

ASI TODAY

A newsletter for customers of Analytical Sensors & Instruments Ltd.

Winter/Spring 2007

From Peter Cai's Desk



Peter Cai, GP & CFO

Williams, our Executive VP at that time and the entire ASI team worked together to overcome this worst disaster in ASI history.

After 5 months, a new ASI was realized. We not only repaired all the building damage, but also redesigned our floor plan layout to meet the needs of our growth. We replaced all the office furniture with the new furniture for better working conditions, replaced all the old work benches and shelving with standard industrial ones for more efficient work.

We realized these exciting changes were the Lord's plan for us and now the new ASI is more suitable for our goal to become the world leader in OEM electrochemical sensors. In this issue, Brian will share with you some pictures of the disaster and the latest changes. Let us all celebrate the new ASI.

Two years ago, my wife and I made a decision to gradually transfer ASI's management to a younger generation for the longevity of our company. So we promoted Mr. Brian Williams to be our Executive VP to perform the day-to-day management duty at ASI. All of our company officers have all exhibited great leadership, and excellent quality in their positions and during the last two years ASI has earned double digit growth each year and fulfilled our profit target.

At the beginning of this year I promoted Mr. Brian Williams to take my place as the President of ASI and CEO. Mr. Frank Zheng was promoted to Vice President of Operations and Mr. Steve Zelenak to Vice President of Engineering and New Product Development. I am now the CFO of ASI, leaving the daily ASI management to Brian and his VPs. Mr. Dennis Finch, ASI Senior Vice President, is no longer involved in daily ASI management and his role has shifted to Vice President of New Business Development. We are confident that Brian and his leadership team will continue growing ASI and achieve our goal of becoming the world leading OEM electrochemical sensor manufacturer.

From this issue on, Brian will write the articles under the title "From the President Desk". I will continue to write my articles for our newsletter because I respect you all and love to continuously communicate with you.

Thank you all for your support, and praise the Lord for His Great Plan for us.

Peter Cai

Peter Cai

Dear Customers and Friends,

We skipped off our ASI Newsletter 2006 Winter Issue because we would like to bring you all the following news.

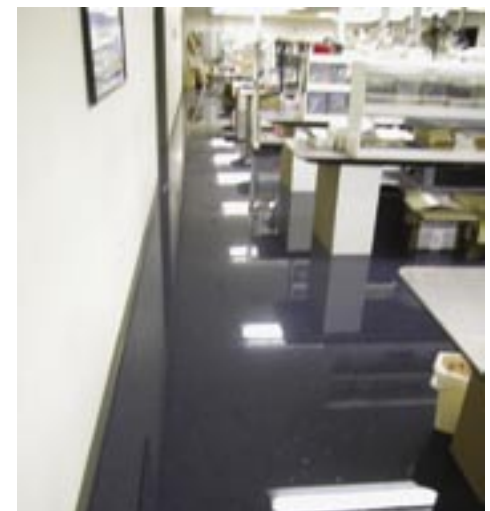
In September 2006, the ASI DI water system malfunctioned due to outside vendors fitting during one weekend. The ASI building was flooded by about 1.5 inches of water. The flood damaged all the carpet, furniture, computer systems and interior walls. When this incident happened, my wife and I were in Shanghai. Mr. Brian

When Disaster Strikes

What an ominous title for an article, although it is a fitting title for what ASI has been through during the last 5 months (September 2006 - January 2007).



As you have read (see Peter Cai's letter-left), ASI experienced an internal building flood due to a defective fitting on our deionized water system that is managed by a service provider [which has been subsequently released from this responsibility and replaced by a new vendor that offers new protective measures, including an auto shut down feature]. The result was an inch and a half of water throughout the building. In



Disaster continued on page 2...



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Disaster continued from page 1...

some of the pictures included with this article, you will see what appears to be dry spots in the carpet, this is an optical illusion - in reality it is areas where the glue that holds the carpet to the concrete sub-floor has failed and released the carpet to 'tent' above the water level.

As you can imagine, the building (after



two+ days of filling with 19,800 gallons of water [or 2,647 cubic feet of water] was quite a sight with water pouring out the front door! As employees arrived, they all pitched in on the effort to save as much equipment and product as possible. Within an hour of finding the flood at 7:30am on Monday morning a water excavation speciality company was on site removing the water from



the building. The company used large water vacuums to extract the water, and it took eleven hours to remove all standing water. Since not all water was able to be vacuumed away - the next step was to add dehumidifiers and air-movers to help dry the air and dry the building. We were fighting a battle with time, if we did not dry the building and inside of the walls within three days, we would have to remove the carpet and start removing sheetrock.



The first week that followed the event was quite chaotic at ASI as the building was not drying fast enough and we proceeded to remove all carpet and about 2 foot of sheet rock from every



interior wall in the building. The humidity in Houston slowed the drying process and the concern of mold growth prompted us to remove the sheetrock.



By the end of the week, we had over 100 air-movers [fans by a simpler name] 38 portable dehumidifiers and one very large trailer mounted desiccator (see picture above - this was the tube of air from the trailer mounted unit that passed through-out ASI for almost 11 days) that removed air from the building and passed it over a large bed of desiccant and blew the very dry air back into the building.

So it was a noisy and very dry environment to work in at ASI for about two weeks after the flood. ASI resumed manufacturing products at the beginning of the second week, and thanks to our customers advance orders we never stopped shipping product.



At the beginning of our third week, the water excavation company finally removed their equipment and certified the building as water free and ready for reconstruction. This would be [to our surprise] the most daunting part of our experience - reconstruction.

To provide a little history - ASI built the current facility in 1999, and moved into the building in November of that year. It was fortuitous that our reconstruction would begin the same week as our 8th year anniversary of moving into the ASI building.



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Beverly Rock Update

Over the last several months, many of our customers and friends have continued to inquire about the status of Beverly Rock's recovery from her stroke earlier in January of 2006.

At the beginning of 2007, Beverly rejoined ASI on a part-time basis. While she is not on the phone answering your questions anymore - she is back involved as much as she wants.

She brightens each day that she is at ASI, and is now working with our accounting department. While her recovery from her stroke is still ongoing, you will be happy to know that she has recovered most of her memory, speech and all of her physical capabilities.

We are overjoyed by Beverly re-joining the ASI family. The Lord has answered our many prayers and we are thankful and humbled by this turn of events.

Over those 8 years, ASI has grown from



barely occupying 1/3 of the building to feeling pressure to add an additional facility. With the reconstruction came an opportunity that rarely presents itself to a company, the ability to reorganize and modify the building. Since we would have to bare the hardship of moving every piece of equipment in the building anyway - it only made sense to make the most of the opportunity and reorganize the company to meet our growth.



During the last week of October and first week of November, we met with the construction company and made our plans - moving walls, removing walls, moving air systems, water systems and electrical contacts and switches.



During construction, ASI had to continuously move departments around the building to accommodate the construction in previous areas. Every member of ASI made sacrifices during the reconstruction, but all pulled together and showed the true unity of ASI.

Once the building construction was complete and the construction company had removed all of their equipment, we began the process of bringing in the new furniture and equipment that had to be purchased to re-outfit the company.

It took four weeks to completely re-outfit the company's furniture and equipment needs. In the end, though, ASI had modern work stations in every area of the building.



It was a long and hard road to travel, but it was also a great opportunity to exercise the document [that every company should have] called the disaster plan. Now that ASI has experienced a disaster, we can firmly recommend that you put one into place - as you never know!

In the pages of this Winter/Spring 2007 Newsletter we have included many pictures chronicling the experience at ASI from the flood through the end state - success.



One final note, by following our disaster plan, ASI not only kept every employee and rebuilt the business - but we managed to increase our sales by double digits! This was accomplished by being proactive in contacting our customers and ensuring that the supply chain would not be broken and pulling the team together and toughing out the hard times.

Now I am sure that you want to know - WHAT DO WE LOOK LIKE NOW!!!

See pages 4 & 5 for the NEW ASI.

NEW LITERATURE

ASI is excited to announce the **2007-2008 ASI General Catalog** release. We will be printing the new catalog within the next month and have them ready at the beginning of June 2007.

If you would like to have a copy sent to you, please contact your sales representative or contact customer service at ASI.

Contact us on email:

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consistent throughout the building, providing a homogeneous appearance

- New work stations for all manufacturing employees, using anti-static work surfaces and metal risers
- Expanded area for engineering offices and R&D production
- Expanded area for the cable group
- Expanded area for R&D laboratory workshop



With all that ASI has experienced over the last (almost) two decades, this is possibly our greatest achievement - the New ASI!

Now I am sure you are asking, were did we find the space to expand. When we first

The Ne

areas up to be used. An example is our ASI cable group that is a dedicated cell of manufacturing that serves as our cable and connect assembly. This group was previously at the back of our manufacturing floor, but we found



As you can see from the pictures included in this article, every part of ASI has been touched by our reconstruction efforts, from the lobby area, to the warehouse.

Here is a list of all the changes that ASI made during the reconstruction:

- New carpet in all administrative areas
- New VCT (tile) in all manufacturing areas to reduce static and provide a easy clean surface
- New administrative area furniture,



started looking at the floor plan of ASI, we found several areas that did not have the high usage that we perceived, and we started shifting our plan around those areas - which in turn opened other

that the cable is not needed until late in the production cycle - meaning that the cable sets were being provided to the final assembly group and being on opposite ends of the manufacturing floor





from one another did not make sense. So we tore down part of our lunch area

Another area is our engineering group, we found that having that group in the back of our building, away from sales and production administrative people was an area that we could also improve. We took a large office space that had been used previously to store archives and telephone equipment and increased that room to almost double its size by knocking down an adjoining literature and copy room area wall. We relocated archives and reduced our literature area to allow this change. The result is an engineering office with double the size and added benefit of



(it was oversized to begin with and since lunch is in shifts - we only used about 40% of the room) and added a new wall. This opened an area directly across from final assembly where cable is now passed just several feet from where it is produced to where it is integrated with the product.

having engineering R&D production collocated in the same area close to other administrative sections of the business.

Now these two areas freed up a considerable amount of space that is now being used for new racking,



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product storage areas, and KANBAN style production inventory items. By having this new system in place on the production floor, each production employee has access to all needed materials without any delay.

When we moved the engineering group into their new office, we had a recently vacated area right next to our laboratory. This has now become the center for Chemistry Research (Dr. Barone's team).

So with the additional racking, opened areas and reorganization - ASI has increased its production space by 25% and reduced foot traffic by 25% overall. We have moved each group into areas that they best fit within the production scheme and the result is a highly efficient ASI.

Warranty Question

Question : I received my pH electrode dry, no storage solution and no filling solution - is my product defective?

Answer : The simple answer is ... no. We routinely ship our refillable models (that have fast flowing junctions) dry for several reasons. First, the reference electrolyte leaks from the probe very fast - and you will have to fill it upon receipt regardless. Second, the pH storage solution is not included as it will diffuse backwards into the reference chamber - creating an incorrect potential in your reference. You should fill the electrode upon receipt with filling solution and soak in a pH 4 buffer for two hours prior to calibration - and it will work perfectly!



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people propHiles

Normally ASI presents people from inside the ASI organization that most of our clients never meet, providing a little insight into our company. This edition, however, would like to present to you the leaders of ASI.

Since 2001 the five individuals in the below picture (from left: Frank Zheng, Dennis Finch, Peter Cai, Brian Williams and Steve Zelenak) have lead ASI as a team. With Peter Cai at the helm, this team has been able to overcome unyielding obstacles in our path to company growth and community stewardship.

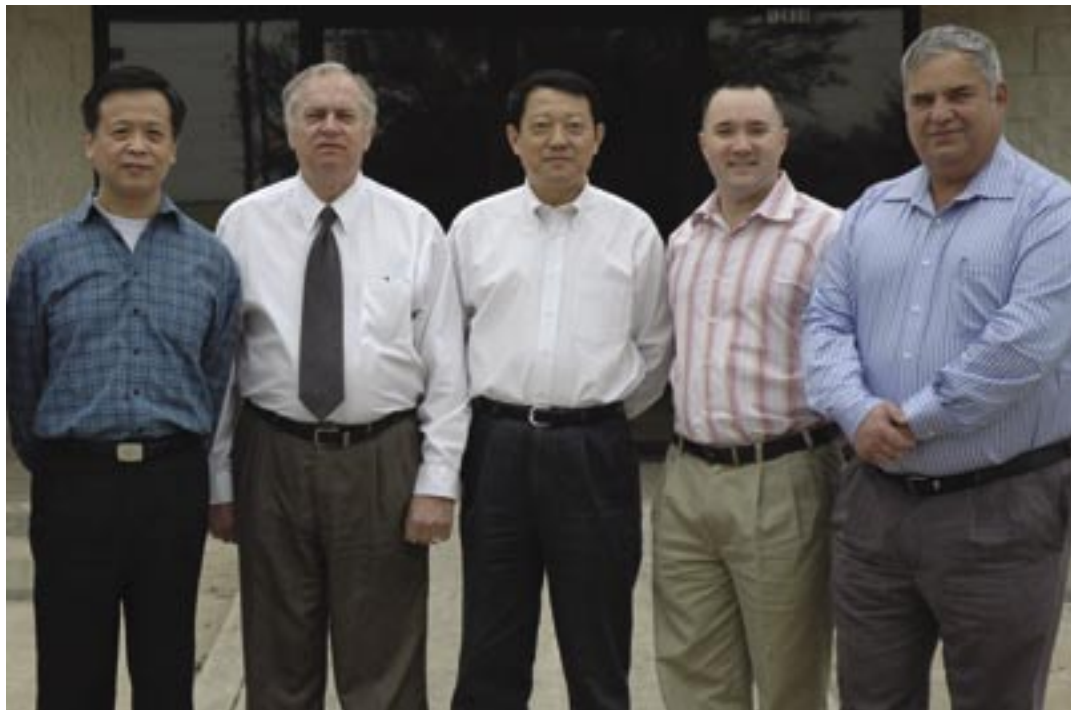
We would like to take one newsletter edition and focus on this groups contributions to ASI.

With the exception of Peter Cai, each member of this team joined ASI in order from left to right. Frank Zheng joined ASI in 1994, Dennis Finch joined in 1995, Brian Williams joined in 2000 and Steve Zelenak joined in 2001. (It is interesting to note that the picture order was purely coincidental.)

What has made this team so successful is the joining of various years of experience and fields of expertise. Frank Zheng represented manufacturing, Dennis Finch represented strategic business opportunities, Brian Williams represented business continuity and account management and Steve Zelenak represented strategic engineering, with Peter Cai pulling from each of those

areas to develop true and consistent business plans that lead the company through each year successfully.

In 2001, Peter Cai called a business meeting several weeks after PITTCON (tradeshow and conference ASI attends annually) to have a recap on our success at the show. The company was



having another banner year with sales increasing each month, and this meeting was more a formality than anything else. But in that meeting, Peter realized that the team he had before him would be able to be more productive by formalizing it into a company leadership team and not just individual managers of their respective areas. From that point forward, this team of five would meet weekly to discuss any company topics that were of importance and find ways to solve long-term problems.

This new style fit ASI very well and as a team, this group continues to lead ASI successfully. As ASI has grown larger and more complex, the 'team' leading ASI has also grown to include more

specialized areas and the company leadership meeting has evolved into an interdepartmental meeting that includes heads from each functional area of the company to ensure that we see all issues around the company. Each of these individuals still meet in the interdepartmental meeting at ASI each week along with the other functional

department managers, mentoring and helping them to succeed. We find a strong mentorship program is the key to a functional group environment and that while each individual has weaknesses - everyone has strengths that can lend themselves to the

company.

Now that it is April 2007, each of these members is still hard at work at ASI successfully solving problems and creating new opportunities to grow the ASI business

Although Peter Cai is no longer involved in day-to-day activities at ASI and more focused on our branch in Shanghai, China (Aurora), he is still providing behind the scenes advice and mentorship to each member of the team.

We expect that this group of individuals will continue to succeed in leading ASI to further heights and continuously work for our customers in the way that all have become accustomed.



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With the amount of work ASI has placed on Dr. Barone's shoulders over the last several months, we have decided that this month we would dedicate his article to helpful tips accumulated over the last several years. Dr. Barone will return with a new article in the next issue.

How should I clean my pH electrode?

Step 1 is to immerse the pH electrode tip in 0.1M HCl for five minutes and then rinse with DI water. If this step does not correct the problem; step 2 is to soak the pH probe tip in 2% pepsin in 0.1M HCl for 24 hours, rinse with DI water and soak in pH 4 buffer for 30 minutes. If this step does not correct the problem; step 3 is to dip the electrode tip in 4% HF or concentrated Ammonium Bifluoride for five seconds and rinse with DI water, soaking in pH 4 buffer overnight. If this step does not work, replace the electrode.



**Dr. George Barone III
Senior Research Chemist**

Storing pH electrodes not in service

- A new pH electrode is typically shipped with the pH bulb immersed in a storage solution composed of 50% pH 4 buffer and 50% 4M KCl salt. This solution is recommended for optimum storage conditions
- If you do not have the recommended storage solution available, you may substitute a fresh pH 4 buffer.
- Never store pH electrodes in distilled or deionized water

Ground Loop Problems

Do you have one?

- The easiest way to determine if you have a grounding problem is to remove the sensor from the process and place it into a nonconducting container, if the reading differs from the measurement taken within the pipe or tank.

What can cause the ground loop?

- Grounding can be effected by the amount of ground water in the soil, the amount of humidity in the air, type of metal used for grounding or possibly a mV signal being introduced into your process by mechanical equipment

How can I prevent a ground loop from occurring?

- By immersing a ground element into the solution of interest constructed of a metal which will not react with the solution being tested and hooking the element to the correct terminal on your meter.

- Ground elements must be kept clean and be constructed of a metal inert to the process being measured. If oxidation of the ground element occurs, an ORP effect will occur and be noted on the pH meter. The oxidation of the rod will generate a mV signal and be seen as a pH offset.

Do's and Don'ts during electrode calibration:

Do's

- use fresh buffers
- use a two or three point calibrations
- zero your meter using the pH 7 buffer
- use a temperature compensation device when possible

Don'ts

- calibrate your pH meter without establishing the zero point
- use aggressive solutions to clean your pH bulb or leave them immersed too long in cleaning agents
- use abrasives to clean the pH bulb

Promotions and New Hires

Promotions

Brian Williams - President & CEO
bwilliams@asi-sensors.com
Extension 124

Steve Zelenak - Vice President Engineering/New Product Development
szelenak@asi-sensors.com
970.377.3395

Frank Zheng - Vice President of Operations
fzheng@asi-sensors.com
Extension 140

Dennis Finch - Vice President of New Business Development
dennis.finch@asi-sensors.com
Extension 110

Kimberly Morgan - Sales Manager
kmorgan@asi-sensors.com
Extension 125

New Hires

Dave Ruane - Technical Sales Manager
druane@asi-sensors.com
970.377.3395



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RETURN SERVICE REQUESTED

From the President's Desk



Brian Williams
President & CEO

Dear Customers & Friends:

It has been quite the last 6 months! It is hard for me to believe that so much has happened in that little time, but you know the saying 'time flies when you are having fun!'

If you are reading this letter first, please

open your newsletter now and read the front page - it is far more important than anything I have to say.

Now that you have read our issue, and you are back to me, you can understand my opening statement. A flood, a recovery, double digit sales growth, and a remarkable team - it has been an amazing adventure.

I am sure you are wondering about the title of my article, and my new promotion Peter Cai spoke about in his article, and yes I have been promoted to run Analytical Sensors & Instruments.

I realize many of you are amazed, my wife is as well - so you are in good company! But I make you this promise, none of what you have come to expect from ASI will change. I will lead this company in the same manner as Peter Cai, setting the example in our company and industry with quality first, customer support a must, and prompt delivery.

I have come to know every account

that ASI deals with over the last 7 years, and I value each and every one. Nothing is more important to me, and everyone at ASI, than customer satisfaction.

My only request to each and everyone of you is that if you ever have a problem involving ASI in any way and you are not getting the quality of service you expect - contact me. I am always available to customers and vendors to help in any way I can to see that you are satisfied.

I look forward to talking with all of you over the next quarter and see exciting times just ahead for everyone.

Best wishes to all in the coming Spring,

Brian Williams