

FILE NAME: Johns-Manville (JMA)

DATE: 1929-1970

DOC#: JMA230

DOCUMENT DESCRIPTION: J-M Industrial Hygiene Surveys Summarized

MEMORANDUM

TO: Wondie Russell
FROM: Dana Melton
DATE: June 29, 1984
RE: Analysis of J-M Industrial Hygiene Surveys, 1929-1970

Pursuant to your request, I have reviewed the J-M HS&E master record of Industrial Hygiene Surveys taken at various J-M plants from 1929 to 1970. The surveys were retrieved from Rolls #12 and 13 of the HS-7 microfilm and in one instance supplemented from J-M's B level files. They were then organized according to (in descending order): party that conducted the analysis, year of analysis, plant location and date the analysis was reported. The surveys have been placed in notebooks and are available for review.

My initial task was to prepare the attached table. It reflects the number of surveys conducted each year at each plant, who conducted the surveys, total samples, total samples in excess of TLV. Metropolitan Life and Travelers were the two insurers responsible for a majority of the surveys. As regards their dust counts, the table gives the total number of samples analyzed, and the number that measure over 5.0 mppcf and/or 1.0 mfpcf.*

METROPOLITAN LIFE

Prior to 1951, Metropolitan Life Insurance Company from time to time collected samples at various J-M plants and analyzed them in its laboratories. The samples were (at least initially) collected by an employee of Metropolitan, under the immediate supervision of a J-M employee. These surveys were apparently initiated upon J-M's request. Metropolitan's reports include a brief description of the types of dust collected, a description of sampling location, and notes regarding the general appearance of the area at the time of collection. Metropolitan Life's first survey was conducted in October and November, 1929. Dust particles of less than 10 microns in greatest diameter were measured in this survey. Photographs of the sampling areas are included with this report. At the end of the report Metropolitan Life makes recommendations "to minimize the dust hazard." The Department of Mines of the Quebec Ministry of Health, a public agency, also conducted some of the pre-1951 surveys at the Asbestos (Quebec) plant.

TRAVELERS COUNTS

From 1951 on, nearly all reported surveys were analyzed by Travelers Insurance Company. The counts were apparently initiated upon J-M's request. There is one letter, however, in which a J-M department head complains that the plant had not been prepared for a survey. Thus, he continued, the survey was taken under "abnormal conditions". The sampling for Travelers' analysis, i.e., actual physical collection of the dust, was done

by J-M employees (plant personnel, General Plant Engineering Department, and regional lab hygienist). While sampling, the J-M employee filled out a form giving the plant, date, sample number, department, time elapsed during sampling, and the rates of cubic feet per minute and volume per cubic foot. Also included is a description of the ventilation in the sampling area, the atmosphere at the time of sampling, materials being worked with, and specific work being performed. This form and the samples were then forwarded to Travelers' Engineering and Loss Control Division in Hartford, Connecticut. Provisions of this form to Travelers suggests that Travelers had at least some idea of the locations/jobs within J-M that were being evaluated.

Travelers took anywhere from three days to three weeks after receiving the sample to report their findings. The reports consisted of what appears to be a Travelers lab form along with a cover letter. At times, however, the Travelers author commented upon the condition of the dust samples upon receipt (improper packaging, contamination of samples, breakage in route). The form report itself gave the J-M plant location, method of dust collection, insurance policy number and type (i.e., "group") the dates the samples were received and analyzed, and an "analysis number". The system used by Travelers to assign the analysis number has not yet been determined. The measurements were filled in, and the report, J-M's sample forms, and the empty flasks were

returned to J-M. */ Unfortunately, a large number of the cover letters and J-M sample sheets were missing from the reports I reviewed. This fact has hampered the effort to determine whether Travelers could observe the same locations/jobs over time and thus be charged with knowledge that some were consistently above TLV over time.

After some point J-M began to conduct its own industrial hygiene surveys i.e., analysis as well as sample taking. The Asbestos (Quebec) plant and Jeffrey Mine were the earliest to acquire the facilities to actually analyze plant dust (date). Waukegan began analyzing dust samples at its own facilities sometime in 1956.

FOLLOW UP

My next tasks will require a review of the correspondence and memoranda accompanying the surveys. It must be ascertained, whether (a) Travelers was able to recognize the locations of the samples; (b) Travelers was able to conclude that certain stations were consistently or repeatedly over the limit; (c) Travelers was, in fact, concluding that some areas were consistently high. Prior to 1951, there was apparently no attempt by J-M to permanently identify sample stations. Thus, samples taken at one station in two separate surveys would be assigned two different

*/ It appears that roughly 20% of the samples analyzed by Travelers disclosed exposures in excess of 5MPPCF.

and apparently arbitrary sample numbers. Portions of the internal J-M correspondence concern the attempt to standardize the sample numbering system, and I will do a follow up project regarding this.

We are also in the process of reviewing the computer data base to determine whether additional insurer dust counts have been located during the document production. If so, we will supplement the notebooks and update the attached table as needed.

cc: CMC
DMS
J-M Knowledge Cluster
Insurer Knowledge Cluster
Helen L. Marsh
Sara E. R. Page

DUST COUNTS

<u>Year</u>	<u>Plant</u>	<u>Surveys</u>	<u>Conducted By</u>	<u>Total # Samples</u>	<u># Over 5.0mppcf</u>	<u># Over 1.0mfpcf</u>
1929	Manville	1	Metropolitan Life	35	3	--
1931	Manville	1	Metropolitan Life		Free silica and chemical analysis	Free silica and chemical analysis
1934	Manville	1	Metropolitan Life	70	30	--
1938	Pittsburg	1	Metropolitan Life	30	19	--
1944	Asbestos	1	Ministry of Health and Social Welfare	6	5	--
1945	Asbestos	1	Metropolitan Life jointly with Saranac Labs	67	37	25
1946	Asbestos	1	J-M	71	16	--
1950	Manville	1	Metropolitan Life	6	0	--
	Richmond	1	Metropolitan Life	11	2	--
	Waukegan	1	Metropolitan Life	13	10	--
1951	Alexandria	1	Travelers	42	1	
	Asbestos	1	Travelers	16	6	--
		1	Ministry of Health	14	11	--
		3	Province of Quebec, Department of Mines	42	39	
		1	J-M	2	2	--

<u>Year</u>	<u>Plant</u>	<u>Surveys</u>	<u>Conducted By</u>	<u>Total # Samples</u>	<u># Over 5.0mppcf</u>	<u>#Over 1.0mfpcf</u>
1952	Manville	1	Metropolitan Life	4	4	3
		4	Travelers	64	16	*
	Waukegan	1	Travelers	9	4	*
	Asbestos	1	Saranac Labs	28	10	
		1	J-M			
		5	Travelers	93	7	2
	Jeffrey Mine	4	Travelers	209	95	14
		4	J-M			
	Lompoc		Travelers	7	1	--
	Manville	6	Travelers	127	46	14
		1	J-M			
	Marrero	3	Travelers	65	15	--
	Watson	2	Travelers	20	1	1
	Waukegan	8	Travelers	48	23	*
	Pittsburg	1	Travelers	12	4	--
1953	Asbestos	2	Travelers	37	32	*
		4	J-M			--
	Los Angeles	2	Travelers	14	4	0

*Travelers used thousand fibers per cubic foot here

<u>Year</u>	<u>Plant</u>	<u>Surveys</u>	<u>Conducted By</u>	<u>Total # Samples</u>	<u># Over 5.0mppcf</u>	<u>#Over 1.0mfpcf</u>
	Manville	2	Travelers	33	13	0
	Pittsburg	1	Travelers	20	2	*
	Watson	2	Travelers	32	7	*
	Waukegan	9	Travelers	89	18	*
1954	Asbestos	6	Travelers	139	37	*
		4	J-M	20	2	--
	Jeffrey Mine	3	Travelers	115	73	*
		1	J-M	12	5	--
	Manville	14	Travelers	326	66	29
	Waukegan	34	Travelers	432	73	8
	Pittsburg	2	Travelers	35	19	--
1955	Asbestos	2	Travelers	62	9	0
		1	J-M			0
	Jeffrey Mine	2	Travelers	45	8	0
	Manville	9	Travelers	30	13	5
	Marrero	4	Travelers	65	15	3
	Waukegan	73	Travelers	525	75	25
1956	Asbestos	7	Travelers	124	18	3
		2	J-M			

*Travelers used thousand fibers per cubic foot here

<u>Year</u>	<u>Plant</u>	<u>Surveys</u>	<u>Conducted By</u>	<u>Total # Samples</u>	<u># Over 5.0mppcf</u>	<u>#Over 1.0mfpcf</u>
1957	Jeffrey Mine	4	Travelers	105	55	11
		1	J-M			
	Manville	12	Travelers	168	45	17
	Marrero	3	Travelers	32	9	0
	Waukegan	50	Travelers	487	45	0
		1	J-M			
	Asbestos	31	Travelers	19	10	2
		1	Department of Mines	63	16	--
		2	J-M			
	Jeffrey Mine	1	Travelers	39	4	0
		7	J-M			
	Los Angeles	1	Travelers		Free Silica analysis	
	Manville	14	Travelers	153	36	11
	Marrero	3	Travelers	42	13	3
1958	Pittsburg	1			Free Silica and chemical analysis	Free silica and chemical analysis
	Waukegan	73	Travelers	393	47	12
	Alexandria	1	Travelers	53	0	0
	Asbestos	4	Travelers	56	21	7

*Travelers used thousand fibers per cubic foot here

<u>Year</u>	<u>Plant</u>	<u>Surveys</u>	<u>Conducted By</u>	<u>Total # Samples</u>	<u># Over 5.0mppcf</u>	<u>#Over 1.0mfpcf</u>
		2	J-M			
	Jeffrey Mine	3	Travelers	120	36	
	Manville	21	Travelers	223	64	4
		2	J-M			
	Marrero	1	Travelers	4	3	1
	North Bay	1	Travelers	4	4	0
	Waukegan	8	Travelers	16	2	0
		15	J-M			
1959	Jeffrey Mine	3	J-M			
	Manville	9	Travelers	84	11	0
	Waukegan	26	Travelers	299	18	5
		12	J-M			
1960	Jeffrey Mine	1	Travelers	11	0	0
	Waukegan	40	Travelers	304	24	0
1961	Jeffrey Mine	16	J-M			
	Marrero	4	Travelers	38	1	0
	Waukegan	16	Travelers	107	7	1
		26	J-M			
1962	Jeffrey Mine	1	J-M			

*Travelers used thousand fibers per cubic foot here

<u>Year</u>	<u>Plant</u>	<u>Surveys</u>	<u>Conducted By</u>	<u>Total # Samples</u>	<u># Over 5.0mpcf</u>	<u>#Over 1.0mpcf</u>
	Waukegan	1	Travelers		Free silica analysis	Free silica analysis
1963	Asbestos	2	Travelers	28	13	2
	Houston (fibreglass)	4	Texas Employer's Insurance Assn.	16	0**	--
	Jeffrey Mine	9	J-M			
	Marrero	2	J-M			
1964	Houston	2	Texas Employer's Insurance Assn.	8	0**	--
	Waukegan	1	Travelers		Free silica analysis	Free silica analysis
1965	Houston	1	Texas Employer's Insurance Assn.		Accoustical survey	Accoustical survey
	Marrero	1	J-M			
	Nashua	1	J-M			
	Waukegan	1	J-M			
1966	Asbestos	1	J-M			
	Jeffrey Mine	10	J-M			
	Marrero	1	J-M			
1967	Marrero	1	J-M			
1968	Several					
1969	accoustical surveys					

*Travelers used thousand fibers per cubic foot here

<u>Year</u>	<u>Plant</u>	<u>Surveys</u>	<u>Conducted By</u>	<u>Total # Samples</u>	<u># Over 5.0mppcf</u>	<u>#Over 1.0mfpcf</u>
1970	Reeves Mine	4	J-M			

*Travelers used thousand fibers per cubic foot here

Industrial Hygiene

- Surveys (See Jeffrey Mine Documents; Dust Control Surveys; and Dust Counts) Ambient air sampling in the City of Black Lake, 74; Ambient air sampling in the City of Thetford mines, 74; 73 Environmental Control Program; 70 Industrial Hygiene Survey; Environmental Control Report 72 vs. 75, Corporative Results; Safety Eqmpt. Notice 68; memo- Work performed by industrial Hygiene Section for outside companies; 72 presentation to pipe plants; memos Asb. Stations over 2.0 f/cc, 1/21/74, 2/8/74, 6/1/74, 9/1/74; listings of industrial hygiene records on microfilm; correspondence 46-85.

7-
0
8