

CIRCUIT WRITER

FAIRCHILD

A Schlumberger Company

PUBLISHED BY AND FOR THE EMPLOYEES OF THE BIPOLAR DIVISION-PUYALLUP, WA

JUNE/JULY 1983

Vol. 1, No. 1



by PETE BEJARANO

NEWS FROM THE TOP

The Bipolar Division is on the move! The dynamic activity taking place in Puyallup has spread to the California operations. The direction is "move to Puyallup", and that is what has begun. The Bipolar Division has planned to ramp down the California operations and be headquartered in Washington as soon as possible. The accelerated relocation plans for our Division also makes our job at Puyallup more challenging.

As discussed at the communications meeting, we have very aggressive production and quality goals for our Puyallup plant, but, needless to say attainable, because of the outstanding talent and dedication of our employees. I have no doubt that the Puyallup site, being the cornerstone of the Division, will be successful and contribute considerably to the success of our Division. •

PERSONNEL—TO—PERSON

Just a reminder of the remaining scheduled holidays for 1983:

July 4th	Monday	Independence Day
Sept. 5th	Monday	Labor Day
Nov. 24th	Thursday	Thanksgiving
Nov. 25th	Friday	Thanksgiving
Dec. 26th	Monday	Christmas
Dec. 27th	Tuesday	Christmas

We encourage everyone to take advantage of the unlimited activities and points of interest offered in the Northwest now that the great summer weather is here. Have a great time away from work... and be careful!

START UP ANALYSIS

by MIKE SLAMA

The Engineering Department conducted a review of the yields on lots A through U on Friday, May 13th. This article summarizes the results. Several of the major problems that have been encountered so far are discussed in the hope that the more we know, the more likely we will be able to do it right the next time.

We have not achieved our expectations to date. Our fab yield has been lower than that achieved in San Jose and much less than our Japanese competitors, rumored at 98%. Needless to say, we are headed for 98% or better. How to get there is the big question and the best way is to look at what we have not done so well over the last couple of months.

Our major reason for wafer loses can be broken into a few repeating categories of fails: CD's, technique and contamination. CD's stands for critical dimensions and they really are critical! The difference of 1/2 micron (that's about the width of one wavelength of red light) is sometimes the difference between a wafer which yields zero and one yielding several hundred good die. Almost anything seems to affect CD's; P & E exposure and focus, wafertracs and their chemicals, temperatures and humidity in the fab, sit times, and many other variables. Our process now seems to be in balance with all of these factors and CD's have not been bad lately.

Technique, applicable to all processing areas, refers to the abilities each individual has and is learning right now. Several of the steps in the process need a special 'touch' or knowledge of a trick to come out just right. A few of the things we have learned thus far include pulling the collector spoon at just the right time, sloshing the metal etch with enough agitation, insuring the wet sinks are absolutely clean before dunking the wafers, knowing when to turn the silicon etch pump on and off, and lots more. All of these things are part of the 'learning curve' for a new site and the key is to learn and communicate as we go along.

Contamination is probably our worst enemy. One big source was found in our diffusion furnaces when we discovered the wrong valves had been installed at the factory. Another source, also factory supplied, was too much of the wrong type of grease in some recirculating pumps. Both of these problems led to little particles all over the wafers. When these particles got in the wrong places, we got zeroed wafers. Contamination will be one of the big, on-going problems we will face at Puyallup. It must be noted that we are the biggest contributor to contamination in the fab. (It's the reason we wear smocks, gloves and continuously clean the floors.) We have a big advantage in our fight with contamination - this site is one of the most modern and cleanest in the industry, domestic or foreign! The hard part is learning the discipline to keep it this way.

There is some good news. Several of the lots have yielded quite well with yields equal to those of San Jose. Several wafers in each of these lots were very good, some two or three times higher than the average for that product produced in California. So far, the reliability testing on these parts appears equally good, meaning Puyallup can produce quality semiconductors. Now, we just have to go out and do it! •

DEPARTMENT DIALOGUE

THE SAFETY CORNER

by WILL WINSLOW

In my first article, I would like to cover two items; the Emergency Response Team and the Safety Committee. The ERT has been working together now for about 13 weeks and participation and cooperation have been excellent. During the past two months, teams have responded quickly and efficiently to a number of chemical spills and other problems. If, at times, their efforts have seemed somewhat disorganized, it is because each incident poses unique problems not covered under any standard operating procedure. As the teams gain experience, they will be better equipped to handle all contingencies. Remember, this is a volunteer group, the best group I have been associated with, and they deserve all the support Puyallup employees can give them.

In May, the Manager's Safety Committee met for the first time, and members inspected the entire facility. Besides sending the inspection reports to departments for action, it was decided to post the results on a safety committee bulletin board that will be located in the cafeteria. Also posted on the board will be ERT incident reports and a monthly summary of accidents and injuries.

If you have a safety concern that you would like the committee to address, feel free to contact any member; Bob Bagley, Kathy Kissner, Mike Viafore, Gene McKennie, Dave Werner, Steve Lupi, Dennis Vercillo and Ted Vance.

HEALTH THOUGHT - If you are wearing contact lenses in a chemical use area, you could permanently damage your eyes. Both hard and soft contacts can cause problems. Corrosive chemicals that come in contact with a hard lens can fuse the lens to the cornea. Soft lenses will absorb water soluble chemicals in the air at very low concentrations and concentrate them. This concentrating effect could cause eye damage that would not be expected by the amount of chemical in the air. In addition, chemical splash goggles provide no protection for this type of exposure. It is very difficult to police the wearing of contact lenses. It is against company policy to wear contacts in chemical use areas, but in the end, it is up to the contact wearer to determine the value of his or her eyes.

GOOD NEWS - Diane Sharpe has accepted an employment offer to become our Occupational Health Nurse. We welcome Diane to our Puyallup facility. ●

FAST CYCLE TEAM TRAINING

by ALAYNE LEPPIN



The first Fast Cycle Team members arrived May 2nd and immediately began training to become Fairchild's newest class of operator. Twelve Washingtonians comprise the first group of trainees and we extend a warm welcome to Raeann Aldana, Jeannie Bailon, Darcy Eggleston, Ralph Fly, Dwight Hanners, Louise Hockett, Craig Lincoln, Sandy Miller, Rusty Parrott, Denis Rundle, Rhonda Stromsoe, and Harold Van Winkle. Also, Al Weil has joined our Training Department staff and will be training with the Fast Cycle Teams initially.

The Fast Cycle Team concept is a new approach to wafer processing within Fairchild which will increase personal accountability and involvement of operators in the fab. The outlook calls for a higher interest level in wafer handling resulting in improved yields, reduced cycle times and greatly improved lot integrity.

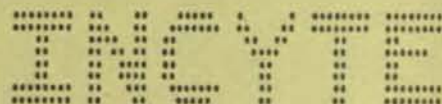
A Fast Cycle Team, comprised of three members, one per shift, will start a run at the first process step and hand carry it through the entire process. This is quite a difference from the "conventional" form of semiconductor manufacturing which requires an operator to work primarily in one fab area.

It was necessary for the Training Department to develop a new format for instructing wafer processing personnel which is supportive of this philosophy. A training program was devised and condensed into eight weeks. Groups of three are assigned to a fab area trainer for a period, and in a round-robin fashion the entire process is learned. Semiconductor theory and equipment operation are discussed in the classroom and then the trainees proceed to the fab where they participate in hands-on instruction. Each day concludes with a review and quiz in the classroom. Upon completion of the eight-week course, the trainees will complete written and operational exams leading to certification as Fast Cycle Team Members. Once again, welcome aboard. ●



WHAT'S MY LINE?

(Each issue will highlight a key element of our Fairchild-Puyallup organization. If you want to hear about someone or something special, let the *Circuit Writer* know.)



BEFORE

AFTER!

Our Puyallup facility is one of three Fairchild testbeds for the phenomenal INCYTE. INCYTE is the acronym for IN-process Computer-aided Yield Tracking and Evaluation system which means all information concerning wafer processing can be collected and stored in our computer and regained in a variety of reports and formats (with all the time consuming and sometimes difficult number crunching done for us).

As with any new system INCYTE takes some getting use to, plus there are some bugs. This only means a more exciting challenge for the INCYTE systems engineering group consisting of Doug Beaubien, Terry Huffman and Jessie Niou, along with assistance from Manufacturing's Pam Bell. INCYTE is making great strides in becoming a key ingredient in the new generation of semiconductor manufacturing.

INCYTE is also on-line in South Portland, Maine and at R & D in Palo Alto. The system is very powerful with the capacity to store and manipulate the data equal to several complete volumes of an encyclopedia. INCYTE also has a very quick, almost instantaneous response time and is quite user friendly. Among other things, INCYTE offers electronic mail which is extremely convenient. In order to make high yield wafers, we must control the contamination generated by paper in the fab. INCYTE will be the key factor in making our Puyallup fab paper-free. Thanks INCYTE and welcome to Puyallup.

Speaking about INCYTE, do not forget "Talk to Pete". You can send a message (anonymous if you desire) to our Operations Manager. Just type TALK at any INCYTE terminal and hit the return key. It's a great way to get your ideas known! ●

HAPPY BIRTHDAY

The *Circuit Writer* wishes a "Happy Birthday" to our employees:

Ken David	June 2nd	Ike Eichenberger	July 5th
Jan Michelson	June 3rd	Dave Gere	July 10th
Kelly Sharp	June 4th	Helen Capurro	July 16th
Jeff Goodwin	June 5th	Linda Melton	July 16th
David Werner	June 5th	Steve Aceff	July 18th
Athman Beidalah	June 9th	Debbie Clark	July 20th
Kimball Finch	June 15th	Jack Monasmith	July 20th
Terry Bruce	June 19th	Chris Ladas	July 22nd
Sharon Jones	June 23rd	Bill Cook	July 25th
Terry Huffman	June 29th	Harold Mann	July 29th
Mike Park	July 1st	Warren Johnson	July 31st
Tim Thompson	July 1st		

To all of you recent birthday celebrants, we wish a belated "Happy Birthday". If anyone has been overlooked, please let us know.



THE STORK REPORT

We have two new members of our Fairchild family!

Congratulations to Doreen and A.J. Beers of Industrial Engineering, the proud new parents of Tiffany Meagen. Tiffany was born on May 23rd, weighing 9 lbs., 7 ozs.

Donna Cunningham, of the Personnel Department, and her husband Tom were recently blessed with the opportunity to adopt 18 month old Edie Marie. Congratulations to these new and happy parents.

HAPPY ANNIVERSARY

Congratulations to Jack and Carol Mills who have recently celebrated their 20th Wedding Anniversary with an European vacation. Jack, our Support Services manager, and Carol enjoyed sightseeing in Germany, Switzerland and England. This should be a tough act to follow for number 25, Jack!

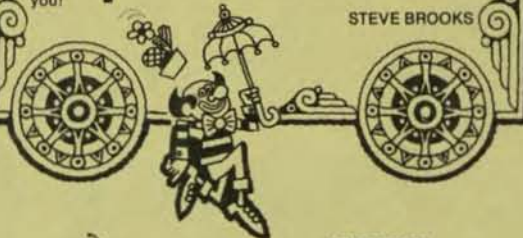


Congratulations to all our employee's sons and daughters graduating with the class of 1983. Best wishes for your future!

Climb on the Bandwagon

The first issue of the *Circuit Writer* has finally arrived and all of us who worked on this commemorative edition hope you find it informative and interesting. More importantly, we hope you realize what a great "vehicle of communication" is now available to all Puyallup employees. Every reader is encouraged to be a contributor! Why should each issue only consist of four pages? The *Circuit Writer* is here to cover all noteworthy news about activities inside and outside our site. Recently I was asked, "How many people are you looking for to make up the *Circuit Writer* staff?" I replied, "About 150." The individual to whom I was speaking exclaimed, "That's the entire workforce on site." I smiled and said, "I know." Being a part of the newsletter will not take a lot of your time. If you have anything interesting to offer, contact any *Circuit Writer* staff member or the Personnel department. We plan to publish an issue every other month, so plan to make your contribution for the next edition. Also, be on the lookout for the *Circuit Writer* information collection box in the Cafeteria area. I am looking forward to hearing from you!

STEVE BROOKS



WE NEED



STORYTELLERS

ARTISTS AND DESIGNERS



AND AVID PHOTOGRAPHERS

CIRCUIT WRITER CREDITS

The *Circuit Writer* is published for and by the employees of the Bipolar Division - Puyallup, Washington.

Publisher: Dennis Vercillo

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Photography: Jane Lokken, Alayne Leppin, and Nan Kerkhoff

Special thanks to Lois Deusen. Lois submitted the winning entry in our "Name the Newsletter Contest" and also suggested the design for the *Circuit Writer* logo.

BIPOLAR BEARS SOCCER

by NAN KERKHOFF

Every Wednesday evening there are fast passes, quick kicks, and lots of people running all over the place. It is chaos? Well, almost! It's the Fairchild soccer team attempting to score.

We are one of ten teams in the recently organized "Toe Jammers Do It Together" Summer Soccer League of Puyallup. It's an adult, co-ed and strictly recreational league. Our Bipolar team has about 12 couples plus an avid rooting section of babies, toddlers and children cheering their parents to victory from the sidelines. It's great sport for all Fairchild employees and their families. Games are played every Wednesday night at Ballou Junior High School. We're having fun now, but, just wait until we learn the rules! ●



George and Steve Demonstrate
"Toe Control"



Athman To The Rescue



"The Bears"

QUESTIONS? & ANSWERS!

If you have a question,
We'll find an answer!

Clip the Q & A section below or write it down on anything and give it to any *Circuit Writer* staff member.

Q. Who's responsible for this newsletter anyway?

A. You Are! The *Circuit Writer* is for all employees, produced by all employees. Get involved! If you've got a good story, interesting photo, good recipe or any important news, let us know!

THE CLASSIFIEDS

The *Circuit Writer* will offer an advertising service for employees desiring to sell or buy personal items. Forward your ad to the *Circuit Writer* collection box in the cafeteria or to any *Circuit Writer* staff member. This column is a service for Puyallup employees only. Ads for commercial organizations or their representatives will not be accepted.



The
World's
Greatest
Dad!

Remember
FATHER'S DAY
June 19th

I have a question,
but don't know
who to ask...

If this is you, then ask the *Circuit Writer*. Submit your question(s) to our staff. We will then get your company related question(s) answered. If sufficient interest exists in any one subject, it will be published in the next issue of the *Circuit Writer* and/or addressed at the next employee meeting. If you desire a confidential answer, either by phone or memo, please sign your name.

Name _____ X _____

