PLAINTIFF'S EXHIBIT

H&G-51

BWC BUREAU OF WORKERS' COMPENSATION

Division of Safety & Hygiene
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October 5, 1995

Mr. Roger Rodenberg, Plant Manager
Hill & Griffith Company
1262 State Avenue
Cincinnati, Ohio 45204

Dear Mr. Rodenberg:

The attached data tables show the results of the industrial hygiene air and noise monitoring I conducted at your facility on September 19, 1995. The air monitoring results indicate the packers' respirable dust exposures were 72% and 69% of the Occupational Safety and Health Administration's (OSHA) permissible exposure limit (PEL) for respirable dust containing silica (quartz). All other exposures were below applicable limits. The noise monitoring results indicate the need to continue the annual audiometric testing for your employees. The results (noise and air) only reflect conditions as they existed on the day of the monitoring. Individual exposures will fluctuate depending on such factors as products produced, process or material changes, workload, and/or individual work practices. Such variability must be considered when interpreting any exposure data. All of the results are covered in more detail in the "discussion" section of this report. The sampling and analytical methods used are summarized in Appendix A.

EXPOSURE LIMITS

Air - The air monitoring results are compared to the OSHA PEL for respirable dust containing silica and the American Conference of Governmental Industrial Hygienists' (ACGIH) Threshold Limit Value (TLV) for respirable silica (quartz).(1,2) The PEL is based on the percentage of silica found in each sample and is determined with the following equation:

$$PEL = \frac{10}{\%Silica + 2}$$

Therefore, the PELs listed in Table 1 vary for each employee. The PELs are the only legally enforceable limits, but the TLVs are considered more current with respect to toxicological data.

Due to the wide range of worker susceptibility, a certain percentage of workers may experience adverse health effects at concentrations lower than the referenced limits. In addition, guidelines or standards for air contaminants are developed on a pollutant-by-pollutant basis. They do not consider the interactions that may occur in multicontaminant environments. They should not be interpreted as absolute values below which adverse health effects will not occur. Therefore, it is good practice to maintain exposures as low as possible.

Noise - The noise monitoring results are compared to the OSHA PEL of 90 decibels, A-weighted (dBA) and the OSHA action level (AL) of 85 dBA.

DISCUSSION OF RESULTS

Air - The results indicate the packers had elevated exposures to respirable dust containing silica. On the day of the monitoring they were packing Premix and only packed until lunch. After lunch Mr. Durant unloaded trucks in shipping and Mr. Hopgood cleaned the packing area and adjacent warehouse. Their exposures could be higher on days when packing is performed for the entire shift.

The packers are exposed to dust from a variety of clays and coal dust. Exposure limits do exist for coal dust and are based on the percentage of silica present. But since it is not known whether the detected silica was from the clays and/or the coal dust, all of the results were compared with silica exposure limits.

Respirable silica has been designated as a Class 2A carcinogen by the International Agency for Research on Cancer (IARC). A Class 2A designation means there is sufficient evidence of carcinogenicity in animals but limited evidence in humans. The National Toxicology Program (NTP) classifies silica as reasonably anticipated to be carcinogenic and the National Institute for Occupational Safety and Health (NIOSH) considers silica to be carcinogenic. There is, however, still some debate as to the carcinogenicity of silica.

More definite is the fact that the inhalation of respirable silica can lead to a debilitating and sometimes fatal disease known as silicosis. Silicosis usually occurs after ten or more years of exposure at relatively low concentrations but can also develop within a few weeks of exposure to very high concentrations. Due to the nature of the disease, silicosis tends to be self-perpetuating. Once enough silica has been retained within the lungs, the damage tends to continue even after removal from further exposure. Between 1980 and 1987, an average of 43 cases of silicosis per year were reported to the Ohio Bureau of Workers' Compensation. In 1986, eight states (Arkansas, Delaware, Iowa, New York, North Carolina, Oregon, Washington, and Wisconsin) reported indemnity compensation for 50 cases of silicosis. The total compensation was $3,078,283 or an average compensation of $61,566 per case. (3) Unfortunately, there is no cure for silicosis and therapy is entirely confined to relief of symptoms. Therefore, it is imperative to maintain dust levels as low as possible through effective engineering controls, work practices, hazard communication, and respiratory protection.

The mission of the Division of Safety and Hygiene is to assist employers and employees with the prevention of work related injuries and illnesses. Hopefully this survey will assist you in your efforts to maintain a safe and healthy work environment. The cooperation and assistance offered by you and the employees was greatly appreciated. Please do not hesitate to contact me at the Southwest Regional Office if there are any questions or comments regarding the report, or you desire additional assistance with any safety and health concerns.

Sincerely,

Kenneth M. Wilson, CIH
Industrial Hygienist

Attachments
-Table 1 - Air Monitoring Results
-Table 2 - Noise Monitoring Results
-Appendix A - Monitoring Methods
-OSHA Noise Standard
-Hearing Conservation Program Summary
-Hearing Conservation Program Evaluation
-Bag Tube Packer ventilation information
-OSHA Respiratory Protection Standard

REFERENCES

1. "Air Contaminants", *Code of Federal Regulations* Title 29, Part 1910, Section 1000. 1994.

2. American Conference of Governmental Industrial Hygienists: *Threshold Limit Values and Biological Exposure Indices for 1995-96*. ACGIH, Cincinnati, OH (1995).

3. National Institute for Occupational Safety and Health: *Work Related Lung Disease Surveillance Report* (DHEW/NIOSH Publication No. 91-113). Washington, D.C.: Government Printing Office, 1991.

COMPANY: Hill & Griffith Company
SURVEY DATE: September 19, 1995

SURVEYOR: Ken Wilson, CIH
Ohio Bureau of Workers' Comp.
Division of Safety & Hygiene

TABLE 1

AIR MONITORING RESULTS

NAME	JOB	CONTAMINANT	TIME SAMPLED (Hrs.:min.)	CONCENTRATION DETERMINED (mg/m^3)	OSHA PEL (mg/m^3)	ACGIH TLV (mg/m^3)
Edward Harris	Unloading railcars - Two railcars of western bentonite were unloaded	Respirable dust containing silica (quartz)	6:07	0.76	2.1	N.A.L.
		Respirable silica (quartz)		0.021	N.A.L.	0.1
Ray Hobbs	Blending operator - Spent majority of day in the control room	Respirable dust containing silica (quartz)	6:07	0.20	1	N.A.L.
		Respirable silica (quartz)		<0.016	N.A.L.	0.1
Ervin Durant	Packing - Packed bags of Premix in A.M. & unloaded trucks in P.M.	Respirable dust containing silica (quartz)	6:39	1.0	1.4	N.A.L.
		Respirable silica (quartz)		0.048	N.A.L.	0.1
Kevin Hopgood	Packing - Assisted Ervin in A.M. & cleaned packing area in P.M.	Respirable dust containing silica (quartz)	6:54	1.1	1.6	N.A.L.
		Respirable silica (quartz)		0.046	N.A.L.	0.1

OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limit
ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Value
mg/m^3 - Milligrams of contaminant per cubic meter of air
N.A.L. - No Applicable Limit

OSHA Standard 29 CFR 1910.20 provides employees and their designated representatives a right of access to relevant exposure and medical records. Each employee must be informed upon first entering into employment, and annually thereafter, of 1) their right of access to such records, 2) the existence, location, and availability of such records, and 3) the person responsible for maintaining and providing access to such records.

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TABLE 2

NOISE MONITORING RESULTS

NAME	JOB/ DEPARTMENT	TIME SAMPLED (HRS.:MIN.)	NOISE EXPOSURE (dBA)	OSHA PEL (dBA)	COMMENTS
Edward Harris	Unloading railcars	6:59	87	90 85 AL	Unloaded two railcars
Ervin Durant	Packing	7:22	87	"	Packed in a.m. and unloaded trucks in p.m.
Floyd Coldiron	Maintenance	7:12	80	"	
Melvin MacDavis	Coal Receiving	7:00	H 91		
Ray Hobbs	Blending Operator	6:18	78	"	Spent majority of day in control room

OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limit
dBA - Decibel, A-weighted
AL - Action Level
H - Exposures were obtained with a high threshold (90 dBA) dosimeter reading and are compared with the 90 dBA PEL. All other exposures were obtained with a low threshold dosimeter reading (80 dBA) and can only be compared with the 85 dBA AL. Please see Appendix A for further explanation.

OSHA Standard 29 CFR 1910.95 requires noise exposure data be made available to affected employees. OSHA Standard 29 CFR 1910.20 provides employees and their designated representatives a right of access to relevant exposure and medical records. Each employee must be informed upon first entering into employment, and annually thereafter, of 1) their right of access to such records, 2) the existence, location, and availability of such records, and 3) the person responsible for maintaining and providing access to such records.

APPENDIX A

MONITORING METHODS

AIR

Personal respirable dust samples were collected on pre-weighed polyvinyl chloride filters that were preceded by 10-millimeter cyclones and MSA Flow-Lite air pumps with calibrated flowrates of 1.7 liters per minute. All samples were analyzed by gravimetry (NIOSH method 0600) and x-ray diffractometry (NIOSH method 7500) at Travelers Insurance industrial hygiene laboratory which is accredited by the American Industrial Hygiene Association.

NOISE

Noise exposures were determined using calibrated Quest Micro-15 noise dosimeters. The Micro-15 dosimeters have both an 80 and 90 decibel, A-weighted (dBA) threshold. The threshold is the sound level below which the instrument does not respond. The Occupational Safety and Health Administration (OSHA) requires the 90 dBA threshold to determine compliance with the Permissible Exposure Limit (90 dBA), and the 80 dBA threshold to determine compliance with the Action Level (85 dBA). The dosimeters continually integrate noise levels throughout the monitoring period, simultaneously calculating an average noise exposure using both thresholds.