

Procedures for the Car Wash

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I. Purpose

The car wash is an extremely important element in maintaining cleanliness inside the Laboratory. This is because of the very dirty conditions encountered along the approximately one-mile long tunnel from the shaft elevator to the entrance of the laboratory.

The function of the car wash, during the clean construction phase, is to remove mine dust and other contamination from the outer surfaces of containers and any other packaged material or equipment brought into the Laboratory. All material enters via the car wash. (The only exception is for small items or tools that can be carried by personnel inside a double plastic bag also used for lunch pails and clean changes of clothes.)

Note that the function of the car wash is not to clean the contents of the containers or whatever is inside the packaging. During the clean construction phase, all material and equipment brought into the laboratory has to be cleaned and appropriately packaged above ground.

II. Cleanliness Requirements

Because mine dust contains minute amounts of uranium and thorium (completely harmless amounts for personnel) it cannot be allowed to enter the Laboratory on either material or personnel. The general level of cleanliness required is such that a permissible level

of mine dust is too small to be seen easily with the naked eye. A quick test, usually sufficiently sensitive to detect an excess of mine dust on a smooth surface, can be made by wrapping a clean white cloth around an sharp but flexible edge (such as a fingernail or corner of a rubber eraser) and wiping the surface for a distance of six to twelve inches. If inspection with the naked eye does not reveal any dirt mark on the cloth where it contacted the surface, the surface is adequately clean. More quantitative and sensitive tests have been developed, which will be considered definitive in passing cleaned containers through the car wash. However, the wipe test provides a good guide as to what is required.

III. Requirements for Packaging

The basic requirement is that the package surface be:

1. readily cleanable with a water spray, soapy water, and be able to withstand mechanical action (e.g. cleaning with a hand brush)
2. waterproof
3. quickly dried.

This is best achieved by having smooth surfaces (for example, plastic or metal; unpainted wood is not a good example), and avoiding nooks and crevices, folds, etc. To this end, special containers have been designed for transporting delicate detector components underground and through the car wash.

IV. Procedures

1. Material is transported to the entrance of the laboratory via rail. Refer to Fig. 1. The container or packaged item, while still outside the entrance to the car wash, is hoisted off the rail car that transported it, and is suspended from an overhead monorail. The rail car does not enter the car wash.
2. The container is pulled into the car wash and, while suspended, is washed with a high pressure, low volume water spray (similar to the devices used in a self-service automobile wash).

3. The washing, which consists of spraying a detergent solution, brushing or sponging, and rinsing, is done manually. All the external surface area of the container or packaged item must be cleaned, including the underside. After rinsing, the container is pulled into the adjacent drying section.
4. Drying will be accomplished manually with a combination of the following techniques: towels or chamois, a wet-dry vacuum, and compressed air.
5. After drying, the container will be lowered onto a clean dolly (which is used only inside the laboratory), moved to a convenient location within the laboratory and unloaded. *The contents of the container must already be clean.*
6. Empty containers and other packaging material will exit the laboratory through the car wash, be loaded onto rail cars outside the car wash and returned to the surface.

The time it takes to wash and dry a shipment will depend on the nature of the packaging. The specially designed containers, referred to above, should be able to pass through the car wash in about 30 minutes, with one man washing and drying. More complicated surfaces and packaging will necessarily take longer.

These procedures are expected to hold for the bulk of the material and equipment that is transported during the clean phase of construction. Certainly there will be some items that require exceptions, special handling, etc. There is flexibility in how the cleaning is accomplished. The cleanliness *requirements* themselves, however, are much less flexible.

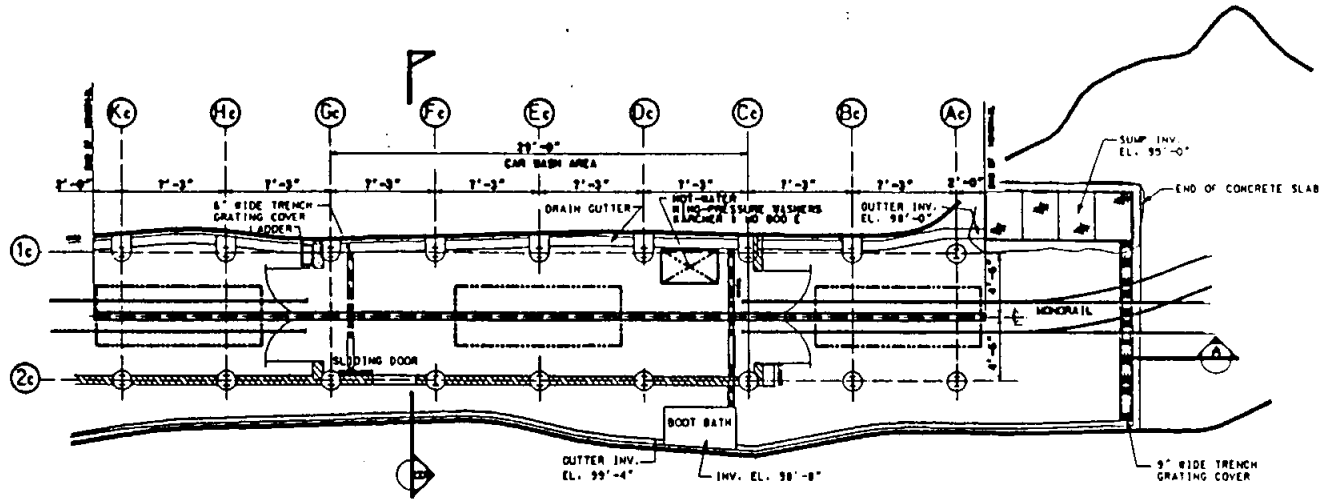
V. Quality Control

Inspection and control of cleanliness on items exiting the car wash will take place and will employ a variety of techniques, as described in section II. Inadequately cleaned exterior surfaces will require re-washing.

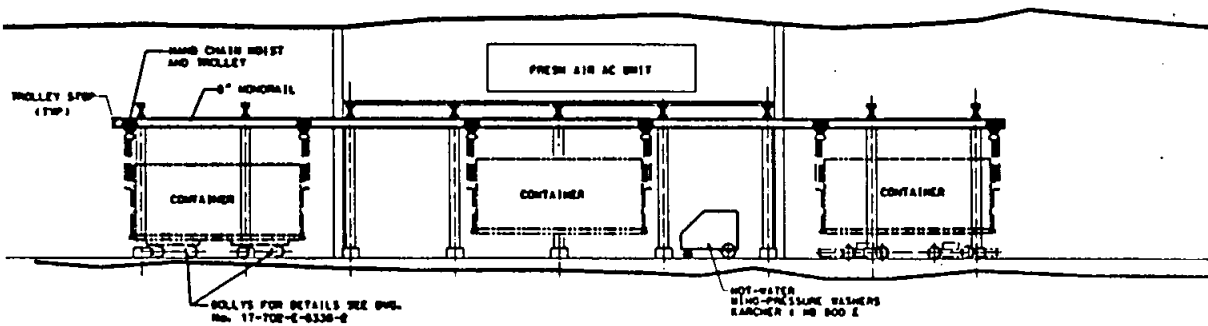
FIGURE 10.13

SNO INSTALLATION PLAN

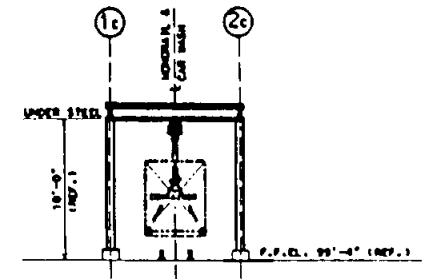
JUNE 1992



PLAN



SECTION "A"



SECTION "B"

<p>INCO LIMITED OILFIELD DIVISION - CANADA</p>		<p>DATE: 1992-06-15 DRAWING NO.: 17-702-E-6338-1A SHEET NO.: 1 OF 1</p>	
<p>PROJECT: SNO INSTALLATION</p>		<p>SCALE: AS SHOWN</p>	

CADD DRAWING

FIGURE 1