UTAH STATE DIVISION OF HEALTH
REPORT OF ENVIRONMENTAL STUDY
Pippy Foundry
455 North 4th West
Salt Lake City, Utah

SURVEY DATE: November 6, 1968
December 16, 1968

REPORT DATE: January 8, 1969

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16. Abstract (Limit: 200 words)

Health Hazards associated with foundry operations were assessed at Pippy Foundry in Salt Lake City, Utah, on November 6 and December 16, 1968. Personal, respirable mass samples were obtained from each of the three workers. Metal shot was used for sandblasting in a Pangborn rotoblast machine in a cinderblock building ventilated by two wall exhaust fans. In the three samples, dust measurements varied from 1.83 to 3.98 milligrams per cubic meter (mg/cu m) as compared with the threshold limit value of 0.5mg/cu m for a 40 hour per week exposure. The author concludes that even though foundry operations do not produce constant dust concentrations in excess of the threshold limit value, additional exhaust ventilation should be provided. They also suggest that approved dust respirators be used during dusty operations.

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REPORT OF ENVIRONMENTAL STUDY
Pippy Foundry
455 North 4th West
Salt Lake City, Utah

I. Purpose:

To determine any hazards to health caused by foundry operations at the Pippy Foundry.

II. General Observations:

A walk-through survey was conducted at the foundry on November 6, 1968 to determine what materials were being used and what samples should be taken. The foundry was revisited on December 16, 1968.

Foundry operations are conducted in a cinderblock building about 50 feet by 75 feet by 15 feet. Two large doors at the end of building and two 2-foot wall exhaust fans are the only ventilation provided. It was observed that considerable smoke was produced during pouring operations which was not being adequately removed from the building. No respirators were worn by any of the three full-time employees. Molding materials were moist. A non-silica parting compound was used.

Metal shot is used for "sand blasting" in a Pangborn rotoblast machine. Operator adds material to be cleaned, turns equipment on and then leaves the area until operation is complete, usually 10 to 15 minutes.

Personal, respirable mass samples were taken on each of the 3 workers. Results are as follows:

Sample No.	Sample Location	Operation	% Free Silica	Sample Result mg/m^3	Threshold Limit Value, mg/m^3
1	Gentzler	Cutting sand	18.5	2.29	0.5
2	Manhard	Shakeout	18.5	1.83	0.5
3	Waldron	Cutting sand, grinding	18.5	3.98	0.5

III. Comments and Recommendations:

The threshold limit value shown in the table is the approximate amount of dust a healthy individual can be subjected to for an 8-hour day, 5 days per week, without adverse effects. However, because individuals have various susceptibility levels, these values are considered as a guide rather than finite values.

The threshold limit values are based on a 40-hour/week exposure. It was indicated that pouring and shakeout was only done once a week which would reduce the exposure. Nevertheless, it is recommended that:

1. Additional exhaust ventilation be provided to reduce dust and smoke exposure.

2. U. S. Bureau of Mines approved dust respirators be worn during grinding, blasting, and other dusty operations.