LOUISIANA DIVISION INDUSTRIAL HYGIENE REPORT

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

DEPARTMENT	FILE NUMBER	DATE
Cell Service	LAD-CS-86.01	2/12/87

TITLE

Industrial Hygiene Summary Report, 1986

AUTHOR(S) SIGNATURE(S)

Dean Walters Dean Walters 2/12/87

REVIEWER'S SIGNATURE

W.E. Ledford William E. Ledford 2/12/87

ST0175615

SUMMARY/RECOMMENDATIONS

The employees with a potential exposure to asbestos were monitored using an approved sampling and analytical method. One hundred fifty-six (156) personnel samples were collected representing all jobs in the plant. In addition thirty-seven (37) area samples were collected The highest potential exposure (3.08 f/cc) occured during hand brushing of copper cathodes to remove residual asbestos. This procedure was changed to eliminate dry brushing and subsequent exposures were reduced to $<0.01 - 0.02$ f/cc.

After the revised asbestos standard became effective only three (3) personnel samples were above the action limit and none were above the Permissable Exposure Limit. Analysis of two samples by scanning electron microscopy determined that none of the fibers present were asbestos.

The block respirator program was changed to require use of high efficiency filters for jobs involving asbestos. All personnel have been fit tested and trained with the new respirators.

An area noise survey was conducted throughout the plant.

DISTRIBUTION

Louisiana Division	Midland	Other
R. Peebles -5601	*Larry Rampy -1803	*D.E. Crager, Freeport, B-101
L.J. Sims -5601	*G.W. Engdahl-1803	*F.D. Axe, Western Div. 471
*R. Gaska -3701	*S.K. Norwood-1803	*G.L. Meier, Eastern Div. Strongville, Ohio
*R. Gallant -2306	*J.E. LeBeau -1803	
*M.F. Currier-2303	*A.W. Shaffer-2030	
*M.E. Nevill -3502E	*S.M. Gorgacz-474	
*Henry Bell -4701T	M.G. Swank -1803	

RESTRICTED: for use with The Dow Chemical Company only.

* Cover Letter Only

PLAINTIFF'S EXHIBIT

DOW-890

ST0175616

CONCLUSION AND RECOMMENDATION

1. FIFTY TWO (52) PERSONNEL SAMPLES FOR POTENTIAL ASBESTOS EXPOSURE WERE COLLECTED DURING THE FIRST HALF OF 1986. THE HIGHEST POTENTIAL EXPOSURE OCCURRED DURING HAND BRUSHING OF COPPER CATHODES. THE PROCEDURE WAS MODIFIED TO ELIMINATE DRY BRUSHING. THIS RESULTED IN POTENTIAL EXPOSUREES BEING REDUCED TO LESS THAN 0.01 - 0.02 FIBERS/CC.

2. ONE INDIVIDUAL WAS FOUND TO CONSISTENTLY HAVE THE HIGHEST POTENTIAL ASBESTOS EXPOSURE DURING PULP MIXING. THE PROPER PROCEDURES FOR THIS JOB WERE REVIEWED WITH THIS PERSON WITH AN EMPHASIS ON PROPER WETTING TECHNIQUE. IT IS RECOMMENDED THAT THE PROPER PROCEDURE FOR MIXING PULP BE REVIEWED SEVERAL TIMES PER YEAR WITH THE PEOPLE PERFORMING THIS JOB.

3. ONE HUNDRED AND FOUR (104) PERSONNEL SAMPLES WERE COLLECTED DURING THE "INITIAL MONITORING" REQUIRED BY THE REVISED ASBESTOS STANDARD. THREE SAMPLES WERE ABOVE THE ACTION LEVEL BUT NONE WERE ABOVE THE PERMISSIBLE EXPOSURE LIMIT. TWO SAMPLES WERE FURTHER ANALYZED BY SCANNING ELECTRON MICROSCOPY. ONE SAMPLE CONTAINED INORGANIC AND ORGANIC "FIBERS" AND THE OTHER CONTAINED CELLULOSE FIBERS. NEITHER CONTAINED ANY ASBESTOS FIBERS. IN THE FUTURE WHEN ANY RESULTS ARE ABOVE THE ACTION LEVEL OR PERMISSIBLE EXPOSURE LIMIT, CONSIDERATION SHOULD BE GIVEN TO HAVING AN SEM ANALYSIS PERFORMED TO DETERMINE WHETHER OR NOT THE "FIBERS" ARE ASBESTOS.

4. EFFORT SHOULD CONTINUE TOWARD THE USE OF ENGINEERING CONTROLS OR PROCEDURE MODIFICATIONS TO FURTHER ELIMINATE POTENTIAL EXPOSURES TO ASBESTOS.

5. AREA NOISE MONITORING DATA INDICATED THERE WERE NO CHANGES IN THE NOISE LEVELS IN THE CELL SERVICE BLOCK. ALL HIGH NOISE LEVEL AREAS ARE PROPERLY POSTED WITH THE REQUIRED WARNING SIGNS.

6. THE PROCEDURE USED FOR MIXING THE DERAKANE SOLUTION AND VARIOUS ADDITIVES WAS REVIEWED AND IT WAS JUDGED THAT NO EXPOSURE SAMPLING WAS REQUIRED. ONLY SMALL AMOUNTS OF THE CHEMICALS ARE USED AND ONLY ON AN INFREQUENT BASIS. THE MIXING IS CARRIED OUT IN A VENTILATED ENCLOSURE. EDUCATION ON THE HAZARDS OF THE CHEMICALS AND USE OF PROTECTIVE EQUIPMENT IS DONE ON A ROUTINE BASIS.

ST0175617

SAMPLING PLANS FOR 1987

ALL JOBS IN THE CELL SERVICE BLOCK WILL BE SAMPLED AT LEAST ONE TIME DURING THE YEAR FOR ASBESTOS EXPOSURE. JOBS THAT HAVE THE HIGHEST POTENTIAL EXPOSURE WILL BE SAMPLED SEMI-ANNUALLY. THESE JOBS INCLUDE:

MIXING PULP

HOOKING UP CATHODES AND DUMPING ASBESTOS

CLEANING COPPER CATHODES

DRAWING CATHODES

OPEATING CATHODE WASHER AND RECOVERY SYSTEM

CLEANING ANODES

JANITORIAL OPERATIONS

JOBS INVOLVING WORK IN HIGH NOISE AREAS WILL BE MONITORED USING PERSONNEL AUDIODOSIMETERS.

GOALS FOR 1987

1. INSTALLTION OF HEPA VACUUM STATIONS AND BOOT WASHERS TO UPGRADE DECONTAMINATION FACILITIES.

2. UPGRADE ASBESTOS DEBAGGING EQUIPMENT:

   WORK IS UNDERWAY TO MODERNIZE THE BELTYME DEBAGGER SO IT WILL OPERATE WITHOUT OPERATOR ASSISTANCE.

3. REDUCE POTENTIAL ASBESTOS EXPOSURE DURING PULP MIXING OPERATION:

   INVESTIGATE USE OF AN AUTOMATIC DEBAGGER TO OPEN ASBESTOS BAGS FOR THIS OPERATION.

   CONSIDER USE OF A CLOSED AGITATED VESSEL TO MIX ASBESTOS PULP SLURRY.

4. INSTALL A SCREW CONVEYOR SYSTEM TO REMOVE ACCUMULATED ASBESTOS OUT OF THE CATHODE WASHER SUMP.

ST0175618