

Southeastern Operations

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Clayton
ENVIRONMENTAL
CONSULTANTS

October 19, 1992

Ms. Darlene S. Creel
DOW CHEMICAL
Industrial Hygiene, Building 3502-W
P. O. Box 150
Plaquemine, Louisiana 70765-0500

Clayton Project No. 44372.00
Purchase Order No. 1588298
MSI No. 163110
Lab Report No. 92J037

Dear Ms. Creel:

Attached is our analytical report for the samples received on October 15, 1992.

Please note that any unused portion of the samples will be disposed of in 30 days, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please call me.

Sincerely,



Owen S. Crankshaw
Supervisor, Microscopy Services
Southeastern Operations

OSC/bjm

Attachment

DO A 114696
CONFIDENTIAL

**Results of Analysis of Bulk
Samples for Asbestos Content
for
Dow Chemical Company**

**Clayton Project No. 44372.00
Kennesaw Lab Report No. 92J037
October 19, 1992**

Lab Sample No.	Client Sample Identification	Sample Description	% and Type Asbestos	% and Type Non-asbestos Fibers	Type Non-fibrous Materials
47049	Dumpster Core Sample	Brown fiber & mineral mixture, inhomogeneous	5 Chrysotile	10 Cellulose 30 Fibrous glass	Binder/Filler, Paint, Quartz
47050	Composite Sample	Brown fiber & mineral mixture, inhomogeneous	Trace, <1 Chrysotile	10 Cellulose 40 Fibrous glass	Binder/Filler, Perlite, Quartz, Calcite
47051	#4 - Center of Boiler Floor	Brown fiber & mineral mixture, inhomogeneous	Trace, <1 Chrysotile	20 Cellulose 40 Fibrous glass	Binder/Filler, Calcite, Quartz
47052	#1 - Below Debris	Brown fiber & mineral mixture, inhomogeneous	Trace, <1 Chrysotile	10 Cellulose 25 Fibrous glass	Binder/Filler, Perlite, Quartz
47053	#2 - Below Debris	Brown fiber & mineral mixture, inhomogeneous	Trace, <1 Chrysotile	10 Cellulose 25 Fibrous glass	Binder/Filler, Perlite, Quartz
47054	#3 - Below Debris	Brown fiber & mineral mixture, inhomogeneous	Trace, <1 Chrysotile	10 Cellulose 25 Fibrous glass	Binder/Filler, Perlite, Quartz
47055	#4 - Below Debris	Brown fiber & mineral mixture, inhomogeneous	Trace, <1 Chrysotile	10 Cellulose 25 Fibrous glass	Binder/Filler, Perlite, Quartz, Calcite

Clayton Project No. 44372.00
Kennesaw Lab Report No. 92J037

United States Environmental Protection Agency. Environmental Monitoring Systems Laboratory. 1982. *Interim Method for the Determination of Asbestos in Bulk Insulation Samples*. EPA-600/M4-82-020. Washington: GPO, December.

Percentages are visual estimates based on volume.

Limit of Detection: <1%

Limit of Quantitation: 1%

NOTE: The reliable limit of quantitation of the method is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as "trace, <1%". No asbestos detected (NAD) indicates that no fibers were observed.

Clayton's Kennesaw, Georgia laboratory is accredited by the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program (NVLAP Lab No. 1125-00). This test report relates only to the items tested and may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

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ANALYTICAL METHOD FOR ASBESTOS IN BULK SAMPLES USING POLARIZED LIGHT MICROSCOPY (PLM)

A representative portion of the bulk sample is transferred to a small dish. The sample is examined under a stereo-microscope at 10 to 40 X magnification to determine if the material is fibrous and to note the physical characteristics of the sample. If fibers are present, fiber morphology is noted.

Forceps are used to extract fibers from the sample. At least one fiber representative of each type observed in the sample under the stereomicroscope is extracted and mounted on a microscope slide using a refractive index liquid (Cargille Series E: HD [high dispersion]).

After mounting, the fibers are analyzed and identified using polarized light microscopy (PLM) supplemented by dispersion staining. After fiber identification using PLM, a visual estimate is made of the percent composition by type of asbestos present and by type of other fibrous materials identified. The visual estimate is based on volume and is accomplished using stereomicroscopic examination of the bulk sample.

References

McCrone, Walter C. 1980. *The Asbestos Particle Atlas*. Ann Arbor, MI: Ann Arbor Science Publishers, Inc.

United States Environmental Protection Agency. Environmental Monitoring Systems Laboratory. 1982. *Interim Method for the Determination of Asbestos in Bulk Insulation Samples*. EPA-600/M4-82-020. Washington: GPO, December.

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