Johns-Manville

Internal Correspondence

To: R. B. Von Wald, Asst. General Counsel
J. A. Brown, Asso. General Counsel

Date: February 4, 1980

From: A. Mayer-Pareyn, Senior Attorney

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Subject: J-M do BRAZIL/HEALTH, SAFETY & ENVIRONMENT/HISTORY

You have requested that in preparation for potential litigation or legislative hearings, I research and summarize the history of J-M Thermobestos operation in Brazil and its health program. The salient facts are that: Johns-Manville Corporation ("JM") obtained control over Magnebras S.A. in 1973, the health, safety and environment program at the Guarulhos plant (the "Plant"), although actively started in 1974, did not become effective until 1977. Production of T-12 at the Paulinha plant started in 1979, and finally the Plant still produces Thermobestos.

This memo is not yet the definitive summary of the relevant events that took place in Brazil. Information from the Brazilian files is still lacking but should be available as soon as John Sydenstricker, now aware of this project, has returned to Brazil.

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I. History of J-M do Brazil

Magnebras S.A. ("Magnebras"), the direct predecessor of J-M do Brazil, was organized and chartered in 1957 primarily to manufacture Magnesia blocks (an asbestos-containing product). In 1959, JM licensed its Fiberglass and Thermobestos technologies to Magnebras. At that time JM had no equity ownership in Magnebras. During the period 1961-1973, JM acquired 46% of Magnebras stock. In 1973, JM acquired the remaining 51% of Magnebras stock. However, the founder of Magnebras, Robert Gill, "ran the show" until July, 1974 when finally JM management took over. On August 2, 1976, Magnebras became JM do Brazil S/A -Isolantes Termicos, that in turn became JM do Brazil Isolantes Termicos Ltda. on December 9, 1977.

The following persons constitute the main cast of characters:

Achilles Bertoldo

6/76: Plant manager in training; 1/1/77 to Present: Plant Manger

G. C. Davis

1/73: Production Manager, LAFE, Denver 1/19/76: Director of Fiber, Glass Manufacturing, LAFE, Denver; 3/14/78: Manager of Operations, General Engineering, Denver; 7/79 to Present: Senior Project Engineer, General Engineering, Denver.

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Robert Gill

1957 to 7/74: President of Magnebras

T. R. Gould

1/1/73-7/74: Manager in Training, Brazil, and Plant Manager, Guarulhos; 7/74: Methods Section Supervisor, Pipe Division, Denver; 11/74: Manager, Division Technological Services, Pipe Division, Denver; 3/75 to Present: Manager of Licensing, Legal Department, Denver.

Cedric Henderson

1971: Plant Manager; 1973 to 6/30/74: Foreign Project Manager, Brazil; 6/30/74: released with separation pay due to business slow down.

H. B. Moreno

1973 to Present: Senior Vice President, International.

Chuck Nelson

1973: Foreign Project Manager, Brazil; 6/19/74-1975 Plant Manager, Brazil; 2/19/77: Superintendent, Products Plant Engineering, Newark, Ohio; 9/19/77: Plant Manager, Natchez; 2/78: Resigned to seek other employment.

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W. B. Reitze

1973: Manager of Industrial Health and Safety; 1974 to Present: Corporate Director, Safety and Environmental Quality; 1974: Advisor re Brazil health and environment program; 1977 and 1978: Trips to Brazil 1977-1978.

Gordon Read

1973 to 7/75: General Marketing Manager for EMAE, Paris; 1/7/75: Genarl Marketing Manager for LAFE.

K. A. Roberts

1/11/74: Environmental Control Coordinator, Latin America and Far East; 5/72 to 3/78: Foreign Project Manager, LAFE International, Denver; 3/78 to Present: Senior Industrial Engineer, General Engineering, Denver.

John Gydenstricker

6/73: Hired as Resident Engineer, Brazil; 1/74: Vice President of Magnebras; 1/77 General Manager, J-M do Brazil.

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II. History of the Health and Safety Program at J-M do Brazil

It would appear that, when licensing its technology to Magnebras, JM made no particular recommendations to R. Gill with regard to health and environment. The files for that period are missing.

According to the statements of those involved, in the Fall of 1970, the Plant was a very dirty operation with no dust collection system.

The Plant was placed under the responsibility of the Fiberglass division from June, 1973 until the end of 1976. Testimonies differ as to the date of installation of the first dust collection system. From an engineering standpoint, it must be assumed that some type of dust collection system, however primitive, had to have been installed when production of Thermobestos started. In addition, respirators were made available to workers but they were not of a type approved by the health authorities and the program was not made mandatory.

Nevertheless, there was in 1974 "a serious asbestos dust control problem at Magnebras". Once JM management took over the operations, JM was "committed to clean up the operations" (G. C. Davis, 7/30/74 memo) and steps were taken to clean up the Plant. Thus, during his 1974 visit to the Plant, H. B. Moreno requested that an appropriation request

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for a dust collection system for the Plant (the "AR") be processed and treated as priority item (G. C. Davis, 7/11/74 memos to C. Nelson and R. Nebel). The A.R. was submitted in July, 1974 and approved in September, 1974. Management investigated alternatives to jute or plastic faced jute packaging of asbestos fiber (G. C. Davis, 7/11/74 memo). A dust control program for the Plant was set forth:

"...1. Provide personnel protection (masks).
2. Attempt to reduce exposure through substitution of Chrysotile for Amosite fiber.
3. Evaluate the potential for T-12 when it is proven domestically. Meanwhile evaluate the available raw materials.
4. Install an adequate dust system...."(G. C. Davis, 7/11/74 memo).

"[The] program for dust control...includes the following:

1. Eliminate the use of amosite fiber through substitution of Chrysotile.
2. Eliminate the use of all open bags (jute or woven plastic).
3. Eliminate those products from the line that require the use of your fiber opener.
4. Obtain design and push for the installation of the dust system per the approved AR.
5. 100% usage of respirators in the affected areas.

"Please prepare a schedule showing completion dates of each of the above....Chuck, we are dead serious that we want this dust problem closed up just as quickly as possible." (G. C. Davis, 10/21/74)

In either 1971 or 1975, the composition of Thermobestos was changed from: Celite 44.8%, Hydrated Lime 44.8%, Amosite 10.4% to: Celite 44.8%, Hydrated Lime 44.8%, Chrysotile 10.4%.

Out of the 115 employees at the Plant qualifying as production workers, 60 were exposed to asbestos. The plant physician, a clinic, did not read chest x-rays and the

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workers' chest x-rays were sent to another medical institution. The asbestos workers were given a physical examination annually (G. C. Davis, 11/11/74). Sometime in 1974 or 1975, the decision was made that the x-rays, then 6 by 5 cm., be enlarged.

During 1974, respirators of a type approved by U.S. authorities were made available to the workers but the wearing of those was not made mandatory (G. C. Davis 7/11/74 memo to R. Nebel).

In 1975, the practice of opening up the raw fibers before using them in the manufacture of Thermobestos was discontinued and consequently the hammermill, a producer of dust, was closed. The foregoing decision was based upon health and environmental considerations.

In 1976, the dust collection system was installed but was not in service because further design had to be mapped out and executed in Brazil.

In July, 1976, warning labels were placed on Thermobestos products and they read as follows:

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ATTENTION

The inhalation of dust of any material
can be seriously harmful to your health.
The dust of calcium silicate is no exception.

THEREFORE AVOID CREATING DUST

If you smoke, your risk can be even greater.
We recommend the use of a respiratory
mask when in the presence of dust.

*Johns-Manville Safety Compaign, Sao Paulo, July, 1976.
[Translaton from Portuguese]

Airborne Asbestos Fiber samples were taken at the Plant sometimes in 1976 and "the results of the samples taken show that all the stations are below the present OSHA TLV of 2.0 F/CC. Numerous particulates were observed on the samples, but very few fibers" (D. R. Christensen, 8/16/76 memo to K. A. Roberts).

In spite of the foregoing, H. B. Moreno commenting on a January, 1977 trip to Brazil, stated:

> "...(5) Although improved over earlier visits, the plant operation was somewhat disappointing. If anything, we have gone backwards in environmental practices. The dust collection system is in place but not connected. Some workers in key places, such

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as bagging cement, were not wearing respirators. Warning signs and zones are no longer indicated for hearing protection, as required, near the hot end of the P.T. unit.

"(6) We were encouraged to observe insulation workers at the Rio shipyards wearing respirators when applying material in confined spaces. However, this is not the general practice on insulation jobs.

Recommended program:

"(1) Capability of plant manager, Achilles, must be evaluated. He has defied certain key programs, such as connecting the dust collection system, impoved maintenance,---which he has promised to complete during the first quarter of 1977. He presently has no real concern about the environmental program involving respirators, etc. and must be forcefully directed. John Sydenstricker has promised to do this....

"(5) We believe an environmental hygiene program can and should be implemented to encourage workers' use of respirators when required. A sound slide training program should be developed quickly. We envision it being built around the warning labels now attached to all cartons of Thermobestos. It should stress the effect of breathing dust, smoking, work practices, etc. If possible, disposal masks should be imported to replace the respirators currently being used since they are uncomfortable to wear for long periods of time....

General:

"We would see overall strategy as completing the first stage of the new plant expansion within two years, operating both plants for a period of time until Thermo-12 is successfully produced and accepted. Within three to four years, Thermobestos production at Guarulhos can be phased out. In the meantime, production and environmental procedures at that location must be optimized." (H. B. Moreno, 1/19/77, memo to file)

Immediately after H. B. Moreno's visit, Plant management started carrying out the health and environment program. During January and February, 1977, the Plant workers were informed of all the health dangers incurred in working with asbestos and all changes in work practices, as well as the benefits they would derive from those changes, were

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explained to them. On February 17, 1977 a statement of recommended work practices was issued to, read to, and signed or marked by all workers. The workers were specifically told that after a probationary period (March, 1977) they would be dismissed for not complying with the new work practices. An audio-visual training program on asbestos hazards and proper work practices was prepared and presented to the workers. (Miguel Leeman had delivered and shown the American version to Plant management on 2/15/77.) And in his May 2, 1977 report of his recent trip to the Plant, W. B. Reitze stated:

> "Achyles Bertoldo, as well as John Sydenstricker, should be congratulated on the progress that they have made in cleaning up this operation in the last few months. The dust control system has been installed and is working. Observations at the sanding station and the trim saw indicate that there should be little if any problem remaining with asbestos dust in the workplace air. The charging stations, although not in use, would appear to have adquate ventilation. They still need some additional sheet metal enclosing, but the ventilation is in place, and I feel quite confident that these charging stations will certainly be below the 5 f/cc level and, in all probability, below 2 f/cc. The housekeeping in the plant was excellent. All employees were wearing respirators in those areas that had been designated as respirator areas. Large, very visible signs designating respirator areas were in evidence as were three color painted lines on the floor indicating that when the line was cross the respirator must be used."

W. B. Reitze further pointed out that:

> "all of the Thermobestos that leaves the Magnobras plant is labelled with the appropriate label. The asbestos cement products, however, were not labelled and I requested of John Sydenstricker that the same label be affixed to bags of asbestos cement* leaving the plant."

*[In fact, the product referred to by W. B. Reitze was insulating and refactory cement containing asbestos.]

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W. B. Reitze pointed out, however, that severe problems remained with Asberit's and other customers' plants as well as with the working conditions to which the contract units' workers were subjected. W. B. Reitze wrote a letter to Mr. Marchello Cattaneo, the president of Asberit S.A., on May 5, 1977, using very strong language to impress upon Mr. Cattaneo the danger of asbestos use and the need for setting up work practices protecting the workers and volunteering JM help to Mr. Cattaneo.

However, in the middle of May, 1977, the newly installed dust collector system was working but still in need of some fine tuning. (R. E. Fortin 5/10/77 to K. A. Roberts, K. A. Roberts 5/16/77 memo to A. Bertoldo.)

In May, 1977, a program of regular medical examination of the plant personnel by Dr. Rollenberg was proposed. (John Sydenstricker 5/10/77 memo to W. B. Reitze; A.R. for the Brazilian medical program submitted May 20, 1977).

As of August 15, 1977 the Plant was not equipped with proper apparatus to monitor dust levels. (K. A. Roberts 8/15/77 memo to A. Bertoldo)

In November, 1977, the Wall Street Journal reported health and environment concerns voiced by the Brazilian government.

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On April 17, 1978, W. B. Reitze reported:

> "...The Guarulhos Plant is exceptionally well maintained for the very old operation that it is. The buildings are old; the machinery and dust collectors are old." The Plant management is doing an excellent jobin maintaining the ancient equipment, as well as enforcing the wearing of protective devices--masks and/or hearing protection. They have a disciplinary procedure in effect which has made their mandatory respiratory and hearing protection programs almost fullproof.
>
> "At this locatoin we also visited with Dr. Rollenberg, our contract physician. He appears very sincere and conscentious in looking after the health of our employees."

*[The functioning dust collection system was actually new; the older dust collectors had been, in fact, disconnected.]

In October, 1979, the decision was made to replace Thermobestos by Thermo-Cel (Celite 47.5%, Hydrated Lime 47.5%, Bleached Cellulose 5%). It is anticipated that production of Thermo-Cel shall replace that of Thermobestos by the third quarter of 1980.

At the present time, each prospective worker is fully informed of the Company's policies; he is shown an audio-visual presentation; he signs a statement in which it is made clear to him that if he does not wear this respirator and his earplugs, he shall be fired.

As of the date of this memo, a dust collection system (the "System") has been installed and is functioning over the saws and the mixing machines. Not all fibers are actually captured by the System and each machine must be cleaned

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by hand every day it has been in use. Not all operations are mechanized and the following is handled by hand:

-warehousing of the raw fiber
-weighing of the raw fiber
-product when it leaves the dryer
-feeding the product to the saws
-packaging the finished product
-warehousing the finished product
-loading the finished product onto trucks.

Finally, in part because the customers do not manifest much concern for the environment and the health of the workers, in part because some advanced tooling limiting dust emission is yet not used by JM, in part because the use of respirators is not as readily enforceable on outside jobs as it is in the Plant, or on indoor jobs, working conditions in the contract unit let a great deal to be desired.

III. History of T-12 in Brazil

In March, 1969, JM Research Department ("R&D") started investigating the possibility to take asbestos out of Thermobestos. In November, 1969, R&D actually started work on Thermo-12 ("T-12") and in September, 1972, T-12 was commercialized in the United States. Immediately, many problems arose because in order to obtain a satisfactory

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product, raw materials and very delicate mixing difficulties had to be overcome.

As early as 1972, however, Paul Nikitovich, Manager LAFE, informed his group that he intended to produce T-12 in Brazil some day when those production problems were resolved. He consequently denied the expansion of the Plant for Thermobestos production purposes but recommended to wait for T-12 before expanding the Plant.

In 1974, the T-12 was still not under production control within the United States and serious problems remained before the T-12 process could be implemented in South America (G. C. Davis 6/4/74 memo to W. B. Hahn). Plans to produce T-12 in Brazil were not abandoned, merely delayed (G. C. Davis 7/1/74 memo to C. P. Quinn). In December, 1975 it was projected that T-12 would be produced in Brazil in 1979 and T-12 sales forecasts for 1976-1983 were submitted to management (J. T. Vanderveen 12/19/75 memo to J. Kaczkowski).

Search for a suitable site for a future T-12 plant was launched in 1973. The Paulinha site was found in 1973 and JM's local attorneys acquired an option to purchase the land in September, 1973 and the option was exercised by JM's attorneys in January of 1974 but, because of some technicality, the title did not pass to JM until sometime in 1976.

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The A.R. for the Paulinha T-12 Plant was submitted in May, 1977, and approved in December, 1977. The construction of the Paulinha Plant started in February, 1978. Production start up only took place in September, 1979. As of this date, Paulinha still does not have the tools necessary to produce a full line of T-12 products. It is anticipated that the Plant's tools shall be fully adapted to production of the complete T-12 product line by March, 1980.

According to statements made by John Sydenstricker to J. L. Brown, had J-M tried to go out of the Thermobestos business before being capable of producing a substitute for Thermobestos, the Brazilian government would almost certainly have taken over the operation as this type of insulation material was critically needed in the government-owned petro-chemical industry and was in short suply.

Epilogue

JM has taken an active stand in Brazil to prompt the "clean-up" of the insulation industry (the 1976 Caracas meeting either between the members of the Asbestos industry or only between Eternit and JM (?)). JM met with the Brazilian government, informed them of the JM health program and was received favorably. JM has proposed new health legislation to improve the industry. However, support from local industry is lacking.

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This memorandum is based upon: (1) interviews of G. C. Davis, Rod Gomez, T. R. Gould, W. B. Reitze, K. A. Roberts, and J. Synenstricker and (2) documents from files of G. C. Davis, Rod Gomez, K. A. Roberts and W. B. Reitze.

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