

PLAINTIFF'S
EXHIBIT
DUP-1783

ASBESTOS CONFERENCE
TEXTILE FIBERS DEPARTMENT
NOVEMBER 17-18, 1983
RICHMOND, VIRGINIA
LABORATORY ANALYSIS

DUP 1013056

DU 053544

LABORATORY ANALYSIS FOR ASBESTOS

Question 1. Are asbestos samples analyzed on the site?

	<u>Qualitative for Identification</u>	<u>Quantitative for Airborne Asbestos Level</u>
Cape Fear	Yes ¹	No
Waynesboro	Yes	No
Cooper River	No	No
Chattanooga	No	No
Richmond	No	No
Seaford	No	No
Martinsville	No	No
Kinston	No	No
Old Hickory	No	Yes ²
Camden	No	No

¹ SKC screening kit

² All fibers counted

DUP 1013057

DU 053545

Question 2. Samples are sent off-site for

	<u>Identification</u>	<u>Determination of Airborne Asbestos Level</u>
Cape Fear	Yes	Yes
Waynesboro	Yes	Yes
Cooper River	No	Yes
Chattanooga	Yes	Yes
Richmond	Yes	Yes
Seaford	Yes ¹	Yes
Martinsville	Yes	Yes
Kinston	Yes ²	Yes
Old Hickory	No ³	No ³
Camden	Yes ¹	Yes

¹ Analysis on request, generally from a bulk sample.

² Selective samples from each job.

³ Not routinely sent off-site.

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Question 3. List the off-site laboratories you have used and give your assessment of each lab's performance.

Cape Fear

Marshall Lab --Excellent
Haskell Lab - Good, cost high
Clayton Environmental - Very good

Waynesboro

Hagar Lab (Denver) - Good
Analytics (Richmond) - Good

Cooper River

Clayton Environmental Consultants - Good

Chattanooga

Anderson-Nichols
Hager Laboratory

Richmond

Analytics (Richmond) - Certified lab used by Haskell to handle their overflow of asbestos counting work.

Seaford

Marshall Lab - Used until ~ 1 1/2 years ago.
Haskell Lab - They do well now that they have proper equipment.

Martinsville

Haskell - Good, but slow!
Analytics (Richmond) - Good and fast! Currently using.

Kinston

Clayton Environmental Consultants - Good
Haskell Lab - Used on occasion. Satisfactory (slower turn around and subcontracting some of the samples).

Old Hickory

Haskell (for identification) - Good
Clayton Environmental (for level) - Good
Nalsco (for level) - Good

Clayton and Nalsco used to cross-check on-site analysis.

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Question 4. For each laboratory (on- or off-site), indicate the analytical method used and the level of sensitivity.

Cape Fear

NIOSH 239 EAM 9537
3000 fibers per filter; < 0.01 fibers/cc.
Du Pont recognizes ~ 0.1 fiber/cc detection level to be significant.

Waynesboro

On-plant - GLO test and K₂
Hager and Analytics - NIOSH Procedure P & CAM 239
COV based on total fiber count.

Cooper River

NIOSH P & CAM 239
3000 fibers/filter

Chattanooga

Hager - NIOSH Procedure P & CAM 239 using 450 power polarizing and phase contrast microscopy.

Richmond

Phase contrast - counting
Polarized light - identification

Seaford

Haskell Lab counts fibers/cc per P & CAM 239 (NIOSH) using phase contrast microscope.
The minimum detection limit is 0.01 fiber/cc.

When we ask for determination: Is it asbestos? If so, what type? and how much? (%) Haskell uses a polarized light microscope/dispersion staining method.

Martinsville

NIOSH - light microscope

Kinston

Clayton Environmental Consultants
(1) Fiber count - Phase contrast microscopy - 3000 fibers/filter
(2) Fiber I.D. - Polarized light microscopy - 3000 fibers/filter

Haskell methods - same as above.

Phase contrast microscopy - 0.01 fiber/cc (329 fibers/filter)
Polarized light microscopy - 1%

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Question 4. (Continued)

Old Hickory

Membrane filter method

Camden

NIOSH P & CAM 239

Limit of detection 0.01 fiber/cc (3000 fibers/filter)

DUP 1013062

DU 053549

Question 5. When is analysis made specifically for asbestos?

	<u>Every Sample</u>	<u>Only When AEL Exceeded</u>
Cape Fear	No	Yes ¹
Waynesboro	Yes	---
Cooper River	No	Yes
Chattanooga	Yes	---
Richmond	Yes	---
Seaford	Yes	---
Martinsville	If requested	Yes ¹
Kinston	Selected samples from each job	
Old Hickory	No	Yes ² .
Camden	No	Yes ^{1, 3}

¹ AEL has never been exceeded; if this occurs, specific analysis will be made.

² Or if unusually high but not out of limits.

³ Or if identity as "asbestos" or "non-asbestos" needed.

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Question 6. What is the usual response time from the laboratory currently analyzing your samples?

	Days From Time Sample Collected	
	<u>Emergency Samples</u>	<u>Routine Samples</u>
Cape Fear	6-7	14
Waynesboro	---	7
Cooper River	---	7
Chattanooga	30	30
Richmond	1 ¹	7
Seaford	2-3	14
Martinsville	3	10
Kinston	3	14-21
Old Hickory	---	20 ²
Camden	3	20-30

¹ "Priority analysis" cost 50% more.

² Run by groups rather than as received.

Question 7. Average cost per analysis

	<u>Qualitative</u>	<u>Quantitative</u>
Cape Fear	\$30	\$25
Waynesboro	---	1-5 \$40, 6-19 \$35, 20 + \$30 ¹ 1-5 \$30, 6 + \$25 ²
Cooper River	---	\$25
Chattanooga	\$36	\$20
Richmond	1-5 \$30, > 5 \$25	1-5 \$27, > 5 \$24
Seaford	\$35	\$35
Martinsville	\$25	\$25
Kinston	\$50	\$25
Old Hickory	\$40	\$50
Camden	\$35	\$35

¹ Hager Laboratory

² Analytics

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DU 053552

Question 8. For each sample collected, is associated job identified as involving asbestos or non-asbestos material?

Cape Fear - Yes

Waynesboro - No compre¹

Cooper River - Yes

Chattanooga - Yes

Richmond - Yes

Seaford - Yes¹

Martinsville - Yes

Kinston - Yes

Old Hickory - Yes

Danden - Yes¹

¹ We usually know it's asbestos. If unsure, we will send a bulk sample to find out.

DUP 1013066

DU 053553

Question 8. For each sample collected, is associated job identified as involving asbestos or non-asbestos material?

Cape Fear - Yes

Waynesboro - No compre¹

Cooper River - Yes

Chattanooga - Yes

Richmond - Yes

Seaford - Yes¹

Martinsville - Yes

Kinston - Yes

Old Hickory - Yes

Camden - Yes¹

¹ We usually know it's asbestos. If unsure, we will send a bulk sample to find out.

DUP 1013067

DU 053554

Question 9. Are employees informed of analysis results? If "yes", all employees or only those involved with the particular job?

	<u>Employees Informed?</u>	<u>All Employees?</u>	<u>Only Employees Involved with Job?</u>
Cape Fear	Yes	No	Yes
Waynesboro	Yes	No	Yes
Cooper River	Yes	Yes	---
Chattanooga	Yes	(1)	(2)
Richmond	No	(3)	(3)
Seaford	Yes	No	Yes(4)
Martinsville	Yes	(5)	(5)
Kinston	No(6)	---	---
Old Hickory	Yes(6)	No	Yes(6)
Camden	Yes(6)	No	Yes(6)

- (1) An Insulator records sample results in file in Insulation Shop. Information is available to anybody who wants to see it.
- (2) If sample is above limit, person exposed is informed in writing as required by law.
- (3) Only if TLV exceeded and annual summary during the training program.
- (4) This is usually done informally.
We had one job where the air sample analysis was ~ 3.5 fibers/cc, which exceeds the allowance of 2.0 fibers/cc (8 hr. TWA). Therefore, in accordance with policy we formally notified the 5 employees by letter and had them initial/date a copy for the employee's personal folder. Naturally, the letter also pointed out that they were not over-exposed since they were all wearing respirators.
- (5) Can be both if sample representative of group.
- (6) If result exceeds the limit or employee requests the information (or, at Old Hickory, employee's Union representative requests the information).

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Question 10. If employees are notified of analysis results, how is this information transmitted?

Cape Fear

Written notification. Permanent record for Area personnel file for the individual.

Waynesboro

By supervisor.

Cooper River

- (1) Through contractor (Industrial Hygiene Data Sheet)
- (2) Copy to Area (Info transmitted through Shift Log)

Chattanooga

An Insulator records sample results in file in Insulation Shop. Information is available to anybody who wants to see it. If sample is above limit, person exposed is informed in writing as required by law.

Richmond

Personally or on bulletin board.

Seaford

Usually orally by the employee's supervisor. If allowable limit exceeded, employees involved are notified by letter. They initial/date a copy of the letter for their personal folders.

Martinsville

Copy of Air Sampling Report sent to appropriate supervisor with instructions to inform employee(s) listed of the results and to file a copy of the report.

Kinston

Employees not notified unless result exceeds the limit or employee requests to see the information.

Old Hickory

If requested by employee or his Union representative, supervisor gives results. If result out of limits, individual(s) notified by letter from immediate supervisor.

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Questions 10 (Continued)

Camden

Supervisor maintains file of sampling/analysis reports. Upon request, information is given to employee. If result ever obtained which exceeds allowable limit, all employees assigned to job will be notified in writing and notification documented in employee's folder, in Area file, in SHEA file, in Medical file.

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DU 053557

Question 11. Are results reviewed by site management? If "yes",
how frequently?

	<u>Reviewed?</u>	<u>Frequency?</u>
Cape Fear	Yes	At least annually
Waynesboro	Yes	---
Cooper River	Yes	Quarterly
Chattanooga	Yes	Monthly
Richmond	No ¹	---
Seaford	Yes	Quarterly
Martinsville	Yes	Monthly
Kinston	No ²	---
Old Hickory	Yes	Quarterly
Camden	Yes	Monthly

¹ SHEA reviews after each sampling job.

² Management notified of out-of-limits data.

Question 12. List and briefly explain other items pertinent to laboratory analysis for asbestos.

Cape Fear

Have not completed an in-depth study of the various forms of asbestos present on the site.

Waynesboro

Cooper River

Chattanooga

Richmond

Seaford

Martinsville

Are laboratories certified by acceptable agency?

Kinston

Old Hickory

Our devise is TV monitor for counting fibers.

Camden

DUP 1013072

DU 053559

SUMMARY

- 2 locations do on-site identity analyses.
- 1 location (neither of the above) does on-site quantitative analyses; does not send samples off-site for identification.
- Analytical results from all labs (on- or off-site) rated good to excellent.
- Response time from Haskell poor; others o.k.
- All labs use NIOSH P & CAM 239; detection limit 0.01 fiber/cc.
- 4 sites have every sample analyzed specifically for asbestos; 5 sites only when AEL exceeded; 1 site selected samples from each job.
- Response time for emergency samples varies from 1 day to 30 days; for routine samples from 7 to 30 days.
- Cost/sample ranges from \$25 to \$50 for qualitative analysis; \$20 to \$50 for quantitative analysis.
- For each sample collected, all sites identify the associated job as involving asbestos or non-asbestos material.
- 1 site informs all employees of analysis results; all sites inform employees involved with the job in writing if AEL exceeded or if employee (or representative) requests.
- Employee notification system peculiar to each site.
- 2 sites review only results > AEL with management; 3 review monthly; 4 quarterly; 1 at least annually.

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DU 053560