

DIVISION OF INDUSTRIAL HYGIENE

REPORT ON FIELD INVESTIGATION

TO: DIVISION OF INDUSTRIAL SAFETY SERVICE, BUREAU OF ☒ F&M ☐ CONSTRUCTION ☐ BOILERSCHIEF
ATTN: INSP. E. T. DeaudettSUPV.
INSP. E. P. Eliart

DISTRICT 16

1. FIRM NAME Georgia Pacific Corporation	2. DATE OF REPORT 10/11/72	3. DATE OF VISIT 8/13, 9/13 & 9/20/72	4. DATE OF REQUEST 3/30/72
5. ADDRESS Blossingdale Road, Town of Newstead 14001	6. I.H. ASSGT. NO. DHS-129-72		7. B.S.A. PET. NO.
8. INVESTIGATED BY Norman Brunotte, Ind. Hygiene Engineer		9. OFFICIAL(S) INTERVIEWED Mr. Edward Foley, Office Manager Mr. William Hammer, Plant Engineer	

10. REPORT

In accordance with your request, the above firm was visited to investigate possible excessive noise resulting from the Joint Systems operations, possible air contaminants resulting from P & S operations, and possible exposure to excessive asbestos from the Joint Systems operations

I. NOISE IN THE JOINT SYSTEMS OPERATIONS, BUILDING 230WORKROOM

The workroom, which measures about 120' X 60' X (25' to 40') high, comprises the one story east end of a large masonry and steel building. The east wall of the workroom contains a large sliding door, a man-door, and 3 openable windows. There are 2 openings in the west wall which lead to the warehouse area. The north and south walls contain openings. General mechanical ventilation is provided by a 30" diameter exhaust fan mounted in the east wall at a height of 10'. Additional ventilation is provided by 2 gravity roof ventilators.

EQUIPMENT AND OPERATIONS

The dry mix joint compound for wallboard is prepared in a 40' X 60' area located in the northeast corner of the workroom.

The process involves the preparation of about sixteen 4000 pound dry mixons during the 8 hour day shift. Each mix is comprised of 75% or more limestone with amounts of asbestos ranging from 220 to 320 pounds and mica up to 640 pounds, depending on the product specified. Minor amounts of other materials are also included.

Except for the limestone which is added from enclosed bins, two mixermen load the other ingredients into a waist high 5' X 7' hopper. The crystalline asbestos, contained in 100 lb. bags, and the mica, in 50 lb. bags, are dropped on bag slanters in the hopper, the contents dumped, and the empty paper bags removed from the area. A vibrating screen empties the hopper to an enclosed conveyor. The hopper is provided with a canopy hood at a height of 30" at one end and 40" at the other end, and is partially enclosed.

The subsequent operations, conducted in closed systems, include a ribbon mixer, bucket elevators, and a St. Regis packer. The mixer and elevators are provided with local exhaust systems.

OCT 25 1972

DIVISION OF INDUSTRIAL HYGIENE
BUREAU OF F&M
STANDARD METHOD NO. 101

The St. Regis equipment automatically fills multiwall bags with the correct weight of product material. A packer operator slips a pasted-valve tuck-in-sleeve bag over a feed spout, one of three such outlets. The filled bag is dropped on a horizontal conveyor which carries the bags at waist height to a stacker operator. The stacker operator, located about 15' from the loading station, removes the bags from the conveyor and loads them on pallets. The pallets, when filled, are transported to the warehouse by a fork lift truck operator. About 2500 bags are produced during an 8 hour shift.

The aforementioned mixing operations are provided with an alternate dust system which directs the material to the wet mixing area in the southwest corner of the workroom. There, a further enclosed mixing with the addition of water yields a paste product. This product is loaded into either 5 gallon or 1 gallon cans, the covers crimped, and the cans palletized for warehousing. Four men are usually assigned to this area.

TESTS AND OBSERVATIONS

It was noted that noise in the workroom was most evident in the mix preparation area (vibrating screen in the hopper) and at the dry mix filling station (St. Regis packer and adjacent auxiliary equipment). Noise level measurements were obtained in these areas and are noted on the attached Sound Pressure Level Survey form.

II. P & S OPERATIONS, BUILDING 212

WORKROOMS, EQUIPMENT AND OPERATIONS

The plaster operations are conducted in a three story corrugated steel structure, Building 212. The upper floors of the building are relegated to the storage, mixing, and conveying of materials to produce the plaster mix, which is essentially gypsum. The first floor is used for product bagging and shipping.

The above operations are conducted by a four man crew about 4 hours per day, once or twice a week, producing about 400 tons per month of bagged material. Before the advent of dry wall and wallboard, 12,000 tons per month were produced at this facility.

The mixing and conveying operations on the upper floors are conducted in essentially closed systems. The multi-wall bagging operations take place on the first floor. Bates bag loading machines automatically fill the bags to the desired weight. At the No. 1 Bates Packer, two workers pack 80 pounds of molding plaster into side opening bags. The filled bags are manually placed on hand trucks and removed to a shipping area. At the No. 3 Bates Packer, lightweight plaster is bagged by one worker. The bagged product is conveyed to the adjacent shipping area.

TESTS AND OBSERVATIONS

SGP 0006509

It was noted that dust was only evolved at the bagging operations.

Air tests were taken in the breathing zone of the workers while conducting bagging operations. The concentration of dust was found to be 35 MPPCF at the No. 1 Bates Packer, 7 MPPCF at the No. 3 Bates Packer. Analysis of ledge dust in both packer areas disclosed a free silica content of less than 5%.

No local exhaust ventilation is provided for the Bates Packers. Workers at the No. 1 unit wore cartridge type dust respirators; the No. 3 unit operator did not wear any respiratory protective equipment.

III. ASBESTOS EXPOSURE - JOINT SYSTEMS OPERATIONS

WORKROOM, EQUIPMENT AND OPERATIONS

The workroom, equipment, and operations are described in Section I. of this report.

TESTS AND OBSERVATIONS

Air tests were taken in the breathing zone of the workers during joint systems dry mix operations. The following results were obtained:

<u>Sample Location, Breathing Zone</u>	<u>Asbestos Concentration</u>
1. Packer	41 fibers/ml (greater than 5 microns in length)
2. Stacker	17 fibers/ml (" " 5 " " ")
3. Mixerman	28 fibers/ml (" " 5 " " ")

In addition, general air samples were taken at two locations in the dry mix area. The concentration of asbestos was found to be 31 fibers/ml (greater than 5 microns in length) at a point about 20' west of the packer and 12' northwest of the stacker. The concentration of asbestos was found to be 26 fibers/ml (greater than 5 microns in length) adjacent to the mix hopper (mixerman's work station). The latter test was taken when no mix preparation was being done.

It was noted that the mixermen wore respirators during the actual mixing operations. Neither the packer nor the stacker wore respirators. It was stated that the packer and the stacker switch jobs about every 350 bags of production.

The floors, equipment, ledge surfaces, etc. in the 40' X 60' dry mix working area were covered with dust. The dust layer was constantly being built up during the various unit operations, primarily from the heavy concentration of dust generated by the bag filling operation.

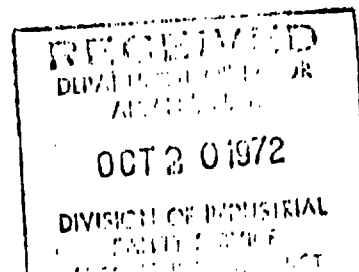
CONCLUSIONS

1. Exposure to noise resulting from the Joint Systems operations, as performed at the time of the visit, would not tend to be detrimental to the hearing of the workers.
2. The P & S Building 212 operations, as performed at the time of the visit, would not tend to be hazardous to the health of the workers.
3. Exposure to asbestos from the Joint Systems operations would be hazardous to the health of the workers in the dry mix area.

RECOMMENDATIONS

Re items 1 and 2 above - none.

SGP 0006510



Re Item 3 above - That the exhaust system for the mix hopper be redesigned and reconstructed and that sufficient local exhaust ventilation be provided for the bagging operations, both in accordance with 12 NIOSH 12 and 12 NIOSH 18. That plans for the aforementioned be submitted in triplicate to this Division prior to installation.

AJR:SC
HH

Albert J. Rosso, M.D.
Industrial Hygiene Physician II

SOUND PRESSURE LEVEL SURVEY

1. SOUND LEVEL in Decibels re 0.0002 dynes per sq. cm.

LOCATION - OPERATION	WEIGHTING NETWORKS 20-20,000 cps (Hz)		PREFERRED CENTER FREQUENCIES, cycles per second (Hz)							
	dBA	dBC	63	125	250	500	1000	2000	4000	8000
JOINT SYSTEMS - BUILDING 230										
DRY MIX AREA - BAGGING										
1. ST. REAGS PARKER WORK STATION	82	89	83	83	81	80	76	72	73	72
* 2. " " "	93	94								
* 3. " " "	79	87	85	83	79	76	74	70	69	68
- MIXING										
* 4. MIX HOPPER AREA - VIBRATING										
SCREEN ON HOPPER FULL	89	94	86	85	80	78	82	85	78	76
* 5. AS ABOVE, STARTS AFTER 15 MINUTE										
OF THE 2 MINUTE BATCH OPERATION.	94	101								

REMARKS:

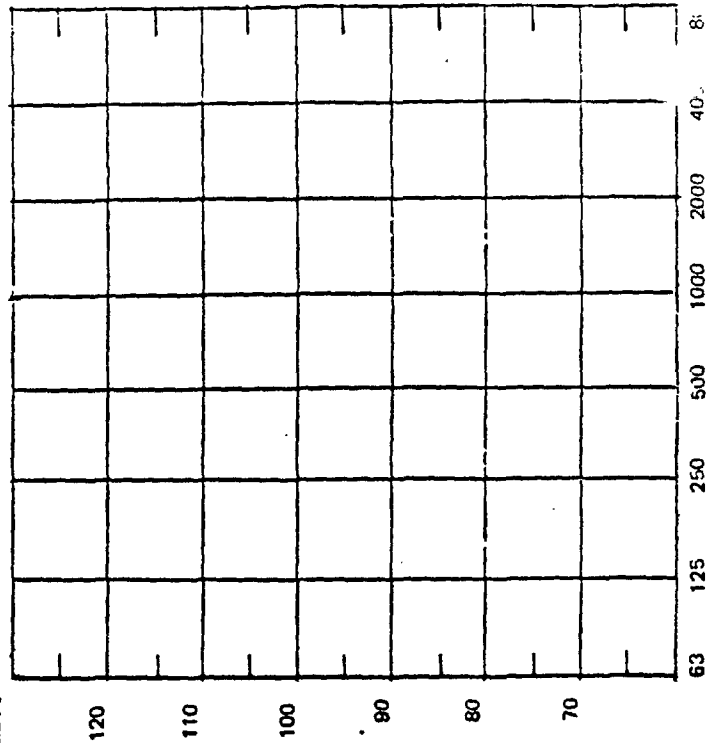
* ONE SECOND DURATION EVERY 30 SECONDS (AVERAGE)
DUE TO AIR RELEASE NOISE - DURING BAG
FILLING

** BACKGROUND

** INTERMITTENT OPERATION, BATCH OPERATION
OPERATOR REMAINS AWAY FROM AREA AFTER
STOPPING VIBRATING

4. ASSIGNMENT NO. BEF-129-72	5. W. C. B. CASE NO.	6. DATE OF VISIT 8/18/72
7. NAME OF ESTABLISHMENT GEORGIA PACIFIC CORPORATION		
8. ADDRESS OF ESTABLISHMENT BECMAN DALE ROAD TN OF NEWSTEAD 14001		
9. CLAIMANT NAME H. A. BRUNETTE		10. INSTRUMENTS USED B&K 2203 / 1613

Decibels



SOUND PROFILE LEVEL SURVEY

1. SOUND LEVEL in Decibels re 0.0002 dynes per sq. cm.

LOCATION - OPERATION	WEIGHTING NETWORKS 20-20,000 cps (Hz)		PREFERRED CENTER FREQUENCIES cycles per second (Hz)									
	dBA	dBC	63	125	250	500	1000	2000	4000			
JOINT SYSTEMS - BUILDING 230												
DRY MIX AREA - BAGGING												
1. ST. REELS PARKER WICK STATION	82	89	83	83	81	80	76	72	73			
* 2. " " "	93	94										
* 3. " " "	79	87	85	83	79	76	74	70	69			
- MIXING												
14. MIX HOPPER AREA - VIBRATING												
SCREEN ON HOPPER FULL	89	94	86	85	80	78	82	85	78			
15. AS ABOVE, STARTS AFTER 15 MINUTE												
OF THE 20 MINUTE BATCH OPERATION.	94	101										

REMARKS: * ONE SECOND DURATION EVERY 30 SECONDS (AVERAGE)

* DUE TO AIR RELEASE NOISE - DURING BAG
FILLING

* * BACKGROUND

* * INTERMITTENT OPERATION, BATCH OPERATION

* * OPERATING REMAINS AWAY FROM AREA AFTER

SIGNATURE

S. W. C. B. CASE NO.

6. DATE OF VISIT

REF-129-72

8/18/72

NAME OF ESTABLISHMENT

GEORGIA PACIFIC CORPORATION

ADDRESS OF ESTABLISHMENT

BLOOMINGDALE ROAD TN OF NEWSTEAD 14001

CLAIMANT NAME

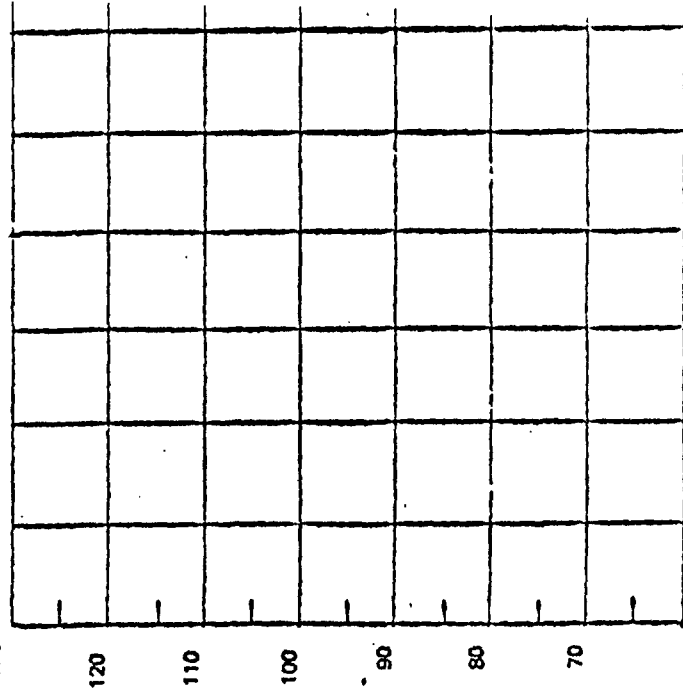
11. INSTRUMENTS USED

ENGINEER

A. H. BRUNOTTE

BEK 2203/1613

Decibels



2. FREQUENCY cycles per second (Hz)