

S P E C I A L R E P O R T : D A Y 3



Brush's plant near Elmore has repeatedly overexposed its workers to toxic beryllium dust.

BLADE PHOTO BY CHRIS WALKER

Lethal exposure

Brush misled workers, regulators about dangers

STORIES BY SAM ROE ■ BLADE SENIOR WRITER

A LOOK AT THE SERIES

Sunday: The U.S. government has risked the lives of thousands of workers by knowingly allowing them to be exposed to unsafe levels of beryllium.

Yesterday: A secret bargain between government and industry officials twists a plan to protect beryllium workers into a deal protecting themselves.

TODAY: Brush Wellman, America's leading beryllium producer, has misled workers, federal regulators, and the public about the dangers of the metal.

Tomorrow: Brush Wellman has systematically and aggressively tried to control how doctors, scientists, and the public view beryllium.

Thursday: The final days of Marilyn Miller, who contracted beryllium disease while working as a secretary in a local beryllium plant.

Friday: Public officials are quick to give Brush Wellman millions of dollars in tax breaks and public money but slow to raise health concerns.

The nation's leading producer of the metal beryllium has repeatedly misled workers, federal regulators, and the public about the dangers of the highly toxic material.

Brush Wellman Inc. knew for decades that its plants were consistently exposing workers to unsafe levels of beryllium.

Yet the company implied to workers that the plants were safe and downplayed the risks of beryllium in employee handouts, instructional videos, and warning letters new employees had to sign.

When government regulators turned their attention to the beryllium industry, Brush Wellman withheld evidence that showed that workers could get sick from beryllium even when government safety limits were met.

"This is shocking to me that they had this information," Dr. Peter Infante, director of standards review at the U.S. Occupational Safety and Health Administration, said when The Blade showed him documents that Brush had withheld regarding the safety limit.

A 22-month investigation by The Blade reveals a pattern of misleading statements by Brush Wellman officials spanning four decades and affecting thousands of workers.

Some Brush workers have been exposed year after year to unsafe levels of beryllium, a hard, gray metal that produces a toxic dust when cut, ground, or sanded. When inhaled, the dust often



DEADLY ALLIANCE

HOW GOVERNMENT AND INDUSTRY
CHOSE WEAPONS OVER WORKERS

causes an incurable lung illness.

A total of 127 Brush workers have contracted the disease, with cases at plants in Ohio, Pennsylvania, Arizona, and Utah. In addition, more than 20 people who never worked for Brush, but who lived near a company plant in Lorain, O., were diagnosed in the 1940s and 1950s.

In all, beryllium disease has contributed to the deaths of at least 32 Brush workers and neighbors since the 1940s, industry records and death certificates show.

"I look at it as willful manslaughter," says Theresa Norgard, wife of Dave Norgard, a Brush employee from Manitou Beach, Mich., who has the disease.

"Everyone knew about the dangers - except the workers," she says.

Brush Wellman, a publicly traded company with headquarters in Cleveland and facilities in five countries and 11 states, denies wrongdoing.

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LETHAL

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"I don't think we have tried in any way to obscure the facts," says Gordon Harnett, Brush's chairman of the board, president, and chief executive officer.

The Blade investigation was based on tens of thousands of court, industry, and recently declassified U.S. government documents. Among the findings:

■ Four current or former Brush plants have repeatedly exposed workers to levels of beryllium dust above the federal safety limit. At all four, workers have developed beryllium disease.

At the nearby Elmore plant, 50 workers have developed the disease. At least 39 of them worked in areas with documented exposures above the safety limit.

■ The company has concealed the true risks of beryllium from thousands of workers and customers, assuring them that accepted safety limits were protecting them, when it had evidence to the contrary.

■ Brush's warning labels, customer brochures, and instructional videos have considerably downplayed the risks of beryllium — one of the most toxic substances used in any workplace.

One video compares the risks of working at Brush to hiking in the woods, where "there may be a few hidden hazards along the way," such as "snake bites, poison ivy, or twisting an ankle."

Dr. Lee Newman, a leading researcher on beryllium disease, described some of these warnings in a 1995 affidavit as "inadequate to warn even a sophisticated employer and its workers of the hazards."

Martin Powers, a retired Brush executive who for 26 years was largely responsible for what the company wrote and



'The company has a remarkable record about being open about this disease.'

*Dr. David Deubner
Brush medical director*

said about beryllium disease, says the firm never intentionally misled anyone.

But he acknowledges that some of its statements were "probably a little too dogmatic and definitive for the state of knowledge at the time."

For years, he says, Brush thought the disease had been virtually eliminated — "and maybe we talked that way."

But in the last 10 years, dozens of new cases have emerged.

"It's been a big surprise and disappointment to me that we have lost ground in the past few years," says Mr. Powers, who remains a paid Brush consultant.

Brush officials stress that they always tell people what they know about the disease when they know it.

"Every year we try to update our level of knowledge and try to communicate with the employees where we are," Brush CEO Mr. Harnett says.

As for the high dust levels, Brush officials acknowledge that the firm has never consistently kept exposures under the federal safety limit in all parts of the plant. But workers, Mr. Powers says, know this.

Plant supervisors always post the results of dust counts on bulletin boards and discuss high exposures with employees, he says. And if high counts are discovered, workers are given respirators.

But Brush officials acknowledge that respirators don't always work, all employees don't understand dust counts, and by the time high exposures are discovered, workers have already been overexposed.

Mr. Powers says dust counts have remained high because it is technologically difficult to lower them. He notes that the federal limit, 2 micrograms of beryllium dust per cubic meter of air, is "a fantastically small quantity" — an amount invisible to the naked eye.

Historically, Brush could not simply shut operations that went over this limit, he says, because the U.S. government needed beryllium, a material critical to the production of nuclear bombs and other weapons.

Besides, he says, Brush takes numerous precautions to protect workers, including quarterly medical exams and thousands of air samples a year.

"I think that Brush has done everything humanly possible to minimize the risk," Mr. Powers says.

Brush Medical Director Dr. David Deubner agrees, noting that Brush has invited researchers into its plants to study the illness.

"The company has a remarkable record about being open about this disease," Dr. Deubner says.

Others see it differently.

"They get it into your head that you don't have to worry about anything," says Dave Miller, a 39-year-old from Wayne, O., who contracted the disease at the Elmore plant.

"By the time you figure out they've hoodwinked you, it's too late."

THE COMPANY

FROM AN OLD STABLE TO INTERNATIONAL FIRM

Brush Wellman began 78 years ago in an old carriage house behind the Brush family estate in Cleveland.

Inside was Brush Laboratories, where in 1921 Charles Baldwin Sawyer and Bengt Kjellgren started experimenting with beryllium. Ten years later they founded Brush Beryllium with the financial help of Charles Brush II, son of the inventor of the arc light.

It was a small business: The two founders had only two employees. But the company grew steadily, receiving a huge boost in the 1940s with the start of World War II. The government bought hundreds of pounds of beryllium from Brush, using it to develop the bomb.

"You couldn't make a really good bomb without beryllium," recalls Mr. Powers, the former Brush executive.

Over the next four decades, throughout the Cold War and

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space race, the government was Brush's main customer, spending more than \$1 billion for hundreds of tons of beryllium.

Brush diversified in the 1970s, selling more beryllium-copper metal for use in computer and car parts. And it acquired the Abex Corp.'s S.K. Wellman division, a leading producer of clutch and brake parts. Hence, the name change: Brush Wellman.

When the Cold War ended, government orders nosedived. Today, only 5 percent of Brush's business is defense-related.

Brush now emphasizes that its products help save lives. Beryllium is in tiny parts in pacemakers and air-bag systems, says Brush spokesman Timothy Reid, who recently left the firm.

"It really is one of these swords into plowshares things."

THE PLANTS

WORKERS OVEREXPOSED IN SEVERAL FACILITIES

Brush's plants have never consistently kept beryllium dust under control.

In the 1940s, dust was so bad in the Lorain, O., factory that workers at times couldn't see across the plant floor, company documents state.

But this was before the dangers of beryllium were fully understood and before rules on exposure existed.

Federal limits were set in 1949, but Brush's plants rarely met them. Throughout the 1950s, workers were routinely overexposed at facilities in Luckey, Cleveland, and Elmore, records show.

At the Cleveland plant, some workers were exposed to levels up to 100 times the safety limit. In the neighborhood around the plant, dust samples reached five times the outdoor limit.

One government document from 1950 suggests that Brush owner Charles Sawyer knew about the dangers but had done little to reduce them:

"[Mr. Sawyer] has discussed this whole matter with one of the Brush Beryllium Company attorneys and he and they are in agreement that should negligence suits be brought against Brush in the future, the company would be in a very vulnerable position because it could be pointed out that evidence of overexposure was available and no direct action was taken to lower the exposures."

The Cleveland plant shut in 1963, and the Luckey factory closed in 1958. Some operations of both moved to Brush's plant

just outside Elmore, 20 miles southeast of Toledo.

That plant was greatly expanded in 1957, when Brush built a facility to produce beryllium for the government.

At dedication ceremonies, company president Bengt Kjellgren proclaimed: "Many opportunities will await the graduates of the many public schools and universities in this area."

Among the locals who landed jobs: Gary Anderson and Butch Lemke, standouts on the Harris-Elmore High School football team.

Mr. Anderson worked at the Elmore plant for two years, starting as a summer student while attending the College of William and Mary in Virginia. One of his jobs: Cleaning out dusty ventilation hoods.

"To my recollection, they were only cleaned once a year, and that was done by summer students," he testified in his lawsuit against Brush.

Mr. Anderson was diagnosed with beryllium disease in 1975 and spent the final year of his life unable to breathe without the aid of an oxygen tank. He died in 1989 at age 48.

His widow, Patricia, dropped the lawsuit in 1993, mainly because it became too emotionally draining for her, recalls her attorney, Bob Bryce.

"She got tired. How long can you relive your husband's death?"

Mr. Anderson's old teammate, Mr. Lemke, worked nine years at the Elmore plant. He was diagnosed with the disease in 1970 and has spent the past 15 years on oxygen.

Brush records recently disclosed in lawsuits show that both Mr. Anderson and Mr. Lemke worked in areas with dust levels over the safety limit.

Mr. Lemke says he never knew this: "I think that's terrible that they would allow something like that to go on and allow a person to work in something like that and not notify them that the air counts are that way."

THE WORKERS

AMONG THE EMPLOYEES: 'DREGS OF SOCIETY'

In the 1940s, so many workers were getting sick at Brush that the company struggled to attract and keep new employees.

The only kind of workers Brush could get were "essentially the dregs of society," Mr. Powers, the former Brush executive, told company managers in 1986, according to a transcript of his talk.

Five Brush workers died of beryllium disease in the 1940s; dozens of others had breathing problems, and 1 in 4 got rashes on their hands, arms, or faces.

Those with rashes were either laid off

or advised by Brush doctors to quit, records show. The company was afraid they were allergic to beryllium and would develop the more serious lung disease.

This policy caused tremendous turnover – “as high as 100 per cent per month,” one report states.

Still, the illnesses were limited to workers. But in 1948 several residents near the Lorain plant were diagnosed with beryllium disease. Brush’s insurance company canceled the firm’s policy, and at least 26 lawsuits were filed.

The lawyer who represented some of the victims was a 31-year-old from Cleveland by the name of Howard Metzenbaum. All of the lawsuits were settled out of court, and the young lawyer went on to become a three-term U.S. senator from Ohio.

“I felt terribly bad for the people involved,” the retired senator now recalls. “We felt [Brush] had not exercised due care and seen to it that their health was protected.”

Throughout the ’50s, ’60s, and ’70s, more and more Brush workers were diagnosed with beryllium disease.

But the company maintained that most had worked in the beryllium plants back

in the ’40s and ’50s, when exposures to dust were extremely high.

Brush argued that of the workers hired after 1960, few had become sick. This proved that the disease was under control.

But it wasn’t.

In the 1980s, 15 employees hired after 1960 were diagnosed with the disease, including two at Brush’s Tucson, Ariz., plant, built in 1980 and thought to be safe.

In all, 26 cases were diagnosed in the 1980s. In the 1990s, at least 46 more.

And the victims weren’t just machinists.

They now included secretaries and administrators – employees with seemingly insignificant exposures.

THE WARNINGS

RISKS DOWNPLAYED IN LETTERS, VIDEOS

Hundreds of Brush workers were not adequately warned about beryllium disease when they were hired.

For at least 28 years, from 1959 to 1986, new employees had to sign a letter from the company president that mentioned the illness and what the company thought the risks were.

The letter – virtually unchanged over three decades – states that beryllium can cause a respiratory disease of a “serious nature.”

Nowhere does it say the disease is often fatal, that there is no cure, and that Brush workers have died.

The letter further states that although there are risks, “our experience indicates that such hazards can be controlled.” And Brush has the “most modern” equipment, “designed to control the beryllium content in the air you breathe within limits considered completely safe by competent medical authorities.”

Nowhere does it say Brush has never consistently kept dust counts below those safety limits.

Beryllium victim Butch Lemke signed one of those letters, back in 1959. He says the company’s message to workers was unmistakable: “There’s nothing to worry about. We have everything under control.”

That letter was replaced about 1990 with a more detailed one. But it still didn’t tell new workers some basic information, such as beryllium disease is an

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A COMPANY SNAPSHOT

Brush Wellman Inc.

Products: Brush Wellman manufactures engineered materials for the auto, telecommunications, computer, defense, and space industries. The company is America’s leading producer of the metal beryllium, which accounts for two-thirds of company sales. Five per cent of sales are defense-related.

Headquarters: Cleveland

Facilities: 12 U.S. operations; distribution centers in Germany, England, and Japan; and a marketing office and metal finishing facility in Singapore

Employees: 2,160, including 650 at the Elmore plant

Sales: \$409 million in 1998

Profit/Loss: \$7 million loss in 1998

Stock: Traded on the New York Stock Exchange; symbol: BW

Lethal: Japanese firm warned Brush about exposure limits

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incurable, often-fatal illness.

In January, 1998 – 55 years after beryllium dust was first discovered to be toxic – Brush started giving new workers a warning letter that stated that the disease could result in death.

Brush's Mr. Powers acknowledges that Brush's original warning letter was not entirely accurate, and he says he would rewrite part of it today.

Brush officials stress that the warning letter is just one part of a large health and safety program, which includes safety meetings, on-the-job training, employee handouts, and instructional videos.

But many of these materials, too, downplay the risks and withhold critical information.

One researcher who thinks Brush's warnings have misled workers is Dr. Lee Newman of the National Jewish Medical and Research Center in Denver.

Dr. Newman, who has treated numerous people with beryllium disease, reviewed many of Brush's warnings, labels, and statements and found them inaccurate and inadequate, according to his 1995 affidavit in a federal court case.

For example, a 1986 video says only 1 in 100 workers are susceptible to beryllium disease – a statement Brush repeated for years. At the time the video was made, Dr. Newman testified, the medical knowledge was that the rate was as high as 5 per cent, or 5 in 100.

Today, Brush gives varying estimates of the percentage at risk, from 2 to 5 per cent.

Mr. Powers says that when he used the 1 in 100 number, he wasn't trying to mislead anyone. Rather, he was trying to point out that relatively few people are at risk for beryllium disease.

"And I don't think, frankly, that 1 in 100 or 5 in 100 is going to ease anybody's concern one way or the other."

THE RISKS

INFORMATION WITHHELD FROM WORKERS, REGULATORS

For years, Brush Wellman maintained that if dust counts were held under the safety limit, workers would not get sick.

The company told this to workers, cus-

tomers, federal regulators, doctors, and the public.

But for at least 20 years, Brush had evidence that this might not be true.

And the company withheld it.

In fact, Brush repeatedly maintained it knew of no case of disease when exposures were kept under the safety limit.

Yet records show the company knew of such reports as early as 1974.

That year, NGK Insulators, a beryllium firm in Japan, wrote to Brush Wellman to say that five Japanese workers had developed beryllium disease with exposures under the safety limit, which was the same in both countries: 2 micrograms of dust per cubic meter of air.

Dr. Shogo Shima, the Japanese firm's medical consultant, sent a similar letter to Brush medical consultant Dr. Howard VanOrdstrand.

"This is an extremely serious matter in considering what kind of measures should be taken to prevent this disease," the Japanese doctor wrote.

The Brush consultant wrote back, calling the findings "disturbing."

The next month, a Japanese delegation came to Cleveland to discuss the matter with Brush. While there, the Japanese doctor distributed copies of his study that had found the safety limit was not protecting workers.

But Brush did not share these findings with either its workers or customers.

Three years later, in 1977, Brush learned of another possible case of someone getting the disease at low exposure.

A Brush customer, Autonetics, a California firm, called Brush to report that it had "an established case of beryllium disease where the worker was never exposed to air levels greater than present limits," a Brush memo states. Top Brush executives, including Mr. Powers, were notified, as was company consultant Dr. VanOrdstrand.

Just two months later, OSHA held public hearings on safety issues in the beryllium industry. The purpose: gather evidence on whether the exposure limit



BLOCK NEWS ALLIANCE PHOTO BY ALLAN DETRICH

Dr. Peter Infante of OSHA says that had Brush not withheld evidence about the dangers of beryllium, tougher limits might have been adopted.

should be cut in half – from 2 micrograms to 1.

When Brush officials testified, they said the existing limit clearly protected workers.

The company has "proven beyond a doubt" that the limit "is completely safe" in terms of preventing disease, Mr. Powers's written statement said.

He did not mention the customer or Japanese cases.

And Brush consultant Dr. VanOrdstrand testified that he knew of no cases of disease when dust counts were kept under the safety limit.

After the hearing, Brush Wellman submitted a final statement: "It is surely true that were there cases of the disease attributable to exposures below [the limit], they would long since have been recognized."

In the end, the OSHA safety plan died.

OSHA's Dr. Peter Infante had questioned Brush officials at the public hearings in 1977, as a member of the National Institute for Occupational Safety and Health. He says that had Brush not withheld evidence, tougher limits might have been adopted.

Because they weren't, he says, thousands of workers have been needlessly exposed to high levels of beryllium dust.

"These are people's lives. It's not, 'Gee, somebody lost a little bit of money.' They are dead, and there are other people who are suffocating to death."

Dr. VanOrdstrand, the Brush consultant who knew of reported illnesses under the safety limit, died in 1988.

Brush's Mr. Powers says he could not comment on the illness report from the Brush customer because he could not recall it.

As for the Japanese illnesses, he says Brush did not mention them to workers or regulators because it did not think those reports were credible.

Plus, Brush believed that government officials, including those at OSHA, already knew about the Japanese claims.

That's because when the Japanese visited Brush in 1974, they also visited several U.S. government agencies, according to an English translation of the Japanese trip report.

Among the officials they met with: OSHA's Robert Manware, who a year

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Lethal: Brush withheld evidence from safety regulators

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later would help coordinate OSHA's plan to reduce the safety limit.

Today, Mr. Manware says he does not recall meeting with the Japanese.

OSHA's Dr. Infante says the Japanese visit never came to his attention, and nothing changes the fact that Brush withheld evidence of workers getting sick at low exposures.

"They knew this stuff and they lied," he says.

THE STRATEGY

BRUSH'S LEGAL MANEUVER: PRESERVING THE LIMIT

Two more studies in the 1980s – one by British researchers and one by American scientists – reached the same conclusion reached by the Japanese: The safety limit was not protecting workers from beryllium disease.

But Brush continued to say that it was.

The limit is "100 per cent effective," a Brush executive told potential investors in 1986.

"Even the most sensitive person is safe," a 1988 customer brochure states.

For Brush, much was at stake: If it were accepted that the safety limit was not working, regulators might tighten the rules, requiring Brush to install expensive equipment to bring dust counts down.

Plus, lawyers for beryllium victims could argue that Brush had said that the limit was protecting workers when it was not.

"Preserving the standard as it now exists is fundamental to our defense against product liability lawsuits," a Brush executive told the company's board of directors in 1990, according to records of that meeting.

The Japanese findings especially worried Brush. Three times between 1983 and 1991, Brush officials flew to Japan, in part, to talk to the Japanese doctor, Dr. Shima, about his findings.

During one trip, Brush lobbied Japanese beryllium business officials, warning that the findings could damage their markets and Brush's by scaring off customers and sparking tighter government controls.

By the late 1980s, more and more scientists were questioning the safety limit. Even the researcher who devised it in 1949, Merril Eisenbud, told Brush in 1989 that he could no longer defend it.

Still, Brush continued to tell employees that the safety limit worked fine.

In 1991, Brush in-house attorney John Pallam wrote a statement for supervisors to use if workers asked whether the safety limit was protecting them.

The supervisors were to say the limit was protective, and Brush officials "have no reason to believe that it does not afford a safe workplace," Brush records show.

Today, Brush officials say they don't know if workers get ill at exposures under the limit. But they say there is no "credible" evidence that they do.

Meanwhile, the Energy Department, which uses beryllium in nuclear weapons, said in 1994 that the limit might not be protecting workers at its facilities. It is now studying whether to lower the limit at government-owned plants.

OSHA's Dr. Infante says he would like a tougher limit for the private industry, but OSHA does not consider it a priority now.

THE PRESENT

HIGH DUST LEVELS, FREQUENT EVACUATIONS

Beryllium dust levels, though improved over the past 20 years, remain a problem at the Elmore plant, Brush records show.

At least 11 plant operations, such as the scrap melting furnace and the analytical lab, have had exposures over the safety limit in the 1990s.

At times, dust in the plant gets so bad that a part of it must be evacuated. This usually occurs after a machine breaks down or an accident.

It is not unusual for the Elmore plant to have dozens of evacuations a year – sometimes more than one a day, records show.

In fact, the U.S. government has had "serious concerns" about the evacuations, saying they were disrupting production of beryllium for weapons, according to a 1989 report by a panel of the National Research Council, which advises the government on science and technology issues.

Brush CEO Gordon Harnett says his company has worked hard in recent years to drive dust counts down.

"Frankly, I'm proud of our track record of protecting workers every way we can."

THE FUTURE

DISEASE IS OUT THERE, BUT WILL IT BE FOUND?

There are detectable amounts of beryllium dust at 14 Brush facilities, and the firm says it monitors the air at each one.

But Brush has tested workers for the disease at only four of those facilities. "We're concentrating our effort where we know we have serious problems," Brush Medical Director Dr. David Deubner says.

In the 1980s, Brush fought a government plan to test beryllium workers. The Energy Department proposed contacting former workers of government-owned sites to tell them that they may have been exposed to beryllium and that the government would provide free testing for the disease.

Brush attorney Randall Davis, in a letter to the Energy Department, argued that the program was unnecessary because beryllium workers – whether at Brush or at government plants – had already been warned while on the job.

Re-establishing contact with these people, he wrote, could lead to "widespread litigation" and "a modern day gold rush."

Over Brush's objections, the government went ahead and notified former beryllium workers, and dozens of people with the disease or abnormal blood tests have been identified to date.

Brush employee and beryllium victim Dave Norgard says Brush should offer free tests to anyone who wants them. If the company did, he says, it would surely find more illness.

"Wherever they go they leave death and destruction."



BLOCK NEWS ALLIANCE PHOTO BY ALLAN DETRICH

'I don't think we have tried in any way to obscure the facts,' says Brush CEO Gordon Harnett.

A COMPANY 'WARNING'

Below is the text of a warning letter new Brush workers had to sign starting in 1959. It was used, virtually unchanged, for more than a quarter-century. Last year, Brush adopted a greatly expanded warning letter. For the first time in its warning letter to employees, Brush stated that beryllium disease can be fatal.

Revised January 3, 1959

TO: ALL EMPLOYEES OF THE BRUSH BERYLLIUM COMPANY

Medical authorities now recognize that materials containing beryllium may under certain conditions be harmful to a person's health. The information resulting from medical research on the effect of beryllium on individuals indicates that this industrial health hazard is not yet fully understood. For this very reason and in order to be sure to provide adequate protection at all times, we go to a great deal of effort and expense to safeguard anyone who may come in contact with materials containing beryllium. As a result of these efforts, we have twice received National Safety Awards in recognition of our health controls.

The health problem which occurs most frequently in the beryllium industry involves skin irritations or a skin rash, resulting from exposing the skin to certain chemicals which are used or produced in our operations. A small percentage of our new employees are 'allergic' to some of these chemicals.

Much less frequent than skin irritations are respiratory diseases which result from breathing excessive amounts of fume or dust containing beryllium. Such respiratory diseases can be of serious nature, but as a result of our constant efforts to guard against such exposures, and with the full cooperation of every employee, our experience indicates that such hazards can be controlled.

The Brush Beryllium Company health program will be explained to you when you are employed and will be reviewed by your supervisor. We have installed the most modern ventilation equipment available. This equipment is designed to control the beryllium content in the air you breathe within limits considered completely safe by competent medical authorities. Our ventilation systems are checked regularly by personnel trained in engineering and industrial hygiene. All dust, fumes and gases pass through modern dust collecting and scrubbing equipment before being discharged to the air.

The efficiency of our health controls is checked constantly through air sampling equipment which is installed both inside and outside our plants. Our engineers are alert at all times to the necessity of keeping at a minimum the number of employee exposures in normal operations. Also, all plant operations have been designed with the health of our employees being given first consideration.

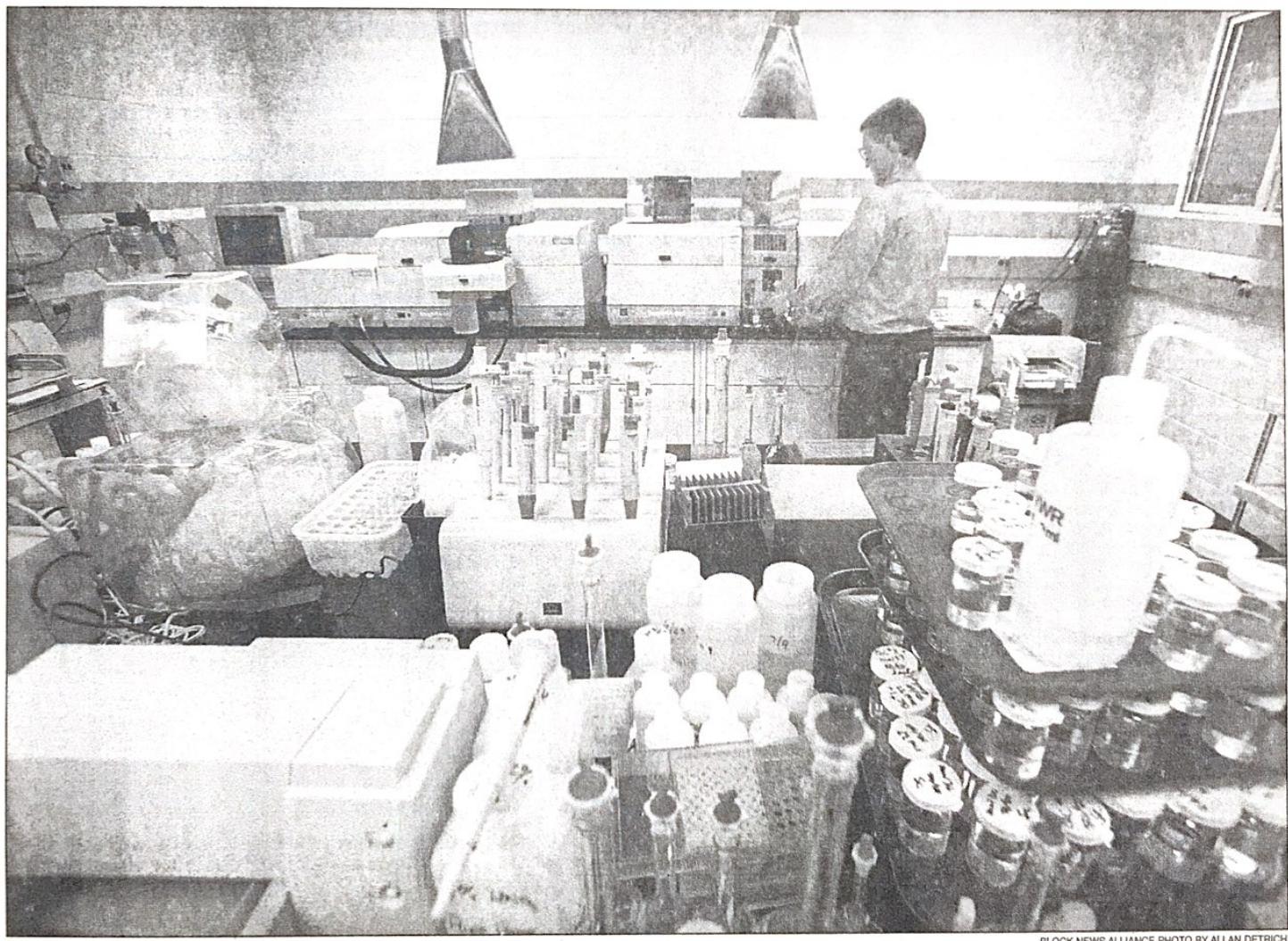
Our medical program is set up to prevent occupational diseases. Our doctors will not approve you for employment if in their opinion your past health record, or your pre-employment examination indicates that you might be a poor health risk in our industry. Our medical program also includes a complete annual physical examination and chest X-ray twice each year for all employees.

We will train you to keep yourself clean when working in our plant. We will also show you the proper use and care of our health control equipment. We will explain routines which you should follow in order to avoid health hazards. If you work in beryllium production areas, you will be furnished your work clothing and shoes. We will also launder the work clothing furnished you. You may not wear or take this clothing away from our plant. When you work in beryllium production areas, you are required to take a shower at the end of your work day and we provide paid shower time for this purpose.

Most factories have occupational hazards of one kind or another. We fully realize the hazards which we have in our particular industry and we are, therefore, constantly busy maintaining and improving our health controls. To be completely successful in this effort we must, however, have the full cooperation of ALL EMPLOYEES. Please be sure to follow your supervisor's instructions.

BENGT KJELLGREN
President

(Signature of employee)



BLOCK NEWS ALLIANCE PHOTO BY ALLAN DETRICH

An environmental technician at Brush's Elmore plant works in a laboratory that can check the site's water and air samples.

'Stonewalling'

Federal judge rules Brush concealed documents

BY SAM ROE
BLADE SENIOR WRITER

KNOXVILLE, Tenn. — When it comes to worker safety, Brush Wellman says it has nothing to hide.

But a federal court here in 1996 sanctioned the company for deliberately concealing potentially damaging documents about the dangers of beryllium. For this and related misconduct, Brush Wellman had to pay \$175,000.

"Brush Wellman's conduct has gone beyond gross negligence," U.S. Magistrate Judge Robert Murrian wrote in the case. The company's "deliberate indifference" and "intentional failure to produce documents ... demonstrate a pattern of abuse that should be dealt with firmly."

Lawyers for beryllium disease victims say the case further proves that Brush Wellman is hiding from the public what it knows about the dangers of beryllium and when it knew it.

"They withheld documents until they were caught," says Ann Rowland, the Tennessee attorney who won access to Brush's records.

Brush Wellman would not comment, other than to say that one of its lawyers was to blame.

The penalty was among the largest of its kind in Tennessee. But the case is also noteworthy for what happened in the middle of the dispute, when Brush released some of its records.

Twelve boxes of documents were delivered to Brush's Cleveland law firm, Jones, Day, Reavis & Pogue. There, Ms. Rowland, who had been fighting for the records for months, began to review them in a conference room.

But she says she noticed the boxes were old and dusty. "I thought, 'Oh, my God! Is this beryllium?'"

Using baby wipes, she took dust samples of the boxes. She dropped each sample into a plastic bag and express-mailed them to a lab for analysis. When

the results came back, she says, they revealed beryllium.

Furious, she got a court order for Brush to provide clean boxes. The company complied, and the records were delivered to a court reporter's office a few blocks from Brush's law firm.

This time, Ms. Rowland didn't take any chances: She says she returned to the records wearing protective clothing and a gas mask.

Brush's lawyers, she says, "just about croaked. They hate my guts."

Under the court sanction, Brush had to pay \$175,000 to Ms. Rowland's Knoxville law firm, Rowland & Rowland, for the time she spent fighting for the records.

She originally had sued Brush in 1992 on behalf of two workers who developed beryllium disease after working at Robertshaw Controls, a Knoxville company. Brush was named a defendant, she says, because it supplied beryllium to the other firm.

As part of the lawsuit, Ms. Rowland asked that Brush turn over all pertinent records. Legally, Brush had to comply.

But it didn't, court records show, and the two sides spent the next year fighting the issue in court.

Numerous hearings were held, motions filed, and orders handed down. One hearing had no fewer than 17 lawyers present.

"It looked like a bar convention," Chattanooga attorney Barry Gold recalls.

U.S. District Judge Leon Jordan ended another hearing by admonishing Brush: "This court will not put up with any stonewalling any longer."

But the problems continued.

Twice, the federal court ordered Brush to turn over its records. Twice, Brush violated the orders.

Finally, Magistrate Judge Murrian became fed up. In a strongly worded opinion, he said that although Brush had turned over 60,000 documents, whenever opponents

"found a trail which might shed light on what Brush Wellman knew about" key issues, "they have run into a stone wall."

He was particularly upset over a critical document that he said Brush's in-house lawyer, John Pallam, deliberately concealed. He said Mr. Pallam not only made "a bogus claim" that the record was exempt from disclosure, but he later tried to blame his secretary for the transgression.

Magistrate Judge Murrian concluded that he had no choice but to take a drastic step: He would recommend that Brush forfeit the entire lawsuit, leaving only the question of how much money the ill workers should get.

But Judge Jordan thought that penalty was too severe. He ruled that a \$175,000 sanction was enough.

Mr. Pallam, Brush's in-house attorney who was found to have concealed a document, would not comment on the case.

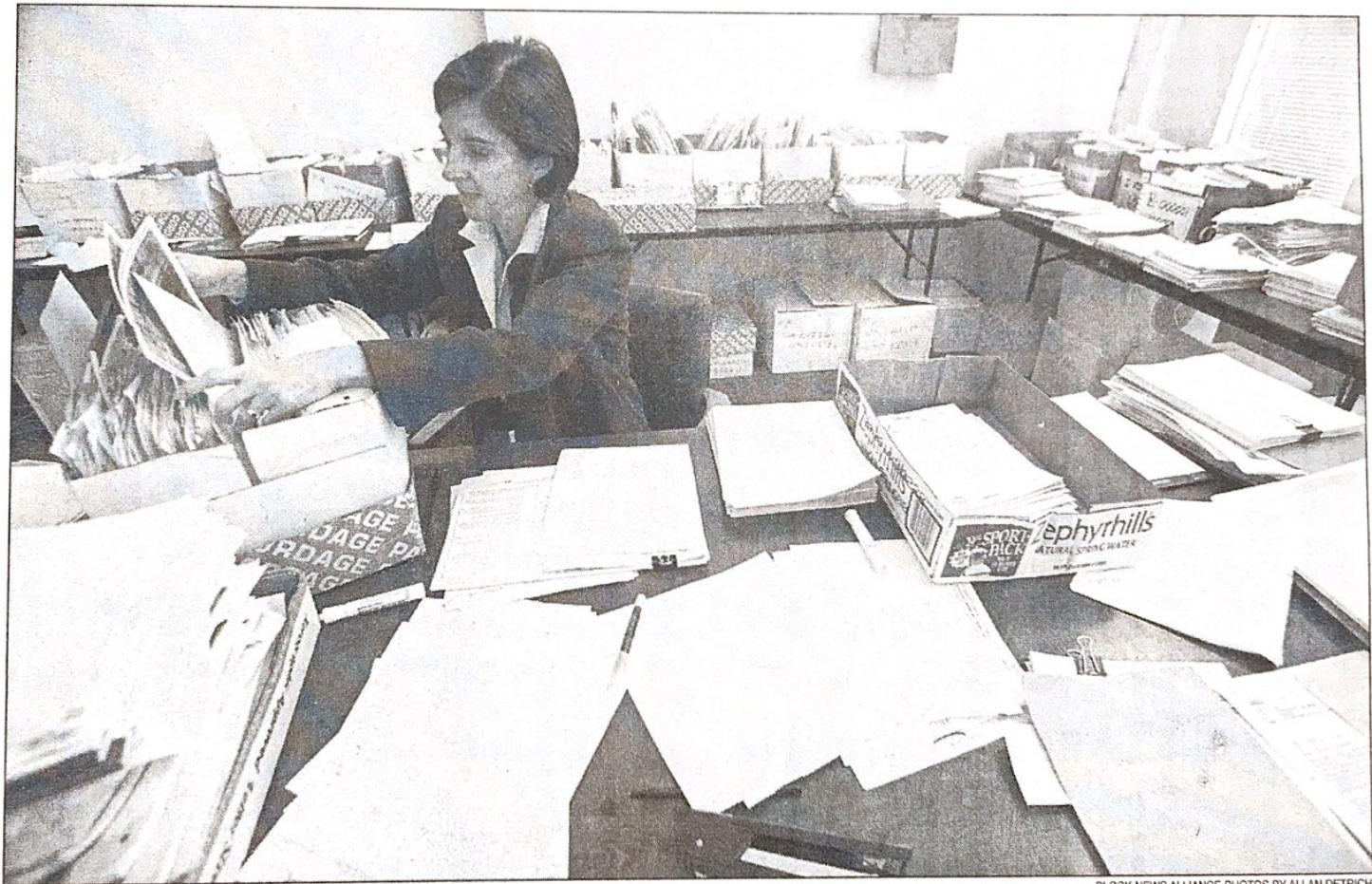
In court filings, Brush maintained it was not concealing records. It blamed the Tennessee lawyer it hired to handle the case, Stuart James, for the problems.

Brush said Mr. James didn't inform the company of the seriousness of the problems; otherwise, all documents would have been released.

Mr. James says: "The court sanctioned Brush Wellman for its conduct and ended up not sanctioning me. I think that speaks louder than anything that Brush Wellman could say."

But the court did fault Mr. James: "He is to blame for many of the difficulties...." He was referred to the court's chief judge for possible discipline but that judge said discipline was not warranted.

Meanwhile, the lawsuit that started the whole document dispute was settled out of court, with Brush giving the two ill workers an undisclosed amount of money. Ms. Rowland, their attorney, would only say that "it was a lot."



BLOCK NEWS ALLIANCE PHOTOS BY ALLAN DETRICH

Ann Rowland, an attorney with Rowland & Rowland of Knoxville, Tenn., represents workers with beryllium disease. She says she caused a stir when she dressed in protective clothing and a gas mask to examine documents that a court had ordered Brush to deliver.

DEADLY ALLIANCE

Day 3: Workers misled

Brush lawyers accused of knowing about fraud

Legal giant Jones Day calls allegation ‘nonsense’

BY SAM ROE

BLADE SENIOR WRITER

For more than a half-century, Brush Wellman has battled its health problems with the help of one of the largest and most prestigious law firms in the nation: Jones, Day, Reavis & Pogue.

Jones Day has helped the beryllium company fight worker lawsuits and fend off U.S. safety regulators.

Now, Jones Day attorneys are at the center of a serious allegation: A Colorado lawyer has accused Brush Wellman of using the attorneys to conceal the true dangers of beryllium.

In a court motion filed in October, James Heckbert, an attorney for about 50 beryllium disease victims in Colorado and Arizona, alleges “that for approximately 40 years Brush Wellman has been using its attorneys to facilitate a fraud regarding the safety of beryllium.”

Brush’s attorneys, the motion states, “have been aware of this ongoing fraudulent scheme.”

Mr. Heckbert alleges that Brush Wellman, through its attorneys, hid from the public and federal regulators evidence that the federal safety limit for beryllium dust was not protecting workers.

Among the attorneys allegedly involved: Brush’s in-house lawyer John Pallam and three outside attorneys from Jones Day, including Patrick McCartan.

Mr. McCartan is Jones Day’s managing partner, the equivalent of a chief executive officer.

He declined to be interviewed, saying he does not comment on client matters. “I will say that any allegations of fraud are nonsense.”

‘For approximately 40 years Brush Wellman has been using its attorneys to facilitate a fraud regarding the safety of beryllium.’

James Heckbert

attorney for beryllium victims,
in a motion filed in federal court

Mr. Pallam, Brush’s in-house lawyer, declined several requests for interviews.

In court records, Brush Wellman calls Mr. Heckbert’s allegation a “preposterous theory” with no basis.

Brush produces beryllium, a rare metal that can cause a lung disease when its dust is inhaled. The company is based in Cleveland, as is Jones Day. Since the 1940s, Brush has sought advice from the legal firm.

In the legal world, Jones Day is a giant: It has 1,100 attorneys in 10 American and

10 overseas offices, including London, Hong Kong, and New Delhi.

It has represented many high-profile clients, including R.J. Reynolds Tobacco Co. and financier Charles Keating, Jr.

The recent accusation against Jones Day was filed in a worker's lawsuit in U.S. District Court in Arizona.

A former electrician is suing Brush Wellman, claiming he contracted beryllium disease at the company's Tucson plant. His attorney, Mr. Heckbert, claims Brush has been withholding records in the case; Brush says the records are exempt from disclosure because of attorney-client privilege.

In October, Mr. Heckbert filed a motion in an attempt to pierce the attorney-client privilege.

He cited a long-standing rule of law: Attorney-client privilege does not protect communications between a client and attorney made in furtherance of a crime or fraud.

According to Mr. Heckbert's claim:

Brush knew for years, but did not disclose, that workers would develop beryllium disease at exposures under the safety limit.

In 1974, Brush learned that a Japanese beryllium firm was reporting disease at levels under the limit; in 1977, a Brush customer, Autonetics, reported such a case to Brush.

Brush sent information about the customer case to Mr. McCartan, the Jones Day attorney. A few weeks later, in August, 1977, he represented the beryllium company at hearings before the U.S. Occupational Safety and Health Administration.

At the hearings, two Brush officials submitted statements saying the safety limit prevented disease.

After the hearings, Brush submitted a final statement: "It is surely true that

were there cases of the disease attributable to exposures below [the limit], they would long since have been recognized."

This statement was submitted by a Brush official and two Jones Day attorneys, including Mr. McCartan.

Mr. Heckbert's motion goes beyond allegations against Jones Day attorneys.

In 1991, the motion states, Brush instructed its in-house lawyer, Mr. Pallam, to draft a response to workers who might ask whether the safety limit protected them. Mr. Pallam did so, asserting the limit was protective.

Brush disputes Mr. Heckbert's allegations.

In court records, the company says it did not conceal evidence from regulators nor misrepresent the risks of beryllium to others.

The company says that at the time it made certain statements, "the weight of scientific and medical opinion" was that the safety limit was protective.

Brush has asked the Arizona court to reject Mr. Heckbert's request for attorney-client records.

The court has yet to make a ruling.



BLOCK NEWS ALLIANCE PHOTO BY ALLAN DETRICH

Attorney James Heckbert, at home on his ranch near Steamboat Springs, Colo., represents about 50 beryllium victims. He has accused Brush of using its attorneys to conceal the true dangers of beryllium.

DEADLY ALLIANCE

Day 3: Workers misled

Wife of beryllium worker contracts illness

BY SAM ROE

BLADE SENIOR WRITER

Carol Mason has never worked a single day in a beryllium plant. She has never poured beryllium powder, run a beryllium furnace, or sanded a beryllium part.

Yet she has one of the worst cases of beryllium disease in the country.

She can't breathe without an oxygen tank, walking makes her heart race, and her medicine makes her moody and overweight.

Exactly how the 64-year-old from Wood County contracted the disease remains a mystery. But one possibility: She got it from her husband, Bill, who worked at the Brush Wellman beryllium plant near Elmore for nearly 40 years.

One year, after he was hurt in a beryllium furnace explosion, Mrs. Mason spent a week carefully picking out the tiny, metallic flakes embedded in his face and scalp.

"I combed his hair and brushed his face every day," she says from her living room chair, an oxygen tube running up to her nose. "I had to wash the sheets every day from the flakes falling out. I had no idea it was any danger to me."

Scientists say her case illustrates just how easy it is to contract beryllium disease — that breathing seemingly insignificant amounts of the metallic dust can be deadly.

They say Mrs. Mason serves as a warning to doctors, industry executives, and government officials that they may need to rethink the scope of the beryllium problem.

"A much larger population may be at risk than is recognized," concludes a research paper in 1991 by two scientists who studied Mrs. Mason's case.

Back in the 1940s and 1950s, cases like Mrs. Mason's were not uncommon.

Several dozen people living near beryllium plants in Lorain, O., and Reading, Pa., developed the disease from air pollution or from workers coming home in dusty clothing.

But as air emissions improved, and workers began changing clothes before going home, cases outside the factories disappeared.

In fact, Mrs. Mason, who was diagnosed in 1990, is the only documented nonoccupational case in 40 years.

Still, doctors say more may be out there. They just may be unrecognized or misdiagnosed.

That almost happened to Mrs. Mason.

She was a JC Penney stock manager when she increasingly became short of breath. Doctors gave her numerous tests, X-rays, and antibiotics. At one point they thought she had sarcoidosis, another lung illness.

Finally, two years later, doctors made the connection between her husband's job and her ailment, confirming beryllium disease.

The Masons were stunned. They had never suspected beryllium. Mrs. Mason had only been inside the Brush Wellman plant twice — both times during tours.

But there was that accident in 1981: A beryllium furnace exploded in her husband's face, leaving metallic flakes embedded in his skin.

"It was like sticking your head in a cannon and having the powder go off in your face," he recalls.

At the hospital, doctors told Mrs. Mason that her husband would be all right but suggested she buy a fine-hair brush and try to remove the flakes. And a nurse handed her a garbage bag. Inside were Mr. Mason's work clothes.

Mrs. Mason removed his wallet and keys and dropped the bag of clothes off at Brush Wellman's guard shack. Then she went to work on her husband's face.

At no time, she says, did Brush officials or anyone else warn her that she was in

danger.

Nine years later, in 1990, she was diagnosed with beryllium disease. When she was, the Masons sued Brush, citing the furnace explosion. They eventually settled out of court for an undisclosed amount.

Marc Kolanz, Brush's safety director, says he didn't warn Mrs. Mason about cleaning her husband's face because he didn't see any danger. The metallic flakes, he says, were almost certainly not beryllium but another metal, molybdenum.

Either way, he says, he does not know how she contracted the disease.

In court filings, Brush Wellman faulted the Masons: Mrs. Mason for opening the bag of clothes, and Mr. Mason for allegedly not showering and washing his hair at the end of each workday.

Mr. Mason declined to comment on that allegation.

Today, the Masons live in a modest ranch house on State Route 25 between Toledo and Bowling Green. Mr. Mason is retired, and despite the furnace explosion, he is healthy and free of beryllium disease.

But his wife has been on oxygen for eight years. She can't go anywhere without her portable tank. At the grocery store, she puts the tank in the front of her shopping cart, and at the mall she rests in inconspicuous places, like shoe stores.

Medication has caused her to lose some hair and gain some weight. She once put on 90 pounds in eight months. "I was like a balloon. I went from a size 14 to a 22."

She finds the bright spots where she can. "Last summer we went to the zoo with the grandkids," she says proudly.

"We sat down a lot," her husband adds.

"We sat down a lot," she says, "but we went."

Original tearsheets

THE BLADE

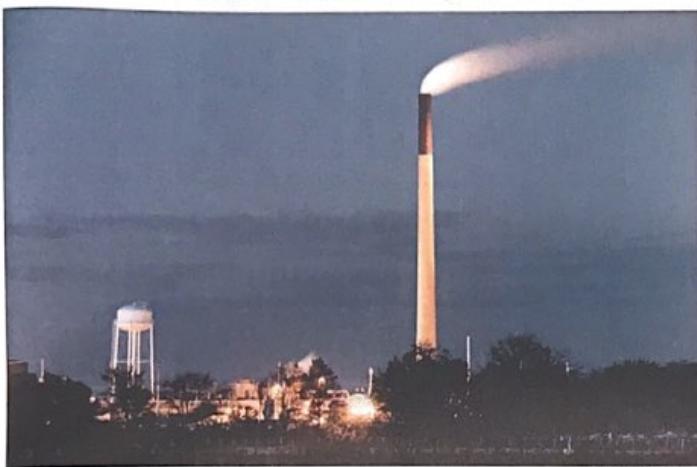
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TOLEDO, OHIO, TUESDAY, MARCH 30, 1999

FINAL

SPECIAL REPORT: DAY 3



Brush's plant near Elmore has repeatedly overexposed its workers to toxic beryllium dust.

Lethal exposure

Brush misled workers, regulators about dangers

STORIES BY SAM ROE ■ BLADE SENIOR WRITER

A LOOK AT THE SERIES

Sunday: The U.S. government has risked the lives of thousands of workers by knowingly allowing them to be exposed to unsafe levels of beryllium.

Yesterday: A secret bargain between government and industry officials twists a plan to protect beryllium workers into a deal protecting themselves.

■ TODAY: Brush Wellman, America's leading beryllium producer, has misled workers, federal regulators, and the public about the dangers of the metal.

Tomorrow: Brush Wellman has systematically and aggressively tried to control how doctors, scientists, and the public view beryllium.

Thursday: The final days of Marilyn Miller, who contracted beryllium disease while working as a secretary in a local beryllium plant.

Friday: Public officials are quick to give Brush Wellman millions of dollars in tax breaks and public money but slow to raise health concerns.

The nation's leading producer of the metal beryllium has repeatedly misled workers, federal regulators, and the public about the dangers of the highly toxic material.

Brush Wellman Inc. knew for decades that its plants were consistently exposing workers to unsafe levels of beryllium. Yet the company implied to workers that the plants were safe and downplayed the risks. It issued employee handbooks, instructional videos, and warning letters new employees had to sign.

When government regulators turned their attention to the beryllium industry, Brush Wellman withheld evidence that showed that workers could get sick from beryllium even when government safety limits were met. It is unclear if that information, "Dr Peter Infante, director of standards review at the U.S. Occupational Safety and Health Administration, said when The Blade showed him documents that Brush had withheld regarding the safety limit.

A 22-month investigation by The Blade reveals a pattern of misleading statements by Brush Wellman officials spanning four decades and affecting thousands of workers.

Some Brush workers have been exposed year after year to unsafe levels of beryllium, a hard gray metal that produces a toxic dust when cut, ground, or sanded. When inhaled, the dust often



DEADLY ALLIANCE

HOW GOVERNMENT AND INDUSTRY CHOSE WEAPONS OVER WORKERS

causes an incurable lung illness.

A total of 127 Brush workers have contracted the disease, with cases at plants in Ohio, Pennsylvania, Arizona, and Utah. In addition, more than 20 people who never worked for Brush, but who lived near plants in the United States, were diagnosed in the 1940s and 1950s.

In all, beryllium disease has contributed to the deaths of at least 32 Brush workers and neighbors since the 1940s, industry records and death certificates show.

"I look at it as willful manslaughter," says Theresa Norgard, wife of Dave Norgard, a Brush employee from Manitou Beach, Mich., who had the disease.

"It's like they knew about the dangers — except the workers," she says.

Brush Wellman, a publicly traded company with headquarters in Cleveland and facilities in five countries and 11 states, denies wrongdoing.

See LETHAL, Page 5

INSIDE

WEATHER REPORT



Full report, Page 16

As Dow passes 10,000, more growth predicted

KNIGHT NEWS SERVICE

NEW YORK — The Dow Jones industrial average barreled break-neck past 10,000 yesterday, soaring 184.51 points to close above the symbolic milestone for the first time in history.

In the euphoria of the moment — 10,000 hails were tossed into the air above the trading floor of the New York Stock Exchange — most analysts were predicting the market could cross another millennium marker before the year 2000.

"It's really, really an important number," said Ralph Acampora, chief technical analyst at Prudential Securities. He thinks the Dow will hit 10,000 "by year-end. The Dow at 10,000 is no longer a ceiling, it's a floor."

The Dow Jones average is an index of 30 stocks of big companies, such as McDonald's and General Motors. The market's average stock rise, so does the Dow. Yesterday, the Dow rose as high as 10,040 before falling back to close at 10,006.78.

Broader markets indices fin-

ished higher, not at 10,040. The S&P 500 closed at 1,310.04, up 2.12 per cent. The Nasdaq composite rose 3 per cent, or 72.70 points, to 2,491.95, below its high of 2,510.89 reached Feb. 1.

To grasp the astounding nature

See DOW, Page 4-A ►

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firm company 724-8887.

Police shoot man to death after chase in East Toledo

BY TOM JEWELL and RYAN E. SMITH
BLADE STAFF WRITERS

Toledo police shot and killed a man last night after they chased him in a reported stolen car he was driving through an East Toledo neighborhood.

Several witnesses said a few police officers fired shots at a man who had just emerged from a car he was driving on Jay Street at Vendita Street. He fell in the street about 10 feet from the car.

Dead is Manuel Otero, 26, whose last known address was in East Toledo.

Witnesses said they first saw a gray sedan heading west on Jay Street followed by two marked police cars. When the sedan stopped at

■ Shooting findings sheltered, Page 18.
BLADE STAFF WRITER

the stop sign at the Vendita Street intersection, the man got out of the car and was shot.

Toledo police officers Mark Johnson, William Noon, and Jeffrey Thiemann fired 15 shots at Otero. Police Chief Mike Navarre said last night, Otero had a screwdriver wrapped in a T-shirt when he got out of the 1995 Pontiac 6000 and pointed it at officers in a threatening manner, he said.

The shooting occurred just one month after Toledo police shot and killed James Runne, 43, who was stopped for driving a stolen Jeep about 1 a.m. in the central city and drove the vehicle

See SHOOT, Page 16 ►

See KOSOVO, Page 4 ►

See BLAST, Page 4-A ►



BLADE PHOTO BY CHRIS WALKER

Twin Lake
Beecher Rd
Pleasant Lake
Bear Lake Rd
Roseville Rd
Bushong Rd
Bowditch Rd
Lake Pleasant Rd
Roxbury Rd
See BLAST, Page 4-A ►

DEADLY ALLIANCE

Day 3: Workers misled

LETHAL

Continued from PAGE 1

"I don't think we have tried in any way to obscure the facts," says Gordon Harrett, Brush's chairman of the board, president, and chief executive officer.

The Blade investigation was based on tens of thousands of court, industry, and recently declassified U.S. government documents. Among the findings:

- Four current or former Brush plants have repeatedly exposed workers to levels of beryllium dust above the federal safety limit. At all four, workers have developed beryllium disease.

At the nearby Elmore plant, 50 workers have developed the disease. At least 39 of them worked in areas with documented exposures above the safety limit.

- The company has concealed the true risks of beryllium from thousands of workers and customers, assuring them that accepted safety limits were protecting them when it had nothing to do with the contract.

- Brush's warning labels, customer brochures, and instructional videos have considerably downplayed the risks of beryllium — one of the most toxic substances used in any workplace.

One video compares the risks of working at Brush to hiking in the woods, where "there may be a few hidden hazards along the way," such as "snake bites, poison ivy, or twisting an ankle."

Dr. Lee Dreibner, a leading researcher on beryllium disease, described some of these warnings as "inadequate to warn even a sophisticated employer and its workers of the hazards."

Martin Powers, a retired Brush executive who for 25 years was largely responsible for what the company wrote and



'The company has a remarkable record about being open about this disease.'

Dr. David Deubner
Brush medical director

said about beryllium disease, says the firm never intentionally misled anyone.

But he acknowledges that some of its statements were "speculative, inaccurate and definitive for the state of knowledge at the time."

For years, he says, Brush thought the disease had been virtually eliminated — and maybe we talked that way.

But in the last 10 years, dozens of new cases have emerged.

"It's been a big surprise and disappointment to me that we have lost ground in the past few years," says Mr. Powers, who remains a paid Brush consultant.

Brush officials stress that they always tell people what they know about the disease when they know it.

"Every year we try to update our level of knowledge and try to communicate with the employees where we are," Brush CEO Mr. Harrett says.

As for the high dust levels, Brush officials acknowledge that the firm has never consistently kept exposures under the federal safety limit in all parts of the plant. But work is in progress.

Plant supervisors always post the results of dust counts on bulletin boards and discuss high exposures with employees, he says. And if high counts are discovered, workers are given respirators.

Brush officials acknowledge that respirators don't always work, all employees don't understand dust counts, and by the time high exposures are discovered, workers have already been overexposed.

Mr. Powers says dust counts have remained high because it is technologically difficult to lower them. He notes that the federal limit, 2 milligrams of beryllium dust per cubic meter of air, is a fractionally small quantity — "as amount invisible to the naked eye."

Historically, Brush could not simply shut operations that went over this limit, he says, because the U.S. government needed beryllium, a material critical to the production of nuclear bombs and other weapons.

Besides, he says, Brush takes numerous precautions to protect workers, including quarterly medical exams and thousands of air samples a year.

"I think that Brush has done everything humanly possible to minimize the risk," Mr. Powers says.

Brush Medical Director Dr. David Deubner agrees, noting that Brush has invited researchers into its plants to study the illness.

"They have a remarkable record about being open about this disease," Dr. Deubner says.

Others see it differently.

"They get it into your head that you don't have to worry about anything," says Dave Miller, a 33-year-old from Wayne, O., who contracted the disease at the Elmore plant.

"By the time you figure out they've hoodwinked you, it's too late."

THE COMPANY

FROM AN OLD STABLE TO INTERNATIONAL FIRM

Brush Wellman began 78 years ago in an old carriage house behind the last Brush family estate in Cleveland.

Inside was Brush Laboratories, where in 1921 Charles Baldwin Sawyer and Bengt Kjellgren started experimenting with beryllium. Ten years later they founded Brush Beryllium with the financial help of Charles Brush II, son of the inventor of the arc light.

It was a small business. The two founders had only two employees. But the company grew steadily, receiving a huge boost in the 1940s with the start of World War II. The government bought hundreds of pounds of beryllium from Brush, using it to develop the bomb.

"You couldn't make a really good bomb without beryllium," recalls Mr. Powers, the former Brush executive. Over the next four decades, throughout the Cold War and



BLOOMBERG NEWS/ASSOCIATED PRESS PHOTO BY ALAN DETRICH

"I don't think we have tried in any way to obscure the facts," says Brush CEO Gordon Harrett.

A COMPANY 'WARNING'

Below is the text of a warning letter new Brush workers had to sign starting in 1959. It was used, virtually unchanged, for more than a quarter-century. Last year, Brush adopted a greatly expanded warning letter. For the first time in its warning letter to employees, Brush stated that beryllium disease can be fatal.

Revised January 3, 1959

TO: ALL EMPLOYEES OF THE BRUSH BERYLLIUM COMPANY

Medical authorities now recognize that materials containing beryllium may under certain conditions be harmful to a person's health. The information resulting from medical research on the effect of beryllium on individuals indicates that this industrial health hazard is not yet fully understood. For this very reason and in order to be sure to provide adequate protection at all times, we go to a great deal of effort and expense to safeguard anyone who may come in contact with materials containing beryllium. As a result of these efforts, we have twice received National Safety Awards in recognition of our health controls.

The health problem which occurs most frequently in the beryllium industry involves skin irritations or a skin rash, resulting from exposing the skin to certain chemicals which are used or produced in our operations. A small percentage of our new employees are allergic to some of these chemicals.

Much less frequent than skin irritations are respiratory diseases which result from breathing excessive amounts of fume or dust containing beryllium. Such respiratory diseases can be of serious nature, but as a result of our constant efforts to guard against such exposures, and with the full cooperation of every employee, our experience indicates that such hazards can be controlled.

The Brush Beryllium Company health program will be explained to you when you are employed and will be reviewed by your supervisor. We have installed the most modern ventilation equipment available. This equipment is designed to control the beryllium content in the air you breathe within limits considered completely safe by competent medical authorities. Our ventilation systems are checked regularly by personnel trained in engineering and industrial hygiene. All dust, fumes and gases pass through modern dust collecting and scrubbing equipment before being discharged to the air.

The efficiency of our health controls is checked constantly through air sampling equipment which is installed both inside and outside our plants. Our engineers are alert at all times to the necessity of keeping at a minimum the number of employee exposures in normal operations. Also, all plant operations have been designed with the health of our employees being given first consideration.

Our medical program is set up to prevent occupational diseases. Our doctors will not approve you for employment if in their opinion your past health record, or your pre-employment examination indicates that you might be a poor health risk in our industry. Our medical program also includes a complete annual physical examination and chest X-ray twice each year for all employees.

We will train you to keep yourself clean when working in our plant. We will also show you the proper use and care of our health control equipment. We will explain routines which you should follow in order to avoid health hazards. If you work in beryllium production areas, you will be furnished your work clothing and shoes. We will also launder the work clothing furnished you. You may not wear or take this clothing away from our plant. When you work in beryllium production areas, you are required to take a shower at the end of your work day and we provide paid shower time for this purpose.

Most factories have occupational hazards of one kind or another. We fully realize the hazards which we have in our particular industry and we are, therefore, constantly busy maintaining and improving our health controls. To be completely successful in this effort we must, however, have the full cooperation of ALL EMPLOYEES. Please be sure to follow your supervisor's instructions.

BENGT KJELLGREN
President

(Signature of employee)

