ASBESTOS IN THE WATER SUPPLIES OF THE TEN REGIONAL CITIES

FINAL REPORT

PART I - SUPPLEMENT

EPA-560/6-76- 017

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JUNE 1976

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE of TOXIC SUBSTANCES
WASHINGTON, D.C. 20460

ASBESTOS in the WATER SUPPLIES of the TEN REGIONAL CITIES

Final Report - Part I - Supplement

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EPA Contract No. 68-01-2690

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For

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June 1976

Asbestos in the Water Supplies of the Ten Regional Cities

Supplement

On 22 April 1976 a report was issued recording the results of the analysis of water samples from the Ten Regional Cities. Since issuing that report additional data has been obtained on replicate samples. This data is now presented in tabular form.

Data on water samples from the Delaware and Schuylkill rivers and from Wissahickon Creek in the vicinity of Philadelphia are also presented.

City of Boston

Sample	Date	f.p.l. ($x10^6$)	μg/l	Comments
Norumbego Station				
Raw	7.25.75	0.33 (C)	0.001	Only 3 particles found
		0.78 (A)	0.349	
Chlorinated	7.25.75	1.1 (C)	0.114	
		0.2 (A)	0.111	Only 2 particles found
Norumbego Station				
Raw	10.17.75	5.0 (C)	1.38	
		0.25 (A)	0.003	Only 2 particles found
Chlorinated	10.17.75	0.55 (C)	0.086	
		0.05 (A)	0.003	Only 1 particle found

City of Philadelphia

Sample	Date	f.p.l. ($x10^6$)	μg/l	Comments
Queen Lane				
Raw	5.14.75	130 (C)	3.49	Murchio data
		4 (A)	2.66	
Finished	5.14.75	2.2 (C)	0.12	Murchio data
		0.05 (A)	0.002	only 1 particle found
Belmont				
Raw	5.14.75	33 (C)	1.01	Murchio data
		2.7 (A)	1.44	only 4 particles found
Finished	5.14.75	0.5 (C)	0.191	McCrone data
				only 4 particles found
Torresdale				
Raw	5.14.75	78 (C)	2.33	Murchio data
Finished		25 (C)	0.19	Murchio data
		0.4 (A)	0.464	only 2 particles found

City of Philadelphia

Sample	Date	f.p.l. ($x10^6$)	μg/l	Comments
Queen Lane				
Raw	10.27.75	27.05 (C)		Murchio data
Finished	10.27.75	3.4 (C)	0.088	McCrone data
	10.27.75	16 (C)	0.579	Murchio data
Belmont				
Raw	10.27.75	550 (C)	4.0	McCrone data
	10.27.75	3.3	1.19	Murchio data *
Finished	10.27.75	0.5 (C)	0.191	McCrone data only 4 particles found
	10.27.75	32 (C)	7.99	Murchio data
		0.8 (A)	0.758	Murchio data only 4 particles found
Torresdale				
Raw	10.27.75	220 (C)	10.2	McCrone data
	10.27.75	110 (C)	2.02	Murchio data
		2 (A)	15.1	Murchio data only 2 particles found
Finished	10.27.75	38 (C)	0.937	Murchio data
		0.8 (A)	0.758	Murchio data only 4 particles found

* Murchio's lab notes on this sample indicate an uneven loading of the sample - "Very clean except for a patch of 2 fields x 4 fields which were heavily loaded ...". He believes this is a problem of distribution on this particular filter. He records 20 fields examined and this area was used in the calculation. Only 1 field is listed under "measurements", thus the figure could be low by a factor of 20. He believes this data is unreliable and should be discarded. We agree with him but have presented it as a matter of record.

River Samples - Philadelphia area

Sample	Date	f.p.l. ($x10^6$)	μg/l	Comments
Delaware River				
pt 13	3.30.76	BDL (0.26)		sampling points correspond with City of Philadelphia sampling points
pt 14	3.30.76	BDL (0.30)		
pt 18	3.30.76	2.9	.013	
pt 23	3.30.76	BDL (0.26)		
Delaware River				
pt 7	4. 1.76	BDL (0.25)		
pt 13	4. 1.76	0.5	0.05	only 2 particles found
pt 14	4. 1.76	BDL (0.25)		
Schuylkill River				
	4. 1.76	30	0.21	at Betzwood Bridge
	4. 1.76	27	4.64	at Fayette St. Bridge
Wissahickon Creek				
	4. 1.76	4.0	.134	Bluebell Road only 3 particles found
	4. 1.76	BDL (1.6)		Morris Road
	4. 1.76	2.6	.013	Ridge Road only 2 particles found

Figures in parentheses are detection limits

All asbestos detected was chrysotile.

City of Atlanta

Sample		Date	f.p.l. (x 10^6)	μg/l	Comments
Water Quality Control Center					
	Raw	4.3.75	310.6 (C)	0.438	
		4.3.75	290 (C)	10.92	Murchio data
		4.3.75	2.8 (A)	1.29	only 1 fiber found
	Finished	4.3.75	63 (C)	0.122	
			1.2 (A)	2.41	
Water Quality Control Center					
	Raw	11.28.75	BDL		Detection limit 0.8 x 10^6 f.p.l.
	Finished	11.28.75	0.1 (C)	< 0.001	only 2 particles found
			0.05 (A)	0.17	only 1 particle found

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

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16. ABSTRACT

The Office of Toxic Substances of the Environmental Protection Agency has sponsored a Nationwide survey to determine the impact of point and non-point sources on waterborne sources of asbestos. This survey covers both natural sites, in which asbestos containing rocks are prevalent, and man-made sources (plants producing asbestos-containing products). Additionally it provides for sampling water supplies in a number of cities and towns.

Part I of the final report presented the results of the analyses of water from the ten cities housing Regional Headquarters of the Environmental Protection Agency and indicated that asbestos fibers were found in the raw and/or finished water at Boston, Philadelphia, Atlanta, Seattle and San Francisco.

This report records the results of additional analyses for the cities of Boston, Philadelphia and Atlanta and for selected points on the Schuylkill and Delaware Rivers and Wissahickon Creek, in the vicinity of Philadelphia.

17. KEY WORDS AND DOCUMENT ANALYSIS

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