PLAINTIFF'S EXHIBIT
WRG-1593a

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Agency	Action	Time Horizon	Present State of Zonolite Compliance	Scenario
Federal or State OSHA	Required to bring all expanding plants into compliance with OSHA standards - 2F/ml for TWA	1972 → 1978?? required exists	Most expanding plants NOW meet standards Several (95) do not but can be brought into compliance	Federal or State OSHA officials inspect or reinspect remaining pl and require complian
Federal or State OSHA	Required to bag expanding plant waste i.e. stown rock	1972 →?? required exists	Zonolite is not complying at this time	Federal or State OSHA officials inspect and require compliance Generally only necessary if subcon are excessive
California State OSHA	Prohibited from selling Monokote in California via the Mare Act	1976 →?? regulations exist	Zonolite is not complying at this time.	1) Possible criminal action some District Attorn 2) Fireproofers won't use product unless certific asbestos free
California State OSHA	Effectively prohibited from selling any Libby based products in California	1976 →? regulations exist	Zonolite is not complying at this time	California OSHA offi require strict complia fiber standards, labeli waste disposal regulat
State OSHA or Local Building Authorities	Prohibited from selling Monokote in New York or other Metropolitan Areas	Present →?? regulations exist	Zonolite is not complying at this time	More & more local building authorities are banning use of asbestos - our is growing
Customers	Customers begin to refuse products made from Libby concentrate	Present → already happening	Zonolite is supplying specific customers with SC concentrate Customer pays freight	As customers become of asbestos in Libby p more & more want SC material
Federal or State OSHA	Required to label all products containing Libby concentrate	1972 → regulations exist	Zonolite is labeling unexpanded concentrate but not any expanded concentrate	During inspection or re OSHA may require the labeling of all b
MESA or OSHA	Libby forced to meet proposed 2F/ml standard	1978 →?	Libby is coming close to present 5F/ml standard & can meet 2F/ml standard	MESA is folded into c or adopts its sta likely but not sure when 13060000

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SCENARIO	REPERCUSSIONS	SOLUTIONS	C
[illegible]deral or State OSHA [illegible]fficials inspect or [illegible]inspect remaining plants [illegible]nd require compliance	We are forced to upgrade the remaining plants - slightly increased capital and depreciation	Spend the money to upgrade the plants - when & where required	$10[illegible] 2 p[illegible]
[illegible]ederal or State OSHA officials inspect and require compliance [illegible]ally only necessary if airborne levels are excessive	Forced to install stower rock bagging equipment then find a means of disposal. Difficult to find disposal areas.	Spend the money to install the equipment where & when required	≈ p
[illegible] Possible criminal action by some District Attorney 2) Fire proofers won't use our product unless certified asbestos free	1) Loss of Monokote sales in California 192 sales = 2,527,155 2) Bad Publicity - snowballing 3) Actual legal action unlikely	1) Reformulate monokote from S.C. concentrate 2) Reformulate monokote without vermiculite 3) abandon Calif market	Re[illegible] cc [illegible] Cm
[illegible]al Fraser OSHA officials require strict compliance to fiber standards, labeling waste disposal regulations etc	1) loss of California sales 1976 = 4,641,404 2) Bad Publicity - snowballing 3) Concentrate Balance	1) Ship SC concentrate to California 2) retreat from California MCC Poly also	
[illegible]re & more local building [illegible]thrities are banning the [illegible]se of asbestos - our exposure is growing	1) loss of Monokote sales 1976 = $10,163,983 2) Bad Publicity - snowballing	1) Reformulate monokote with SC concentrate or without vermiculite 2) abandon Monokote	[illegible]
As customers become aware of asbestos in Libby products more & more want SC. material	1) Drop in sales of Libby products - shrink Libby 2) Severe concentrate balance problems	1) As required and is possible supply these customers from S.C. 2) Shrink Libby	[illegible]
During inspection or reinspection OSHA may require the labeling of all bags	1) Drop in sales of products magnitude unknown 2) Adverse publicity Lawsuits	1) No easy solution 2) Shrink Libby 3) Close Libby & shrink to a regional basis	
MESA is folded into OSHA or adopts its standards. likely but not sure when	Forced to spend the money to upgrade the mine & mill	1) Spend the money Necessary 2) Close Libby	≈

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	REPERCUSSIONS	SOLUTIONS	COST CAPITAL	COST OPERATING
	We are forced to upgrade the remaining plants - slightly increased capital and depreciation	Spend the money to upgrade the plants - when & where required	$100,000 to 200,000 per plant	
b	Forced to install stoner rock bagging equipment then find a means of disposal. Difficult to find disposal areas.	Spend the money to install the equipment where & when required	≈ $20,000 per plant	assume 1/4 an additional man ≈ 2-5k/day
	1) Loss of Monokote sales in California 1976 sales = 2,527,155 2) Bad Publicity + snowballing 3) Actual legal action unlikely	1) Reformulate Monokote from S.C. concentrate 2) Reformulate Monokote without vermiculite 3) abandon Calif Market	Reformulation costs ≈ $10,000 + concentrate balance costs	transportation costs ≈ $17.00/ton total ≈ $150,000
ck	1) loss of Calif Mine sales 1976 ≈ 4,641,404 2) Bad Publicity - snowballing 3) Concentrate Balance	1) Ship SC concentrate to Calif Mine 2) retreat from Calif Mine MET Poly also		transportation costs ≈ $17.00/t total = $350,000
e	1) loss of Monokote sales 1976 ≈ $10,163,283 2) Bad Publicity - snowballing	1) Reformulate Monokote with SC concentrate or without vermiculite 2) abandon Monokote	concentrate balance costs	transportation costs
s	1) Drop in sales of Libby products - shrink Libby 2) Severe concentrate balance problems	1) As required and is possible supply those customers from SC 2) Shrink Libby	concentrate balance costs	1) transportation costs 2) large losses at Libby due to volume
	1) Drop in sales of products magnitude unknown 2) Adverse publicity Lawsuits	1) No easy solution 2) Shrink Libby 3) Close Libby & shrink to a regional business	??	1) loss of volume
	Forced to spend the money to upgrade the mine & mill	1) Spend the money Necessary 2) Close Libby	≈ $600,000	

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Agency	Action	Time Horizon	Present Status of Zonolite Compliance	SCENARIO
Federal OSHA	New Asbestos standards issue 8 hr TWA reduced to 1 F/ml or .5 F/ml At most likely, the same time standards for asbestos use in the construction industry issue	1978 → ?? will be a long process	20-25 Expanding plants can almost already meet 1 F/ml standard Libby most likely won't meet 1 F/ml standard	Rule making process has [illegible] standard proposed stand[illegible] was .5 F/ml. [illegible] .1 F/ml Most likely rules for expos[illegible] to asbestos in con[illegible] industry will issue [illegible] same time as those manufacturing
Federal or State OSHA	Enrico Concentrate found to contain asbestos	Present → ??	Enrico concentrate at present has only trace amounts of tremolite	One or several of Enrico's ore deposits found to contain tremolite Zonolite is asked to certify that S.C. concentrate is "asbe[illegible] free"

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of ...mplicance	SCENARIO	REPERCUSSIONS	SOLUTIO
...ndis ... dy meet ...dard ... cdy ...	Rule making process has been started proposed standards was .5 F/ml. 1 OSH wrt .2 F/ml Most likely rules for exposure to asbestos in construction industry will issue at same time as those for manufacturing	Unlikely Libby could meet standards - Close Libby construction industry standards may effectively prohibit the use of Libby based products.	1) Close Libby shrink to a regional ba... 2) Convert sem... expanding ... to perlite 3) remove ... up the tre...
...trate has ...ments ...te	One or several of Enoxs ore deposits is found to contain tremolite Zonolite is asked to certify that s.c. concentrate is "asbestos free"	No asbestos from vermiculite Zonolite cannot certify that sc concentrate is "asbestos free"	1) Mine different deposits 2) Close Enoxs disband Zo...

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	REPERCUSSIONS	SOLUTIONS	COST CAPITAL	COST OPERATING
	Unlikely Libby could meet standards - Close Libby construction industry standards may effectively prohibit the use of Libby based products	1) Close Libby shrink to a regional business 2) Convert several expanding plants to perlite 3) remove or bind up the tremolite	??	??
	No asbestos from vermiculite zonolite cannot certify that SC concentrate is "asbestos free"	1) Mine different deposits 2) Close Ennel & disband zonolite	??	??

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November 12, 1997

County of Norfolk

State of Massachusetts

Affidavit of Dr. David Steven Egilman

"My name is David Steven Egilman. My address is 759 Granite Street, Braintree MA 02134. I am over the age of 18. I have never been convicted of a felony. I am of sound mind and capable of making this affidavit. I have personal knowledge of the following facts:

I went to the W. R. Grace document repository. I reviewed thousands of documents. Among that I found a handwritten six-page document discussing agency action, e.t.c. I asked for the document to be produced. The document was produced to me with sequential bates #'s 762632-762637. True, accurate and authentic copies of these documents bearing these bates numbers have been provided to Mike Kaeske of Barron and Bud. Further affiant sayeth not."

David Egilman, MD, MPH

Subscribed and sworn to me
This 12 day of November, 1997

Diane M. Barbarita

Notary Public
My Commission Expires: 4/2/04