



Intra Company

August 21, 1970

Mr. W. E. Villanar
Safety Engineer
Sheldon Road Plant

Subject: Dust Exposure - Sheldon Road Plant

As requested, on August 11 and 12, 1970 we conducted a dust study of mixing, deflashing, and drilling operations at the Sheldon Road Plant. This study is a follow up to our study conducted earlier this year which is covered in the report by Mr. P. E. Both, Supervisor Industrial Hygiene Unit, dated March 31, 1970. The results of the air samples taken and instrumentation used during the study are contained on the attached data sheets. The scheduled 1971 Threshold Limit Value of 2.0 million particles asbestos per cubic foot of air sampled, as discussed in Mr. Both's report, is also the criterion for dust exposure in this study.

Since our last study, the practice of recirculating the air from the dust collectors located on the mezzanine above the main aisle has been discontinued. With the exception of this development, there have not been any other improvements directly benefiting dust control in the plant.

Two of the samples taken in the mixing room exceed the TLV. Both of these samples were taken on the second floor. During the sampling, dust was visible in the general air. The mixing room uses a combination of local exhaust and generally supplied air; it was noted during the sampling that the supply air system was barely functioning.

Five of the six samples taken at the deflashing operations were at or exceeded the TLV of 2.0 mppcf. At one operation the ventilation was blocked off while at another there was none available. The problem with the present deflasher ventilation appears to be that the capture velocity is not great enough to draw generated dust away from the workers' breathing zone; also, improved maintenance is required to prevent flashings from clogging the systems.

As was the case with the deflashers, the majority of air samples taken at lead drill operations exceed the 2.0 mppcf TLV. The lead drills use a unique system where the part acts as a plenum for a few exhaust ports on the machine's fixture. The lead drills are usually enclosed at least on two sides of the stock. Further, because of fixture position, generated dust appears to be directed toward the workers' breathing zone. Because of this position, exhaust air velocity must be strong enough to capture generated dust and no reliance should be placed on secondary dilution by plant air to reduce dust levels that reach the workers' breathing zone.

All general air samples taken, with the exception of one, were within the TLV. The one air sample which was high was taken in an area that was found to be high

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during our earlier study. It should be noted that although the sample exceeds the 2.0 mppcf TLV, it is substantially lower than the previous high sample in this area. It can be expected that if dust control is improved in other areas, this area will probably be corrected as a result.

In addition to the observations just discussed, we noted that the ends of several branch ducts were open. Also, only about one-third of the deflashing hoods are used. If the ends of the ducts are properly capped and the unused hoods blocked off, we would expect increased capture velocities at the deflashing stations and the lead drills.

If there are any questions or if we can be of further assistance, please do not hesitate to contact us.

Henry B. Lick
Industrial Hygienist
Environmental Health Section
Employee Health Services Department

ED

cc M. W. Duff
J. E. Jollison
R. L. Kopko
D. T. Pearson

Attachment

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Data Sheet

Sheldon Road Plant

Dust Sampling

August 11 and 12, 1970

<u>Location</u>	<u>Airborne Dust Concentration in Million of Particles per Cubic Foot</u>
Threshold Limit Value	5.0
" " " as scheduled for 1971	2.0
1. Batch mixer #6059, second floor of mixing room adding asbestos from silo. Workers breathing zone. (B.Z.)	8.8
2. Second floor of mixing room. general room air sample.	2.9
3. First floor of mixing room, general room air sample.	1.1
4. Line 103 at 14' aisle, across from mixing room. General room air sample.	1.7
5. Lines 101 and 102, center deflasher. B.Z.	2.5
6. Line 101, first deflasher. B.Z.	3.3
7. Line 106 at 14' aisle, general room air sample.	1.2
8. Line 103, belt sander. B.Z.	1.1
9. Line 104, first deflasher. B.Z.	1.7
10. Line 102, lead drill. B.Z.	1.5
11. Line 103, lead drill #1711. B.Z.	3.8
12. Line 105, lead drill #1739. B.Z.	4.1
13. Line 108, first deflasher. B.Z. (Ventilation blocked off intentionally)	2.4
14. Line 109 at 14' aisle, general room air sample.	1.5
15. Line 107, lead drill #1707. B.Z.	4.0
16. Line 110, first deflasher. B.Z.	2.0

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<u>Location</u>	<u>Airborne Dust Concentration in Million of Particles per Cubic Foot</u>
17. Line 112, at 14' aisle, general room air sample.	1.4
18. Line 112, first deflasher. B.E. (no ventilation)	3.4
19. Line 116, at 14' aisle, general room air sample.	2.6
20. G-12 column, general room air sample.	1.2

Instrumentation: MDA Portable Pump and Midget Impingers

Analysis: Standard Light Field Count

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