



Sampling and Analysis Plan to Support Characterization of Painted Surfaces for the Proposed Building 460 Upgrades

RF/RMRS-99-385



June 1999
Revision 0

ADMIN RECCRD
IA-IA-A00184

Administrative Information

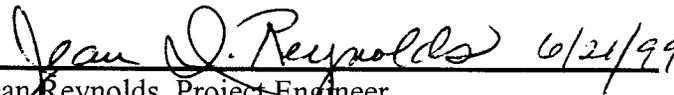
Site: Rocky Flats Environmental Technology Site (RFETS), Golden,
Colorado

Project Name: Building 460 Characterization of Painted Surfaces
to Support Planned Facility Upgrades

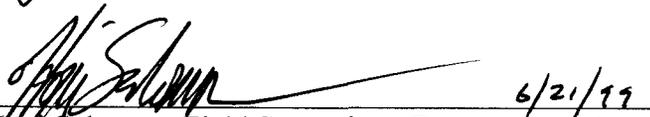
Date Prepared: June 21, 1999

Approvals

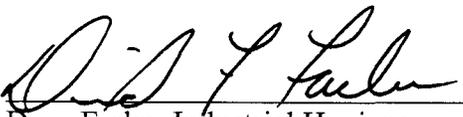
I have read and approved this Sampling and Analysis Plan with respect to the objectives
of the project.



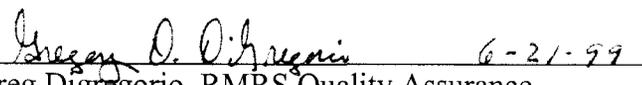
Jean Reynolds, Project Engineer



Hopi Salomon, Field Supervisor, Document Author



Dave Farler, Industrial Hygiene



Greg Digregorio, RMRS Quality Assurance

1.0 INTRODUCTION

Building 460 was placed into service in 1984 and originally functioned as a non-nuclear manufacturing facility located in the southwest portion of the plant site. The building contains a total area of 230,000 square feet split between the first floor and a mezzanine. The first floor was used primarily for manufacturing and contains 150,000 square feet. A second floor mezzanine houses offices and a cafeteria and contains approximately 80,000 square feet. The building is constructed of single-gabled, multi-span rigid-framed steel with concrete floors. Utilities include steam, raw and potable water, electricity, and instrument and process plant air. Liquid wastes were collected in sump tanks, filtered and sampled prior to transfer to Building 374.

Building 460 assumed the stainless steel operations which were previously conducted in Building 881 and some non-nuclear metal working operations from Building 444. The major activities performed in this building included fabrication, assembly, and testing of stainless steel components such as reservoirs, tubes and non-fissile pit components. In addition to stainless steel, parts were also manufactured from aluminum, vanadium, copper, gold, silver, magnesium, titanium, Teflon® and other plastics.

The objective of this Sampling and Analysis Plan (SAP) is to collect data to satisfy existing data gaps regarding the chemical components of building materials (i.e., paints) that may affect worker health and safety when the building materials are disturbed/removed during a planned building upgrade. The Building 460 High Bay will be upgraded to allow for the proper storage of TRU/TRM waste containers. The major portions of the modification will include the following:

- Removal of the pre-fabricated steel sheet structures in the Southwest high bay
- Removal of the cubicle office space along the north central high bay wall
- Construction of several concrete block walls throughout various entrances in the high bay
- Construction of spill berms
- Repairing the high bay floor and lower walls, as necessary
- Painting the concrete high bay floor
- Security upgrades (i.e., additional doors, locks, hasps, etc.)

Several surveys (e.g., asbestos and beryllium) have previously been performed in Building 460. Results of these surveys will be summarized in the report that summarizes the results of the paint samples being collected under this plan

2.0 SAMPLING AND DATA QUALITY OBJECTIVES

As part of the Building 460 upgrade activities, torch cutting and scabbling of painted surfaces is likely to occur. Many of the paints used in Rocky Flats buildings contain lead and other heavy metals. More stringent and costly Industrial Hygiene requirements may apply when building materials containing lead are disturbed. The objective of this plan is collect samples of painted surfaces in areas of Building 460 that are planned for upgrade and analyze the samples for metal content, primarily lead. Industrial Hygiene personnel will then evaluate the analytical results with respect to the Occupational Exposure Action Levels for lead found in 29 CFR 1926.62, of $30 \mu\text{g}/\text{m}^3$.

3.0 SAMPLE COLLECTION AND ANALYSIS

Samples will be collected using standard Rocky Flats Industrial Hygiene practices. Distilled or Deionized water may be used to minimize the spread of dust during sample collection. Most samples will be collected using standard scrapping tools (e.g., paint scrapper, or chisels). However, at the discretion of IH, samples may be collected with a heat gun or chemical paint stripper (e.g., Peel-Away™), since only metals analysis is being performed, and these processes will have little effect on the metallic content of the paint. If a chemical paint stripper is used, a glass sample container will be required and the approximate ratio of paint stripper to paint collected will be noted on the corresponding logsheet or logbook. Use of a paint striper will result in a diluted sample, which must be accounted for in the final data evaluation. Table 3-1 lists the location and types (colors) of samples to be collected as part of this effort. At least one gram of paint is required for each discrete sample. Sealable plastic bags (e.g., Zip-Lock™) or small glass sample jars may be used to contain collected samples. Signed custody seals will be applied after sample collection.

Table 3-1 Building 460 Paint Color Distribution from June 10 building Walkdown

No.	Paint color	Floor/wall/column	Location	Remarks
1	Beige/tan paint with "zinc oxide" undercoating	Column	D6	Torch cutting on all similar columns
2	Yellow	Floor	1' SW of column F4	
3	Grey	Floor	10' NE of F3	
4	Beige-pink	Column/or wall	F2 or wall connected to column F2	
5	Dark beige	Concrete wall/metal beam	west wall of building sample may be easier to acquire on I-beam	
6	Green	Floor	10 ft N of room 116	
7	Light green/yellow underneath	Floor	7 ft SW of B3	
8	Red	Floor	2" stripe, around yellow floor paint by column B3	
9	Tan	Floor	3' SE of B3	

Quality Control samples, such as duplicates, rinsates, and trip blanks are not required for this effort.

4.0 SAMPLE DESIGNATION

The K-H Analytical Services Division will assign a unique Report Identification Number (RIN) to this sampling effort. The RIN will be used to track and file the original hardcopy data. The RIN will also be recorded on the chain-of-custody sheets used during the project. The standard Rocky Flats Industrial Hygiene numbering system will be used to identify unique samples. The sample number consists of: Building number - Month, Day, Year (4 digit) - Industrial Hygienist number - Sequence number.

For example, a sample which was taken in Building 460 on July 1, 1999, by an I.H. technician with an I.D. number of 31, and which was number 1 in a sequence of samples, would have sample number 460-07011999-31-001.

5.0 SAMPLE HANDLING AND DOCUMENTATION

Sample custody will be maintained and documented using Rocky Flats chain of custody forms. Sampling equipment will be decontaminated between sampling locations. Decontamination will be performed using a spray rinse of distilled or deionized water followed by wiping with a Kimwipe™. The sampling tool will then be visually verified free of contamination, prior to its next use. Sampling information shall be documented on field log sheets or notebook. The originator shall authenticate (legibly sign and date) each completed hardcopy of the data. A peer reviewer, someone other than the originator, shall perform a review of the logsheet/notebook. The peer reviewer shall authenticate each hardcopy completed by the originator. Any modifications shall be lined-through, initialed, and dated by the reviewer (in ink). The QA Records for the project include the field log sheet and chain-of-custody forms.

6.0 PROJECT ORGANIZATION

Table 6-1 lists the responsible personnel assigned to this project, their responsibilities and contact information.

Table 6-1 Personnel Supporting the Building 460 Paint Characterization

Name	Responsibility	Phone	Pager	Radio
Jean Reynolds	Project Engineer	5204	None	none
Hopi Salomon	Field Supervisor	6627	212-6244	3779
Dave Farler	Industrial Hygiene/Sampler	4340	212-6555	3734
Roger Cichorz	AST/Laboratory Contact	2155	212-3185	none
Greg Pickerel	Building Upgrade Manager	5634	6337	none