



DOW CHEMICAL U.S.A.

TEXAS OPERATIONS
FREEPORT TEXAS 77541

April 13, 1987

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REMOVAL AT MAGNESIUM PRODUCTION A MAINTENANCE
IHS FILE #A6-3097

ST0015046

Asbestos monitoring was conducted during a brake shoe replacement in the A-631 shop and a transite removal on the A-604, 605 bridge on January 23, 1987 and February 17, 1987, respectively. The monitoring was conducted as required by OSHA 29 CFR 1910.1926.58.

The workers performing both jobs wore full-face respirators with high efficiency particulate filters. Qualitative fit testing was conducted prior to the start of the jobs. Hooded Tyvek disposable paper suits and rubber boots were worn to keep fibers off of the workers' bodies.

The brake shoe replacement job required both of the brake shoes to be removed and replaced. The work area was barricaded with yellow tape. Polyethylene sheet was spread beneath the tow motor to collect any debris. The brake shoes were removed from the brake drum as they were wetted with amended water from a garden sprayer. At the end of the job, all tools were cleaned with wet, disposable rags. The brake shoes, the disposable rags, the polyethylene sheet and the disposable coveralls were collected and placed in an asbestos-labeled polyethylene bag for disposal. The respirator cartridges were covered with plastic bags, sealed with rubber bands and left on the full-face respirators until needed again.

Monitoring during the brake shoe replacement was conducted by hanging the filter cassettes on the tow motor in the proximity of the workers' breathing zones. One cassette was hung by the left brake shoe and one by the right brake shoe. This was necessary since the workers were required to squat in an uncomfortable position and were unable to wear the equipment and perform their job efficiently.

(X)

ASBESTOS TRANSITE REMOVAL

SAMPLE #	SOC. SEC. #	DATE	SAMPLE TIME (MIN)	CONCENTRATION (FIBERS/CC)
FILE #A6-3097				
MGA-6	317-60-5084	2/17/87	390	0.05
MGA-7			480	0.04
MGA-5	466-88-3014	2/17/87	390	0.11
MGA-4			480	0.09
FILE #A6-3148A				
MPAM-13	370-48-5794	6/1/87	270	<0.01
			480	<0.01
MPAM-15	466-88-3014	6/1/87	270	0.01
			480	<0.01
MPAM-2	454-15-0664	3/23/87	150	0.02
			480	<0.01
MPAM-4	466-88-3014	3/23/87	150	<0.01
			480	<0.01
MPAM-10	457-78-4884	4/22/87	210	0.04
			480	0.02
MPAM-12	121-54-6079	4/22/87	180	<0.01
			480	<0.01

ST0015047

JOB PROCEDURE:

Bolts were burned off of the transite sheets. The sheets were wetted with amended water, and whole sheets were placed on plastic covered pallets. The plastic was wrapped around the transite for transport to a plastic lined asbestos dumpster.

All workers were trained and wore full-face respirators with HEPA filters and Tyvek suits.

METHODOLOGY:

Standard monitoring methodology was used.

MDS
7/15/87

Name: A. D. Smith

Plant: *Melastoma*

Dat 3/12/87

[illegible]

File # 110 3117

Name: H. J. J. J. J. J.

Plant: Air Conditioning Plant

Date: 2/16/87

Name, Date Employee #, Asbestos Filter #	Pump S/N	Pump Calibration		(Time) Pump Off	Total Pump Time (min) = T	Total Air Volume (l) $Q \times T$ = V	# Fibres Counted	Centre # Fibres (Counted)	# Fibres Volume	365 100	# Fibres cc	# Fibres cc
		Before Sampling (l/min)	After Sampling (l/min)									
1101-1	120390	2.170	2.179	13:31	50	190	3.15	2.32	1.30		2.02	2.02
1101-2		2.165	2.191	13:34								
1101-3		2.168	2.192	13:36								
1101-4		2.161	2.191									
1101-5		2.160	2.187									
1101-6		2.163	2.192									
1101-7												
1101-8		2.178	2.199	13:37	50	195	3.14	2.32	2.30		2.02	2.02
1101-9		2.181	2.175	13:38								
1101-10		2.185	2.171	13:39								
1101-11		2.181	2.176									
1101-12		2.189	2.171									
1101-13		2.183	2.174									
1101-14												
1101-15		2.180	2.180	13:40	50	192	3.12	2.32	2.30		2.02	2.02
1101-16		2.193	2.183	13:41								
1101-17		2.181	2.183	13:42								
1101-18		2.197	2.181									
1101-19		2.181	2.183									
1101-20		2.181	2.183									
1101-21		2.181	2.183									
1101-22		2.181	2.183									
1101-23		2.181	2.183									
1101-24		2.181	2.183									
1101-25		2.181	2.183									
1101-26		2.181	2.183									
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1101-99		2.181	2.183									
1101-100		2.181	2.183									

ST0015049

ASBESTOS MONITORING RESULTS FOR BRAKE SHOE
REPLACEMENT AND TRANSITE REMOVAL AT
MAGNESIUM PRODUCTION A MAINTENANCE

The monitoring results from the brake shoe replacement were both below the 0.01 fiber/cc action level when calculated as an 8-hour time weighted average. Therefore, the precautions taken to prevent exposures to asbestos dust, i.e. respirators and disposable clothing were not required by OSHA.

Future brake shoe replacement jobs should be conducted in the same manner as the monitored job, except disposable overalls will not be required. A half-face respirator may be substituted for the full-face respirator, but a high efficiency particulate filter is still required by Dow.

The transite removal on the A-604, 605 bridge was monitored due to the potential for encountering friable asbestos in old transite. A site inspection of the transite showed that most of the material was non-friable; however, the edges of some sheets were damaged. These edges were painted with latex paint or sprayed with amended water prior to removal.

During the transite removal, yellow tape prevented access to the bridge by Magnesium I personnel. A false ceiling was constructed to catch falling debris and to prevent water damage to the computer terminals on the bridge. The transite sheets were placed on a plastic covered pallet, sealed and transported downstairs by forktruck to the asbestos dumpster. The bridge structure was painted to encapsulate any loose asbestos fibers. Then the polyethylene false ceiling was folded in upon itself and placed in an asbestos-labeled polyethylene bag for disposal.

The two workers monitored during the two and a half hour job had exposures of 0.093 fibers/cc and 0.037 fibers/cc as an 8-hour time weighted average. Since one of the exposures was barely below the action level of 0.1 fibers/cc and due to the uncertain condition of materials twenty or more years old, the procedures used for this job should be used in future transite removals in the magnesium plants. Exposure monitoring should also be done until a statistically significant data base is established.

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Industrial Hygiene Services

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