUP 444

Building: 444 - 2nd Floor & Basement (Interior)



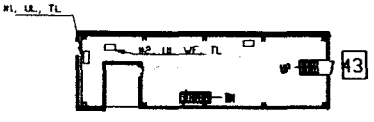
BASEMENT FLOOR PLAN

FLOOR ELEVATION 6011'-0"



MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6038'-0"



NORTHWEST MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6037'-0"

BUILDING 444
SECOND & BASEMENT
FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. SCV: MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

TOILET	SS	SANITARY SEWER
URINAL	PV	PROCESS WASTE
SS SHOWER	FD	FLOOR DRAIN
PV SHOWER	SH	SHOWER
PV SUMP	SU	SUMP
SS SUMP	PSU	PUMPED SUMP
PV FL DR	TR	UTILITY TRENCH
SS FL DR	UL	UNLABELED
PIT/TRENCH	VWA	WET WORK AREA
PV SINK	WF	WATER FOUNTAIN
SS SINK	BR	BRASS
UL FL DR	FL	FLOOR
BERM	P	PATHWAY
CURBED AREA	WRR	WOMENS REST ROOM
PUMPED BR	MRR	MENS REST ROOM
OPEN PIPE	U	URINAL
UL SHOWER	T	TOILET
UL SUMP	PEN	PENETRATION
UL SINK	CS	CONFINED SPACE
FL PEN	SD	STORM DRAIN
MANHOLE	EX	EXPANSION JOINT
RM #	BB	BUILDING BERGEN
	BP	BUILDING PERSONNEL
	DWG	DRAWINGS
	TL	TRACEABLE LINES
	US	USAGE
	MH	MANHOLE
	DT	DYE TESTED

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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER HILL

MAP ID: 02-0222/444K-2-SC

August 27, 2002

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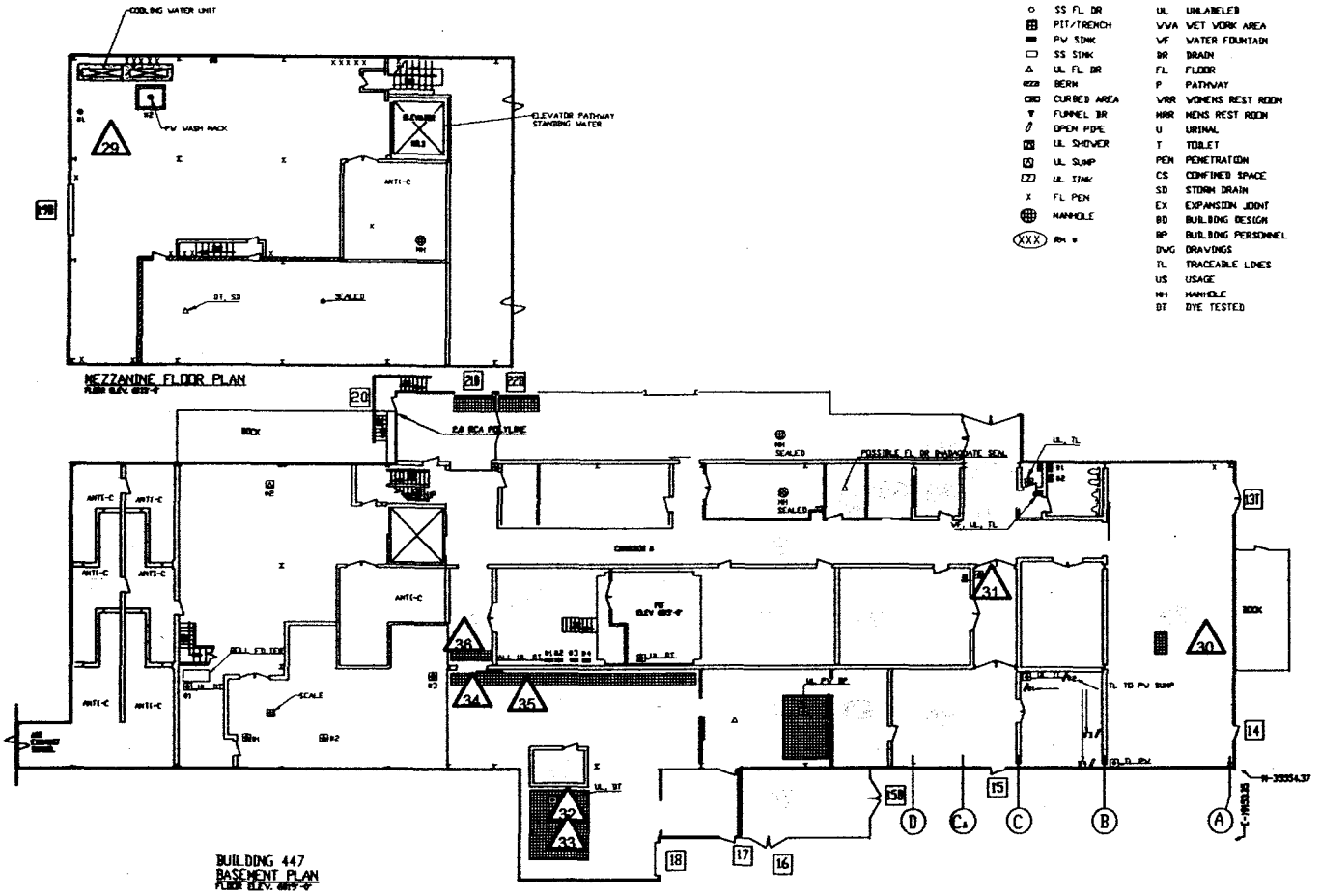
CHEMICAL SAMPLE MAP FOR GROUP 444

Building: 447 Interior

BUILDING 447
FLOOR PLAN

NOTES:
1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCV. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA

TOILET	SS	SANITARY SEWER
URINAL	PV	PROCESS WASTE
SS SHOWER	FD	FLOOR DRAIN
PV SHOWER	SH	SHOWER
PV SUMP	SU	SUMP
SS SUMP	PSU	PUMPED SUMP
PV FL DR	TR	UTILITY TRENCH
SS FL DR	UL	UNLABELED
PIT/TRENCH	WVA	WET WORK AREA
PV SINK	WF	WATER FOUNTAIN
SS SINK	DR	DRAIN
UL FL DR	FL	FLOOR
BERM	P	PATHWAY
CURBED AREA	WRR	WOMENS REST ROOM
FUNNEL DR	MRR	MENS REST ROOM
OPEN PIPE	U	URINAL
UL SHOWER	T	TOILET
UL SUMP	PEN	PENETRATION
UL SINK	CS	CONFINED SPACE
FL PEN	SD	STORM DRAIN
MANHOLE	EX	EXPANSION JOINT
RM #	BD	BUILDING DESIGN
	BP	BUILDING PERSONNEL
	DWG	DRAWINGS
	TL	TRACEABLE LINES
	US	USAGE
	MH	MANHOLE
	DT	DYE TESTED



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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER HILL

MAP ID: 02-0222/447K-BE

August 27, 2002

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ATTACHMENT D-4

RCRA/CERCLA Data

Chemical Data Summaries and Sample Maps

RCRA/CERCLA Constituents Data Summary

Sample Location / Media/Sample Number	Analysis	Result (*mg*/L)
Bldg 444, Concrete Slab, Locations 02S0183-001-009, 011-017	RCRA Metals, SVOC, and VOC	RCRA Toxicity Characteristic substances less than regulatory limits, RCRA Listed substances not applicable.
Bldg 444, Concrete Slab, Locations 02S0198-001-008, 011	RCRA Metals, SVOC, and VOC	RCRA Toxicity Characteristic substances less than regulatory limits, RCRA Listed substances not applicable.
Bldg 444, Concrete Slab, Location 02S0200-001	RCRA Metals, SVOC, and VOC	RCRA Toxicity Characteristic substances less than regulatory limits, RCRA Listed substances not applicable.

RCRA Toxicity Characteristic Limits

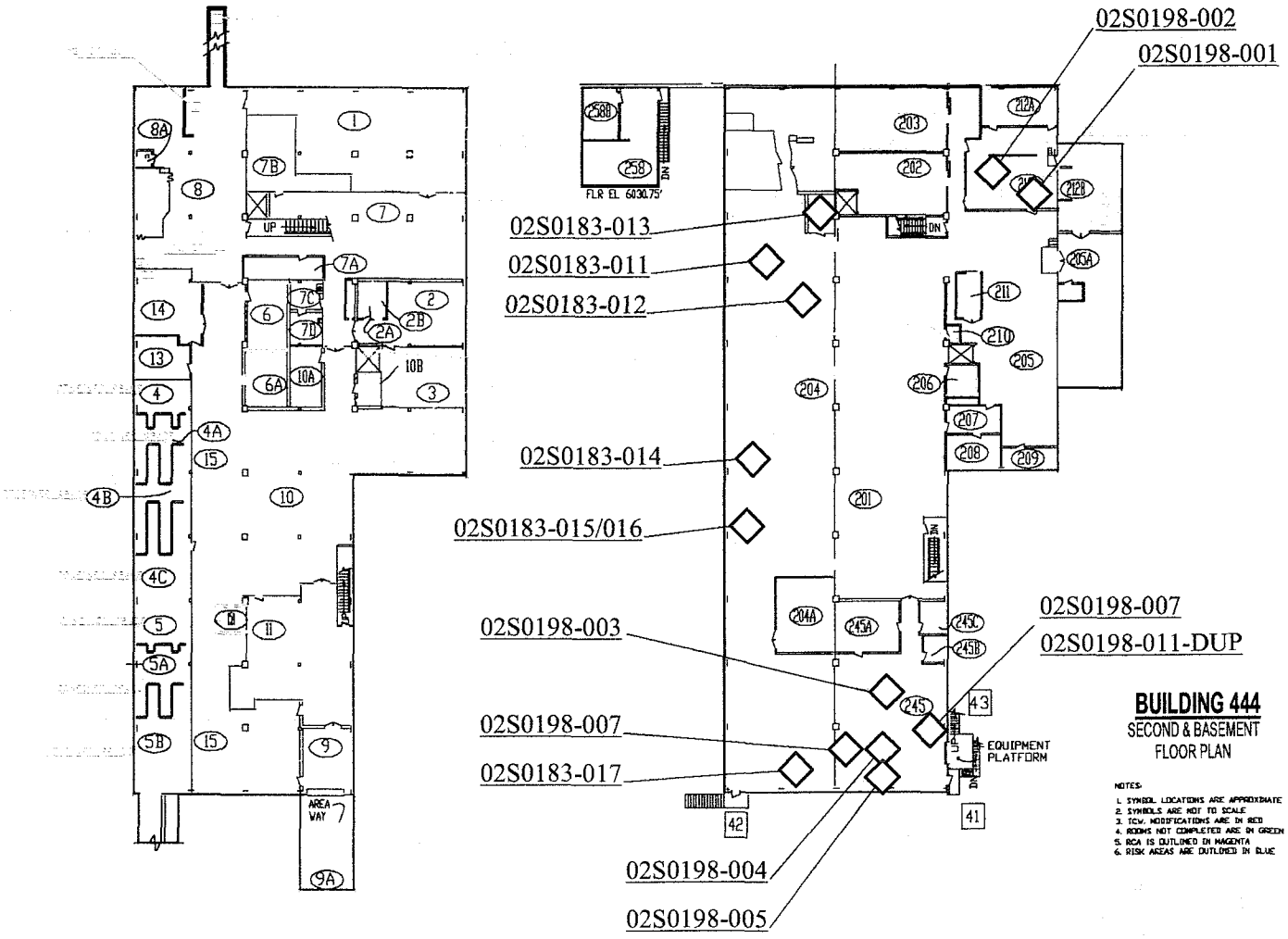
Analyte	Regulatory limit (mg/L)
Arsenic (D004)	5.0
Barium (D005)	100.0
Benzene (D018)	0.5
Cadmium (D006)	1.0
Carbon tetrachloride (D019)	0.5
Chlordane (D020)	0.03
Chlorobenzene (D021)	100.0
Chloroform (D022)	6.0
Chromium (D007)	5.0
o-Cresol (D023)	200.0 (a)
m-Cresol (D024)	200.0 (a)
p-Cresol (D025)	200.0 (a)
Cresol (D026)	200.0 (a)
2,4 –D (D016)	10.0
1,4 Dichlorobenzene (D027)	7.5
1,2 Dichloroethane (D028)	0.5
1,1 Dichlorethylene (D029)	0.7
2,4 Dinitrotoluene (D030)	0.13 (b)
Endrin (D012)	0.02
Heptachlor – and its epoxide (D031)	0.008
Hexachlorobenzene (D032)	0.13 (b)
Hexachlorobutadiene (D033)	0.5
Hexachloroethane (D034)	3.0
Lead (D008)	5.0
Lindane (D013)	0.4
Mercury (D009)	0.2
Methoxychlor (D014)	10.0
MEK (D035)	200.0
Nitrobenzene (D036)	2.0
Pentachlorophenol (D037)	100.0
Pyridine (DD038)	5.0 (b)
Selenium (D010)	1.0
Silver (D011)	5.0
Tetrachloroethylene (D039)	0.7

Toxaphene (D015)	0.5
Trichloroethylene (D040)	0.5
2,4,5-Trichlorophenol (D041)	400.0
2,4,6-Trichlorophenol (D042)	2.0
2,4,5-TP (Silvex) (D017)	1.0
Vinyl Chloride (D043)	0.2

(a) Quantitation Limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
(b) If o-, m-, and p-Cresol concentrations cannot be differentiated, the total Cresol (D026) concentration (200mg/l) is used.

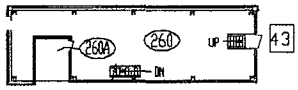
CHEMICAL SAMPLE MAP FOR BUILDING 444

Building: 444 Type: 2



BASEMENT FLOOR PLAN
FLOOR ELEVATION 6011'-0"

MEZZANINE FLOOR PLAN
FLOOR ELEVATION 6038'-0"



NORTHWEST MEZZANINE FLOOR PLAN
FLOOR ELEVATION 6037'-0"

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

N

0 FEET 0

0 METERS 0

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER-HILL

MAP ID: 02-0222/444-2/RCRA August 11, 2002

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ATTACHMENT D-5

PCB Data

Chemical Data Summaries and Sample Maps

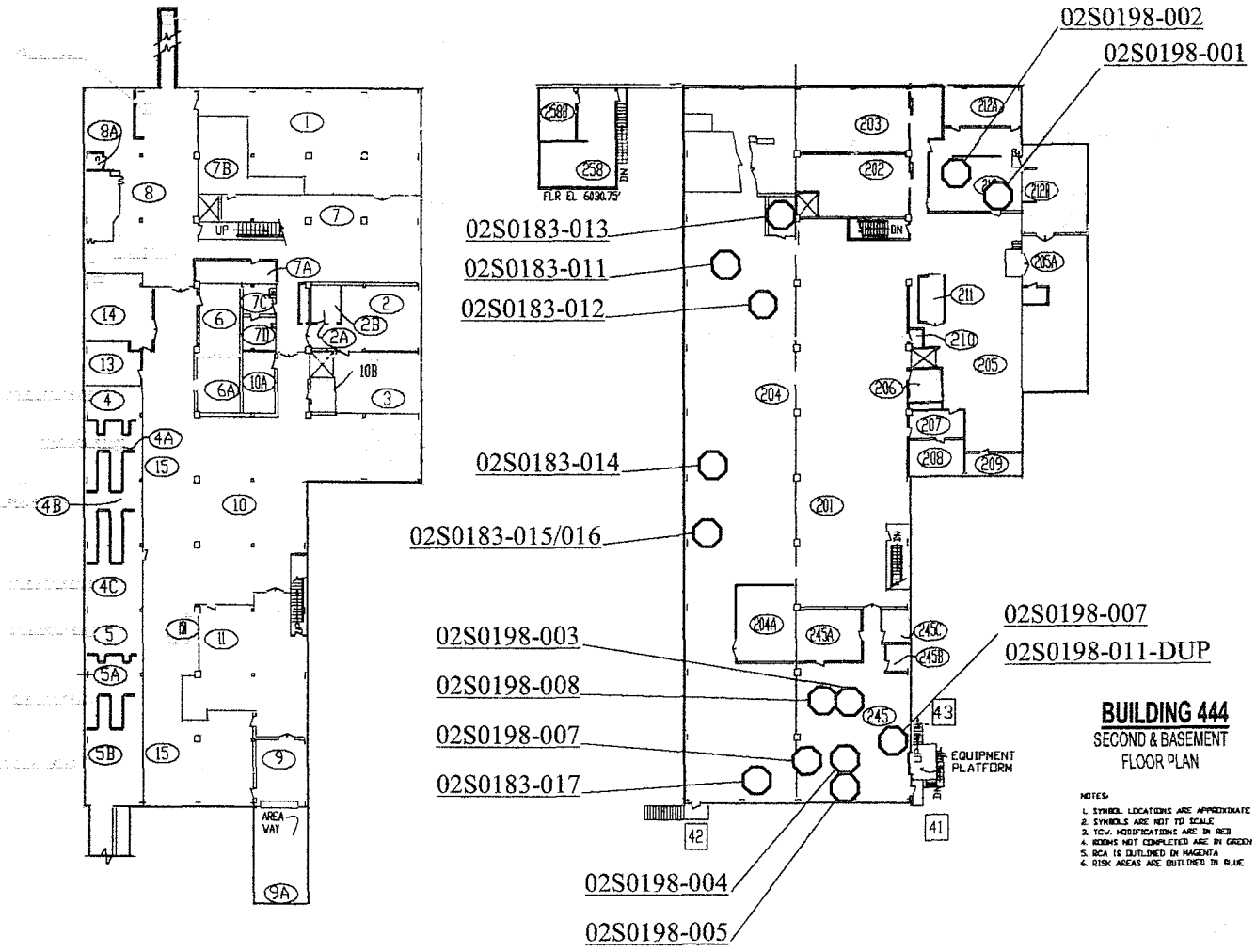
PCB Data Summary

Sample Number	Sample Location	Arcolor Analysis	Results (ug/kg)
02S0183-001	B444, Room179, Concrete slab	All	<50ppm
02S0183-002	B444, Room179, Concrete slab	All	<50ppm
02S0183-003	B444, Room179, Concrete slab	All	<50ppm
02S0183-004	B444, Room179, Concrete slab	All	<50ppm
02S0183-005	B444, Room101, Concrete slab	All	<50ppm
02S0183-006	B444, Room101, Concrete slab	All	<50ppm
02S0183-007(Duplicate of 006)	B444, Room101, Concrete slab	All	<50ppm
02S0183-008	B444, Room101, Concrete slab	All	<50ppm
02S0183-009	B444, Room101, Concrete slab	All	<50ppm
02S0183-011	B444, Room204, Concrete slab	All	<50ppm
02S0183-012	B444, Room204, Concrete slab	All	<50ppm
02S0183-013	B444, Room204, Concrete slab	All	<50ppm
02S0183-014	B444, Room204, Concrete slab	All	<50ppm
02S0183-015	B444, Room204, Concrete slab	All	<50ppm
02S0183-016(Duplicate of 15)	B444, Room204, Concrete slab	All	<50ppm
02S0183-017	B444, Room204, Concrete slab	All	<50ppm
02S0183-022	B444, Room148D, Concrete slab	All	<50ppm
02S0183-023(Duplicate of 22)	B444, Room148D, Concrete slab	All	<50ppm
02S0198-001	B444, Room212, Concrete slab	All	<50ppm
02S0198-002	B444, Room212, Concrete slab	All	<50ppm
02S0198-003	B444, Room245, Concrete slab	**1016** All Others	**150ppm** <50ppm
02S0198-004	B444, Room245, Concrete slab	All	<50ppm
02S0198-005	B444, Room245, Concrete slab	All	<50ppm
02S0198-006	B444, Room245, Concrete slab	All	<50ppm
02S0198-007	B444, Room245, Concrete slab	All	<50ppm
02S0198-008	B444, Room245, Concrete slab	**1016** All Others	**180ppm** <50ppm
02S0198-011(Duplicate of 007)	B444, Room245, Concrete slab	All	<50ppm
02S0200-001	South Dock, outside Room 106	All	<50ppm

Regulatory Limit for PCB's: 50ppm

CHEMICAL SAMPLE MAP FOR BUILDING 444

Building: 444 Type: 2

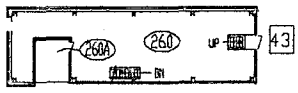


BASEMENT FLOOR PLAN

FLOOR ELEVATION 6011'-0"

MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6038'-0"



NORTHWEST MEZZANINE FLOOR PLAN

FLOOR ELEVATION 6037'-0"

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

N

0 FEET 0

0 METERS 0

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

Prepared by: GIS Dept. 303-966-7707

Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL

MAP ID: 02-0222/444-2/PCB August 11, 2002

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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 beryllium, asbestos, metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and PCBs.]

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, beryllium in E-2, asbestos in E-3, metals in E-4, VOCs in E-5, SVOCs in E-6 and PCBs in E-7. A data completeness summary for all results is given in Table E-8.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project File. The 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 Areas and/or 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 implemented for the 444 Cluster anticipated Type 2 facilities based on the uranium limits used as DCGLs in the unrestricted release decision process. Elevated activity on exterior Survey Unit sample locations had coupon samples taken and analyzed by ISOCS Canberra gamma spectroscopy. No transuranic isotope activity was detected. Elevated activity was determined to be uranium and/or other naturally occurring isotope activity. Consequently, all results were evaluated against, and were less than the uranium $DCGL_w$ (5000/dpm/100cm^2) unrestricted release limits. On this basis, transuranic sample net activity was reported as zero (0) in the TSA Data Summaries.

Consistent with EPA's G-4 DQO process, the radiological survey design (for those units performed per PDS requirements, i.e., building and exterior survey units) 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 quality requirements and project decisions as stated in the original DQOs. All data are useable based on the qualifications stated herein and are considered satisfactory without qualification, except the following locations identified during this RLC as containing contaminants above unrestricted release levels:

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- Asbestos Containing Materials (ACM) above unrestricted release levels – B444 (1st floor interior and roof exterior– 30 locations), B444 (2nd floor and basement interior – 21 locations), B445 interior – 21 locations and B447 interior – 14 locations. These areas will be abated during in-process decontamination and decommissioning activities and successful decontamination will be confirmed during final asbestos abatement clearance sampling.

- The radiological survey/sampling was conducted in accordance with the RLCP developed as part of this RLCR. All radiological survey/sampling conducted for the Survey Areas and Survey Units comprising this RLCR satisfied project DQOs. The nature and extent of radiological characterization (i.e., transuranic and uranium contamination) was adequately characterized, radiological data is commensurate with the anticipated facility typing (i.e., Type 2 facility), data met minimum RLC quality requirements for action levels and release criteria, and survey areas/units were properly bounded and defined. The below listed Survey Areas were surveyed per RLC requirements, and the Survey Units surveyed per PDS requirements. Below is a summary of the radiologically contaminated areas identified in this RLCR:

  - One Hundred and Thirteen (113) radiologically contaminated measurement locations (both alpha and beta) were identified above the transuranic $DCGL_w$ (100 dpm/100cm^2) and uranium $DCGL_w$ (5000 dpm/100cm^2) unrestricted release levels for the following Survey Areas: Survey Area B (B444-Part 2), Survey Area C (B444-Part 3), Survey Area E (B444 basement), Survey Area F (B444 2nd floor), Survey Area G (B447) and Survey Area K (B444/447 Sumps, Pits, and trenches). These areas will be decontaminated during in-process decontamination and decommissioning activities and/or disposed of as low level or low level mixed waste. The nature and extent of radiological contamination support the classification of an anticipated Type 2 facility.

  - Elevated readings were identified at exterior sample locations for Survey Units 444-B-009 through 444-B-013. Four locations were allowed to decay per RSP 16.02 requirements and re-surveyed. Re-survey results were below the $DCGL_w$ unrestricted release limits. Two survey locations had high backgrounds, were re-surveyed with both results less than the $DCGL_w$ unrestricted release limits. Elevated activity was identified at fourteen (14) locations on roof exteriors of the subject survey units. The investigation included selecting coupon samples for analysis by Canberra ISOCS gamma spectroscopy. No transuranic isotope activity was detected. All elevated activity was determined to be uranium and other naturally occurring isotopes. The Sample Net Activity for each of these locations was below the uranium $DCGL_w$ (5000 dpm/100cm^2). On this basis, the transuranic values for these locations are reported as zero (0) in the TSA Data Summary. As a result, all survey results are less than the applicable $DCGL_w$ unrestricted release limits and no further investigation is required.

- Extensive beryllium sampling was conducted in the B444 Type 2 facilities during the period of 1993 through the present. The beryllium sampling data collected during the period of January 1999 through August, 2002 is contained in the RFETS Industrial Hygiene Information System (IHIS). Table 4-1, *Summary of IHIS Data for Buildings 444, 445, 447,448 and Plenum Buildings (450, 451,455),* summarizes the IHIS data and details the range and location of beryllium contamination by building and room (refer to Attachment D-2 of this RLCR).

  Additional beryllium samples were collected as part of this RLCR based on the Chemical Characterization Plan developed per RLCP requirements. Fifty-One (51) beryllium samples were collected in previously inaccessible areas of the 444 Cluster (i.e., sumps, pits and trenches). The results of this sampling identified 4 locations above the investigative level (0.1 $\mu g/100cm^2$) and 6 locations above the action level (0.2 $\mu g/100cm^2$). The results of the beryllium data collected as part of this RLCR support the project decisions to classify the 444 Cluster as a Type 2 facility.

- Two PCB sample locations were identified above the regulatory limit of 50 ppm in B444, Room 245. Sample locations 02S0198-003 and 02S0198-008 have PCB contamination of 150 ppm and 180 ppm respectively. The area affected is approximately 100 square feet. These areas will be managed and disposed of in accordance with 40CFR761 as part of the in-process D&D activities.

The above referenced contaminated areas will be remediated during in-process D&D activities. PDS will confirm the satisfactory decontamination of the subject areas as applicable. 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. On this basis, the Survey Units/Survey Areas identified in this RLCR meet the confidences stated herein and confirm project decisions, (i.e., classification as Type 2 facilities).

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Table E-1 V&V of Radiological Surveys For 444 Cluster Anticipated Type 2 Facilities

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
	Parameters	**Measure**	**frequency**	**COMMENTS**
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 Areas A through L and Survey Units 444-B-009, 444-B-010, 444-B-011, 444-B-012 and 444-B-013.	statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	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.
COMPARABILITY	units of measure	dpm/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys usable results vs. unusable	>95% >95%	NA	See Table E-8 for details.
SENSITIVITY	detection limits	TSA: ≤100 dpm/100cm^2 RA: ≤20 dpm/100cm^2	all measures	RLC MDAs ≤ 100% DCGL$_w$ Exterior RLC performed to PDSP (MDA ≤50% of DCGL$_w$)

Table E-2 V&V Of Chemical Results-Beryllium For Building 444 Anticipated Type 2's

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville, Littleton, Co.	
		RIN ---->	02Z0804 02Z0702 (B444/447 Pits, Sumps, Trenches)	
QUALITY REQUIREMENTS		Measure	Frequency	COMMENTS
ACCURACY	Calibrations Initial	linear calibration	≥1	No qualifications significant enough to change project decisions, i.e. classification of a Type 2 Facility confirmed: 4 locations identified above the investigative level (0.1 µg/100cm^2) and 6 locations above the action level (0.2 µg/100cm^2).
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks - lab & field	<MDL	≥1	
	Interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120% (RPD<20%)	≥1	
	Field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/100cm^2	NA	
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	Detection limits	MDL of 0.012 ug/100cm^2	all measures	

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Table E-3 V&V Of Chemical Results-Asbestos For 444 Cluster Anticipated Type 2 Facilities

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
ASBESTOS	METHOD: EPA 600/R-93/116	LAB ---->	Reservoirs Environmental, Inc	
QUALITY REQUIREMENT		RIN ---->	02Z0321 (sample #s 201 thru 260) 02D1314 (sample #s 261 thru 360)	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial/continuing	below detectable amounts	≥1	Semi-quantitative, per (microscopic) visual estimation.
PRECISION	Actual Number Sampled LCSD Lab duplicates	all below detectable amounts	≥160 samples	Semi-quantitative, per (microscopic) visual estimation.
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact: completed paperwork, containers w/ custody seals.
	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	See original Chemical Characterization Package (planning document); for field/sampling procedures (located in project file;) thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	Qualitative	NA	See Table E-8; final number of samples at Certified Inspector's discretion.
SENSITIVITY	Detection limits	<1% by volume	all measures	N/A

Table E-4 V&V of Chemical Results-Metals For Building 444 Anticipated Type 2's

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
Metals (total)	METHOD: SW6010/6020	LAB ---->	Severn-Trent, Denver, Co.	
		RIN ---->	RIN02S0183 RIN02S0198 RIN02S0200	
QUALITY REQUIREMENTS		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial	linear calibration	≥1/batch	No qualifications significant enough to change project decision, i.e., classification of Type 2 areas confirmed; TCLP results well below associated action levels and regulatory limits.
	Continuing	80%<%R<120%	≥1/batch	
	LCS	80%<%R<120%	≥1/batch	
	MS	75%<%R<125%	≥1/batch	
	Blanks - lab	mg/kg	≥1/batch	
	Serial dilutions	%D<10%	≥1/batch	
	Interference check std (ICP)	80%<%R<120%	bracket batch	
PRECISION	MSD	RPD<30%	≥1/batch	
	Field duplicate	all results < RL	≥1/batch	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	≤180 days	NA	
	Controlling Documents (Plans, Procedures, Maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	mg/kg	NA	
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	Detection limits	Various	all analytes	

Table E-5 V&V of Chemical Results-Volatile Organic Compounds (VOCs) For Building 444 Anticipated Type 2's

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
VOCs	METHOD: SW8260	LAB ---->	Severn-Trent, Denver, Co.	
		RIN ---->	RIN02S0183 RIN02S0198 RIN02S0200	
QUALITY REQUIREMENTS		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial	± 40%D in Response Factor	≥1/batch	No qualifications significant enough to change project decision, i.e., classification of Type 2 areas confirmed; all results were below regulatory limits.
	Continuing	80%<%R<120%	≥1/batch	
	LCS	80%<%R<120%	≥1/batch	
	MS	75%<%R<125%	≥1 batch	
	Blanks - lab	ug/kg	≥1/batch	
	Internal standards	retention times and area factors	≥1/batch	
	Surrogate	%R (variable)	≥1/batch	
PRECISION	MSD	RPD<30%	≥1/batch	
	Field duplicate	all results < RL	≥1/batch	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	≤ 14 days	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/kg	NA	
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	Detection limits	Various	all analytes	

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Table E-6 V&V of Chemical Results For Semi-Volatile Organic Compounds (SVOCs) For Building 444 Anticipated Type 2's

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
SVOCs	METHOD: SW8270	LAB ---->	Severn-Trent, Denver, Co.	
		RIN ---->	RIN02S0183 RIN02S0198 RIN02S0200	
QUALITY REQUIREMENTS		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial	± 40%D in Response Factor	≥1/batch	No qualifications significant enough to change project decision, i.e., classification of Type 2 areas confirmed, all results were below regulatory limits.
	Continuing	80%<%R<120%	≥1/batch	
	LCS	80%<%R<120%	≥1/batch	
	MS	75%<%R<125%	≥1 batch	
	Blanks - Lab	ug/kg	≥1/batch	
	Internal standards	retention times and area factors	≥1/batch	
	Surrogate	%R (variable)	≥1/batch	
PRECISION	MSD	RPD<30%	≥1/batch	
	Field duplicate	all results < RL	≥1/batch	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	≤ 14 days	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/kg	NA	
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	Detection limits	Various	all analytes	

Table E-7 V&V of Chemical Results – PCBs For Building 444 Anticipated Type 2's

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
PCBs	METHOD: SW8082	LAB ---->	Severn-Trent, Denver, Co.	
		RIN ---->	RIN02S0183 RIN02S0198 RIN02S0200	
QUALITY REQUIREMENTS		Measure	Frequency	COMMENTS
ACCURACY	**Calibrations:** Initial	r^2 >0.99	≥1/batch	No qualifications significant enough to change project decision, i.e., classification of Type 2 areas confirmed. Two locations greater than the regulatory limit of 50 ppm: Sample #02S0198-003 (150 ppm) and sample #02S0198-008 (180 ppm).
	Continuing	80%<%R<120%	≥1/batch	
	LCS	80%<%R<120%	≥1/batch	
	MS	75%<%R<125%	≥1/batch	
	Blanks - Labs	<MDL	≥1/batch	
PRECISION	MSD	75%<%R<125%	≥1/batch	
	Field duplicate	all results < RL	≥1/batch	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	≤30 days extract ≤45 days analysis	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/kg	NA	
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	Detection limits	Various	all analytes	

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Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	B444 1st Floor (interior) and Roof (exterior)	75 biased (1st floor interior) and 12 biased (roof exterior)	75 biased (1st floor interior) and 12 biased (roof exterior)	ACM present > 1% by volume (18 locations >1% by volume and 5 locations < .25 Point Count/1st fl. and 7 locations/roof)	40 CFR763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN02D1314 and RIN02Z0321 18 sample locations on 1st floor > 1% by volume ACM – range of 1% to 70% Chrysotile and 5 sample locations <.25 Point Count. Seven (7) sample locations on roof > 1% by volume ACM – range of 5% to 15% Chrysotile.
Asbestos	B444 2nd floor and basement (interior)	25 biased (interior)	43 biased (interior)	ACM present > 1% by volume (14 locations >1% by volume/2nd floor and 7 locations/basement)	40 CFR763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN02D1314 14 total sample locations on 2nd floor: 4 ea. > 1% by volume ACM – range of 12% to 80% Chrysotile, 3 ea. 3% to 70% Chrysotile/5% to 15% Amosite, 1 ea. 50% Amosite, 4 ea. 2% to 3% Chrysotile/0.5 to 0.25 Point Count. and 2 ea. <0.25 Point Count. Seven (7) sample locations in basement: 2 ea. > 1% by volume ACM – range of 2% to 70% Chrysotile/12% to15% Amosite, 4 ea. 2% to 3% Chrysotile/ 0.5 to 2 Point Count and 1 ea. < 0.25 Point Count.
Asbestos	B445 (interior)	9 biased (interior)	3 biased (interior)	ACM present > 1% by volume (2 locations >1% by volume)	40 CFR763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN02Z0321 2 sample locations > 1% by volume ACM – range 1% to 2% Chrysotile and < 0.5 Point Count.

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	B447 (interior)	45 biased (interior)	25 biased (interior)	ACM present > 1% by volume (14 locations >1% by volume)	40 CFR763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN02D1314 14 sample locations > 1% by volume ACM – 3 ea. range of 4% to 65% Chrysotile, 6 ea. 1% to 23% chrysotile/2% to 15% Amosite, 2 ea. 15% Amosite, 2 ea. 2% to 3% Chrysotile/0.75 Point Count and 1 ea. < 0.25 Point Count.
Asbestos	B448 (interior)	6 biased (interior)	2 biased (interior)	No ACM present, all results < 1% by volume	40 CFR763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN02D1314
Beryllium	B444 & B447 Pits, Sumps, and Trenches	0 (interior)	51 (biased)	Beryllium contamination found above the investigative level (4 locations) and action level (6 locations)	OSHA ID-125G RIN02Z0802 (B444 - samples 1-28) RIN02Z0804 (B444 – samples 37-49 and B447 – samples 29-36) Four (4) sample locations > the investigative level (0.1 µg/100cm^2): • B444 - #1 (0.124 µg/100cm^2) • B444 - #13 (0.117 µg/100cm^2) • B444 - #20 (0.141 µg/100cm^2) • B447 - #30 (0.162 µg/100cm^2) Six (6) sample locations > the action level (0.2 µg/100cm^2): • B444 - #21 (1.35 µg/100cm^2) • B444 - #26 (0.337 µg/100cm^2) • B447 - #31 (2.86 µg/100cm^2) • B444 - #41 (0.962 µg/100cm^2 • B444 - #42 (0.373 µg/100cm^2) • B444 - #43 (0.306 µg/100cm^2)

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's					
ANALYTE	**Building/Area /Unit**	**Sample Number Planned (Real & QC)**	**Sample Number Taken (Real & QC)**	**Project Decisions (Conclusions) & Uncertainty**	**Comments (RIN, Analytical Method, Qualifications, etc.)**
Metals (total and TCLP)	B444 (interior)	17 4 duplicates	21 (solid) 3 duplicates	No metals exceeded the regulatory limits, no metal contamination found	SW846 1311; SW846 6010/6010B RIN02S0183, RIN02S198 and RIN02S0200 All results were below regulatory limits.
VOCs	B444 (interior)	17 4 duplicates	21 (solid) 3 duplicates	No VOCs exceeded the regulatory limits, no VOC contamination	6 CCR 1007-3; SW846 1311/Method 8260 RIN02S0183, RIN02S198 and RIN02S0200 All results were below regulatory limits.
SVOCs	B444 (interior)	17 4 duplicates	21 (solid) 3 duplicates	No SVOCs exceeded the regulatory limits, no SVOC contamination	6 CCR 1007-3; SW846 1311/Method 8270/8270C RIN02S0183, RIN02S198 and RIN02S0200 All results were below regulatory limits.
PCBs	B444 (interior)	13 3 duplicates	23 (solid) 4 duplicates	PCB contamination above the regulatory limit (50 ppm.) at 2 locations	40CFR761; SW846/Method 8082 RIN02S0183, RIN02S198 and RIN02S0200 Results for B444, Room 245 sample locations 02S0198-003 (150ppm) and 02S0198-008 (150 ppm) were greater than the regulatory limit of 50 ppm. These locations will be remediated during in-process decontamination and decommissioning.

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area A B444 1st Floor/Part 1 (interior)	• 45 ά β TSA and 45 ά β Smears (uniform – floors and walls <2 m) • 15 ά β TSA and 15 ά β Smears (uniform – ceiling and walls >2 m) • 45 ά TSA and 45 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 45 ά β TSA and 45 ά β Smears (uniform – floors and walls <2 m) • 15 ά β TSA and 15 ά β Smears (uniform – ceiling and walls >2 m) • 45 ά TSA and 45 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable.
Radiological	Survey Area B B444 1st Floor/Part 2 (interior)	• 42 ά β TSA and 42 ά β Smears (uniform – floors and walls <2 m) • 14 ά β TSA and 14 ά β Smears (uniform – ceiling and walls >2 m) • 42 ά TSA and 42 β Smears	• 45 ά β TSA and 45 ά β Smears (uniform – floors and walls <2 m) • 15 ά β TSA and 15 ά β Smears (uniform – ceiling and walls >2 m) • 45 ά TSA and 45 β Smears	Confirmed project decisions (i.e., Type 2 facility classification); 14 locations above unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. 3 elevated ά sample locations > 100 dpm/100cm^2 $DCGL_w$: 1 location @ floor and walls <2 m and 2 locations @ equipment. 1 elevated β sample location on equipment > 5,000 dpm/100cm^2 $DCGL_w$ and 10 elevated β sample locations > 15,000 dpm/100cm^2 $DCGL_{EMC}$ @ floor and walls <2 m

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
		(biased) 1 m^2 scan @ each location-floors and walls < 2 m	(biased) 1 m^2 scan @ each location-floors and walls < 2 m		
Radiological	Survey Area C B444 1st Floor/Part 3 (interior)	• 36 ά β TSA and 36 ά β Smears (uniform – floors and walls <2 m) • 12 ά β TSA and 12 ά β Smears (uniform – ceiling and walls >2 m) • 36 ά TSA and 36 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 40 ά β TSA and 40 ά β Smears (uniform – floors and walls <2 m) • 15 ά β TSA and 15 ά β Smears (uniform – ceiling and walls >2 m) • 40 ά TSA and 40 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	Confirmed project decisions (i.e., Type 2 facility classification); one location above unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. 1 elevated β sample location above 15,000 dpm/100cm^2 $DCGL_{EMC}$ @ floor and walls <2 m
Radiological	Survey Area D B444 1st Floor/Part 4 (interior)	• 42 ά β TSA and 42 ά β Smears (uniform – floors and walls <2 m) • 14 ά β TSA and 14 ά β Smears (uniform – ceiling	• 45 ά β TSA and 45 ά β Smears (uniform – floors and walls <2 m) • 15 ά β TSA and 15 ά β Smears (uniform – ceiling and walls >2 m)	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable.

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
		and walls >2 m) • 42 ά TSA and 42 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 45 ά TSA and 45 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m		
Radiological	Survey Area E B444 Basement (interior)	• 66 ά β TSA and 66 ά β Smears (uniform – floors and walls <2 m) • 26 ά β TSA and 26 ά β Smears (uniform – ceiling and walls >2 m) • 66 ά TSA and 66 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 70 ά β TSA and 70 ά β Smears (uniform – floors and walls <2 m) • 25 ά β TSA and 25 ά β Smears (uniform – ceiling and walls >2 m) • 70 ά TSA and 70 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	Confirmed project decisions (i.e., Type 2 facility classification); one location above unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. 1 elevated β sample location above 15,000 dpm/100cm^2 $DCGL_{EMC}$ @ floor and walls <2 m

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area F B444 2nd Floor (interior)	• 72 ά β TSA and 72 ά β Smears (uniform – floors and walls <2 m) • 24 ά β TSA and 24 ά β Smears (uniform – ceiling and walls >2 m) • 72 ά TSA and 72 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 75 ά β TSA and 75 ά β Smears (uniform – floors and walls <2 m) • 25 ά β TSA and 25 ά β Smears (uniform – ceiling and walls >2 m) • 80 ά TSA and 80 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	Confirmed project decisions (i.e., Type 2 facility classification); 55 locations above unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. 3 elevated ά sample locations > $DCGL_w$ (100 dpm/100cm^2) @ floor and walls <2 m and 28 elevated ά sample locations > $DCGL_w$ (300 dpm/100$cm^{2)}$: 19 locations @ floor and walls <2 m and 9 locations @ equipment. 4 elevated β sample locations > 5,000 dpm/100cm^2 $DCGL_w$ @ floor and walls <2 m and 20 elevated β sample locations > 15,000 dpm/100cm^2 $DCGL_{EMC}$: 14 locations @ floor and walls <2 m and 6 locations @ equipment.

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area G B447 (interior)	• 66 ά β TSA and 66 ά β Smears (uniform – floors and walls <2 m) • 22 ά β TSA and 22 άβ Smears (uniform – ceiling and walls >2 m) • 66 ά TSA and 66 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 70 ά β TSA and 70 ά β Smears (uniform – floors and walls <2 m) • 25 ά β TSA and 25 ά β Smears (uniform – ceiling and walls >2 m) • 70 ά TSA and 70 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	Confirmed project decisions (i.e., Type 2 facility classification); 18 locations above unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. 2 elevated ά sample locations > 100 dpm/100cm^2 $DCGL_w$ @ floor and walls <2 m and 4 elevated ά sample locations > 300 dpm/100cm^2 $DCGL_w$: 1 locations @ floor and walls <2 m and 3 locations @ equipment. 2 elevated β sample locations > 5,000 dpm/100cm^2 $DCGL_w$ @ floor and walls <2 m and 10 elevated β sample locations > 15,000 dpm/100cm^2 $DCGL_{EMC}$: 7 locations @ floor and walls <2 m and 3 locations @ equipment.
Radiological	Survey Area H B448 (interior)	• 30 ά β TSA and 30 ά β Smears (uniform – floors and walls <2 m) • 10 ά β TSA and 10 ά β Smears (uniform – ceiling and walls >2 m)	• 30 ά β TSA and 30 ά β Smears (uniform – floors and walls <2 m) • 10 ά β TSA and 10 ά β Smears (uniform – ceiling and walls >2 m)	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable.

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
		• 30 ά TSA and 30 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 30 ά TSA and 30 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m		
Radiological	Survey Area I B450 (interior)	• 30 ά β TSA and 30 ά β Smears (uniform – floors and walls <2 m) • 10 ά β TSA and 10 ά β Smears (uniform – ceiling and walls >2 m) • 30 ά TSA and 30 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	• 30 ά β TSA and 30 ά β Smears (uniform – floors and walls <2 m) • 10 ά β TSA and 10 ά β Smears (uniform – ceiling and walls >2 m) • 30 ά TSA and 30 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable.
Radiological	Survey Area J B451 (interior)	• 30 ά β TSA and 30 ά β Smears (uniform – floors and walls <2 m) • 10 ά β TSA and 10 ά β	• 30 ά β TSA and 30 ά β Smears (uniform) • 10 ά β TSA and 10 ά β Smears	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable.

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
		Smears (uniform – ceiling and walls >2 m) • 30 ά TSA and 30 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m	(uniform – ceiling and walls >2 m) • 30 ά TSA and 30 β Smears (biased) 1 m^2 scan @ each location-floors and walls < 2 m		
Radiological	Survey Area K B444 & B447 Sumps, Pits & Trenches (interior)	• 30 ά β TSA and 30 ά β Smears (uniform) 1 m^2 scan @ each location (where possible	• 49 ά β TSA and 49 ά β Smears (uniform) 1 m^2 scan @ each location (where possible)	Confirmed project decisions (i.e., Type 2 facility classification); 24 locations above unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. 1 elevated ά sample locations > the transuranic $DCGL_w$ (100 dpm/100cm^2) and 6 elevated ά sample locations > the transuranic $DCGL_{EMC}$ (300 dpm/100cm^2). 17 elevated sample locations > the uranium $DCGL_{EMC}$ (15,000 dpm/100cm^2.)
Radiological	Survey Area L B445 (interior)	• 30 ά β TSA and 30 ά β Smears (uniform – floors and walls <2 m) • 10 ά β TSA and 10 ά β Smears (uniform – ceiling and walls >2 m) • 30 ά TSA and 30 β Smears	• 30 ά β TSA and 30 ά β Smears (uniform – floors and walls <2 m) • 10 ά β TSA and 10 ά β Smears (uniform – ceiling and walls >2 m) • 30 ά TSA and 30 β Smears	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable.

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's					
ANALYTE	**Building/Area /Unit**	**Sample Number Planned (Real & QC)**	**Sample Number Taken (Real & QC)**	**Project Decisions (Conclusions) & Uncertainty**	**Comments (RIN, Analytical Method, Qualifications, etc.)**
		(biased) 1 m^2 scan @ each location-floors and walls < 2 m	(biased) 1 m^2 scan @ each location-floors and walls < 2 m		
Radiological	Survey Area B Survey Unit: 444-B-009 B444 (exterior)	231 ά TSA and 231 ά Smears (random) 12 QC TSA 3% scan	231 ά TSA and 231 ά Smears (random) 12 QC TSA 3% scan	No contamination at any locations; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. • Elevated background readings at survey locations #35 and #45. Locations were re-surveyed with both results below the $DCGL_w$ (100 dpm/100cm^2). Elevated survey results at locations #143 and #151. Locations were resurveyed and were below the $DCGL_w$ (100 dpm/100cm^2). Re-survey results are reported in the TSA Data Summary for the above four (4) locations. • Elevated activity was identified at locations #85, #90, #137, #183, #198 and #208 above the $DCGL_w$ (100 dpm/100cm^2) unrestricted release limits. Coupon samples taken and analyzed by gamma spectroscopy did not detect any transuranic isotope activity. Elevated activity was determined to be uranium and other naturally occurring isotopes. All results were less than the uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits. On this basis, the transuranic net activity values are reported as zero (0) in the TSA Data Summary. • Elevated activity was identified at location #112. A media sample was collected from concrete surface and analyzed by gamma spectroscopy. No transuranic isotope activity was detected. Elevated activity was determined to be uranium and other naturally occurring isotopes. The media sample result was less than the

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Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
					uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits. On this basis, the transuranic net activity value is reported as zero (0) in the TSA Data Summary.
Radiological	Survey Area B Survey Unit: 444-B-010 B447 (exterior)	40 á TSA and 40 á Smears (29 random & 11 biased) 2 QC TSA 3% scan	40 á TSA and 40 á Smears (29 random & 11 biased) 2 QC TSA 3% scan	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. Initial elevated alpha activity at survey location #12 (128 dpm/100cm^2.) Location was allowed to decay per RSP 16.02 requirements and re-surveyed 8/6/02. The re-survey result was 53.3 dpm/100cm^2 which is less than the $DCGL_w$ (100 dpm/100cm^2) therefore all values are below unrestricted release levels. The re-survey value is reported in the TSA Radiological Data Summary.
Radiological	Survey Area B Survey Unit: 444-B-011 B448 & B450 (exterior)	25 á TSA and 25 á Smears (15 random & 10 biased) 2 QC TSA 3% scan	25 á TSA and 25 á Smears (15 random & 10 biased) 2 QC TSA 3% scan	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. Elevated alpha activity was detected on B448 roof at sample locations #5 (245.9 dpm/100cm^2), #6 (238.4 dpm/100cm^2) and #9 (179.1 dpm/100cm^2) that were greater than the $DCGL_w$ (100 dpm/100cm^2.) Two coupon samples were taken at locations #5 and #9 and analyzed by gamma spectroscopy. No DOE- Added (americium and plutonium)

Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
					isotope activity was detected. Results indicated only uranium contamination and other naturally occurring isotopes were present. The net activity of 245.9 dpm/100cm^2 (highest net activity) is below the DCGL$_w$ (5,000 dpm/100cm^2) limits for uranium. Therefore, all survey results are less than the applicable DCGL$_w$ unrestricted release limits and no further investigation is required.
Radiological	Survey Area B Survey Unit: 444-B-012 B451 & B455 (exterior)	25 á TSA and 25 á Smears (15 random & 10 biased) 2 QC TSA 3% scan	25 á TSA and 25 á Smears (15 random & 10 biased) 2 QC TSA 3% scan	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. Elevated alpha activity was detected on the roof of B451 at sample location #17 (107.7 dpm/100cm^2) that was greater than the DCGL$_w$ (100 dpm/100cm^2.) The location was allowed to decay and re-surveyed with net activity of 174.3 dpm/100cm^2. Nine coupon samples were taken from roof locations in the B444 cluster and analyzed by gamma spectroscopy. No DOE- Added (americium and plutonium) isotope activity was detected at any of the locations. All activity was determined to be uranium contamination and other naturally occurring isotopes. Consequently, the net activity of 174.3 dpm/100cm^2 is below the DCGL$_w$ (5,000 dpm/100cm^2) limits for uranium and is the net activity value reported in the Radiological Data Summary. All survey results are less than the applicable DCGL$_w$ unrestricted release limits and no further investigation is required.
Radiological	Survey Area B Survey Unit: 444-B-013 B445 (exterior)	25 á TSA and 25 á Smears (15 random & 10 biased) 2 QC TSA 3% scan	25 á TSA and 25 á Smears (15 random & 10 biased) 2 QC TSA 3% scan	No contamination at any location; all values below unrestricted release levels	Uranium and/or Transuranic DCGL as applicable. Elevated alpha activity was detected on the roof of B445 at sample locations #3 (162.3 dpm/100cm^2), #8 (145.9 dpm/100cm^2) and #9 (159.3 dpm/100cm^2) that were greater than the DCGL$_w$ (100 dpm/100cm^2.) Two coupon samples

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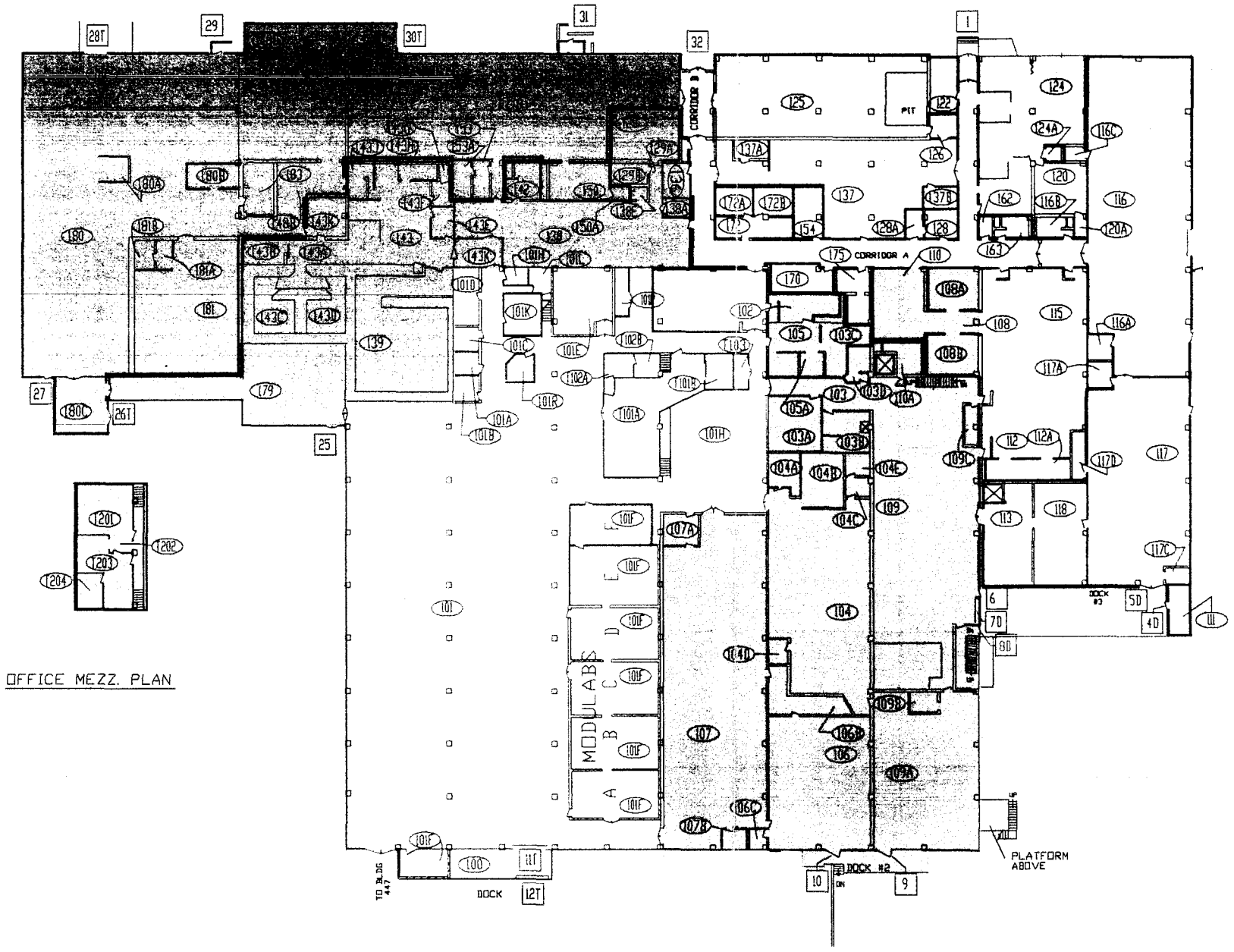
Table E-8 Data Completeness Summary For Building 444 Anticipated Type 2's					
ANALYTE	**Building/Area /Unit**	**Sample Number Planned (Real & QC)**	**Sample Number Taken (Real & QC)**	**Project Decisions (Conclusions) & Uncertainty**	**Comments (RIN, Analytical Method, Qualifications, etc.)**
					were taken from the two highest net activity roof locations (#3 and #9) and analyzed by gamma spectroscopy. No DOE- Added (americium and plutonium) isotope activity was detected at any of the locations. All activity was determined to be uranium contamination and other naturally occurring isotopes. Consequently, the highest sample net activity of 162.3 dpm/100cm^2 is below the DCGL$_w$ (5,000 dpm/100cm^2) limits for uranium and is the net activity value reported in the Radiological Data Summary. All survey results are less than the applicable DCGL$_w$ unrestricted release limits and no further investigation is required.

[A] Number of asbestos samples required was an estimate only, final number of samples is at the discretion of IH.

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: A, B, C, D **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**

BUILDING 444
FIRST FLOOR PLAN



OFFICE MEZZ. PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Survey A = 1500 sq.m.
Survey B = 1400 sq.m.
Survey C = 1200 sq.m.
Survey D = 1400 sq.m.
Survey E = 2200 sq.m.
Survey F = 2400 sq.m.
Survey G = 2200 sq.m.
Survey H = 375 sq.m.
Survey I = 380 sq.m.
Survey J = 280 sq.m.
Survey K = N/A sq. m.
Survey L = 430 sq.m.

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

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

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

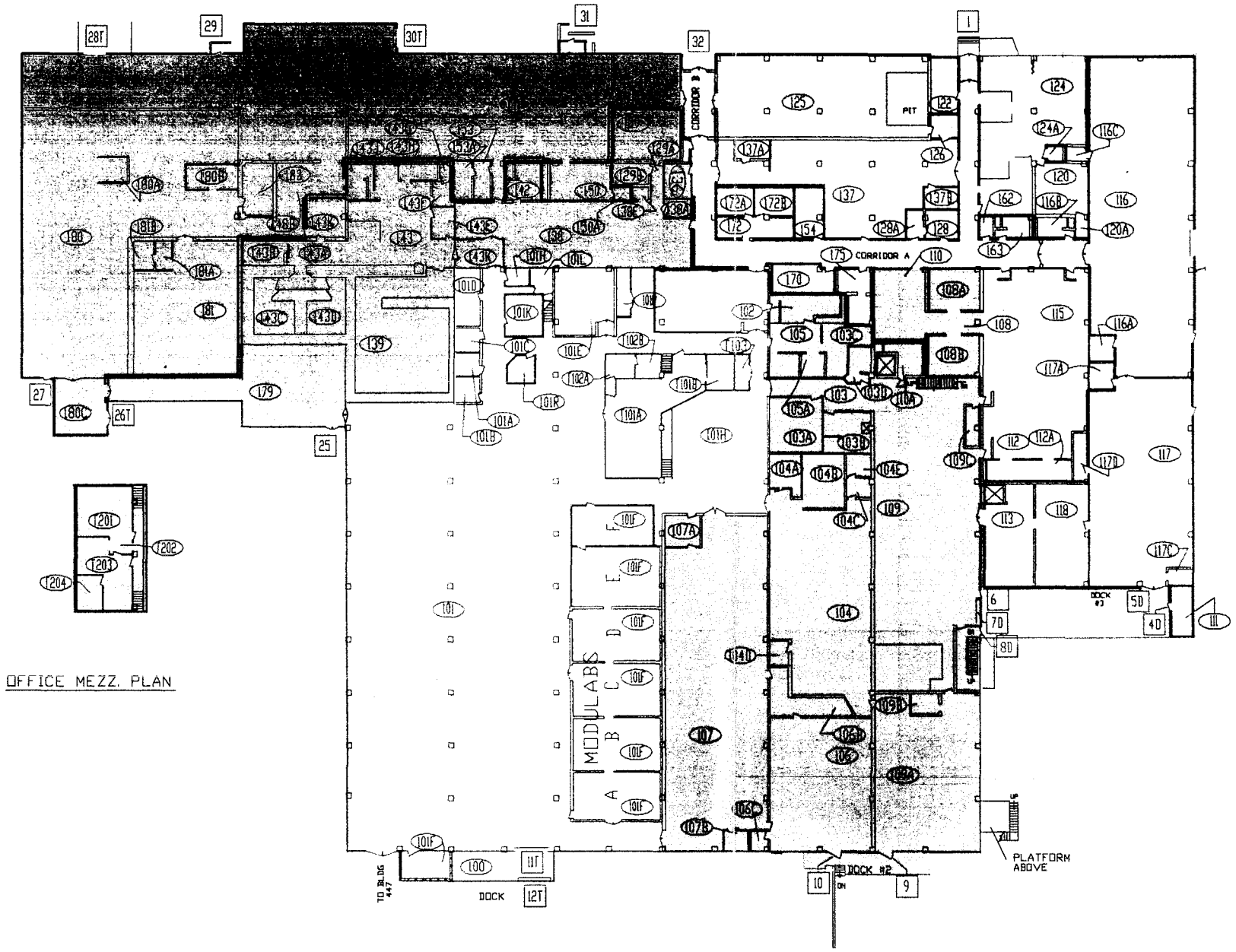
Prepared by: GIS Dept. 303-966-7707 — DynCorp, THE ART OF TECHNOLOGY
Prepared for: KAISER-HILL

MAP ID: 02-0222/B444-1-Color August 29, 2002

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: A, B, C, D **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**

BUILDING 444
FIRST FLOOR PLAN



OFFICE MEZZ. PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Survey A = 1500 sq.m.
Survey B = 1400 sq.m.
Survey C = 1200 sq.m.
Survey D = 1400 sq.m.
Survey E = 2200 sq.m.
Survey F = 2400 sq.m.
Survey G = 2200 sq.m.
Survey H = 375 sq.m.
Survey I = 380 sq.m.
Survey J = 280 sq.m.
Survey K = N/A sq. m.
Survey L = 430 sq.m.

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): n/a
RCT ID #(s): n/a

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

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

DynCorp
THE ART OF TECHNOLOGY

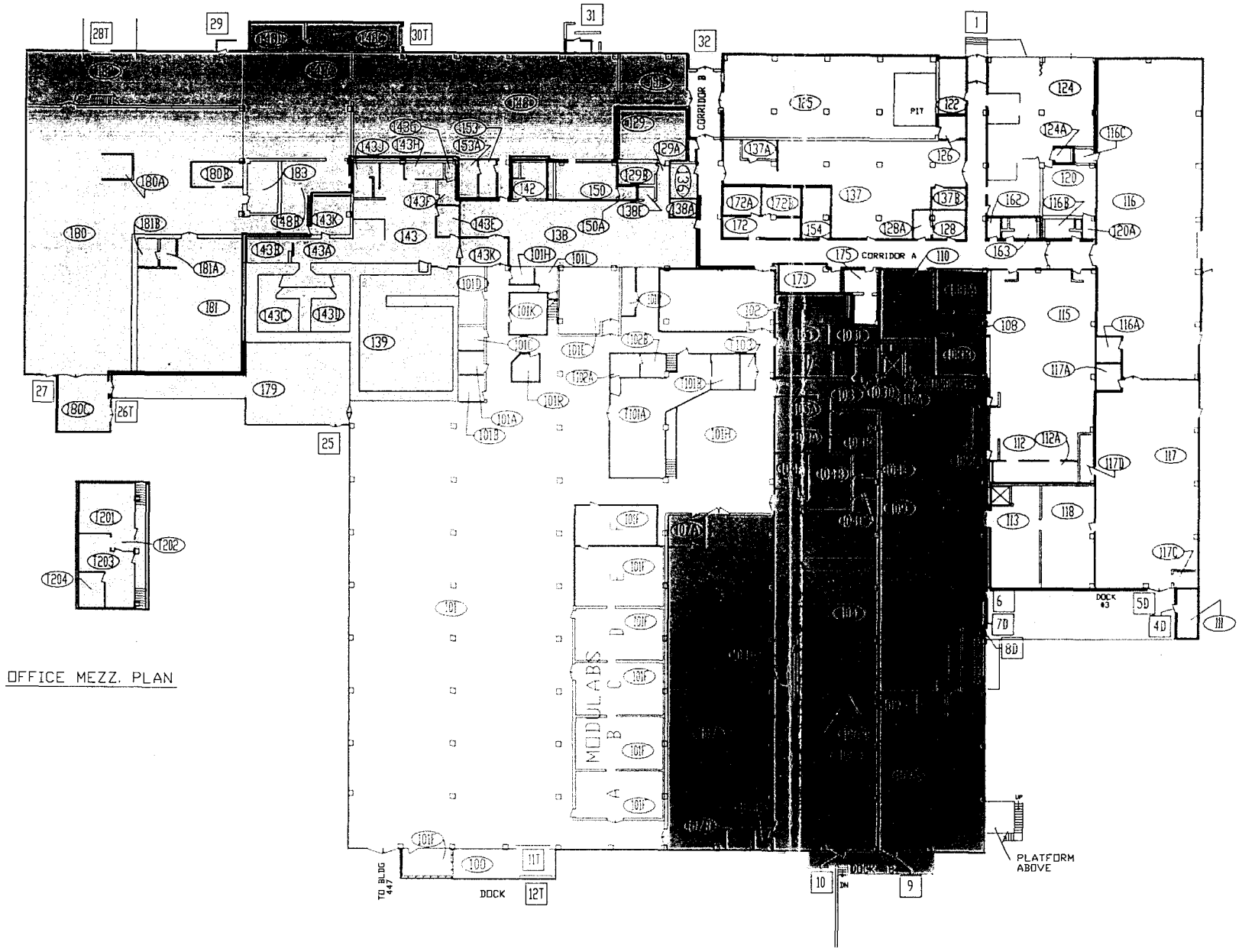
KAISER HILL

MAP ID: 02-0222/B444-1-Color **August 29, 2002**

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: A, B, C, D Survey Unit: N/A Classification: N/A
Building: 444 First Floor
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. Total Floor Area: N/A sq. m.

BUILDING 444
FIRST FLOOR PLAN



OFFICE MEZZ. PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Survey A = 1500 sq.m.
Survey B = 1400 sq.m.
Survey C = 1200 sq.m.
Survey D = 1400 sq.m.
Survey E = 2200 sq.m.
Survey F = 2400 sq.m.
Survey G = 2200 sq.m.
Survey H = 375 sq.m.
Survey I = 380 sq.m.
Survey J = 280 sq.m.
Survey K = N/A sq. m.
Survey L = 430 sq.m.

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707
DynCorp
THE ART OF TECHNOLOGY

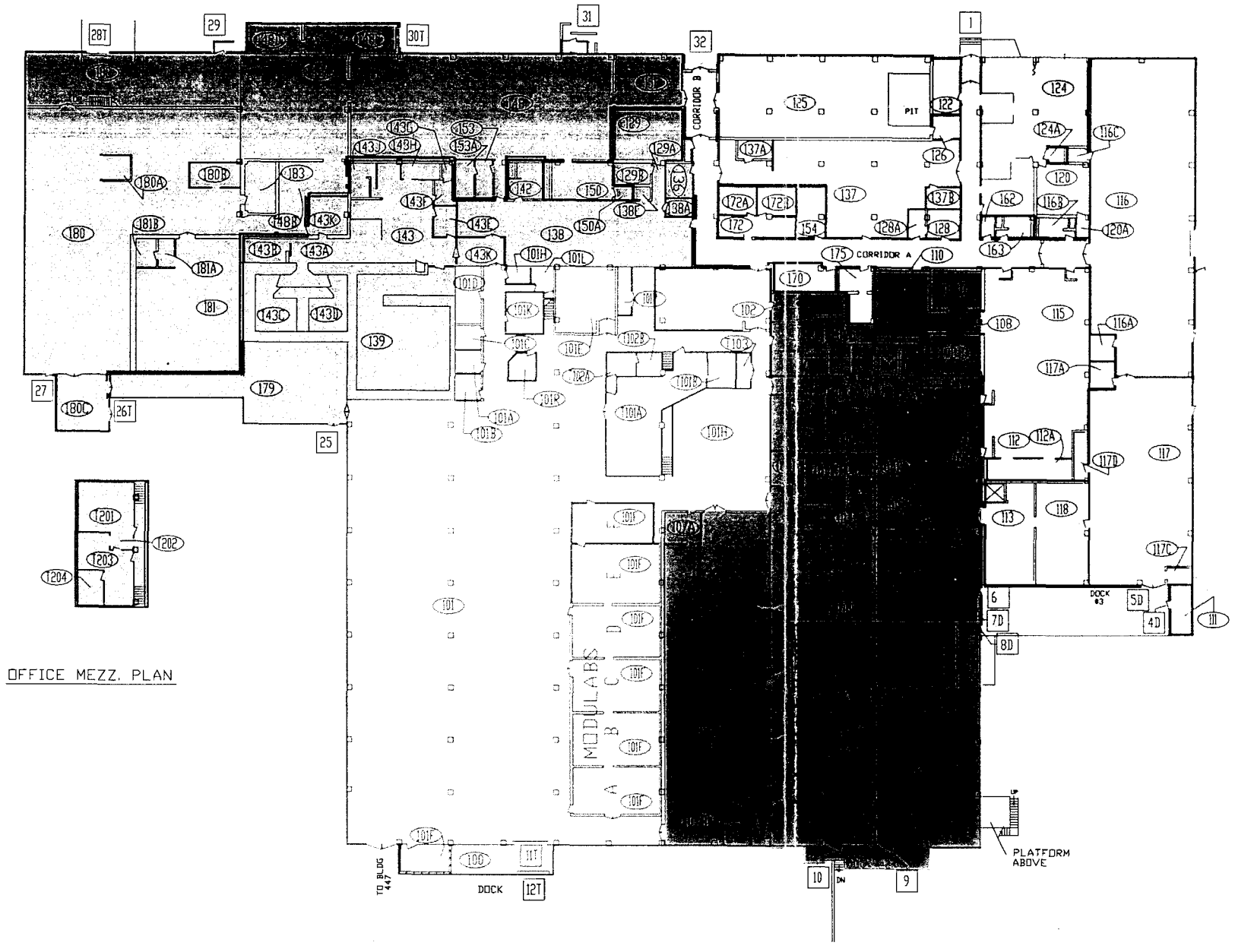
Prepared for:
KAISER-HILL COMPANY

MAP ID: 02-0222/B444-1-Color August 29, 2002

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: A, B, C, D Survey Unit: N/A Classification: N/A
Building: 444 First Floor
Survey Unit Description: Overview Breakdown
Total Area: N/A sq. m. Total Floor Area: N/A sq. m.

BUILDING 444
FIRST FLOOR PLAN



OFFICE MEZZ. PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Survey A = 1500 sq.m.
Survey B = 1400 sq.m.
Survey C = 1200 sq.m.
Survey D = 1400 sq.m.
Survey E = 2200 sq.m.
Survey F = 2400 sq.m.
Survey G = 2200 sq.m.
Survey H = 375 sq.m.
Survey I = 380 sq.m.
Survey J = 280 sq.m.
Survey K = N/A sq. m.
Survey L = 430 sq.m.

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

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

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

Prepared by: GIS Dept. 303-966-7707
DynCorp THE ART OF TECHNOLOGY

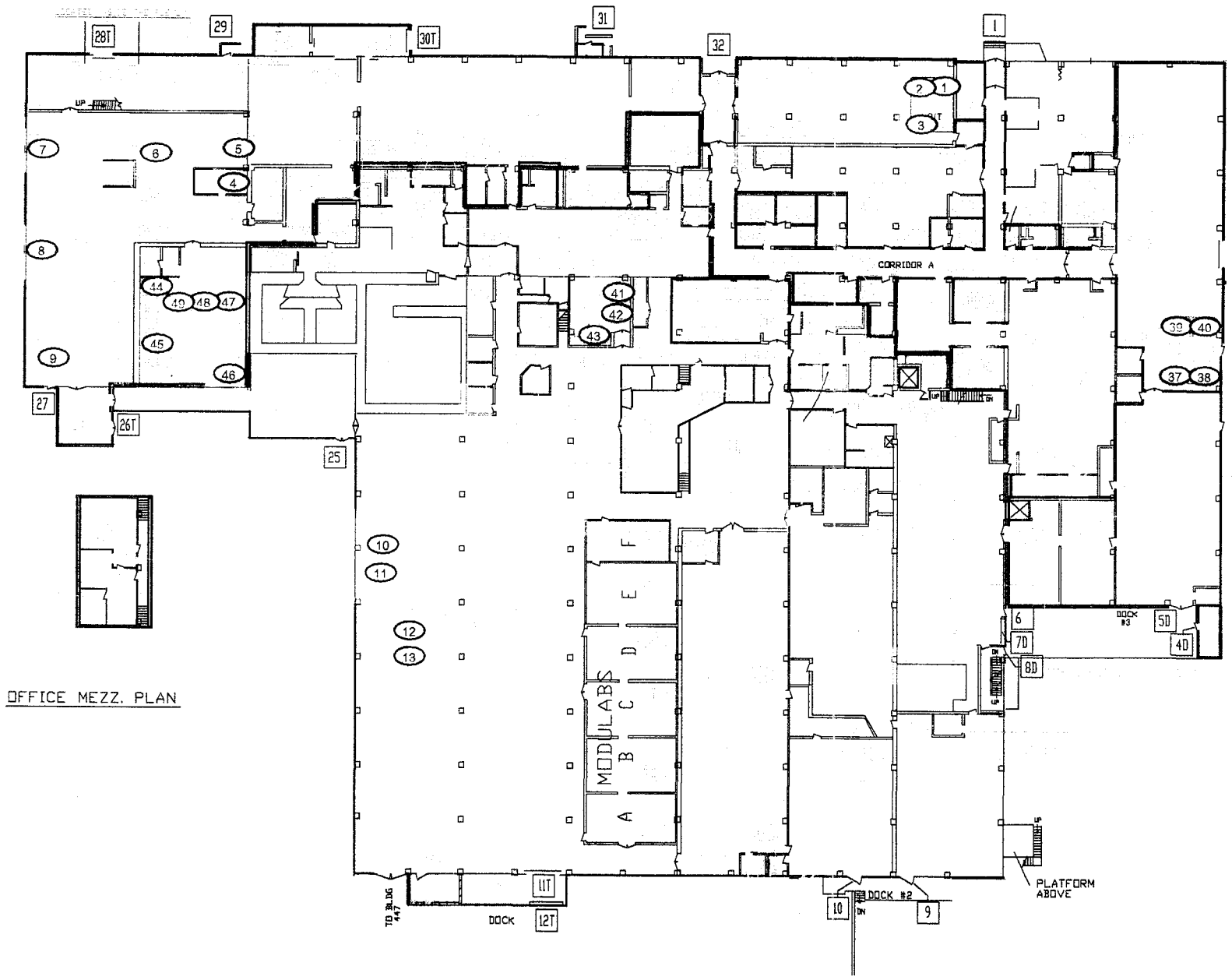
Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0222/B444-1-Color August 29, 2002

RECONNAISSANCE LEVEL CHARACTERIZATION FOR 444 CLUSTER

Survey Area: K **Survey Unit: N/A** **Classification: N/A**
Building: 444 First Floor
Survey Unit Description: Sumps, Pit, & Trenches
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**

BUILDING 444
FIRST FLOOR PLAN



OFFICE MEZZ. PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

Scan Area

SURVEY MAP LEGEND

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

N

0 FEET 0
0 METERS 0

Scan Survey Information
Survey Instrument ID #(s): 7, 9
RCT ID #(s): 1, 2

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY

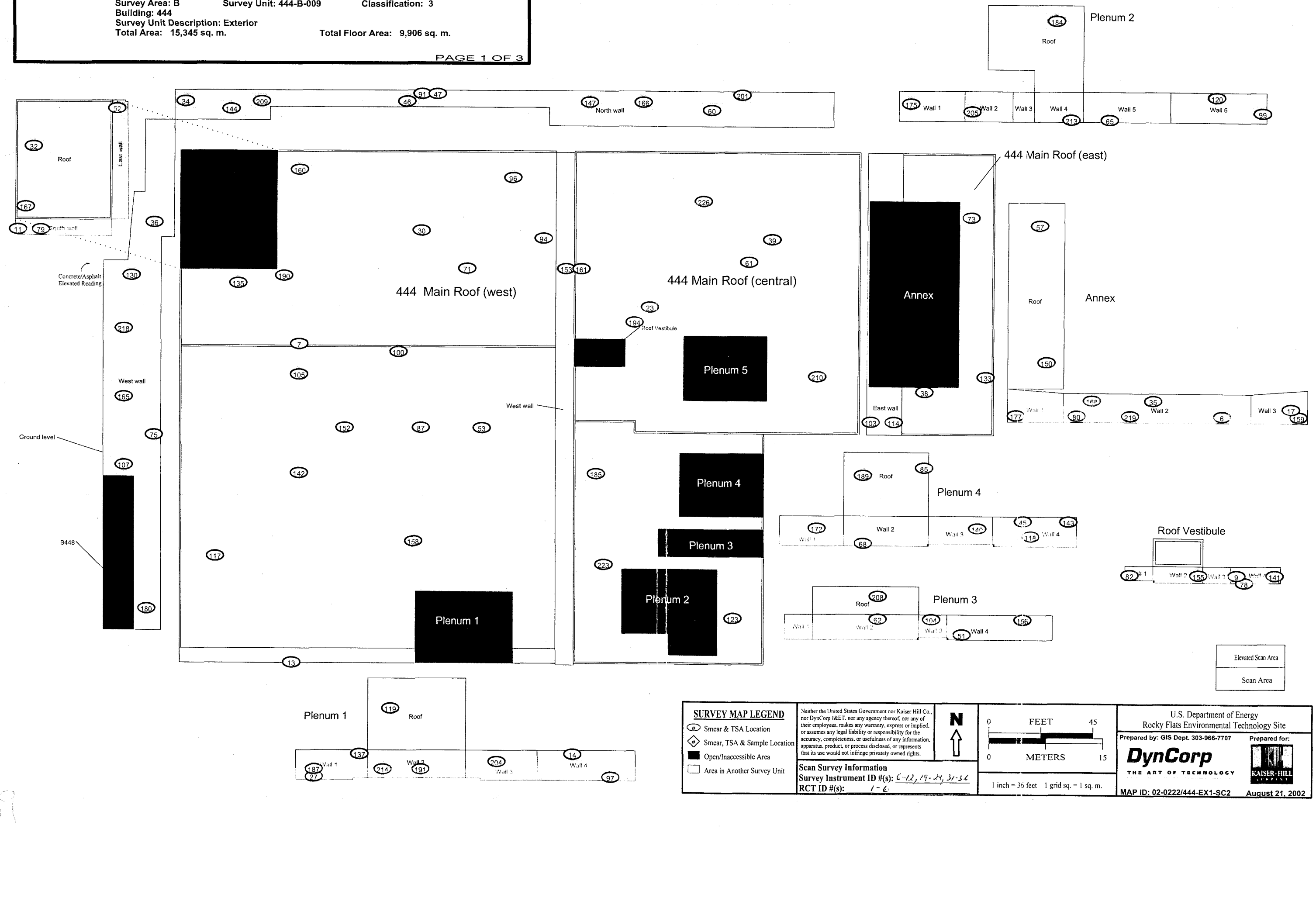
KAISER-HILL COMPANY

MAP ID: 02-0222/444K-1-SC August 27, 2002

266

PRE-DEMOLITION SURVEY FOR B444 CLUSTER

Survey Area: B **Survey Unit: 444-B-009** **Classification: 3**
Building: 444
Survey Unit Description: Exterior
Total Area: 15,345 sq. m. **Total Floor Area: 9,906 sq. m.**



SURVEY MAP LEGEND

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

N

0 FEET 45
0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s): 6-12, 19-24, 31-36
RCT ID #(s): 1-6

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

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

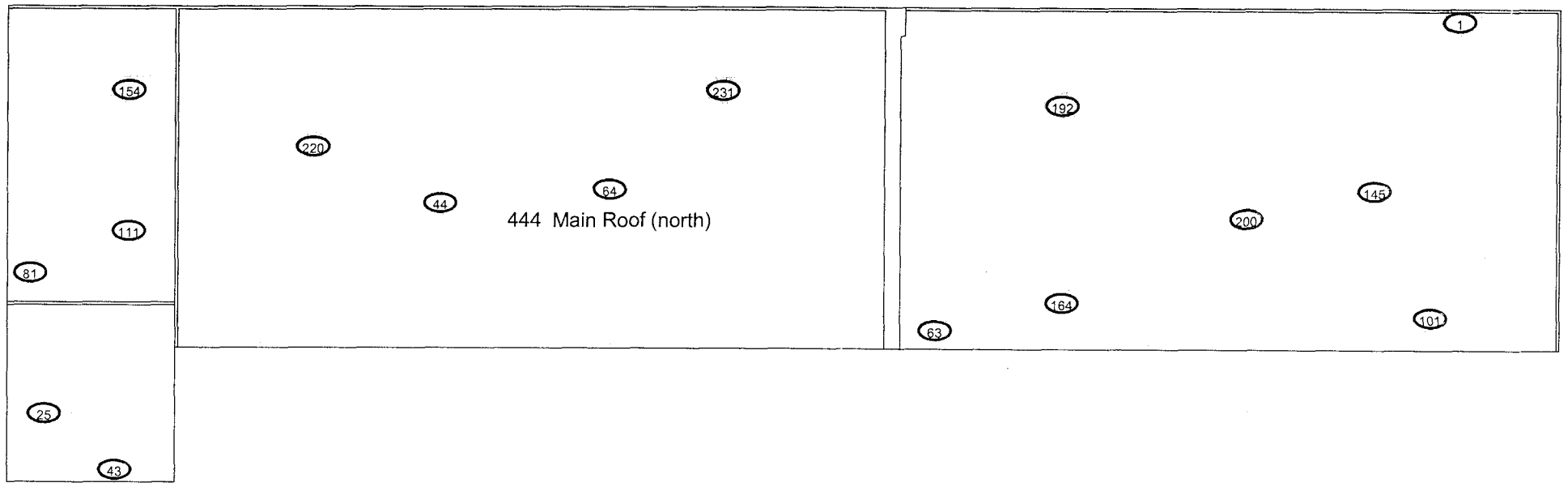
DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

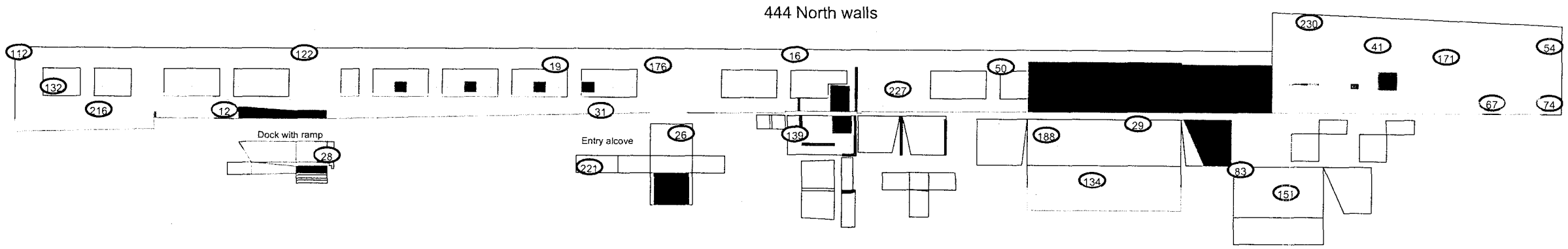
MAP ID: 02-0222/444-EX1-SC2 **August 21, 2002**

PRE-DEMOLITION SURVEY FOR B444 CLUSTER

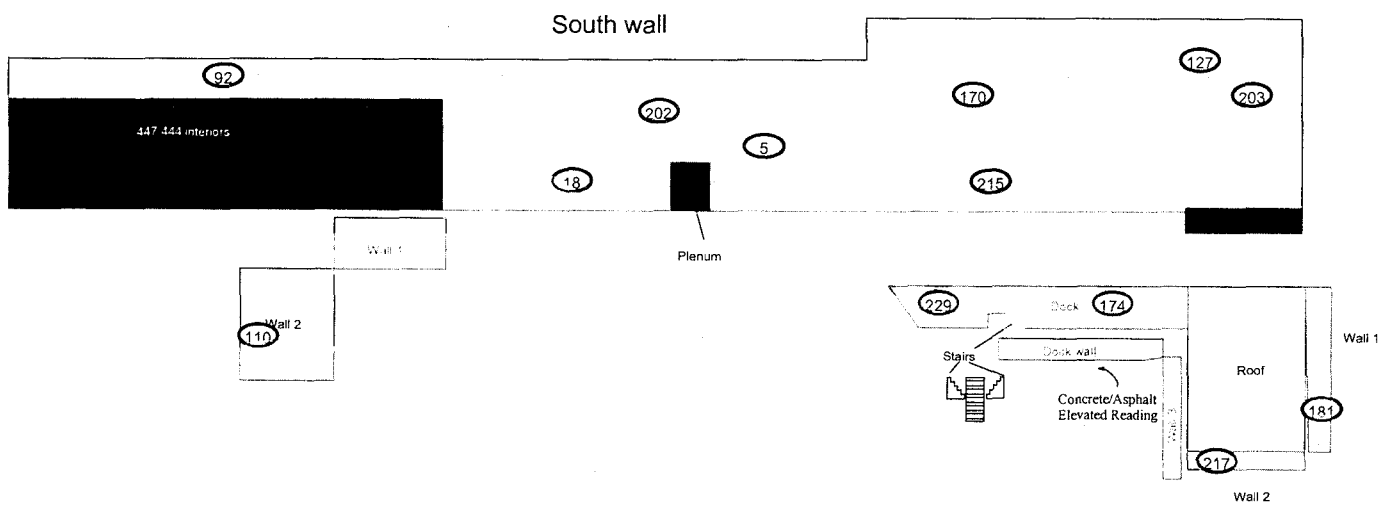
Survey Area: B **Survey Unit: 444-B-009** **Classification: 3**
Building: 444
Survey Unit Description: Exterior
Total Area: 15,345 sq. m. **Total Floor Area: 9,906 sq. m.**



444 North walls



South wall



Elevated Scan Area

Scan Area

SURVEY MAP LEGEND

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

N

Scan Survey Information
Survey Instrument ID #(s): 6-12, 19-24, 31-36
RCT ID #(s): 1-6

0 FEET 45
0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

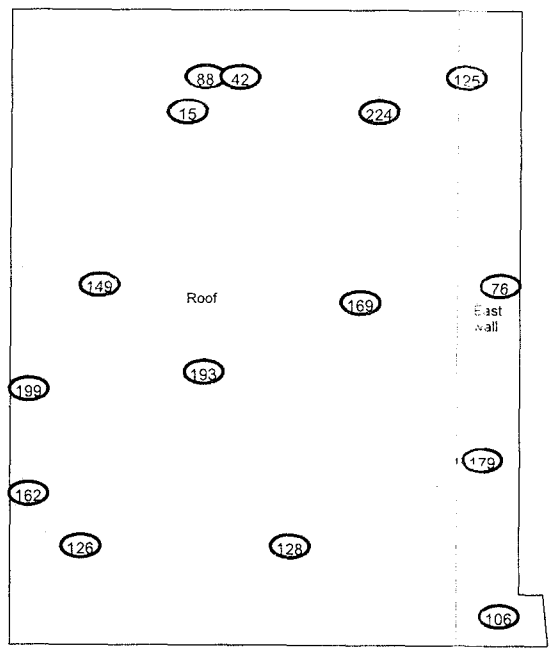
Prepared for:
KAISER-HILL COMPANY

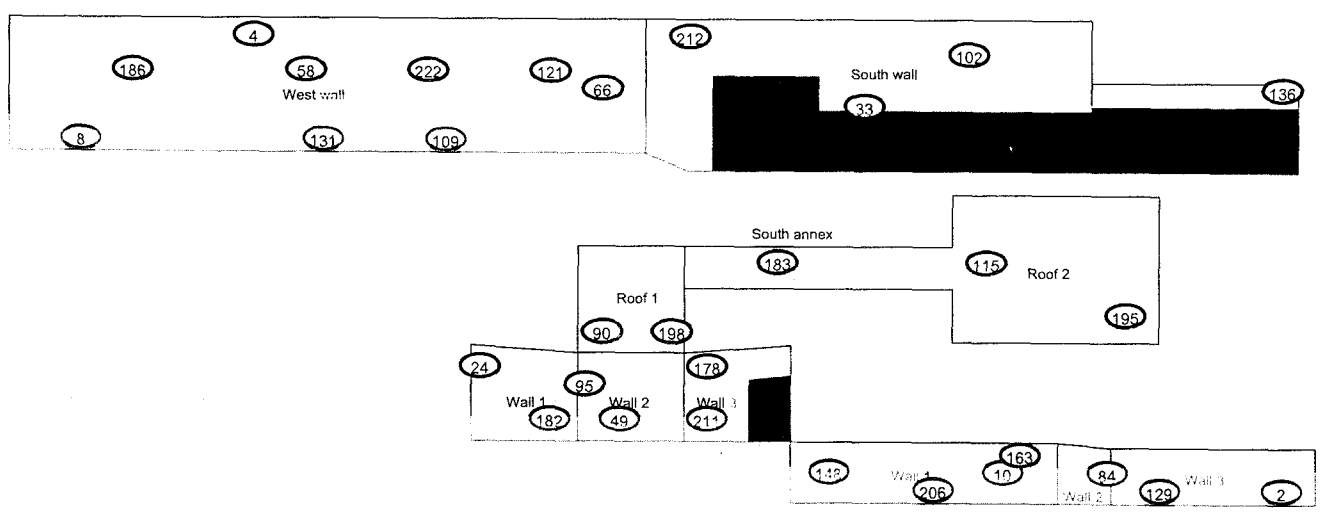
MAP ID: 02-0222/444-EX2-SC2 August 21, 2002

PRE-DEMOLITION SURVEY FOR B444 CLUSTER

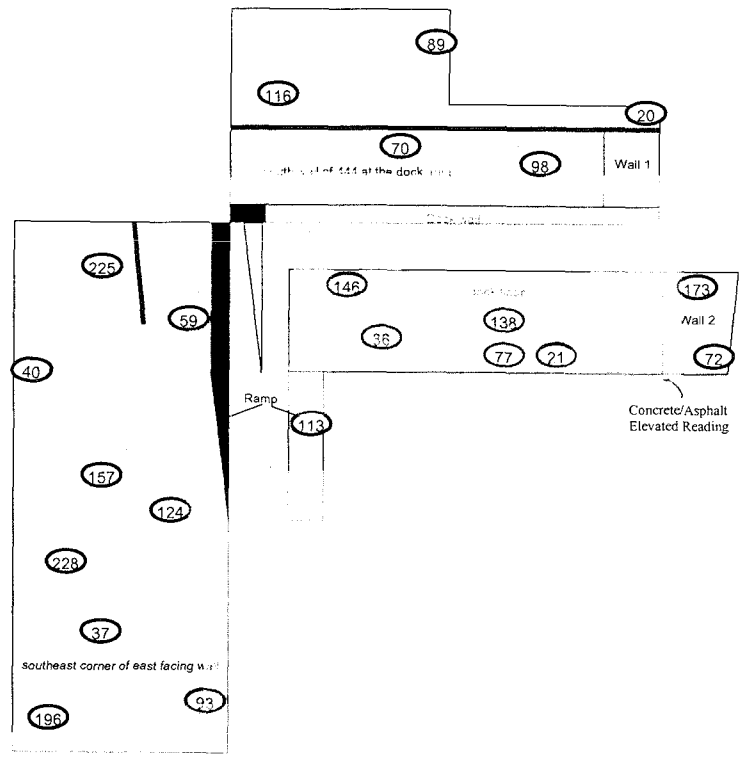
Survey Area: B **Survey Unit: 444-B-009** **Classification: 3**
Building: 444
Survey Unit Description: Exterior
Total Area: 15,345 sq. m. **Total Floor Area: 9,906 sq. m.**

444 North west roof and walls

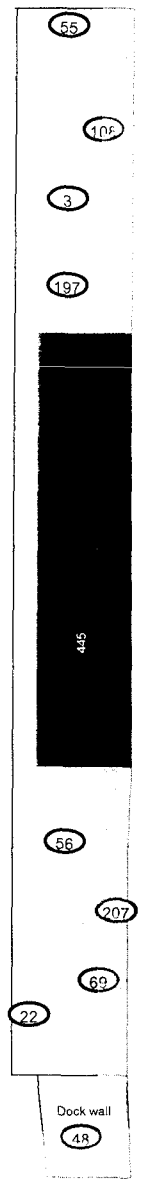




Southeast wall and dock



East Wall



Elevated Scan Area

Scan Area

SURVEY MAP LEGEND

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

N

0 FEET 45
0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s): 6-12, 19-24, 31-36
RCT ID #(s): 1-6

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

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

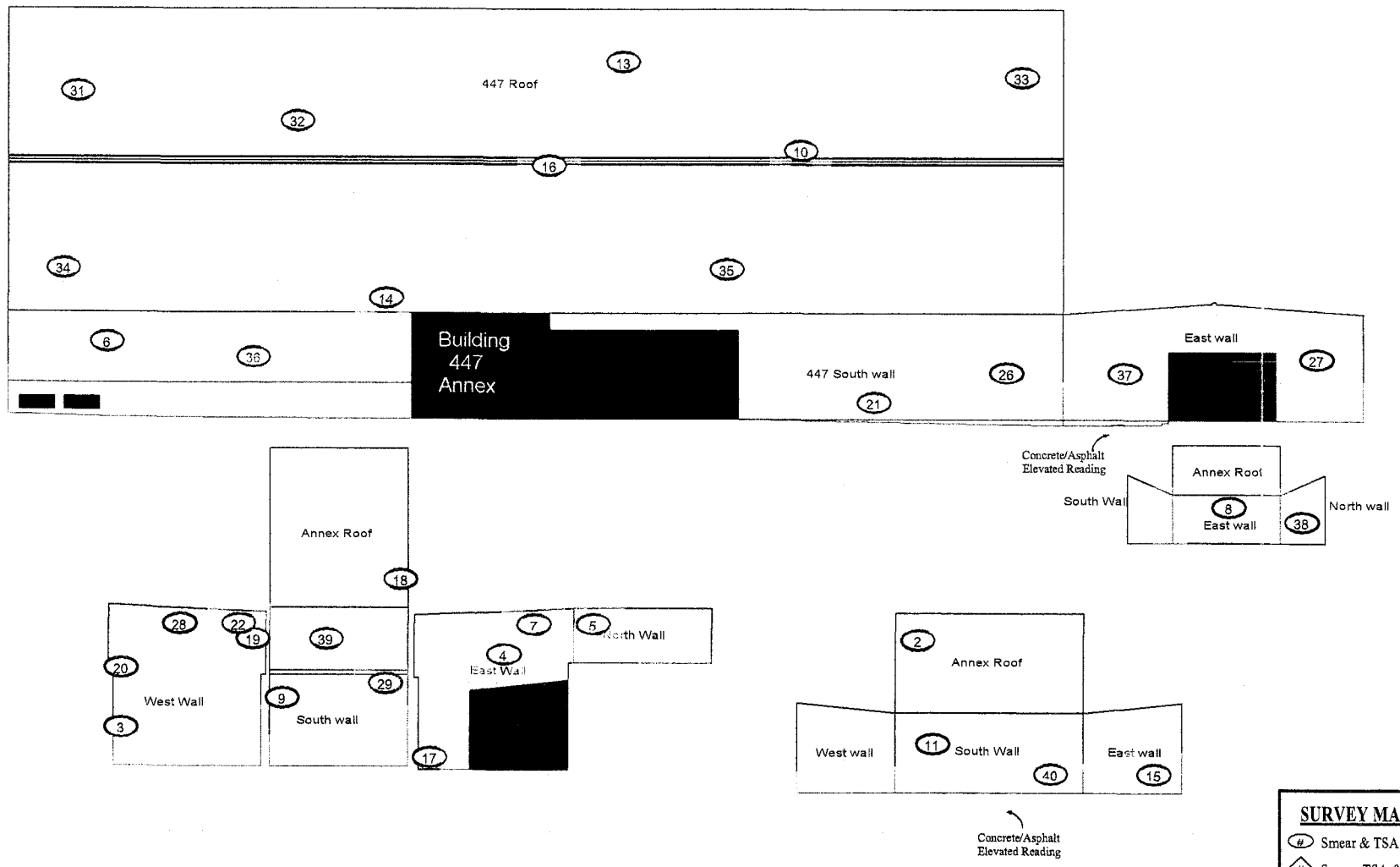
MAP ID: 02-0222/444-EX3-SC2 **August 21, 2002**

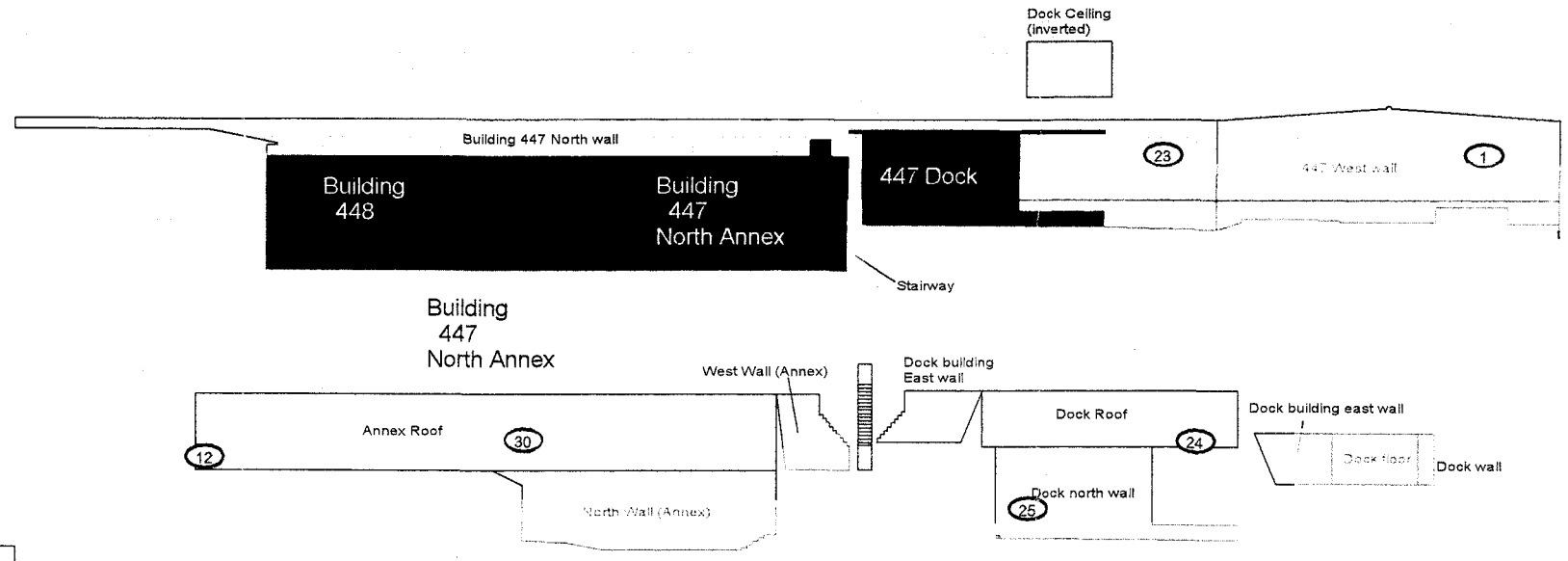
244

PRE-DEMOLITION SURVEY FOR B444 CLUSTER

DAP 9/4/02

Survey Area: B **Survey Unit: 444-B-010** **Classification: ~~N/A~~ 3**
Building: 447
Survey Unit Description: Exterior
Total Area: 3,384 sq. m. **Total Floor Area: 1,889 sq. m.**





Elevated Scan Area

Scan Area

SURVEY MAP LEGEND

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

N

0 FEET 45
0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s): 12, 19, 20
RCT ID #(s): 2, 4, 6

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

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

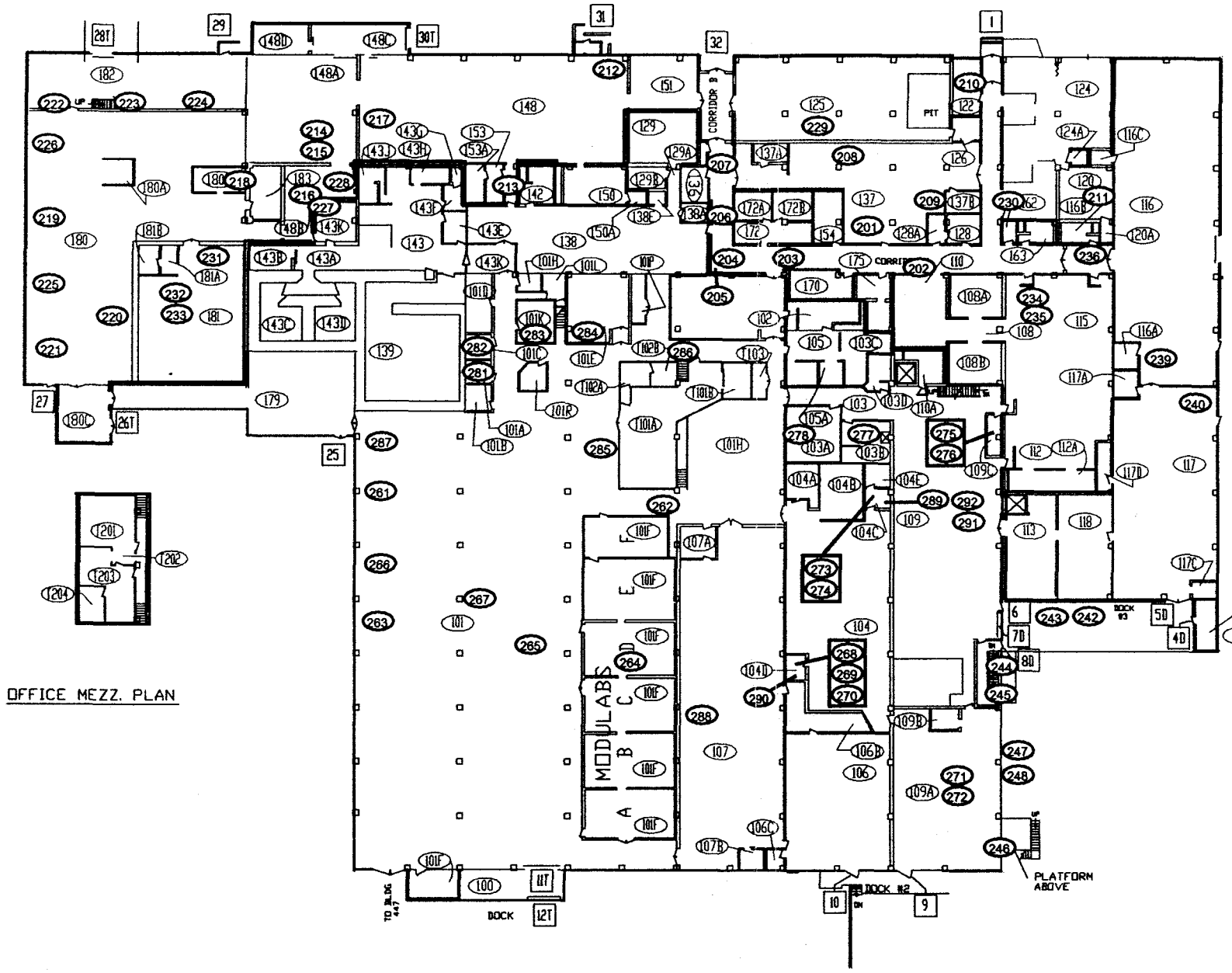
MAP ID: 02-0222/B447-EX-SC July 23, 2002

249

CHEMICAL SAMPLE MAP FOR GROUP 444

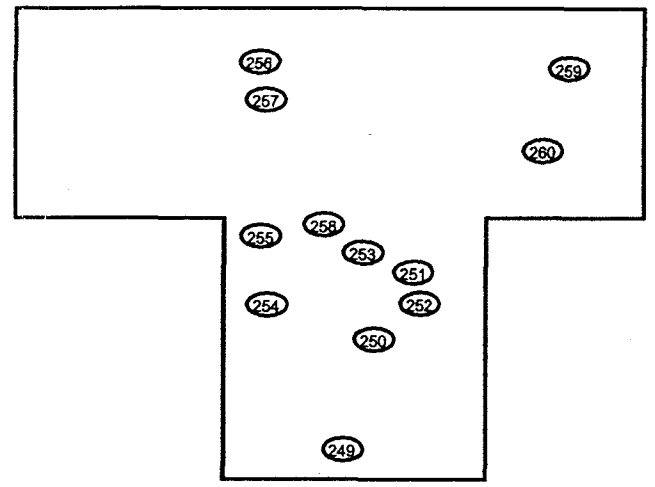
Building: 444 - 1st Floor Interior & Roof Exterior

BUILDING 444
FIRST FLOOR PLAN



OFFICE MEZZ. PLAN

ROOF - EXTERIOR



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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

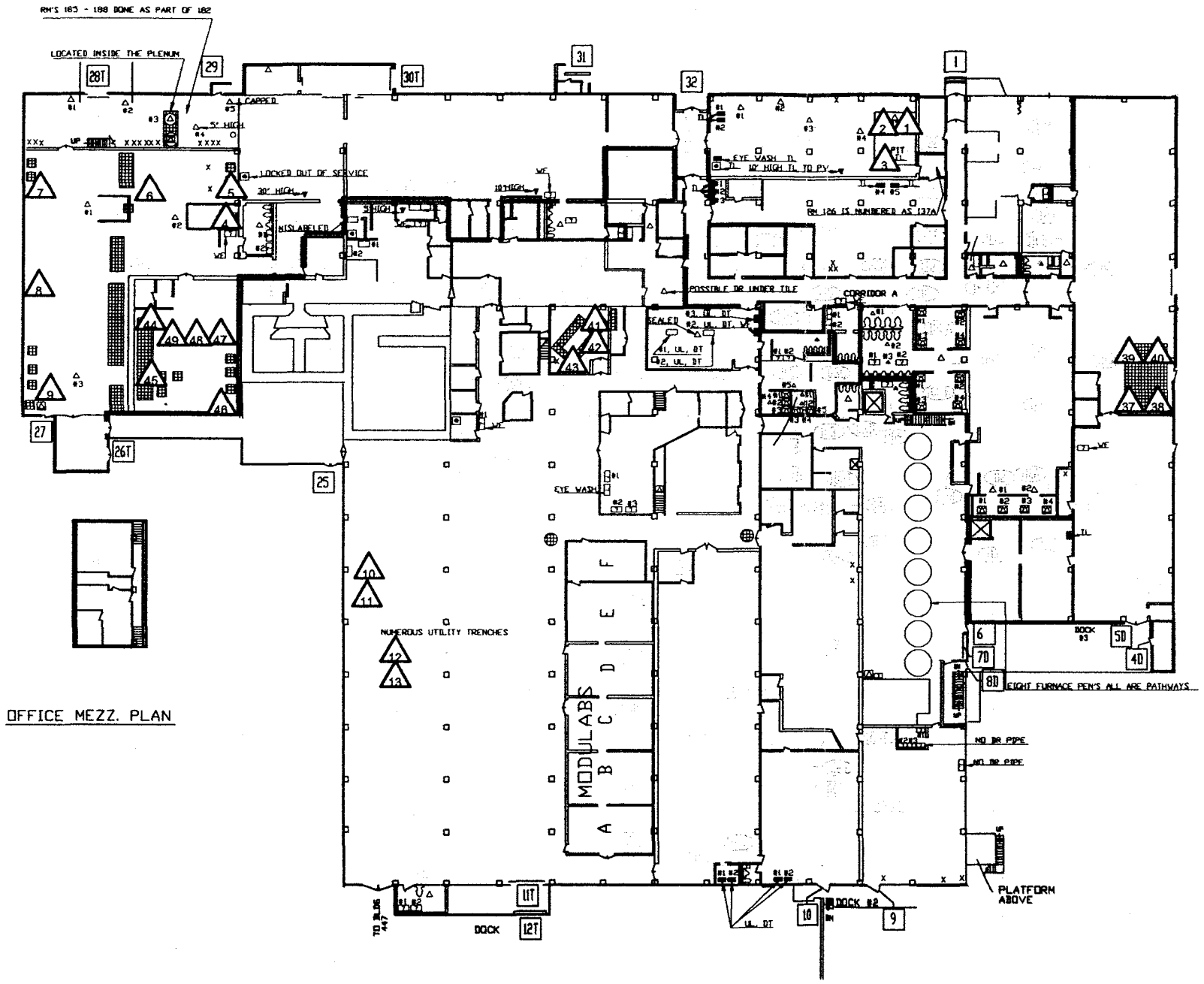
Prepared for: KAISER HILL

MAP ID: 02-0222/B444K-1

February 18, 2002

CHEMICAL SAMPLE MAP FOR GROUP 444

Building: 444 - 1st Floor Interior & Roof Exterior



OFFICE MEZZ. PLAN

BUILDING 444
FIRST FLOOR PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

	TOILET	SS	SANITARY SEWER
	URINAL	PW	PROCESS WASTE
	SS SHOWER	FD	FLOOR DRAIN
	PW SHOWER	SH	SHOWER
	PW SUMP	SU	SUMP
	SS SUMP	PSU	PUMPED SUMP
	PW FL DR	TR	UTILITY TRENCH
	SS FL DR	UL	UNLABELED
	PIT/TRENCH	WWA	WET WORK AREA
	PW SINK	WF	WATER FOUNTAIN
	SS SINK	DR	DRAIN
	UL FL DR	FL	FLOOR
	BERM	P	PATHWAY
	CURBED AREA	WRR	WOMENS REST ROOM
	FUNNEL DR	MRR	MENS REST ROOM
	OPEN PIPE	U	URINAL
	UL SHOWER	T	TOILET
	UL SUMP	PEN	PENETRATION
	UL SINK	CS	CONFINED SPACE
X	FL PEN	SD	STORM DRAIN
	MANHOLE	EX	EXPANSION JOINT
XXX	RM #	BD	BUILDING DESIGN
		BP	BUILDING PERSONNEL
		DWG	DRAWINGS
		TL	TRACEABLE LINES
		US	USAGE
		MH	MANHOLE
		DT	DYE TESTED

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

N

0 FEET 0

0 METERS 0

DRAWING NOT TO SCALE

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

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER HILL

MAP ID: 02-0222/444K-1-BE

August 27, 2002

CHEMICAL SAMPLE MAP FOR BUILDING 444

Building: 444 Type: 2

02S183-22

02S183-23 - DUP

OFFICE MEZZ. PLAN

02S183-003

02S183-001

02S183-002

02S183-004

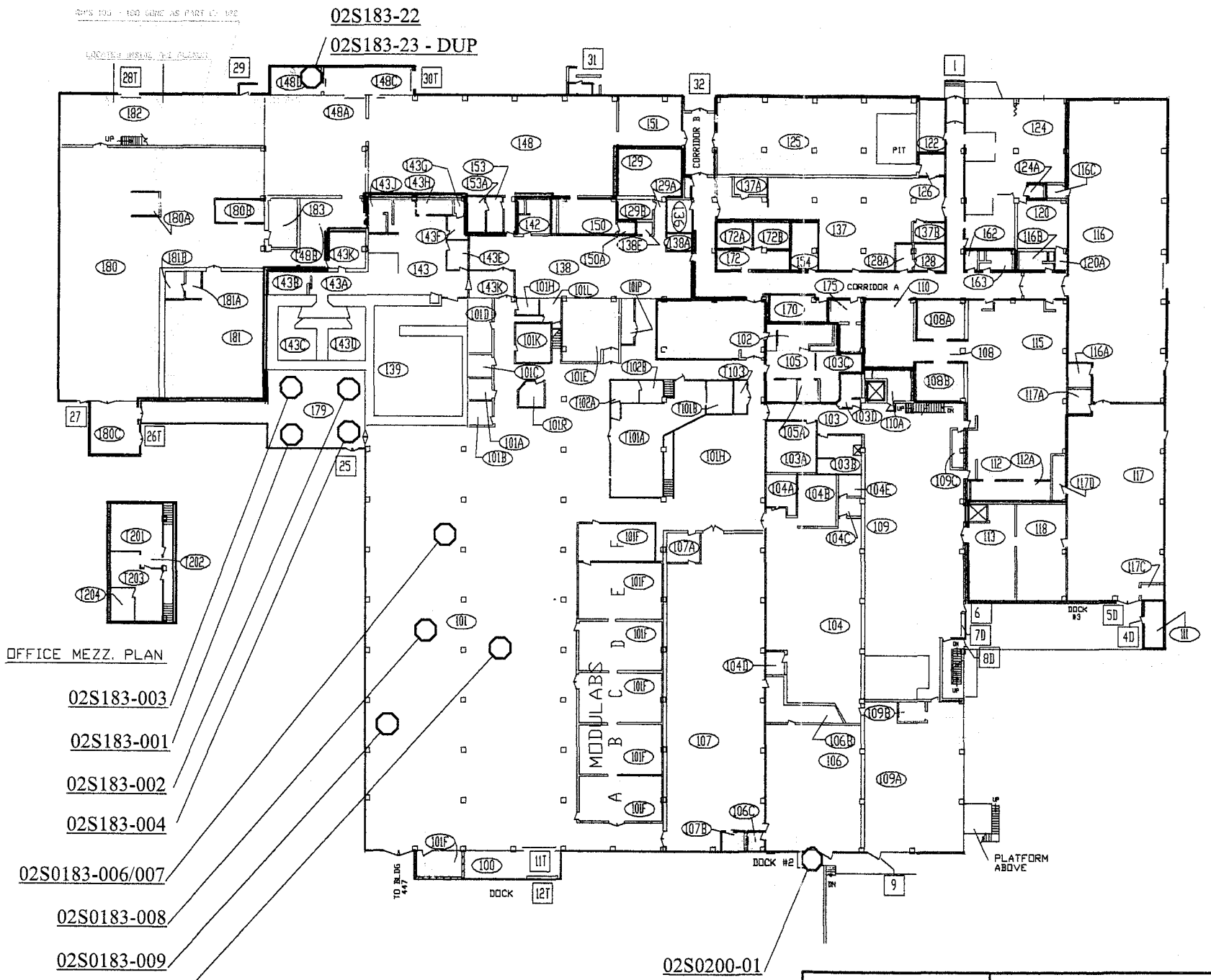
02S0183-006/007

02S0183-008

02S0183-009

02S0183-005

02S0200-01



BUILDING 444

FIRST FLOOR PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE

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

N

0 FEET 0

0 METERS 0

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

Prepared by: GIS Dept. 303-966-7707

Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER-HILL COMPANY

MAP ID: 02-0222/444-1/PCB

August 11, 2002

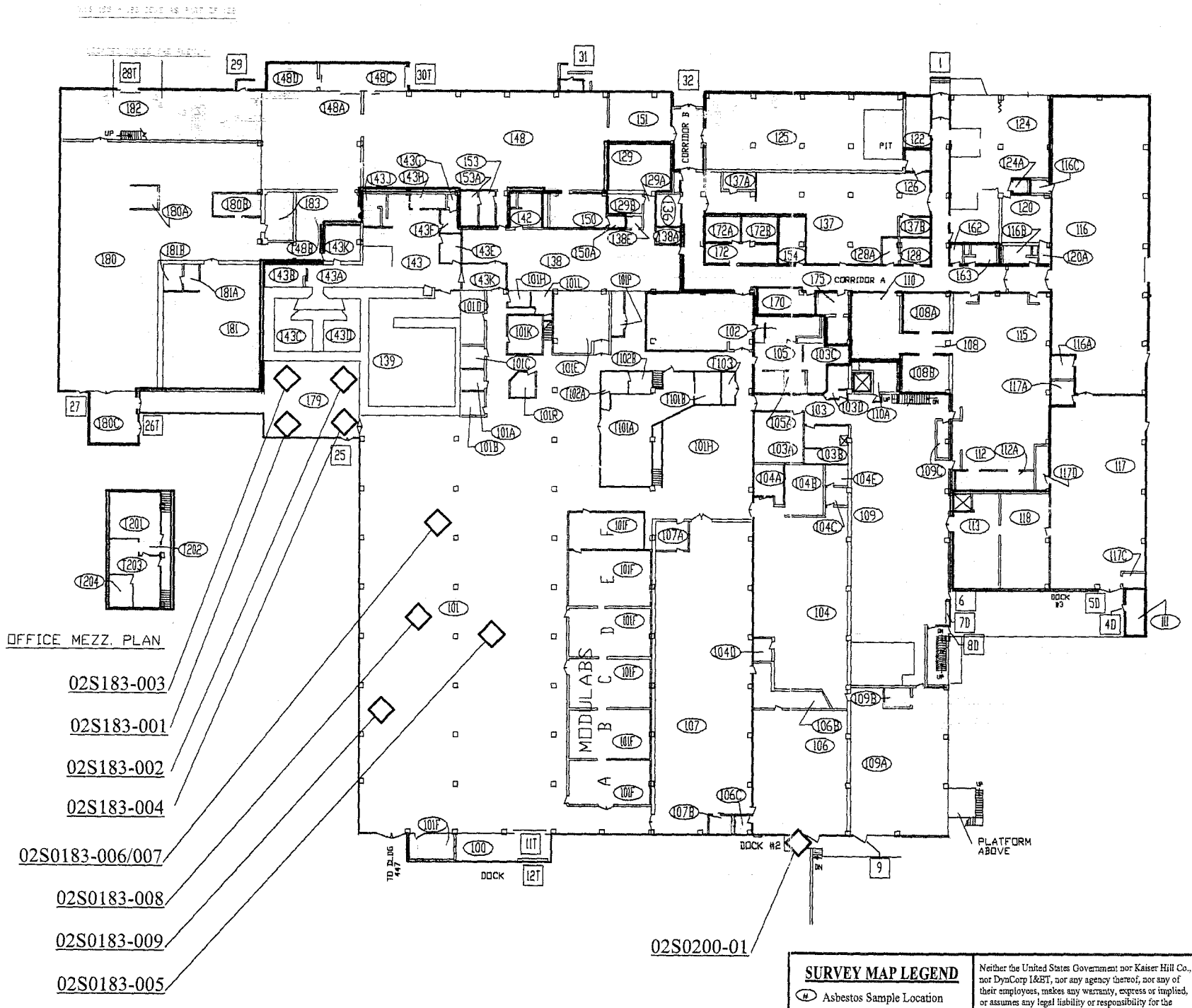
CHEMICAL SAMPLE MAP FOR BUILDING 444

Building: 444 Type: 2

BUILDING 444
FIRST FLOOR PLAN

NOTES:

1. SYMBOL LOCATIONS ARE APPROXIMATE
2. SYMBOLS ARE NOT TO SCALE
3. TCW. MODIFICATIONS ARE IN RED
4. ROOMS NOT COMPLETED ARE IN GREEN
5. RCA IS OUTLINED IN MAGENTA
6. RISK AREAS ARE OUTLINED IN BLUE



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

N

0 FEET 0

0 METERS 0

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

Prepared by: GIS Dept. 303-966-7707

Prepared for: DynCorp — THE ART OF TECHNOLOGY; KAISER-HILL COMPANY

MAP ID: 02-0222/444-1/RCRA

August 11, 2002