

MINUTES

MONTANA SENATE 54th LEGISLATURE - REGULAR SESSION

COMMITTEE ON BUSINESS & INDUSTRY

Call to Order: By CHAIRMAN JOHN HERTEL, on January 13, 1995, at
8:00 a.m.

ROLL CALL

Members Present:

Sen. John R. Hertel, Chairman (R)
Sen. Steve Benedict, Vice Chairman (R)
Sen. William S. Crismore (R)
Sen. C.A. Casey Emerson (R)
Sen. Ken Miller (R)
Sen. Mike Sprague (R)
Sen. Gary Forrester (D)
Sen. Terry Klampe (D)

Members Excused: Sen. Bill Wilson (D)

Members Absent: N/A

Staff Present: Bart Campbell, Legislative Council
Lynette Lavin, Committee Secretary

Please Note: These are summary minutes. Testimony and
discussion are paraphrased and condensed.

Committee Business Summary:

Hearing: SB 100
Executive Action: SB 100 DO PASS.

HEARING ON SB 100

Opening Statement by Sponsor:

SEN. TOM BECK, SD 28, Deer Lodge, stated the intent of SB 100, the "Micron Bill", is to create incentive for Micron to come to Montana. Micron is a corporation in Idaho seeking to double the size of its manufacturing base. Butte is on the list of 13 cities Micron is considering for this expansion. He said "we want them to know we want and need the jobs." This bill will allow the State of Montana to loan Butte Silver Bow County \$16 million for a waste treatment plant which will be necessary if Micron relocates to Butte. If Micron does relocate to Montana, the monies would be loaned out of the Coal Tax Trust Fund to Butte Silver Bow for the construction of the waste treatment plant. Micron would then receive a dollar-for-dollar tax credit

for money they pay to Butte Silver Bow to pay off the loan. This would provide an incentive to Micron since it is estimated they will pay from \$10-25 million in income taxes the first year.

SEN. BECK added the bill also provides for any major company moving into Montana, providing over 2000 jobs, to take advantage of this loan. He believes it is a good gesture on our part. If we can get Micron to come to Montana it would be an economic boost for years to come.

Proponents' Testimony:

SEN. J.D. LYNCH, SD 19, Butte, declared it was no accident **SEN. BECK** is the chief sponsor of this bill. It is a bi-partisan effort; it is larger than political parties. It is important to Butte, southwestern Montana and the entire state. What is good for Butte is good for Montana. **SEN. LYNCH** said he could not imagine anyone finding fault with the economy in Montana getting a boost. Even if Micron doesn't come through, the bill would still send an important message across Montana and the business community of America that Montana is open and ready to do business and willing to go the second mile to accommodate people who want to bring a clean industry to our state. He quoted "your reach should exceed your grasp or what are the heavens for", so when Montana sees an opportunity, we should try to grasp it.

REP. JOE QUILICI, HD 36, Butte, stated this is a chance for Montana to get a high tech industry that could create 3500 jobs. He reported construction could be over \$½ billion. If construction does start on this project, legislation would then kick in. If construction does not start, all that is lost is time in coming before the committee and drafting the legislation. He believes this is worth it to Butte Silver Bow and to all Montanans. **REP. QUILICI** pointed out that anyone who has children knows how many have had to leave our state to find jobs. This bill may give our children a chance to stay in Montana, in a high tech industry, and will be beneficial to them and the state.

SEN. JUDY JACOBSON, SD 18, Butte, commended community members who put the project together stating it was a tremendous accomplishment on their part. She also thanked Governor Racicot for his cooperation in trying to help with the project. **SEN. JACOBSON** believes the project is positive for Montana and Butte Silver Bow and it is a tribute to the people working on the project that it has gotten this far.

REP. BOB PAVLOVICH, HD 37, Butte, agreed that what is good for Butte is good for Montana.

REP. DAN HARRINGTON, HD 38, Butte, stated what the committee and the general legislature does in the next week is very important to the direction the state is going to move. He said the contribution to Montana if Micron does come would be unimaginable. He stressed the importance of the legislation on

SB 100 move quickly. **REP. HARRINGTON** commended the individuals involved for all the time and hard work in putting this project into perspective.

Mayor Jack Lynch, Chief Executive of Butte Silver Bow, explained some time ago Butte Silver Bow responded to a request from Micron that solicited over 300 responses. After initial review and evaluation Micron cut the proposals to 13 finalists. The only Montana city in the contention is Butte. He emphasized the economic impact cannot be overstated. As illustrated in **EXHIBIT #1**, total project costs are estimated at 1.3 billion, 3500 primary jobs, and as many as 6500 secondary jobs.

Mayor Lynch, admitted that the most obvious concern of Montanans and the committee is why Montana would have to loan \$16 million. He explained the main reason is the project is too big for Butte or southwest Montana to finance on their own. The state would have to be involved in making the project a reality. He believes it is critical for Montana to send a message, as the next century approaches, that Montana is serious about economic development. The project would have profound ramifications for the whole state. **Mayor Lynch** listed the Governor, every Senator and Representative from southwestern Montana, and all the members of the congressional delegation as being in support of the bill.

Mayor Lynch maintained that in the long run the project would provide a benefit to the whole state in terms of taxation. The taxes are estimated at \$23 million in employment taxes and corporate taxes at \$35 million/year. He emphasized this is a good rate of return on a \$16 million investment. He explained the money requested would not be spent unless the project comes to Butte Silver Bow and the money, consistent with Montana statute, will all be used in the development of necessary infrastructure. **Mayor Lynch** believes this is a unique opportunity, it is a large project, but it is not overwhelming. In closing, he stressed time is of the essence as the final proposal is due in Boise before the 23rd of January.

Linda Reed, Senior Economic Advisor, Governor's Office, read her written testimony. **EXHIBIT #2**

Evan Barrett, Executive Director of the Butte Local Development Corporation described what Micron is, what it does, and how production is handled in **EXHIBITS #3 & #4**. He explained Micron had started in a garage and is now the 8th largest semi-conductor manufacturers in the world. The company's work force is stratified and the bill allows opportunity for relationship of infrastructure. He stressed if Micron doesn't come, there will be no bill. The area Micron located had specific requirements and needed strengthening with public infrastructure. Local government is committing significant resources to the project while federal agencies and other sources will contribute support. This bill is the opportunity for the state to become a partner in building the public infrastructure for this economic development

project. He said their goal is to be at least even, if not ahead, with the other communities in terms of available public infrastructural support. Passage of this bill is a critical component of the community's ability to finance the project.

Mr. Barrett went on to say jobs associated directly with this project and the support jobs that will come with it, will expand the Montana work force by 2% to 2-1/2%. He believes the return to the state is very important. The payment would be free to Micron because of the tax credit to them. The income taxes generated by the individuals working at Micron and working in the support industries, as well as the corporate income tax Micron would pay, would range in the area of \$23-25 million/year. In closing, **Mr. Barrett** urged rapid consideration of the bill.

Don Peoples, Chairman of the Montana Technology Co. in Butte, read his written testimony. **EXHIBIT #5**

Alec Hanson, Montana League of Cities/Towns, stated there are 125 cities and towns in their organization and the Board of Directors is in general agreement that this project would be good for Butte and the State of Montana. **Mr. Hanson** emphasized the historical viewpoint of Butte. All the other towns that developed during the same time interval are ghost towns, but Butte is still there. The reason is that Butte is too tough to die. The people in Butte are prepared, with the right support, to promote some real economic development in the state, and the solid, good paying jobs that Montana needs.

Dan Wok, US West, expressed US West's support. He reminded the committee that there are many components to infrastructure and telecommunications is one of them. **Mr. Wok** also stated that U.S. West was looking forward to working with Butte to make their proposal the best it can be.

Gloria Potochek, Richland Development, Eastern Montana, stated that they would like to go on record in support of SB 100.

David Owen, Montana Chamber of Commerce, expressed their support for SB 100.

Questions From Committee Members and Responses:

SEN. MIKE SPRAGUE asked **SEN. LYNCH** to explain how the investment tax credit would be paid back so he could be confident he was making a decision for a wise investment of the coal tax fund. He asked for specifics as to the interest paid and how much risk was involved. **SEN. LYNCH** replied it is absolutely a "no lose" situation. Not \$.01 will be lost. **Evan Barrett** explained the Board of Investments, which handles loans out of the Coal Trust Fund, would be the mechanism for creating the loan relationship with Butte Silver Bow. They would structure a repayment plan and it would bear interest. Butte Silver Bow, in operating the

infrastructure, would charge a fee over the normal use fee to cover the amortization of the loan. The state gives the tax credit to offset the amount that Micron contributes. The state would hold the infrastructure as collateral for the loan. **Mr. Barrett** stressed it is a prudent investment and as protected as possible.

SEN. SPRAGUE asked what the rate of interest would be. **Mr. Barrett** replied the rate of interest would be negotiated with the Board of Investments. He further explained the normal rate is the treasury rate for the same term, X 1.2 minus up to 2½ because of the job creation. At this time it would fall into roughly the 6.5% area.

SEN. SPRAGUE noted there is some flexibility of the bill in the amount of the loan; it can go up to but not exceed \$20 million. **Mr. Barrett** said the bill allows for anyone who creates more than 2,000 jobs; however, the bill specifically provides for \$16 million for the Micron package. There is a possibility they could ask for more if they saw more infrastructural support was necessary.

SEN. CASEY EMERSON asked **SEN. BECK** why they had chosen a 2000 minimum level. What if a company somewhat smaller wanted to take advantage of this? **SEN. BECK** answered they didn't want to open this up entirely for smaller companies as it is not possible to get enough income tax as a credit. Because of their size, the large companies will pay an amazing amount of taxes, both corporate and income, and that is the payoff.

SEN. EMERSON inquired if Micron actually manufactures the chips themselves? **SEN. BECK** said he was sure they do.

SEN. EMERSON asked if something were to happen to Micron, would the infrastructure still be of value to Butte? **Mr. Barrett** said the infrastructure is basically an industrial infrastructure that would service the needs of Micron but could also service the needs of other growth. With the number of spin off jobs the growth would have need for that infrastructure support. There is a benefit to Butte Silver Bow for having the infrastructure present there. He said this is a component of a much larger public infrastructure package and Butte Silver Bow will be bearing a significant financial responsibility of its own. There are federal and private monies also involved.

SEN. KLAMPE pointed out **SEN. LYNCH** had said there is no risk involved in this loan; however, there is always a risk in business. He asked what the stock value is and the future earnings estimates of Micron. **Mr. Barrett** answered he had not brought the stock sheet with him but had reviewed it himself. Micron is in strong growth and had a net income of \$160 million a year ago and over \$400 million this year. He had just read a projection this morning from a stock analyst who expects about a 44% increase in growth which may even go up 60% this year.

Micron has had growth in the value of its stock. There was a temporary drop in the stock last summer. Three top executives were replaced with people inside who were younger and more aggressive and since then Micron's stock has regained its value at about \$41. The analyst pointed out in the report that growth is strong because of the unique technologies they apply. Micron is able to produce the drums at a cost of about 15-20% less than competitors. **SEN. LYNCH** submitted **EXHIBIT #6** which is Micron's 1994 Annual Report.

SEN. KLAMPE asked **SEN. BECK** how many new people are expected to move into Montana. He replied that Micron would employ 3500 people itself plus the ancillary things that go with that. **Mr. Barrett** said they hope at least half of the new employees will come from the immediate area. They expect the people who are underemployed to be drawn to the plant. They projected as many as 10,000 people to be drawn over a period of years. Butte clearly has the infrastructure to support this influx because only a few years ago Butte's population was more than 10,000 people larger. The growth would be manageable. They currently have a task force at work on the impact to schools. He hoped the people who would be coming into the state for the new jobs would be Montanans moving back.

SEN. KLAMPE asked **SEN. BECK** why Section 6 of the bill was included? He pointed out it is uncommon to see a bill listing a specific company. **SEN. BECK** replied that this bill was designated specifically for this plan.

SEN. KLAMPE wanted to clarify if the bill would include any business coming into Montana and employing more than 2000 people. **SEN. BECK** said they had wished to emphasize to Micron they were wanted in Montana. If it was appropriate, MICRON could be struck from the bill.

SEN. MILLER asked if in the event Micron did not come to Montana, would the entire bill be null and void or just the part of the bill referring to Micron. **SEN. LYNCH** said the reason for the bill was Micron, but they also want to send a message to other companies interested in doing business in Montana. He stated the Board of Investments listed "Micron" specifically in the bill as it was important for Micron to know the State of Montana was looking at their offer specifically.

SEN. MILLER asked **SEN. LYNCH** if the liability of the loan would fall on the state or on Butte Silver Bow in the event the company was here one year and then gone. **SEN. LYNCH** replied before Butte could make that sort of commitment there would have to be a contract with Micron where Micron makes a commitment. Butte is not doing this lightly.

SEN. SPRAGUE asked **Linda Reed** if SB 38, the coal tax trust fund request to cooperate with small business, would be affected in any way by a \$16 million loan to Micron. He also asked how to

address the concerns of small business entrepreneurs when they see the major corporations are taking a large part of the fund.

Ms. Reed stated she would hope the size of the different projects would be clear to the small businesses and they would look at this as an opportunity for spin off opportunities from Micron. She stated she did not think small business would be slighted in any way. **Mr. Peoples** added the opportunities that will develop around Micron are substantial.

SEN. MILLER asked **Mr. Barrett** if Micron has an opinion on the right-to-work issue. **Mr. Barrett** replied they had expressed no opinion.

Closing by Sponsor:

SEN. BECK closed by addressing some of the concerns and fears that if something went wrong the state would be under an obligation to pay back the loan. He believes the chances of that happening are almost zero. Micron, if they do locate in Montana, will have up to \$1 billion invested in the state and that kind of investment is not something they will make without close scrutiny. While Montana may not be Micron's first choice, it could be they are presented with the right package. Butte has the highway, the railway, the water system, the fiber optics, the power lines and they just want to add one more plus to the package. He urged the members to please give the bill careful consideration.

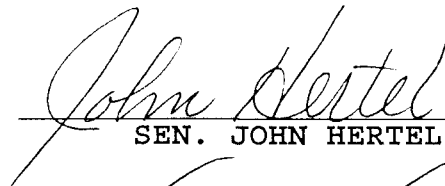
EXECUTIVE ACTION ON SB 100

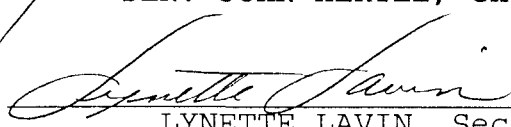
Motion: **SEN. FORRESTER** MADE THE MOTION OF DO PASS SB 100 AS SUBMITTED.

Vote: The motion of DO PASS SB 100 CARRIED UNANIMOUSLY on oral vote.

ADJOURNMENT

Adjournment: The meeting adjourned at 9:07 a.m.


SEN. JOHN HERTEL, Chairman


LYNETTE LAVIN, Secretary

MONTANA SENATE
1995 LEGISLATURE
BUSINESS AND INDUSTRY COMMITTEE

ROLL CALL

DATE 1-13-95

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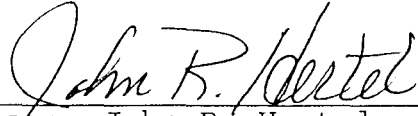
SENATE STANDING COMMITTEE REPORT

Page 1 of 1
January 13, 1995

MR. PRESIDENT:

We, your committee on Business and Industry having had under consideration SB 100 (first reading copy -- white), respectfully report that SB 100 do pass.

Signed: _____


Senator John R. Hertel, Chair

 Amd. Coord.

 Sec. of Senate

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FACT SHEET

MICRON Technologies Expansion

Who is MICRON?

MICRON Technology, Inc. was founded in 1978 as a design consulting company operating from the basement of a dentist's office in Boise, Idaho. MICRON became a publicly traded company in 1984. Today it is one of the top four semi-conductor manufacturers in the world. Last year, an exceptionally good year in the industry, brought MICRON, still headquartered in Boise, a net income of over \$400 million.

What are MICRON's expansion plans?

MICRON intends to double its production capability following the construction of a \$1.3 billion facility. MICRON received applications from over 300 communities, including some in foreign countries, before developing a short-list of 13 communities to further consider for its expansion. Those communities include Butte-Silver Bow, Montana. Others on the short list are Twin Falls, Boise, Nampa, and Coeur d' Alene (all in Idaho); the Tri-Cities and Lacey (both in Washington); Payson Utah; Omaha, Nebraska; Oklahoma City, Oklahoma; Waterloo and the Quad Cities (both in Iowa); and South Bend, Indiana.

What are the economic benefits to Montana of the MICRON expansion?

MICRON will hire 3,500 employees at the facility. Payroll -- salaries and benefits -- will total approximately \$200 million per year. Another 6,500 to 7,000 support jobs will result from the MICRON expansion. The total jobs resulting from MICRON's expansion will increase Montana's total job base by 2-2.5 percent. The location of MICRON in Montana will help Montana enter the 21st Century with a 21st Century economy.

What are the tax benefits of the MICRON expansion?

Conservative estimates of the income tax benefits to the State of Montana (both individual and corporate for both the direct and spin-off jobs associated with MICRON) should be at least \$23 million each year.

Property taxes (prior to any tax breaks) would be approximately \$35 million per year, although some existing property tax incentives will have to be put into place by Butte-Silver Bow in order to attract MICRON to the Big Sky Country.

Senate Bill 100
An Act Authorizing Loans to Businesses Estimated to Employ at
Least 2000 (MICRON)
Testimony
January 13, 1995

Mr. Chairman and members of the Committee, I am Linda Reed and I represent the Governor's Office, where I am the Senior Economic Development Advisor. I am here to enthusiastically request you favorable consideration of Senate Bill 100. As you know, passage of this bill will provide financing for the construction and installation of water, sewer, and road systems necessary to support the needs of Micron Technology, an Idaho company seeking a second operating location. This financing will take the form of a loan from the permanent coal tax trust fund to a local government who will construct and own these infrastructure improvements and in turn charge Micron for their use. These charges will create the cash flow necessary to repay the trust fund.

Micron is the eighth largest computer memory company in the world, competing in the \$14.3 billion market for 4 megabit chips and the estimated \$30.3 billion market for 16 megabit chips. Last year the company generated profits of \$400.5 million on sales of \$1.6 billion. These are not familiar numbers to Montana businesses nor is this familiar technology. But this unfamiliarity need not persist.

For all the reasons that Micron headquartered in Boise, it will find itself at home in Southwest Montana. Abundant water and land, a strong work ethic, friendly and open communities in which employees can live, and recreational opportunities that take a backseat to none. But I think we have something Boise doesn't have. . . perhaps the most important requirement of Micron, access to local higher education for training of technicians and engineers and for research facilities. So serious is this issue, that in October Micron offered a \$6 million gift to Boise State University and University of Idaho if they would develop a high technology curriculum at BSU. This is not a new conversation, but one that has been ongoing since 1988 and it will likely take an additional year for the Idaho Department of Education to respond to these desired curriculum changes. We have the spectrum of educational forums needed by Micron in Butte, from a vocational school to offer training at the technician level to our world class technology school, Montana Tech. Enhancing Montana Tech's curriculum is a tradition of cooperative program offerings from Montana State University.

To those Montanans who have perhaps had a skeptical thought about why Montana, I respond why Idaho? and share the only thing I know with certainty. If we do not collectively, as a State and its people, put our best offer on the table we will definitely not get this opportunity for the creation of 3500 direct well paying jobs within an environmentally compatible industry nor the 10,000

projected indirect jobs.

I spent my childhood in Boise, and my family lives there now. Both my parents own their own small businesses, my Dad in financial services and my Mother in retailing. So, I have some direct experience with the positive impacts created by companies like Micron. I have watched Boise grow from a community the size of Butte to one with 150,000 people. From a community whose economy was reliant on State Government to one supported by a diversity of industries. For those who may fear such growth, I share my Dad's words, "It still only takes seven minutes to drive across town."

Having a Montana community selected from over 300 applications should make us all proud. It should be a strong signal, that Montana and technology companies are compatible and that if we continue to take care of our natural resources for both their economic value and aesthetic enjoyment, maintain our work ethic by strengthening families, and keep our centers of technological development and learning vibrant, we will have other opportunities.

I would like to thank the economic development and community leaders of Southwest Montana and my associates in the Department of Commerce who are working to provide this opportunity for all for all of us. It is also important to acknowledge the statewide support provided from both the private and public sectors to the development of this proposal. I know that with the support of the legislature for the passage of Senate Bill 100, Montana will be able to present a competitive offer to Micron. One that will be taken seriously because it will make economic sense.

On behalf of the Governor, I encourage your favorable consideration of Senate Bill 100. It is an important piece of our invitation to Micron to join us in Montana, which if accepted will provide economic benefit to us all, but more importantly create the jobs to keep and bring our children home.

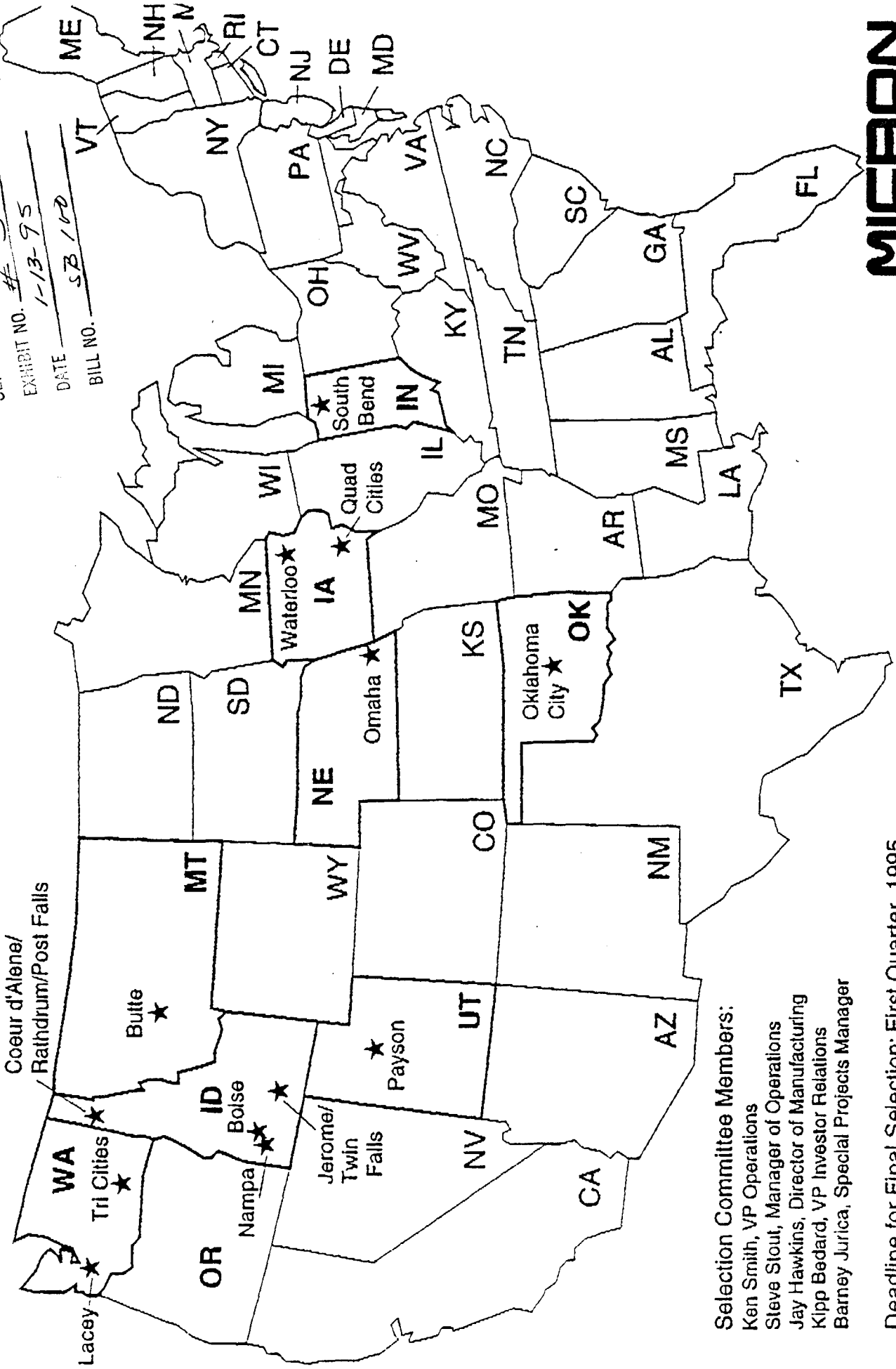
Thank you.

Communities Under Further Consideration

Micron Manufacturing Complex

SENATE BUSINESS & INDUSTRY

EXHIBIT NO. # 3
 DATE 1-13-95
 BILL NO. SB 100



Selection Committee Members:
 Ken Smith, VP Operations
 Steve Stout, Manager of Operations
 Jay Hawkins, Director of Manufacturing
 Kipp Bedard, VP Investor Relations
 Barney Jurica, Special Projects Manager

Deadline for Final Selection: First Quarter, 1995

MICRON
 TECHNOLOGY, INC.

SEMICONDUCTOR MEMORY CHIPS begin as sand that is then purified, melted, and formed into silicon ingots. (The tip of a silicon ingot is shown at the bottom of the page.) Silicon ingots are sliced into wafers and polished before delivery to Micron Semiconductor. Layers of circuitry are built on the surface of the wafer to create the finished die illustrated on the wafer below.

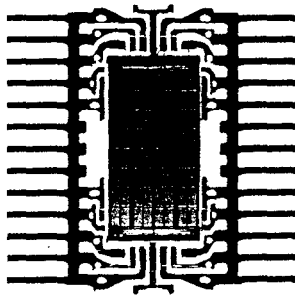
SENATE BUSINESS & INDUSTRY

EXHIBIT NO. # 4

DATE 1-13-95

BILL NO. SB 100

From Concept To Consumer



The miniature chip that allows us to store information in a computer, display a picture on a monitor, or talk to relatives across the country must go through many intricate steps before it performs its job. The process of producing semiconductor memory from concept to consumer is an interesting journey.

Following is a photoessay of that journey, allowing readers who have never visited our site to experience the process. This article will describe the processes used to develop the many products Micron Technology, Inc., and its subsidiaries create.

A chip's journey begins at Micron Semiconductor, Inc., which designs, manufactures, and markets semiconductor memory products, including 4 Meg DRAMs, 256K and 1 Meg very fast SRAMs, and 1 Meg and 2 Meg VRAMs. Micron Semiconductor's chips are used in computer main memory or expansion memory, workstations, high-performance graphics applications, peripherals, networking, high-performance portable computers, telecommunications equipment, and other battery-powered, memory intensive systems.

New products are created in anticipation of customer needs. Commodity DRAMs and SRAMs are designed to meet basic industry standards. These standards assure that a common chip, such as a 4 Meg DRAM, has the same basic function as chips from other manufacturers. Once standards have been met, the company polls its engineers and customers to determine which additional options, speeds, and configurations may be desirable. Customers who require a chip other than the commodity, or standard, chip work directly with the semiconductor manufacturer to create the product.

All suggestions within the company for new chips are first reviewed by a Product Review Team (PRT). The PRT, consisting of representatives from design, manufacturing, and marketing, reviews initial design and marketing studies to decide which new chips have the greatest potential to provide advantages to our customers.



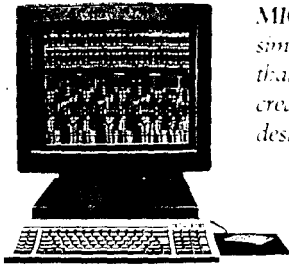
SEMICONDUCTOR MEMORY CHIPS are used in many portable, high technology applications which make our lives easier. Micron Semiconductor memory chips are used in applications such as this portable notebook computer. Portable computers can be

taken almost anywhere, to help users make the most efficient use of their time. Cellular telephones (below) use semiconductor memory and allow users to extend their communication ties beyond the office or home.

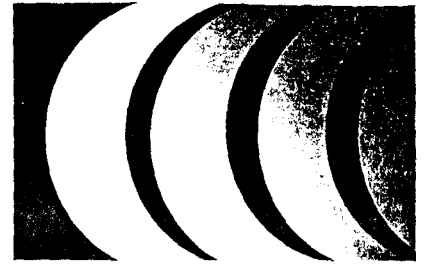


MICRON SEMICONDUCTOR'S production areas and equipment locations are being remodeled and rearranged in an effort to increase wafer output. Construction has begun on two new buildings, a second facilities plant and an implant building, which will be constructed by sister subsidiary Micron Construction, Inc.

INFORMATION can be shared quickly and efficiently with this networking center (right). Networking systems link individual personal computers, allowing multiple users efficient access to common data and programs.



MICRON SEMICONDUCTOR CHIPS are designed and simulated on workstations (left). Only after simulations illustrate that the designs will perform as desired are the reticles (below) created for prototype manufacturing. The reticle reproduces the designer's computerized drawing of a given layer.

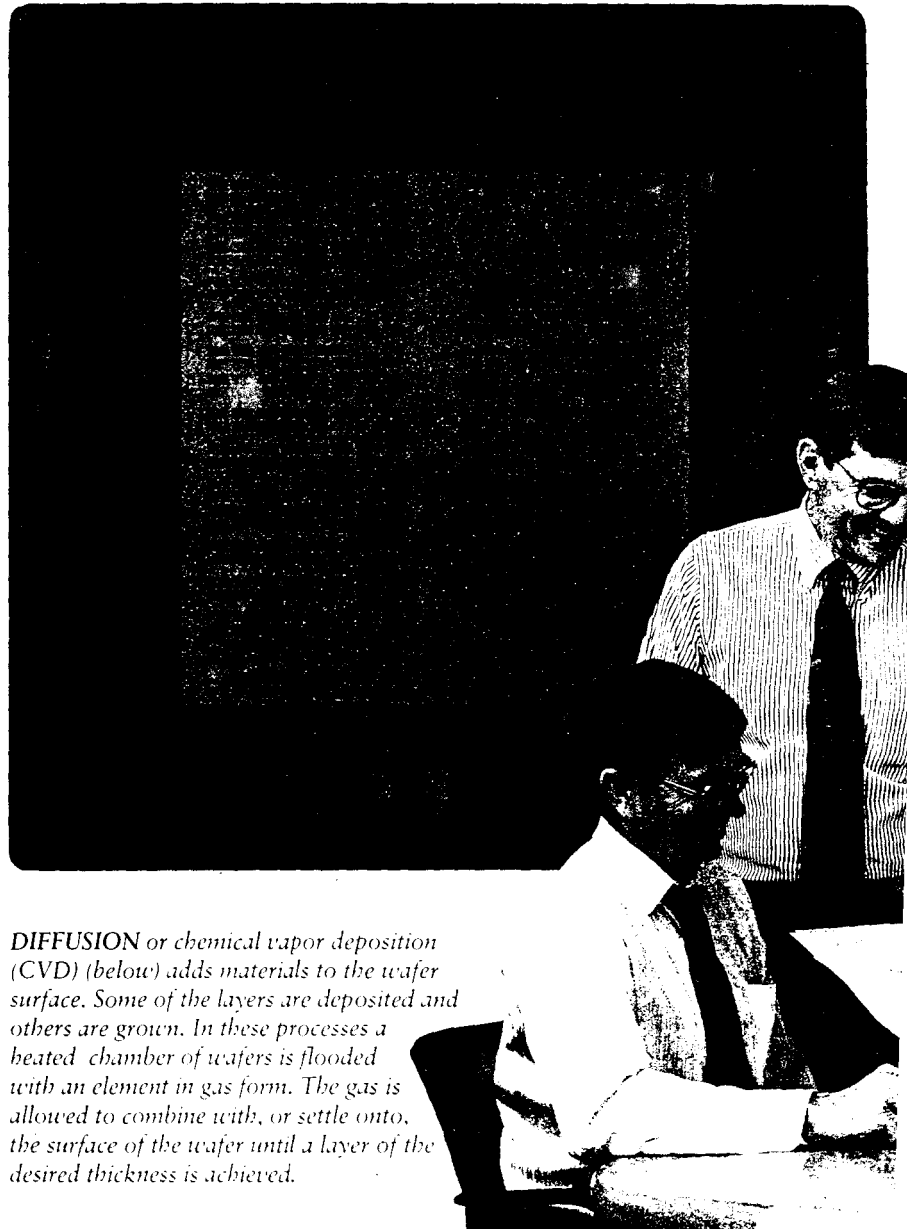


THE PROCESS of manufacturing semiconductor memory involves building layers of materials on thin bare wafers of silicon (right) to form electrical circuits.

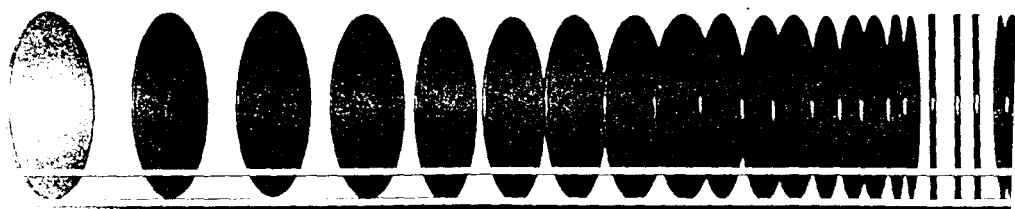
Once the PRT grants approval for development of a new chip, a process development team is appointed to create the necessary process technology and test vehicles. A design team is also appointed to develop and simulate designs for a manufacturable chip. The design and the process development may take a few months for modifications of an existing chip or up to several years for a new product.

The design/development phase nears completion and the die is ready for tape-out when the chip layout is finished, simulations show it will work as desired and is manufacturable with the equipment available, and customer feedback indicates a potential market. The tape-out process recreates the product designer's computerized drawing of each layer on a plate of glass, called a reticle, using a thin layer of patterned chrome to define the layer's geometry. Typically 10 to 20 patterned layers of varying materials, each performing a different purpose, are built to create one chip.

Prototype wafer manufacturing begins after the first patterned reticles are received. Prototype wafers are processed in the developmental fab to work out any problems in the new process and product designs. Engineering samples are sent to customers for evaluation as soon as working chips are available. Product performance feedback from customers is used to help refine the part and improve test programs and processes.

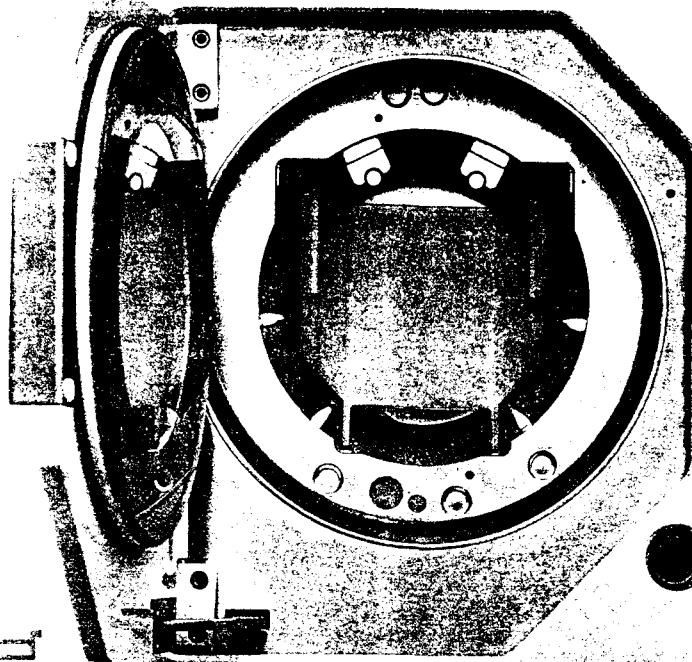


DIFFUSION or chemical vapor deposition (CVD) (below) adds materials to the wafer surface. Some of the layers are deposited and others are grown. In these processes a heated chamber of wafers is flooded with an element in gas form. The gas is allowed to combine with, or settle onto, the surface of the wafer until a layer of the desired thickness is achieved.



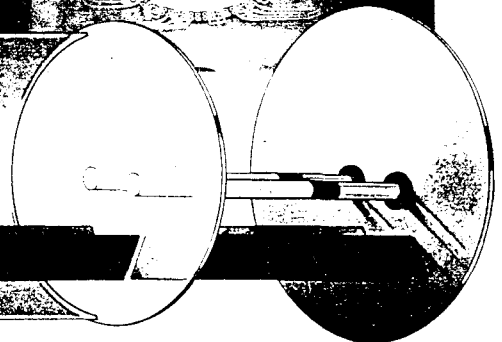
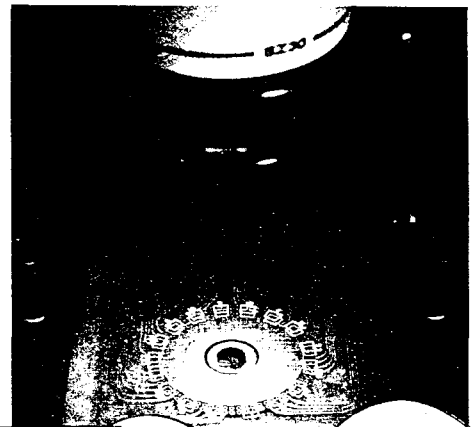
CLEAN (right) Wafers are rinsed with deionized (super clean) water and spun dry to remove unwanted chemical residues from the surface.

Die manufacture involves a series of process steps performed to create layers of materials on a silicon wafer. These layers form transistors separated by non-conductive glass-like material and connected with thin metal ribbons to form the electrical circuits of an individual die. Product designs dictate the order of basic process steps for each die. Most of these steps will be repeated many times in the manufacture of a single die.

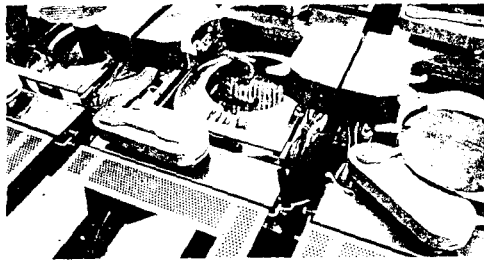


FAB PRODUCTION CONTROL tracks wafers through the fabricating process and measures layers at certain manufacturing stages to determine layer depth and chemical structure (right). These measurements assess process accuracy and facilitate real-time modifications.

THE PRODUCT REVIEW TEAM (left) reviews initial design and marketing studies.



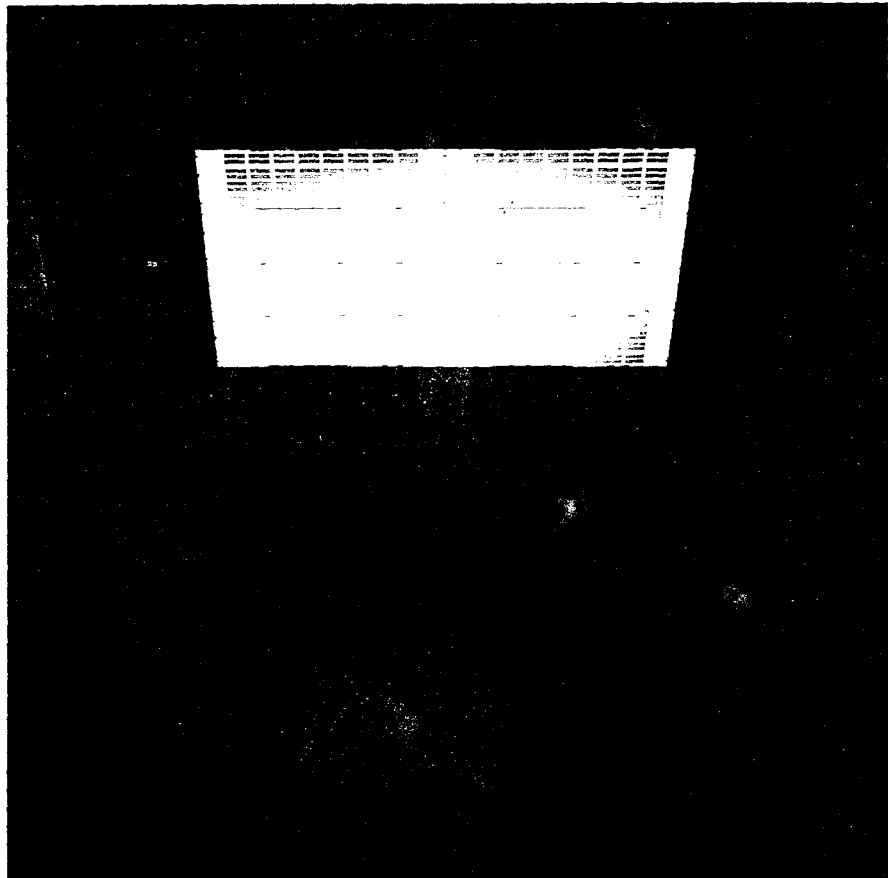
COAT-BAKE Some manufacturing steps are meant to affect only specific areas on the wafer's surface. A protective coating, called photoresist (or resist), is applied and spun onto wafers (right) then



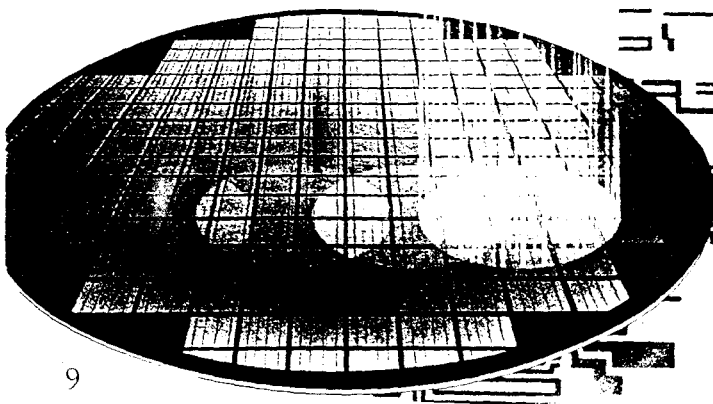
baked to create a thin, even coating which acts like film in a camera. The resist is patterned in a stepper (right next page) using a reticle like the one below.

Extensive testing is done on all products prior to volume production to ensure they meet or exceed quality and reliability requirements. Once the development, testing, and internal qualification are complete, and the die's long-term reliability and functionality is assured to customer satisfaction, volume production and sales begin.

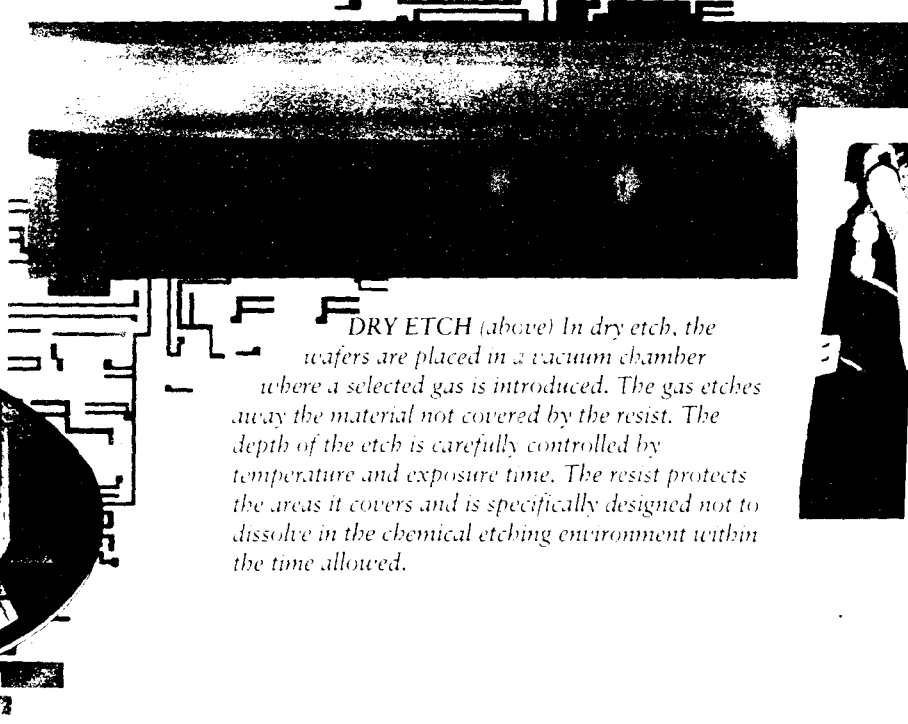
EACH RETICLE (right) contains the pattern for one layer of the chip. The pattern on the reticle is optically reduced as it is imaged onto the resist on the wafer. A reticle contains the pattern for one to ten die.



IMPLANT (below) Electrical characteristics of selected areas are changed by implanting energized ions (dopants) into areas not protected by resist or other thin material layers. The dopants come to rest below the wafer's surface creating the positive and negative areas on the wafer which encourage or discourage the flow of electrical current throughout the die. In another process called sputtering, metal molecules are deposited onto the wafer. The wafer then goes through align and etch to pattern the metal lines which carry the current.



DRY ETCH (above) In dry etch, the wafers are placed in a vacuum chamber where a selected gas is introduced. The gas etches away the material not covered by the resist. The depth of the etch is carefully controlled by temperature and exposure time. The resist protects the areas it covers and is specifically designed not to dissolve in the chemical etching environment within the time allowed.

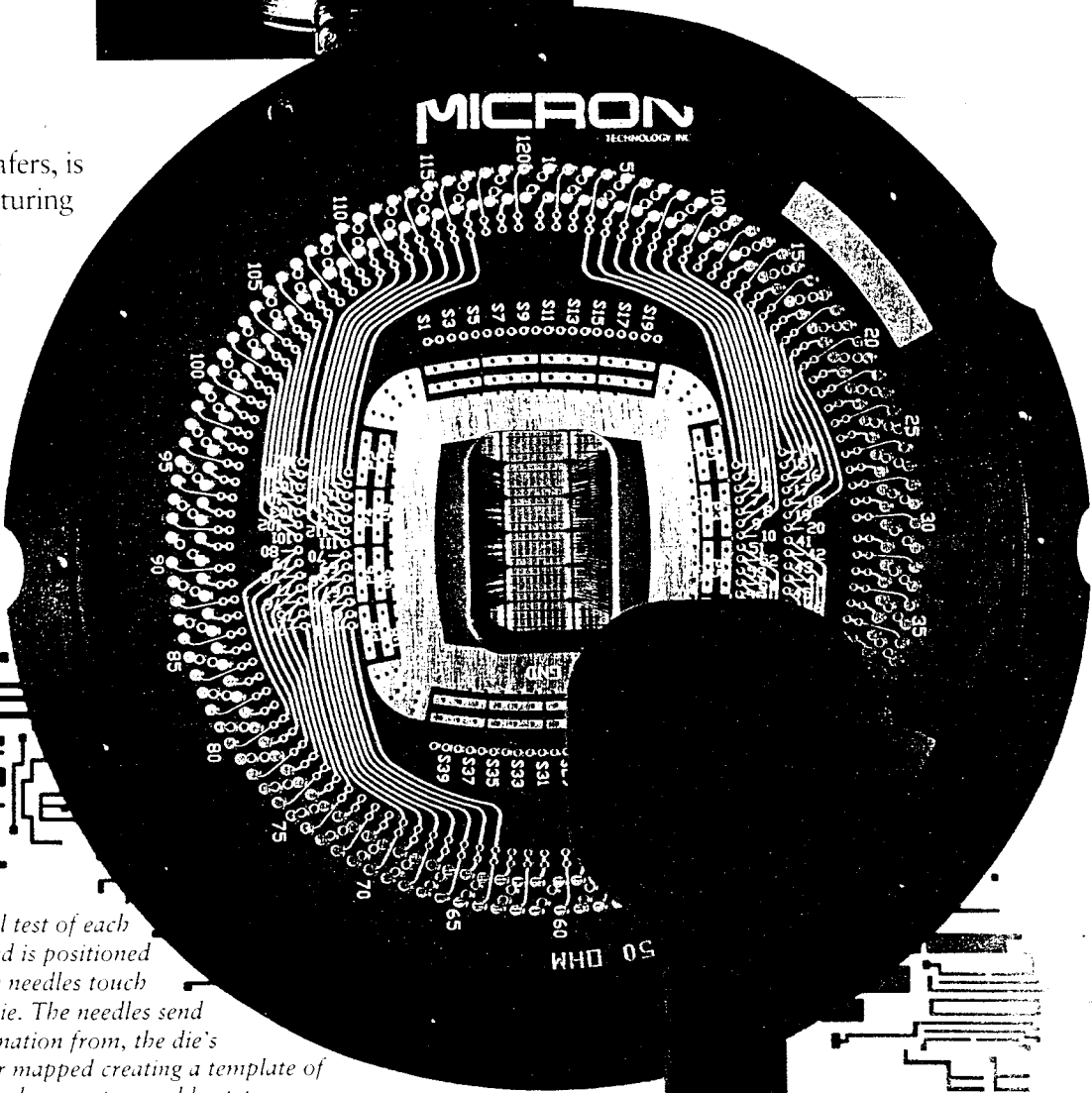


ALIGN The layer's pattern is transferred from a reticle onto the surface of the wafer in a stepper (right). A wafer is accurately positioned under the reticle, and ultraviolet light shines through the reticle to project the image (opposite page)

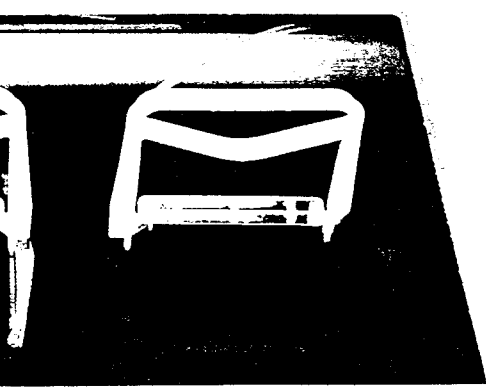


onto the resist covering. The resist is then developed, and any unwanted resist is washed away. The remaining resist creates a protective cover for steps affecting the underlying material.

Each lot, or group of wafers, is tracked through the manufacturing process using a computerized check-off sheet. When manufacturing is complete, wafers are sent through probe for their first test for functionality. After the wafer has been probed, and die performance mapped, the wafers are sent to assembly where each die is separated and packaged.



PROBE (right) is the first electrical test of each chip for functionality. A probe card is positioned over the finished wafer, and probe needles touch corresponding bond pads on the die. The needles send information to, and retrieve information from, the die's memory. Test results are computer mapped creating a template of all die on the wafer for use in the subsequent assembly steps.

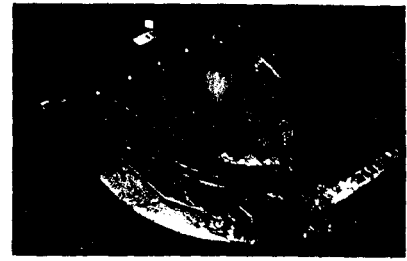


WET ETCH (left) When the process step requiring the resist (typically dry etch or implant) is complete, the resist is removed using a wet etch. Wafers are immersed in a vat of acid, timed carefully while the resist is dissolved, and rinsed to clean the wafer for the next step.

VACUUM WAND (left) Wafers are never touched by human hands. Instead, the wafers are automatically loaded into equipment, or a vacuum wand is slipped onto the back of the wafer to be moved.



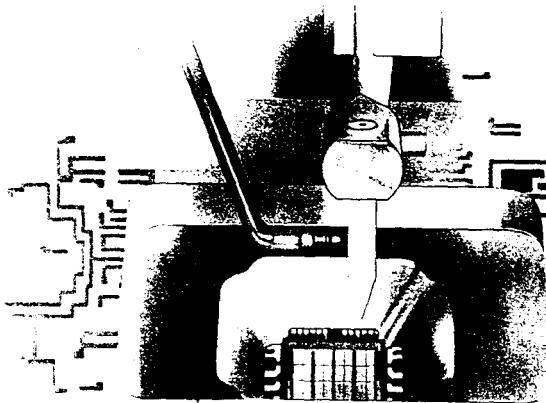
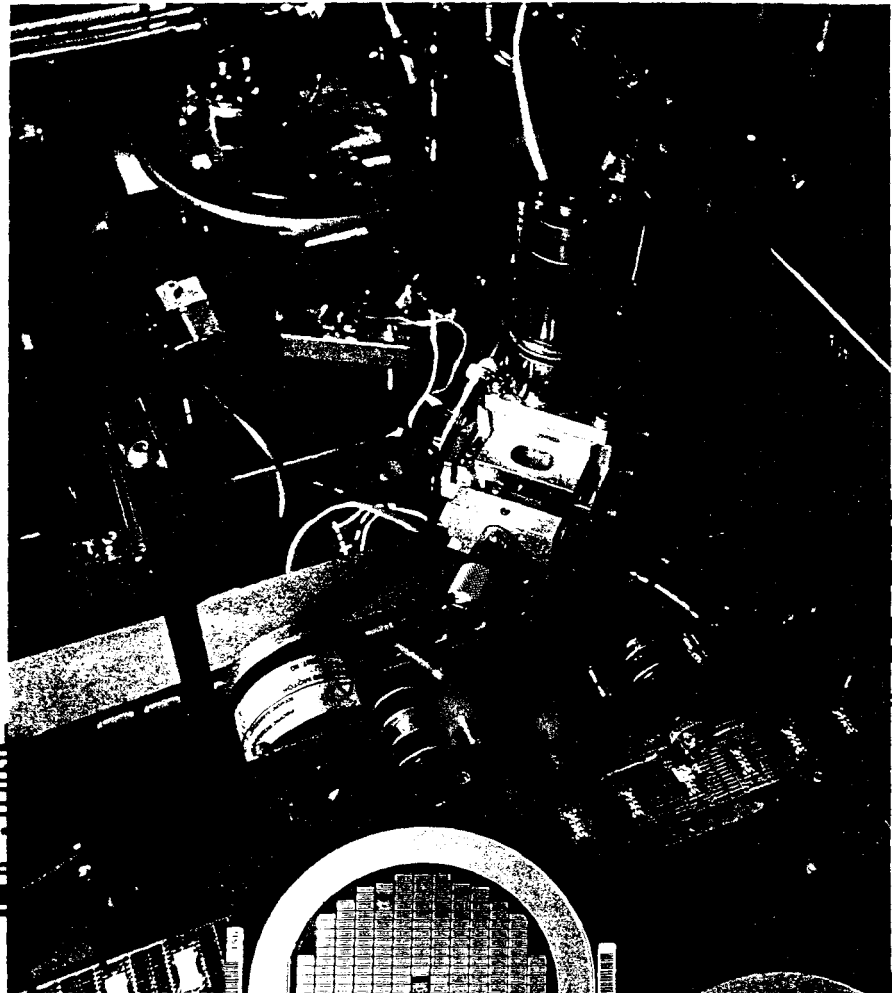
WAFER MOUNT (left) Each wafer is vacuum mounted onto a metal-framed sticky film tape. The wafer and metal frame are placed near the tape, then all three pieces are loaded into a vacuum chamber. A vacuum forces the tape smoothly onto the back of the wafer and metal frame.



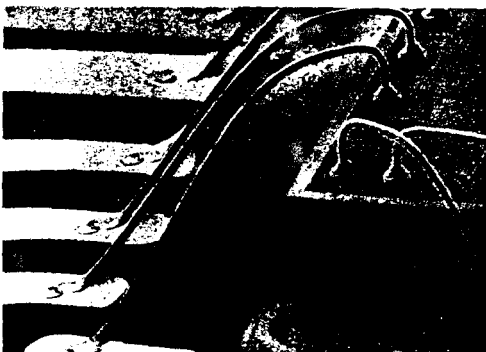
WAFER SAW (right) Each wafer is cut into many individual die using a diamond-edged saw with a cutting edge about the thickness of a human hair.

Product samples are taken out of the normal product flow for further environmental and reliability assurance testing. These additional QA (Quality Assurance) tests push chips to their extreme limits of performance to ensure high-quality, reliable die and to assist with die improvement.

DIE ATTACH (right) Individual die are attached to silver epoxy on the center area of a lead frame. Each die is removed from the tape with needles plunging up from underneath to push the die while a vacuum tip lifts the die from the tape. Lead frames are then heated in an oven to cure the epoxy. The wafer map, created in probe, tells the die attach equipment which die to place on the lead frame.

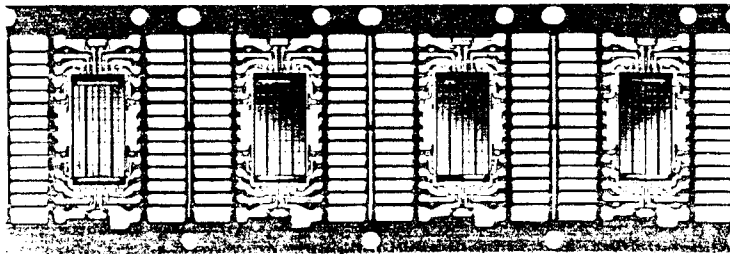


MOUNTED WAFERS (right) Examples of wafers on tape before separation by the die saw, after being sliced into individual die, and after the die attach equipment has placed good die onto the lead frames.



WIRE BOND Gold wire provides an electrical data transfer path between the die and the computer. (Above left) The gold wire, thinner than a human hair, is fed through a ceramic capillary, heated, and forced down onto the bond pad on the die and then onto the lead frame to form ball and stitch bonds (left).

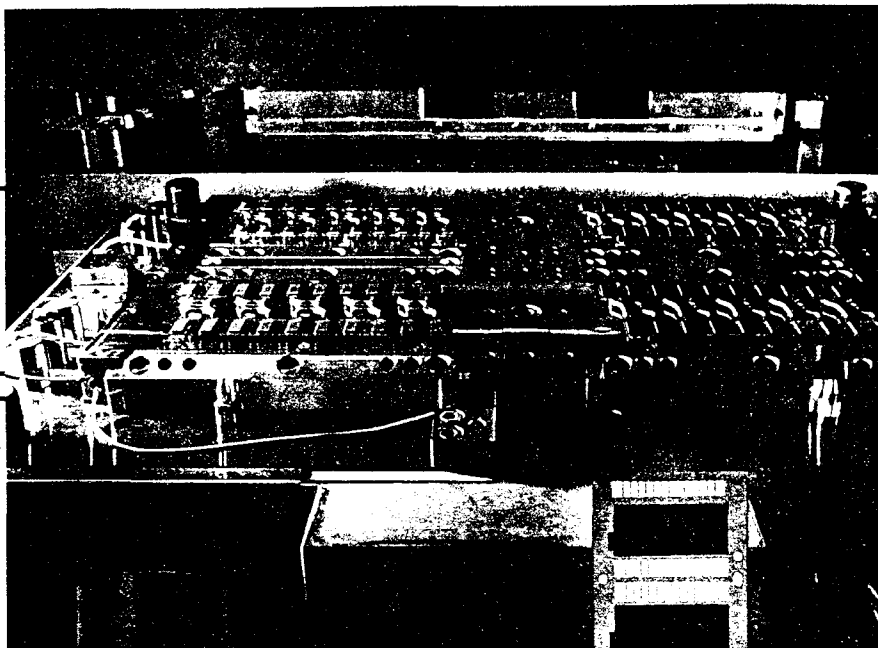
LEAD FRAME (right) just before encapsulation. The die has been mounted onto the lead frame and wires



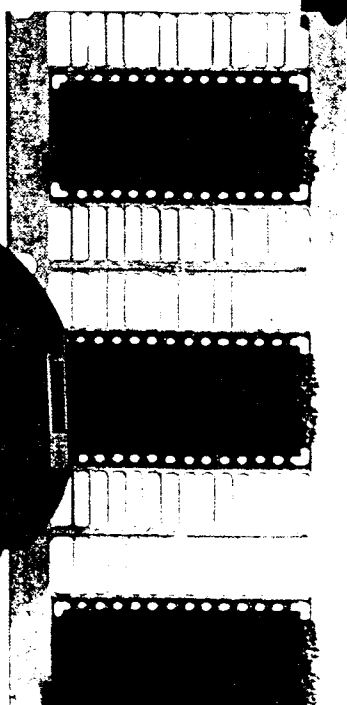
have been bonded to create the electrical path between the die and the lead fingers.

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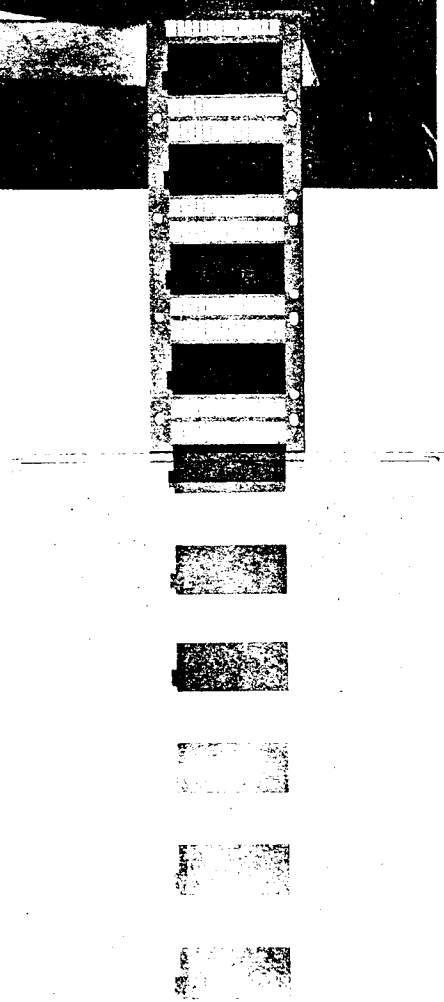
ENCAPSULATION (right) Lead frames are placed onto the mold plates and heated. Molten plastic material is pressed around each die to form its individual package. The mold is opened, and the lead frames are pressed out and cleaned. After encapsulation, the underside of each chip package is laser marked for identification.



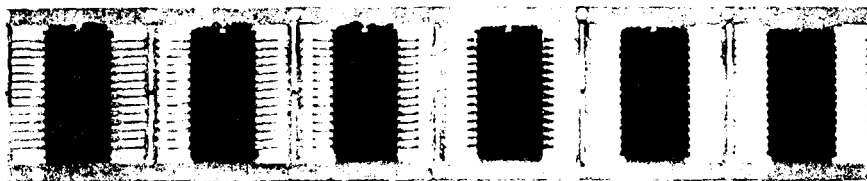
PLASTIC PELLETS (right) are used to create the chip package. Each pellet is fed into the encapsulation machine and heated before being extruded into the molds around each die. (below) A lead frame after encapsulation has created a package around each die.



ELECTROPLATING (right) The lead frames are "charged" while submerged in a tin/lead solution. Tin/lead ions are attracted to the electrically charged leads resulting in a uniform plated deposit. The uniform plating increases conductivity and provides a clean, consistent surface for surface mount applications.



TRIM AND FORM
(right) Lead frames are loaded into trim and form machines and positioned using holes on the lead frames and pins on



the machine. Leads are formed step by step until finally the chips are severed from the lead frames.

Chip manufacture is complete after assembly trim and form. Test and burn-in then verify the functionality of each chip. Verification provides assurance that each chip meets the high-quality and reliability standards we require for our customers.

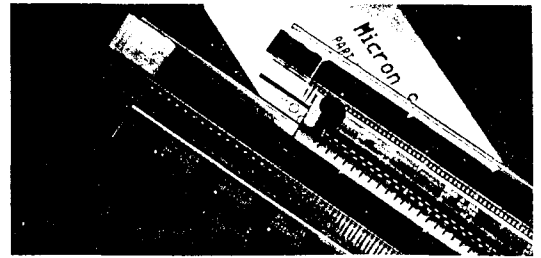
During their journey through the test area, surface mount packages are kept in a nitrogen or dry air purge cabinet to maintain a low moisture content. Excess moisture in the packages could cause undue stress when the chips are soldered to printed circuit boards at the customer's facility.



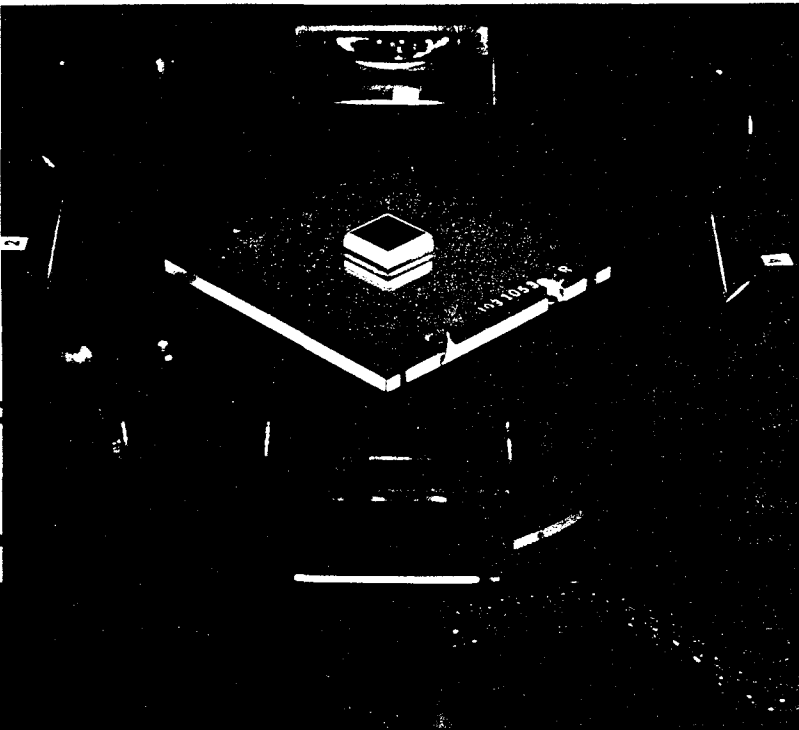
TEST FLOOR *(above) Each chip is tested to assess functionality and to see how fast it can store or retrieve information. Chip speed (or access time) is measured in nanoseconds (a billionth, 1/1,000,000,000th, of a second).*

BURN-IN *(right) Micron's proprietary AMBYX® monitored burn-in ovens run performance tests on every chip simulating actual usage conditions. Each chip is tested by feeding information to the chip and querying for the information to ensure the chip is receiving, storing, and sending the correct data. Burn-in also allows identification and correction of manufacturing problems. Micron's 100% monitored burn-in is an important ingredient for long-term chip reliability. Most manufacturers in the industry perform monitored burn-in on only a small sample of their chips, if any, with the rest receiving a blind burn-in. Blind burn-in allows no information retrieval during the process.*

FINISHED GOODS (right) Fully tested chips are boxed for domestic and international delivery, and the appropriate paperwork is completed for shipment to customers. Bar coded labels are placed onto the box to identify product types, lot number, amounts, and customer.

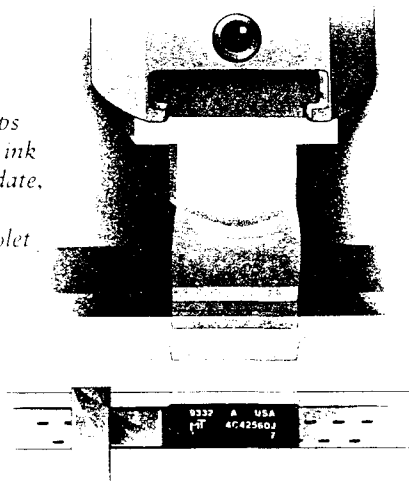


After testing is completed, the company's finished goods area packages and ships the chips to computer, peripheral, telecommunications, and transportation customers throughout the world. Component customers typically place the chips into their own applications or onto modules or boards.

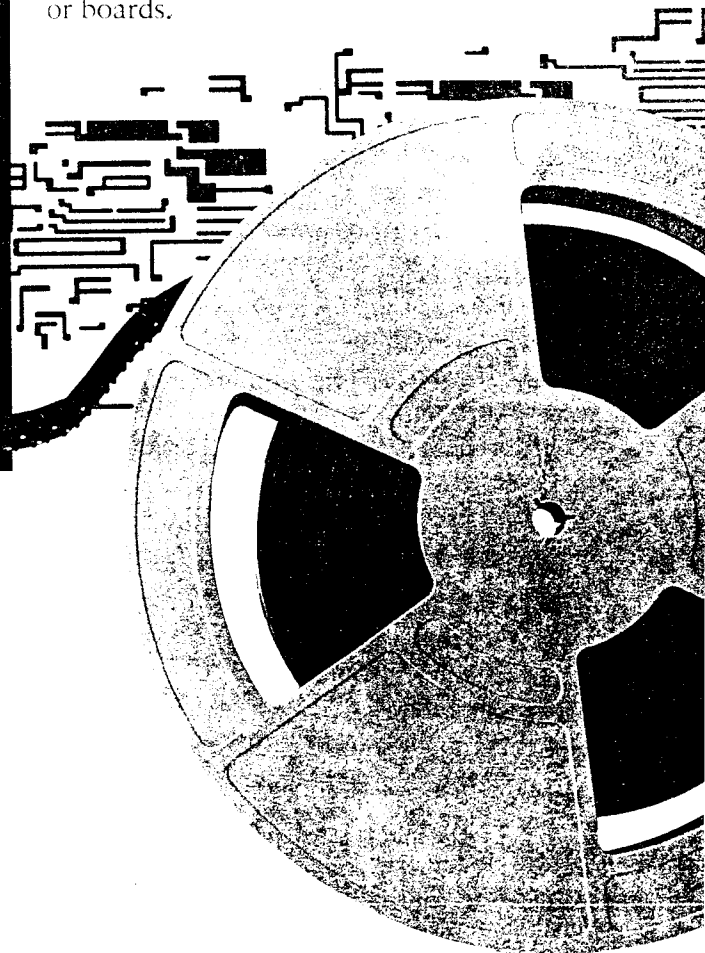


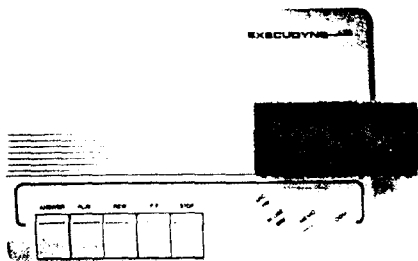
SCANNING (above) All chips are scanned, using optics or lasers, to discover any bent, missing, or incorrectly formed leads.

MARKING (right) All chips are marked with a special ink to indicate product type, date, package code, and speed. After marking, an ultraviolet oven cures the ink.



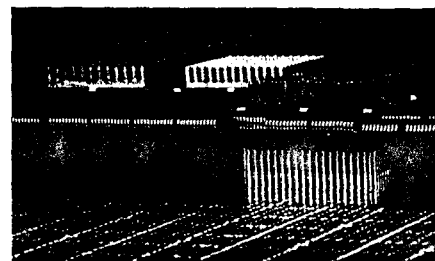
PACKAGING Final packaging depends on customer criteria. The packaging area can package in tape and reel (above) or anti-static tubes (right at top of page). Customers who place the chips on boards or modules prefer tape and reel since the chip is predictably spaced in its own pocket facilitating automated assembly of their products. After packaging, chips are placed in anti-static bags and packing boxes.





SPECIFIC APPLICATIONS (left) Component recovery chips are tested and matched with specific applications. These application specific chips are used in products such as digital answering systems.

COMPLETED BOARDS (right) are tested to ensure they function properly. Pins in the test fixture touch contacts on the board feeding information to and from the chips.

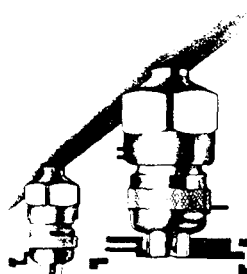


Micron Custom Manufacturing Services, Inc. (MCMS), a sister subsidiary, purchases Micron Semiconductor memory chips for mounting onto boards or modules. MCMS designs and manufactures custom modules and boards using memory and non-memory components. MCMS provides its customers with design and layout expertise and assembly and test services. Contract module and board customers include computer and graphic manufacturers and networking and telecommunication companies. MCMS's design expertise and technology leadership were recognized this year when it was awarded the Service in Excellence Award for Technology from *Circuits Assembly* magazine and Technology Forecasters, a research firm. Judging was based on MCMS customer ratings.

One unique MCMS operation designs application specific tests to recover components that do not meet certain industry specifications. These recovered components are used for specific applications where their functional characteristics exceed customer requirements. MCMS has supplied application specific components for products such as digital answering machines, toys, and personal computers used throughout the world.



SCREEN PRINTING (above) applies solder paste to contacts on printed circuit boards.



PICK AND PLACE EQUIPMENT (above) precisely positions various chips on the solder and contacts. Completed boards are then heated in the reflow ovens, allowing the lead coating and solder to melt together, affixing the chip to the printed circuit board.

AQUEOUS CLEANER (left) Printed circuit board surfaces and chips are cleaned after reflow using heated, high pressure, deionized (super clean) water.

MICRON COMPUTER, INC., uses subassemblies (left) which are fully qualified for reliability, compatibility, functionality, and quality.

MICRON COMPUTER, INC., this year received (right) the coveted PC Magazine Editors' Choice Award* and PC World™'s Best Buy.

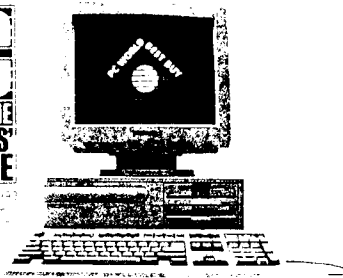


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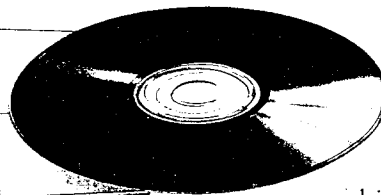
EACH SYSTEM (below) is tailored to the customer's wishes.

Micron Computer, Inc., manufactures memory intensive personal computer systems. Customers can order preconfigured systems or specify custom configurations with modifications in memory size, hard drive densities, monitor types, and software programs.

Micron Computer's memory intensive computer systems help address increasing memory demands required by new operating systems, including Windows NT™ and OS/2™. Micron Computer markets its products through direct marketing channels, the fastest growing segment of the personal computer business.

At the end of the journey from concept to consumer, products from the company and its subsidiaries are packaged for consumer convenience as single chips, modules and boards, or computers. The company's processes result in products which meet the quality and reliability standards its customers have come to expect.

MICRON COMPUTER'S total quality management process ensures that each system meets rigid quality and reliability standards.



SENATE BUSINESS & INDUSTRY
EXHIBIT NO. 5
DATE 1-13-95
BILL NO. SB 110

Exhibit #5

Testimony
Donald R. Peoples, President
Montana Technology Companies, Inc. &
Montana Energy Research & Development Institute

Montana Senate
Business and Industry Committee
Room 410; (8:00 a.m.)

Chairman Hertel and members of the committee, I am pleased to appear before you in strong support for this bill. Before I get in to my testimony I would like to commend the legislature for their bi-partisan approach to this bill, as evidenced by Senator Beck and Representative Quilici's sponsorship, and the strong support espoused by Governor Racicot. This is a great opportunity for Butte and the entire state of Montana.

As Chief Executive of Butte-Silver Bow and, now, as President of Montana Technology Companies, I have fought long and hard to bring jobs to Butte and to Montana. During the 1980's we forged a public/private partnership which was successful in the economic revitalization that occurred in Butte after the cessation of mining. The Montana Legislature was a vital part of that successful endeavor, and we are here, again, to ask for your participation and assistance.

Micron's selection of a Montana site as a finalist for their facility should not come as a surprise given the many things we have to offer and a quality of life that is unmatched by any other state. When I was Chief Executive an international consultant, brought in to assist us in developing our small business incubator and other programs, told me something I will never forget. He said that, "Butte should never underestimate its potential for high technology business because you have everything it takes to succeed."

He referred to the strength of the existing engineering and technology based companies (Montana Power, Entech, Mycotech, MERDI, MSE, and NCAT). As President of a large technology company I can tell you that we have an abundance of qualified applicants for positions when they come open. Many are people who want to move to Montana, but many more are folks who would like to come home to their State.

Without question Montana Tech has provided a tremendous influence to the area's and state's engineering and technology base. Our new association with the University of Montana, and our proximity to Montana State University, Western, and Carroll helps solidify that strong technology and educational base. In each of the areas mentioned by that international consultant we have seen significant growth since the 1980's and Montana Tech's reputation just gets better and better. The significance of Montana Tech and the University System in our selection as a finalist should tell us all of the importance that institutions of higher education play in the economic well-being and economic development of Montana.

We should not overlook the significant problem that many of our well-trained graduates leave the state to find jobs even though they would like to stay in Montana. In the engineering fields important to Micron MSU graduates over 160 students per year. Only 30 of these graduates remain in Montana for a loss of about 75%. Half of the graduates from Montana Tech are forced to leave as well. Without doubt MICRON can help keep some of these graduates at home.

* Note this data is taken from discussions with Jack Sherick and a letter to Micron from Dave Gibson MSU College of Engineering.

For these and many other reasons it is great to be selected as a finalist by MICRON, but Butte and Montana must not be satisfied with a show, place or also ran result when the final selection is made. No doubt the final competition will be extreme as most (not all) of the 12 competing cities will also put forth their best effort to win this race. Although, there are some "nay-sayers" in other communities, make no mistake that competition will be fierce and Montana must do everything it can in order to win. Although others testifying today, will discuss many of the important impacts there are some worthy of repetition:

Impacts:

Jobs:

Three-Thousand-Five-Hundred Jobs (3,500)
13% Engineers @ \$36 to \$42 Thousand per year
14% Technicians @ around \$21 thousand
38% Operators @ around \$16,000

*Note Job Figures taken from The Idaho Statecraft article regarding "Micron 2010--The Effects of Expansion"

Taxes:

- (1) Property Taxes
- (2) Corporate Taxes
- (2) Income Taxes

What MICRON Means for Montana:

What this facility means is:

- *a stronger economy,
- *3,500 jobs,
- *more revenue for better schools,

- *increased business opportunities,
- *local construction jobs, and
- *many other positive effects.

It also means dealing with some of the problems associated with growth. But quite frankly after years of struggle I would welcome the opportunity to deal with problems of growth rather than decline. These problems are primarily associated with infrastructure needs, such as:

- *water systems,
- *sewer systems,
- *water treatment facilities,
- *sewage treatment facilities, and
- *roads.

These are the precise needs Senate Bill 100 addresses through allocation of \$16 million that allows the location or creation of large infrastructure dependent business in Montana.

Effects of SB 100 on MICRON Decision:

Section 5 of the bill allows that the Board of Investments may make an "economic development loan" to the local government to achieve these infrastructure requirements. The infrastructure, itself, may be used as collateral for the loan. The local government then charges fees to repay the loan and a tax credit is provided for infrastructure fees paid. The board must approve the loan and be satisfied that all conditions set forth in the bill will be met.

My opinion after years of involvement in Montana's economic development is that this is what Montana needs to do to attract growth. Our biggest problem is providing

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infrastructure and once these problems are successfully solved, I think we will be pleasantly surprised to see more MICRONS looking at Montana.

This bill shows that we are serious in our desire to have MICRON in Montana. It shows that we are a state willing to cooperate to meet the needs of business. I would like to close, by, again, thanking Senator Beck, Representative Quilici and the governor for their sponsorship and strong support for this bill. I look forward to working with you in the short days ahead. I think in the end you will find your efforts fruitful and I thank you for the opportunity to testify before the committee.

SE E BUSINESS & INDUSTRY
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MICRON —
TECHNOLOGY, INC.

1994 ANNUAL REPORT

PART I

Item 1. Business

General

Micron Technology, Inc., is a Delaware holding company with the following principal operating subsidiaries: Micron Semiconductor, Inc., Micron Custom Manufacturing Services, Inc., and Micron Computer, Inc. These subsidiaries' operations principally serve the computer, telecommunications, and office automation industries. As used in this Annual Report on Form 10-K, the term "company" means Micron Technology, Inc., and its subsidiaries.

Micron Semiconductor, Inc. ("MSI"), the primary operating subsidiary of Micron Technology, Inc., designs, manufactures, and markets semiconductor memory components primarily for use in various computer applications. MSI's products include Dynamic Random Access Memories ("DRAM"s), Static RAMs ("SRAM"s), specialty DRAMs, and specialty SRAMs. Micron Custom Manufacturing Services, Inc., specializes in the custom manufacture of complex circuit board assemblies and the recovery and test of nonstandard semiconductor memory components. Micron Computer, Inc., develops, assembles, and markets high-performance, memory-intensive personal computers.

Additional subsidiaries include: Micron Communications, Inc., which is engaged in research and development of technologies related to radio frequency identification products; Micron Construction, Inc., which provides construction management services for facility owners and developers; Micron Display Technology, Inc., which is engaged in research and development of technologies related to flat panel field emission displays; Micron Investments, Inc., which makes investments in publicly held securities; Micron Quantum Devices, Inc., which is engaged in research and development of nonvolatile semiconductor memory devices; and Micron Systems Integration, Inc., which designs, manufactures, and markets semiconductor testing equipment, including AMBYX® Intelligent Test and Burn-in systems, and high throughput device loading and unloading equipment.

Products

The company's product strategy is focused primarily on the design, development, and manufacture of semiconductor memory products for standard and custom memory applications, with various packaging and configuration options, architectures, and performance characteristics.

(a) Dynamic Random Access Memory. DRAMs are semiconductor devices which store digital information in the form of bits and provide high speed storage and retrieval of data. Manufacture of the company's DRAM products utilizes proprietary advanced complimentary metal-oxide-silicon ("CMOS") process technologies. DRAMs are the highest density, lowest cost per bit, random access memory component available, and are the most widely used semiconductor memory components in most computer systems. Demand for the company's products has recently benefited primarily from strong market conditions for personal computers and increasingly memory-intensive software applications. The company's primary product during 1994 was the 4 Meg DRAM, which sells in multiple configurations, speeds, and package types. The company is currently pursuing internal qualification of its 16 Meg DRAM in a 300 mil package, which is expected to be the preferred market package, and is beginning to transfer the 64 Meg DRAM from the pilot line to the manufacturing area. The 256 Meg DRAM is in the early stages of development (see "Research and Development"). Efficient DRAM production requires utilization of advanced semiconductor manufacturing techniques. The company is engaged in an ongoing effort to enhance its production processes to reduce the die size of existing products and increase capacity utilization. Smaller die sizes and higher production yields reduce manufacturing costs. Development of Video RAMs beyond the company's current 2 Meg generation has been terminated, as the company pursues development of more cost-effective memory products for graphics applications. DRAM sales, including specialty DRAMs, represented approximately 73%, 72%, and 79% of total company net sales in fiscal 1994, 1993, and 1992, respectively.

Static Random Access Memory. SRAMs perform memory functions much the same as DRAMs; however, unlike DRAMs, SRAM memory cells are not required to be electronically refreshed, which generally increases the speed at which they operate and simplifies system designs. The company's SRAM family focuses on the high-performance sector of the SRAM market, which requires very high speed access to memory. SRAMs include more complex electronic circuitry than DRAMs, resulting in higher per bit production costs. The market for high-performance SRAMs has grown with the number of applications that require a "buffer" or "cache" of high speed memory between the central processing unit and the main DRAM-based memory. The company manufactures its current SRAM products utilizing CMOS process technologies. The company currently sells 64K, 256K, and 1 Meg SRAMs in a variety of configurations, speeds, and package types, and has a 4 Meg SRAM under development. SRAM sales represented approximately 8%, 14%, and 18% of total company net sales in fiscal 1994, 1993, and 1992, respectively.

(c) Board-level products. The company manufactures and markets a variety of memory-intensive module and complex printed circuit board products, all of which utilize semiconductor memory components. The company's custom manufacturing efforts are focused on providing a full range of turnkey manufacturing services, including design layout and product engineering, materials procurement, inventory management, quality assurance, and just-in-time delivery. The company's board-level products are assembled utilizing surface mount technology ("SMT") that can accommodate a high density of memory components. Revenue from sales of board-level products reached approximately 7% of consolidated net sales in fiscal 1994.

(d) Personal Computers. The company established a personal computer manufacturing operation in fiscal 1992 focusing on high-performance, memory-intensive personal computer systems. Revenue from sales of personal computers constitute an increasing percentage of total net sales and comprised approximately 8% of consolidated net sales in fiscal 1994.

Marketing and Customers

The semiconductor memory industry is characterized by rapid technological change, frequent product introductions and enhancements, difficult product transitions, relatively short product life cycles, and volatile market conditions. These circumstances historically have made the semiconductor industry highly cyclical, particularly in the market for DRAMs, which are the company's primary products.

The company's products are essentially interchangeable with, and have similar functionality to, products offered by the company's competition. Customers for the company's semiconductor memory products include most major domestic computer manufacturers and other customers in the computer, telecommunications, and office automation industries. The company markets products worldwide through independent sales representatives, distributors, and direct sales personnel. Sales representatives serve on a commission basis and obtain orders subject to final acceptance by the company. Shipments against accepted orders are made directly to the customer by the company. Distributors carry the company's products in inventory and typically sell a variety of products, including competitors' products. Under the company's distribution agreements, distributors may be entitled to price rebates on inventory if the company lowers the price of its products, and to rights to return certain company products.

Many of the company's customers require a thorough review or "qualification" of new products and processes. In some instances, qualification may take six months or longer. As the company diversifies its product lines and reduces the die sizes of existing products, acceptance of these products and processes may be inhibited by this qualification procedure. There can be no assurance that new products or processes will be qualified for purchase by existing customers.

The company sells products in both domestic and international markets. Sales to Compaq Computer Corporation approximated 11% of net sales in fiscal 1994 and 10% in fiscal 1993. No customer's sales individually comprised 10% or more of net sales in fiscal 1992. Export sales totaled approximately \$471 million for fiscal 1994, including approximately \$248 million to the Far East and \$159 million to Europe. Export sales approximated \$251 million and \$162 million for fiscal years 1993 and 1992, respectively. Export sales are primarily in United States currency. The company incurs import duties on sales into Europe of up to 14% of the product value. The company's subsidiaries have sales offices in the United Kingdom, Germany, Singapore, and Taiwan.

The company markets its custom manufacturing services through a direct sales force that interfaces with independent sales representatives and, to a lesser extent, original equipment manufacturers. Board level products are also marketed directly to existing DRAM and SRAM component customers.

The company's personal computers are marketed primarily through direct advertising. Sales have historically been made through mail and telephone orders and through a single retail outlet. Increasingly, sales are made through industrial distributors and value-added resellers.

Consistent with industry practice, the company typically provides a limited warranty that its products are in compliance with specifications existing at the time of delivery. All other warranties are typically disclaimed. Liability for a stated warranty period is usually limited to replacement of defective items or return of amounts paid.

Backlog

The rate of booking new orders varies from month to month and depends upon the scheduling practices of individual customers. Cyclical industry conditions make it difficult for many customers to enter into long-term, fixed-price contracts. Orders for the company's primary products are typically entered into with acknowledgment that the terms may be adjusted to reflect market conditions at the delivery date. For the foregoing reasons, and because of the possibility of

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customer changes in delivery schedules or cancellation of orders without significant penalty, the company does not believe that its backlog, as of any particular date, is firm or that it is a reliable indicator of actual sales for any succeeding period.

Research and Development

Rapid technological change and intense price competition place a premium on new product and process development efforts. The company's continued ability to compete in the memory market will depend in part on its ability to continue to develop technologically advanced products and processes, of which there can be no assurance. Research and development is being performed in strategic areas related to the company's historical semiconductor expertise. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations - Certain Factors" and "Item 8. Financial Statements and Supplementary Data - Notes to Consolidated Financial Statements - Contingencies".

Internal qualification is under way on the 16 Meg DRAM in a 300 mil package, which is expected to be the preferred market package. Internal qualification typically occurs at the end of the development cycle before initial production quantities are released for qualification by major customers. The company's research and development efforts on the 64 Meg DRAM have progressed and the company is beginning to transfer a prototype part from the pilot line to the manufacturing area for further product development and evaluation. Additional research and development efforts are focused primarily on design and development of the 256 Meg DRAM and 4 Meg SRAM. Manufacturing efficiencies from new product and process development are incorporated into the manufacture of existing products where cost reductions can be realized.

The company has entered into various research and development cost-sharing contracts with the Advanced Research Projects Agency ("ARPA") aggregating approximately \$21 million to pursue multi-year development of an advanced 16 Meg SRAM process, a flat panel field emission display, and alternative semiconductor materials. The company is also researching and developing technologies related to radio frequency identification products and nonvolatile memory devices. Research and development expenditures were \$83 million, \$57 million, and \$48 million in 1994, 1993, and 1992, respectively.

Patents and Licenses

As of September 1, 1994, the company owned 557 United States patents relating to the use of its products and processes. In addition, the company has numerous United States and foreign patent applications pending. There can be no assurance that patents will ever be issued for such applications or that any issued patents will be determined to be valid. The company intends to continue to seek patent protection on any of its significant patentable technology.

The company has entered into several cross-license agreements with third parties. The agreements require one-time and/or periodic royalty payments and expire at various times. A significant portion of the one-time payments were capitalized and are being amortized over the shorter of the estimated useful life of the technology, the patent term, or the term of the agreement. Royalty and other product and process technology expenses were \$128 million, \$78 million, and \$45 million in fiscal 1994, 1993, and 1992, respectively. It may be necessary or advantageous in the future for the company to obtain additional patent licenses or to renew existing license agreements, several of which expire in the next fiscal year. The company is unable to predict whether these license agreements can be obtained or renewed on terms acceptable to the company.

Periodically, the company is made aware that technology used by the company in the manufacture of some or all of its products may infringe on product or process technology rights held by others. An adverse decision on infringement of patents may have a material adverse effect on the company's financial position or results of operations, and may require material changes in production processes or products. For additional discussion of product and process technology issues, see "Item 8. Financial Statements and Supplementary Data - Notes to Consolidated Financial Statements - Contingencies".

Competition

The company's semiconductor memory operations experience intense competition from a number of substantially larger foreign and domestic companies, including Fujitsu, Ltd., Goldstar Electron, Co., Ltd., Hitachi, Ltd., Hyundai Electronics, Co., Ltd., Mitsubishi Electric Corp., Motorola, Inc., NEC Corp., Samsung Semiconductor, Inc., Texas Instruments, Inc., and Toshiba Corporation. The company has captured a very small percentage of the semiconductor memory market and may be at a disadvantage in competing against these larger manufacturers with significantly greater capital resources, larger engineer/employee bases, and more diversified product lines which may provide long-term advantages in research and new product development and better enable them to withstand periodic downturns in the semiconductor market. In addition, the company believes its competition has sufficient resources and manufacturing capacity to influence market pricing.

As has occurred in the past in reaction to improved market conditions, many of the company's competitors are adding new facilities designed to use 8-inch wafers, which have approximately 84% greater usable surface area than the 6-inch wafer currently used by the company. The company believes many competitors are currently achieving significantly lower yields for their 16 Meg DRAM products than would be expected when such products mature. Yield improvements by these competitors would dramatically increase worldwide semiconductor memory capacity. Excess supply as a result of increased semiconductor manufacturing capacity, adverse market conditions, or currency fluctuations resulting in a strengthening dollar against the yen, could result in downward pricing pressure. A decline in the current favorable product pricing would have a material adverse effect on the company's results of operations.

The company's custom manufacturing operations compete against numerous domestic and offshore contract manufacturers, including such companies as Avex, Benchmark, DOVAtron, Jabil, SCI, and Sollectron. In addition, the company competes against the in-house manufacturing capabilities of its existing customers as well as with certain large computer manufacturers, including DEC and IBM. Many of the company's custom manufacturing competitors have substantially greater manufacturing, financial, and marketing resources dedicated to custom manufacturing. These resources and the competitors' multiple domestic and overseas manufacturing locations in close geographic proximity to the customer base, may place the company's limited custom manufacturing operations at a competitive disadvantage.

The company's personal computer operations experience intense competition from a number of domestic and foreign personal computer manufacturers, particularly from those who also market personal computer systems through direct distribution channels. The company's principal personal computer competitors include Compaq Computer Corporation, Dell Computer Corporation, and Gateway 2000, Inc. Personal computer products are differentiated based primarily on price, performance, reliability, service and support. As a result of competitive pricing pressures, the margins realized on the company's personal computer products are substantially lower than the margins currently realized by the company's primary semiconductor memory products.

Manufacturing

Semiconductor memory manufacturing cost is primarily a function of circuit size (since the potential number of good circuits per wafer increases with reduced circuit size), number of mask layers, and the yield of acceptable die produced on each wafer. Other contributing factors are wafer size, number of fabrication steps, costs and sophistication of the manufacturing equipment, package type, equipment up time, process complexity, and cleanliness. The manufacture of the company's semiconductor products is a complex process and involves a number of precise steps, including wafer fabrication, assembly, burn-in, and final test.

The company's principal semiconductor memory manufacturing facility includes two 6-inch wafer fabrication lines equipped with diffusion tubes, photolithography systems, ion implant equipment, chemical vapor deposition reactors, sputtering systems, plasma and wet etchers, and automated mask inspection systems. The production facility operates in 12-hour shifts, 24 hours per day, and 7 days per week (in three or four day shift cycles) to reduce down time during shift changes, and seeks to reduce fabrication costs further through 100% utilization of fabrication capacity. Wafer fabrication occurs in a highly controlled, clean environment to minimize dust and other yield- and quality-limiting contaminants. Notwithstanding the highly controlled manufacturing operation, equipment does not consistently perform flawlessly, and minute impurities, defects in the photomasks, or other difficulties in the process may cause a substantial percentage of the wafers to be rejected or individual circuits to be nonfunctional. The success of the company's manufacturing operations will be dependent largely on the ability to minimize such impurities and to maximize yield of acceptable, high-quality circuits. In this regard, the company employs rigorous quality controls throughout the manufacturing, screening, and testing processes.

After fabrication, each silicon wafer is separated into individual circuits. Functional circuits are connected to external leads by extremely fine wire and are assembled into plastic packages. Each completed package is then inspected, sealed, and tested. The assembly process uses high speed automatic systems such as wire bonders, as well as semiautomatic plastic encapsulation and solder systems. The company tests its products at various stages in the manufacturing process, performs high temperature burn-in on finished products, and conducts numerous quality control inspections throughout the entire production flow. In addition, through the utilization of its proprietary AMBYX line of intelligent test and burn-in systems, the company simultaneously conducts circuit testing of all die during the burn-in process, thereby providing improved quality and reliability data and reduced time and cost of testing.

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The company may convert some or all of its 6-inch wafer fabrication lines to 8-inch processing capabilities over the next several years. Significant capital expenditures would be required for the conversion and there can be no assurance that the conversion can be accomplished without disruption of production. Several other semiconductor manufacturers are also adding significant manufacturing capacity. All semiconductor memory manufacturers compete for and are dependent upon a limited number of sophisticated equipment suppliers. The cyclical nature of the industry often results in extended lead times for equipment deliveries. There can be no assurance the company will not encounter delays in the company's currently planned expansion as a result of limited availability of equipment.

The company's custom manufacture of board-level products involves the attachment of various electronic components, such as memory components and processors, to a printed circuit board. Nearly all of the board-level products assembled by the company are assembled utilizing SMT, in which the component leads are soldered to the printed circuit board rather than being inserted into holes as in pin-through-hole technology. In-circuit testing verifies that components have been properly inserted and that the electrical circuits are complete. Functional and environmental tests determine if the board or system assembly is performing to customer specifications.

Component recovery efforts conducted by the company's custom manufacturing operations involve the testing and grading of components not meeting full industry specifications to determine their highest level of functionality. These devices are placed in applications in which the functionality meets or exceeds customer requirements, such as PCs and peripherals, telephone answering machines, electronic games, laser printers, facsimile machines, and cellular telephones.

The company's personal computers are designed to maximize performance of each system utilizing extensive DRAM and SRAM memory. Personal computers are assembled to standard and unique customer specifications on an integrated production line. Components, subassemblies, and software are obtained from a wide range of PC industry suppliers. Each personal computer is subjected to a burn-in and test process to ensure high-quality performance on delivery.

Availability of Raw Materials

Raw materials utilized by the company generally must meet exacting product specifications. The company is generally able to arrange for multiple sources of supply, but the number of suppliers capable of delivering certain raw materials is very limited. Many semiconductor manufacturers are adding new facilities designed to use 8-inch wafers. The level of both 6-inch and 8-inch wafers available for semiconductor memory production is partially dependent on how readily wafer suppliers can increase capacity or create additional capacity to match the demand for 8-inch wafers without creating shortages in the supply of 6-inch wafers. Other materials used in the manufacture of the company's products may experience declines in availability due to the overall increase in worldwide semiconductor manufacturing. Although shortages have occurred from time to time and lead times have been extended on occasion in the industry, the company has not experienced any significant production interruption as a result of difficulty in obtaining raw materials to date. Interruption of any one raw material source could negatively impact the company's operations.

Environmental Compliance

Government regulations impose various environmental controls on the discharge of chemicals and gasses used in the manufacturing process. The company believes that its activities conform to present environmental regulations. While the company has not experienced any materially adverse effects on its operations from environmental regulations, there can be no assurance that changes in such regulations will not impose the need for additional capital equipment or other compliance requirements. Additionally, the extensive process required to obtain permits for expansion of the company's facilities may impact how quickly the company can respond to increases in market demand.

Employees

As of September 1, 1994, the company had approximately 5,450 full-time employees, including approximately 4,530 in the semiconductor memory manufacturing operations, 440 in the custom manufacturing services operations, and 270 in the personal computer manufacturing operations. Employment levels can vary depending on market conditions and the level of utilization of the company's fabrication, assembly, and test facilities, as well as on research and development and product and process development activities. Many of the company's employees are highly-skilled, and the company's continued success will depend in part upon its ability to retain such employees. None of the company's employees are represented by a labor organization, the company has never had a work stoppage, and the company considers its employee relations to be satisfactory.

EXHIBIT 6DATE 1-13-95SB 100Executive Officers of the Registrant

The executive officers of the company and their ages as of September 1, 1994 are as follows:

<u>Name</u>	<u>Position</u>	<u>Age</u>	<u>Officer Since</u>
Joseph L. Parkinson	Chairman of the Board of Directors and Chief Executive Officer; Micron Technology, Inc.	49	1980
James W. Garrett	President, Chief Operating Officer, and Director; Micron Technology, Inc.	46	1986
Reid N. Langrill	Vice President, Finance, Treasurer, Chief Financial Officer, and Director; Micron Technology, Inc.	34	1988
Kipp A. Bedard	Vice President, Investor Relations; Micron Technology, Inc.	35	1990
Nancy M. Self	Vice President, Administration; Micron Technology, Inc.	40	1993
Steven R. Appleton	Chairman of the Board of Directors, President, and Chief Executive Officer; Micron Semiconductor, Inc. Director; Micron Technology, Inc.	34	1989
Tyler A. Lowrey	Vice President, Chief Technical Officer, and Director; Micron Semiconductor, Inc.	41	1986
Larry L. Grant	Vice President, General Counsel, and Secretary; Micron Semiconductor, Inc.	48	1985
Thomas M. Trent	Vice President; Micron Semiconductor, Inc.	48	1986
Edward J. Heitzeberg	Vice President, Quality; Micron Semiconductor, Inc.	48	1986
Norman L. Schlachter	Vice President and Treasurer; Micron Semiconductor, Inc.	36	1989
Robert M. Donnelly	Vice President, SRAM Products Group; Micron Semiconductor, Inc.	55	1989
Eugene H. Cloud	Vice President, Marketing; Micron Semiconductor, Inc.	52	1990
Donald D. Baldwin	Vice President, Sales; Micron Semiconductor, Inc.	34	1991
Kenneth G. Smith	Vice President, Operations; Micron Semiconductor, Inc.	45	1992
Wilbur G. Stover, Jr.	Vice President, Finance, and Chief Financial Officer; Micron Semiconductor, Inc.	41	1992

Background of Executive Officers

Joseph L. Parkinson, a co-founder of Micron Technology, Inc., served as its President and a director from July 1980 through January 1986, when he was named Chairman of the Board and Chief Executive Officer.

James W. Garrett joined Micron Technology, Inc., in April 1985 as Sales Manager. In January 1986, he became Vice President, Sales and Marketing and held that position until July 1988, when he was named Executive Vice President. He was elected to the Board of Directors in August 1988, and served as Vice Chairman of the Board from April 1991 until July 1992, when he was named President and Chief Operating Officer.

Reid N. Langrill joined Micron Technology, Inc., in March 1984 as a financial planner. From December 1986 until July 1988, he served as Controller. In July 1988, he was named Vice President, Finance, Treasurer, and Chief Financial Officer and served in that position until May 1989. He served as Vice President, Business Units from August 1989 until December 1989 when he was named Vice President, Finance, and Chief Financial Officer. In July 1992, Mr. Langrill was elected to the Board of Directors and was also named Treasurer.

Kipp A. Bedard joined Micron Technology, Inc., in November 1983 as an accountant and held various management responsibilities until he was appointed Manager of Investor Relations in June 1988. Mr. Bedard held that position until April 1990 when he was named Vice President and Manager of Investor Relations. From July 1992 to January 1994, Mr. Bedard served as Vice President, Public Relations for Micron Semiconductor, Inc. In January 1994, he was named Vice President, Investor Relations for Micron Technology, Inc.

Nancy M. Self joined Micron Technology, Inc., in February 1988 as a benefits specialist. In July 1988, she was named Benefits Manager and served in that position until July 1989, when she was named Risk Manager. In March 1993, she was named Vice President, Administration.

Steven R. Appleton joined Micron Technology, Inc., in February 1983 and served in various manufacturing management positions until April 1988 when he was named Director of Manufacturing. He was appointed Vice President, Manufacturing in August 1989 and served in that position until April 1991 when he was appointed President and Chief Operating Officer of Micron Technology, Inc. He was elected to the Board of Directors in April 1991. Mr. Appleton served in these positions until July 1992, when he assumed responsibilities as Chairman of the Board, President, and Chief Executive Officer for Micron Semiconductor, Inc. In May 1994, Mr. Appleton was re-elected to the Board of Directors of Micron Technology, Inc.

Tyler A. Lowrey joined Micron Technology, Inc., in July 1984 as a senior process engineer. In March 1985, he became a Process Research Development/Device Group Manager and was promoted to Vice President, Process Research and Development, and Assistant Technical Officer in September 1986. In April 1990, he was named Vice President, Research and Development. Mr. Lowrey was appointed to the Board of Directors of Micron Technology, Inc., in August 1990. Mr. Lowrey served in these positions until July 1992, when he was elected a director and named Vice President, Chief Technical Officer for Micron Semiconductor, Inc.

Larry L. Grant joined Micron Technology, Inc., in January 1985 and served as General Counsel until July 1985, when he was named Vice President and General Counsel. Mr. Grant served in this position until July 1992, when he was named Vice President, General Counsel and Secretary for Micron Semiconductor, Inc.

Thomas M. Trent joined Micron Technology, Inc., in July 1980 as a senior design engineer. From August 1986 to April 1990, Mr. Trent served as Vice President, Research and Development, and Chief Technical Officer, at which time he was named Vice President and Manager of DRAM Design. In June 1991, he assumed responsibilities of all DRAM products and was named Vice President and Manager of DRAM Products Group. Mr. Trent served in these positions until July 1992, when he was named Vice President, DRAM Products Group for Micron Semiconductor, Inc. In April 1993, he was named Vice President for Micron Semiconductor, Inc.

Edward J. Heitzeberg joined Micron Technology, Inc., in January 1984 as Information Systems Manager. In March 1986, he became Senior Staff Engineer and served in that capacity until June 1986, when he was named Vice President, Quality. Mr. Heitzeberg served in this position until July 1992, when he was named Vice President, Quality for Micron Semiconductor, Inc.

Norman L. Schlachter joined Micron Technology, Inc., in March 1987 as Treasury Manager. From October 1988 until May 1989, he served as Assistant Treasurer, at which time he was named Vice President, Finance, and Treasurer, and Chief Financial Officer. In December 1989, he was named Vice President and Treasurer. Mr. Schlachter served in these positions until July 1992, when he was named Vice President and Treasurer for Micron Semiconductor, Inc.

Robert M. Donnelly joined Micron Technology, Inc., in September 1988 and served in various manufacturing management positions until August 1989, at which time he was appointed Vice President, Business Units. From April 1990 to June 1991, Mr. Donnelly served as Vice President and Manager of DRAM Products Group. In June 1991, he was named Vice President and Manager of SRAM Products Group. Mr. Donnelly served in this position until July 1992, when he was named Vice President, SRAM Products Group for Micron Semiconductor, Inc.

Eugene H. Cloud joined Micron Technology, Inc., in January 1985 as an applications engineer. In June 1985, he was named Applications Manager. He served in that position until June 1986, when he was named Marketing Manager. In April 1990, he was named Vice President, Semiconductor Marketing. Mr. Cloud served in this position until July 1992, when he was named Vice President, Marketing for Micron Semiconductor, Inc.

Donald D. Baldwin joined Micron Technology, Inc., in April 1984 and served in various manufacturing and sales positions until April 1987, when he was named Key Accounts Manager. From April 1990 to May 1991, he served as Manager of North American Sales. In May 1991, he was named Vice President, Sales. Mr. Baldwin served in this position until July 1992, when he was named Vice President, Sales for Micron Semiconductor, Inc.

Kenneth G. Smith joined Micron Technology, Inc., in November 1987 as a senior diffusion engineer and held various positions in manufacturing until he was named Fab III Manager in May 1989. In July 1992, Mr. Smith was named Vice President, Operations for Micron Semiconductor, Inc.

Wilbur G. Stover, Jr., joined Micron Technology, Inc., in June 1989 as an accounting manager. In February 1990, Mr. Stover was named Controller where he served until July 1992, when he was named Vice President, Finance, and Chief Financial Officer of Micron Semiconductor, Inc.

Item 2. Properties

The company's principal semiconductor manufacturing, engineering, administrative, and support facilities are located on a 665 acre site in Boise, Idaho. All facilities have been constructed since 1981 and are owned by the company. The company has 1,245,000 square feet of building space at this primary site. Of the total, 263,000 square feet are production space, 506,000 square feet are facility support space, and 476,000 square feet are office and other space. The company's custom manufacturing and component recovery operations are housed in a 52,000 square foot facility also located in Boise, Idaho. In addition, the company owns a 128,000 square foot facility and approximately 30 acres of land in Nampa, Idaho, housing the company's personal computer manufacturing operations.

The company is in the process of qualifying its newly-constructed central implant building at the main Boise site. This facility is expected to be qualified for the production of commercial volumes in early fiscal 1995. In addition, the company has initiated construction of a .25 micron, 8-inch development facility, and an additional assembly and test facility encompassing a total of approximately 340,000 square feet. The development facility and additional assembly and test facility are expected to be operational in fiscal 1995.

Fixed assets with a book value of approximately \$74 million are pledged as collateral for outstanding debt and capital leases as of September 1, 1994. Substantially all of the tangible assets of the company's semiconductor memory, and custom manufacturing and component recovery operations not otherwise pledged as collateral for other notes payable and capital leases are pledged as collateral under the company's bank credit agreements.

A utility-owned power substation and a vendor-owned and operated nitrogen production plant, each of which is dedicated for the company's use, were constructed on land owned by the company.

Item 3. Legal Proceedings

As of September 1, 1994, there were no material pending lawsuits to which the company is a party.

Item 4. Submission of Matters to a Vote of Security Holders

There were no matters submitted to a vote of security holders during the fourth quarter of fiscal 1994.

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I Vote yes on SB 100, with any
amendments.

 R Buse

MONTANA SENATE

VISITORS' REGISTER

COMMITTEE

BILL NO.

DATE 1-13-95

SPONSOR(S)

Senator Beck

SB 100

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NAME AND ADDRESS	REPRESENTING	Support	Oppose
JACK LYNCH	BUTTE-SILVER BOW	✓	
Rep Bob Larkind	ND 37	✓	
J.H. Lynch	SB100 Self	✓	
Chuck Swys good	S Self	✓	
Evan Barnett	SB100 BLDC	✓	
Alan Wynn	SB 100	✓	
JAMES TUIWILER	SB 100 ^{MT CHAMBER} COM	✓	
David Owen	MT chamber SB 100	✓	
FRANK COTE	Self	✓	
Jim Imbler	Batto	✓	
Keith P. Colby	MT Private Capital	✓	
Alan Walker	US WEST	✓	
John MALEE	M.F. +	✓	

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MONTANA SENATE

VISITORS' REGISTER

COMMITTEE

BILL NO.

DATE 1-13-95

SPONSOR(S)

Senator Beck

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PLEASE PRINT

NAME AND ADDRESS	REPRESENTING	Support	Oppose
JAMES T. MULAR BUTTE	RAIL LABOR	X	
Gloria Paladichuk	Richland Development	X	
MARK REAVIS	BUTTE SILVER BOU	X	
Bernard Hornington	Walkerville	X	
Milo MANNING - ANACONDA	ANACONDA-DEER LODGE Co	X	
Jon C Sessio	Butte - Silver Bou	X	

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