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SUN HYDRAULICS CORPORATION (NASDAQ: SNHY)

SECOND INVESTMENT LETTER

Fred Russell visits **Sun Hydraulics** in **Sarasota, Florida** and then spends two days in **Key West, Florida** visiting **Fast Buck Freddie's Island Department Store**, observing **Carnival** cruise ships docked at **Front Street**, and enjoying the pleasure of a warm climate in winter.

Key West, Florida, Friday, December 12, 2008

I was about to do something that I had promised myself that I would never do again: fly commercial or use public aviation on a Friday. Yet here I was, breaking a promise to myself, as I sat in the back seat of **Bill's Taxi** headed toward the **Key West Airport**, as **Bill** navigated the narrow downtown streets of **Key West**, avoiding minicabs and tourists on bikes and mopeds, tourists dressed in loud outfits with marlin, sharks, and palm trees haphazardly woven into the fabric of their shirts.

Bill and I had begun our trip just ten minutes before after I had checked out of my hotel and after he had helped me load my luggage into the back of his taxi.

Just as he pushed down the flag to start the meter, I asked him, "How much would it cost to stop and wait for me at **Banana Republic** while I ran into the store and did some shopping?" (**Banana Republic** was only four tenths of a mile from the **Ocean Key Resort**, so I thought a quick stop on the way to the airport, especially since today was sale day at the store, would be a smart move.)

Bill looked in the mirror, and with a satisfied smile said that "...the coefficient was four and a half minutes."

Bill's comments on coefficient intrigued but confused me. I thought that I understood the concept of coefficient, even if my grasp was primitive, tentative and no deeper than the outline of the subject that a SparkChart offers. (A SparkChart offers convenient summaries of many subjects, from world geography, the mechanics of e-mail, to accounting, calculus, finance, statistics, and other subjects. A SparkChart is similar to CliffsNotes: both offer quick and easy views of popular subjects to a student who is either out of time or who has not yet cracked the textbook, and who often does not plan to do so.)

As I studied **Bill** I had a bittersweet flashback to my days as a student in calculus, a subject that had discouraged me as soon as I had opened the textbook. I remembered being thankful that the adjunct professor at **Washington University**, where I was suffering through calculus in the MBA program, was recently divorced and apparently thought that I had some potential and some charm, as she would spend countless time in her office reviewing the subject's most elementary concepts for me.

As I silently wrestled with the meaning of coefficient I must have looked puzzled, as **Bill**, studying me in the rear view mirror for a couple of seconds, suddenly turned around and corrected himself. It was not the concept of coefficient but the concept of breakeven, he said, that counted in figuring out whether to call another taxi or to leave my bags in the trunk of his taxi, with the meter running, while I searched for some shirts on sale at **Banana Republic**.

He continued by saying that, in [Key West](#), the taxi fare increases by two dollars and seventy five cents every four and a half minutes.

If I anticipated shopping at [Banana Republic](#) for more than four and a half minutes, and letting his meter record more than two dollars and seventy five cents in additional fare, I ought, [Bill](#) said, to pay for the fare when we reached the store, and then call another cab when I was through with shopping. Obvious problems, nevertheless, such as the time it would take to get another taxi, existed with [Bill's](#) answer to the problem.

Anyway, I thought, [Bill](#) was entertaining and pleasant. So why would I want to switch drivers?

As I digested [Bill's](#) logic, the taxi moved slowly down [Duval Street](#), passing such landmarks as [Fast Buck Freddie's Island Department Store](#), the only store known to have a "[Tropical Trash](#)" department; the popular gathering place called [Bad Ass Coffee](#), which claims to give its clientele a taste of the laid back "[live aloha](#)" lifestyle; and many t-shirt shops. It was just past ten o'clock in the morning but the bars were open and the musicians in the bars were already at work.

We shortly reached [Banana Republic](#). I asked [Bill](#) to wait for me and I rushed into the store and asked the salesman to show me the rack for my size in dress shirts. I grabbed two shirts, surrendered my plastic and returned to the cab, very close to the breakeven point of four and a half minutes.

From [Banana Republic](#) the taxi headed out to the airport, and after three miles we passed several marinas with boats stacked one on top of each other, with the boats loaded and unloaded with a [Sun Hydraulics](#) screw-in cartridge valve probably playing an important part in an hydraulic system that raised and lowered, as well as moved sideways, the heavy boats that we saw. (Of course, the boats were not literally stacked one upon the other.)

As we pulled up to the airport terminal we saw a cab, painted pink, with the words [Maxi Taxi](#) on its rear end, and with a sign which proclaimed that if the tourist were looking for the best taxi in [Key West](#), he ought to [Think Pink](#). (The pink taxi, I thought, reflected the artistic culture of [Key West](#), as did the brightly colored interior of a restored historic 1800's clapboard building now acting as [Sarabeth's](#), a charming restaurant where [Matthew Helmerich](#) and I had had breakfast the day before.)

Almost everything in [Key West](#) in fact had an imaginative surprising flair to it. When I arrived at the airport the first night, the taxi driver and I got into an animated discussion about real estate in Florida, and soon he volunteered that after he got his MBA at the University of Virginia, he became a mortgage banker "You remember mortgages don't you?" he said. I answered, "As a matter of fact I do, but many people I know have them, and wish they had never seen them including some investors who have bought the securitized or packaged version of mortgages, only to find out that they didn't understand what they had bought."

An hour later after I had left the hotel and after I had run the Transportation Security Administration gauntlet at the [Key West airport](#), I was on a Delta flight to Atlanta, and I had some time to reflect about the busy week I had enjoyed with two pleasant days in [Key West](#) preceded by two days in [Sarasota, Florida](#).

A Meeting with Senior Executives of Sun Hydraulics in Sarasota, Florida on Tuesday, December 9 and Wednesday, December 10

Our clients, our employee benefit plans, and I have a significant percentage interest in [Sun](#), a position of [137,798](#) shares or 0.83% of the 16.6 million outstanding shares, so I wanted to learn more about the company.

I had flown into **Sarasota** to meet with management of **Sun Hydraulics Corporation**. (Incidentally, if you wish to enjoy the convenience and comfort of a private jet, there is a great choice here in Tulsa, with **Omni Air Transport**. To book a flight or for more details call my friend **Dan Burnstein** at (918) 836-3131.)

I had arranged a three o'clock appointment on Tuesday, December 12 with **Richard Arter**, **Head of Investor Relations**; **Allen Carlson**, **Chief Executive Officer**; and **Tricia Fulton**, **Chief Financial Officer**.



Sun Hydraulics Corporation, Sarasota, Florida

After landing, I drove a Hertz car to **Sun's** headquarters. I was a few minutes early but it was not long before **Arter** came to the reception area and greeted me, telling me that **Fulton** and **Carlson** would meet us in the conference room.

Carlson and **Fulton** came into the room within a few minutes. **Carlson** introduced himself and asked me what I wanted to concentrate on in the next two hours. I wanted, I said, to get a better understanding of the floating screw-in cartridge valve, and its electronically actuated or activated version. I understood the screw-in valve to be a great competitive advantage for **Sun** and I wanted to better understand this advantage.

As I waited for **Carlson** to begin I reminded myself that in every hydraulic system a cartridge valve is critical in providing the thrust, the force, and the power that enables the system to lift, lower, and to move sideways, light and heavy objects, and that hydraulics, because of their versatility, are omnipresent.

For years the hydraulics industry, **Carlson** explained, used a cartridge valve that was bolted on to the housing or manifold. **Carlson** then asked me to look at the two manifolds on the table, one fitted with **Sun's** screw-in valves and one with the conventional bolt on valves. (A manifold is a solid block of metal, usually aluminum or ductile iron, which is machined to create threaded cavities and channels into which screw-in cartridge valves can be installed and through which the hydraulic fluid flows.) *Sun Hydraulics Corporation, 2007 10-K, page two*

When the valve is bolted on or welded into the manifold, the flexibility of the hydraulics system is compromised, **Carlson** said, forcing the hydraulics operator to use a fixed, inflexible amount of power. With a screw-in cartridge valve, which is smaller and lighter than the conventional valve, the operator can vary the force or the power of the hydraulic system.

An example of screw-in electro hydraulics in action is the movement of the ladder on a fire truck: the fireman operates a control panel or electronic brain which governs the movement of the ladder through messages to the electronically actuated valve. The messages might say, move the ladder up, or move it down, or move it sideways. The operator of the control panel has the benefit of the intelligence of the electronic brain and by communicating with the electronic brain, the electronically monitored valves have more accuracy, when compared to non-electronically actuated valves. (**Mark**

Bokorney, a mechanical engineer at Sun gave us the details on hydraulics and fire trucks in a telephone conversation we had with him from our office on Monday, December 29, after I had returned from Florida.)

After suggesting the great potential of electronically actuated valves, **Carlson** drew a box on the whiteboard to depict the hundreds of thousands of cartridges that **Sun** offers, either as custom only pieces or as a combination of custom and standard features. As he drew the box, I recalled the section in the 2007 **Sun Hydraulics** 10-K that covered the wide array of products that **Sun** manufactured, as well as other important attributes of the company:

The innovative floating construction of the Company's screw-in cartridge valves and the design of the cavities in which they are installed provide demonstrable performance and reliability advantages compared to other available screw-in cartridge valves.

The Company designs and manufactures one of the most comprehensive lines of screw-in hydraulic cartridge valves and manifolds in the world.

The Company has generated a profit every year since 1972 and has paid a dividend every quarter since its initial public offering of securities in 1997.
(Our emphasis)

The Company believes that its success is primarily a result of its innovative product design, consistent high quality, superior product performance and the breadth of the markets it serves. (*Sun Hydraulics Corporation, 2007 10-K, page two*)

Before we break up for the day, **Carlson** said, you will want to understand one more competitive advantage of the company: this is its culture. This advantage, he said, I would best appreciate when I returned to the headquarters tomorrow morning to take a tour of the cartridge valve plant.

As **Carlson** was finishing my mind wandered off to the history of **Sun**, and to the creative, iconoclastic thinker who founded the company in 1970.

Bob Koski, Sun Hydraulics and Theory X and Theory Y

Bob Koski, a Dartmouth '51 graduate, was interested in the dynamics of organizational behavior. He believed that the rigid, and what he termed the vertical structure of many organizations, led to excessive politics, empire building, empire defense, and to superficially polite, but lethal behavior that quietly, insidiously robbed organizations of their spontaneity, productivity, and their health. **Koski** was at least silently a believer in Theory Y, not Theory X of management.

If you respect an employee's intelligence, says Theory Y, and his or her need for autonomy, and if management praises often, criticizes rarely and only in privacy, you will get more productivity than if you follow the dictates and implications of Theory X.

Theory X assumes a less benign view of workers: they really do not want to work, but to gain production from them you must be quick to enforce rules, to punish, and be slow with compassion and gratitude. Workers may be intelligent but intelligence is something you must wrest from them.

Bob Koski, if he were alive today, would probably agree with me that Theory Y of management is the way to go. Make people feel important, **Koski** believed, and their pride will take over and they will produce outstanding results.

[Koski](#) believed that if you put executives in offices and put all other employees in crowded, unpleasant cubicles or pools, if you limited meetings to calls from higher ups, gave people fancy titles, and required strait-jacketed approaches to memoranda and other office communication, you would make it difficult for a company to enjoy free spirited, creative communication, ruling out productive dialogue and the healthful exchange of ideas. You would have a stagnant company that never could produce the profits that [Sun](#) has.

Small partitioned spaces create, I believe, a cold impersonal feeling and seem to say this: if you work in one of these cubicles, we, management, have deemed you to be unimportant, your ideas are of no value, just do the work we ask you to do and otherwise do not call us, we will call you.

The cubicles, whether intended or not, dehumanized employees, robbing them of creativity and drive and eviscerating their spirit.

In the white-collar workplace of the 1990s, the trend was to have rows and rows of small, doorless spaces separated by chest-high partitions, creating cubes. Whether called departmentalization, nonterritorial design, or dejobbing, it added up to a sense of working in an odd new atmosphere characterized by downsizing, outsourcing, and a steady loss of perks and benefits. The new term for these environments was “cube farms”.

(Slang, The Topical Dictionary of Americanisms, Paul Dickson, 2006, Walker Publishing Company, Inc., page 101)

[Koski](#), who died in October 2008, must have been a remarkable person. The [Harvard Business School](#) has written two case studies on [Sun Hydraulics](#), highlighting the unusual nature or culture of the company, and the iconoclastically effective thinking of its leader and his belief in horizontal management. In the following discussion on horizontal management on this page and the next I rely on the [Harvard](#) work for my analysis of the [Sun](#) culture.

To encourage uninhibited flow of ideas across the company, [Koski](#) called for a democratic organization, with its implication that every person in the corporation is important, a refreshing contrast to many publicly held corporations whose dysfunctional culture is manifested by a picture, usually on the second page of the annual report, of the chief executive officer with the inevitable fatuous bromides and the surrender to soporific jargon and with the frequent use of inane phrases such as “paradigm shift”, “core competency”, “skill sets,” and that most prized phrase of mindless thinking, “...moving forward.” After looking at such a report I do want to move forward, but without the chief executive officer.

[Koski](#) wanted no formal hierarchy, no position-titles, no job descriptions, no special benefits, no reporting relationships, and no close supervision at [Sun Hydraulics](#).

Anyone could call a meeting, anyone could leave a meeting that was no longer productive for that individual. There would be no purchasing department, a department, [Koski](#) believed, that often led to bullying of suppliers, sour relationships between buyer and seller, and risk when economies were booming and supplies were in short supply.

Seeking to encourage communication, sharing of knowledge, and stimulation was [Koski's](#) objective. Every employee deserved respect, and with this firm wide respect came a self-confident, stable, and productive work force. In the first fifteen years of the company's life, as a matter of fact, only one person left [Sun](#), and that person left because of poor health.

Koski's prescription for success sounded good. It was easy, however, to declare democracy, respect for everyone, high standards, predictable profits, workplace harmony, and annual market share gains. The easy part was the declaration, the hard part was the execution.

But the proof is in the pudding: every year since 1972 Sun has made a profit and has paid a dividend. This is an impressive record. Outstanding morale has produced great profits.

Carlson was wrapping up his presentation and I now realized how tired I was. I had been up before five a.m. and the toll of travel was having an effect. Fortunately, everyone else seemed tired as well, ready to quit for the day.

Carlson finished with his diagram of custom and standard cartridge valve possibilities, and Tricia Fulton reminded Arter that she, Arter, and I were have dinner in a couple of hours.

I packed up my notes, left Sun headquarters, and got into my Hertz car, heading the opposite direction on University Parkway from the direction I had taken to reach Sun. I was to take a left on Tamiami Trail, one of the main thoroughfares of Sarasota, and in two and a half miles I would find the Ritz Carlton, although I would soon find out that the Ritz, perhaps to underscore its prestige, has a very understated sign, one that is difficult to find, especially if you do not know your way around Sarasota.

Florida was one of the boom areas of this decade, and it is also one of the states that has suffered from a steep real estate collapse, with falling prices and rising foreclosure rates coincident with corporate and personal cash shortages. Many corporations and individuals have been forced to declare bankruptcy, the most dramatic and painful acknowledgement that debts exceed assets, and that there is little cash on hand to pay employees, suppliers, and banks.

On Tamiami Trail I saw the pain of the mortgage crisis in action. On my right I passed scores of motels, with signs such as "Single \$39, tv, hbo, and fridge." The motels were not in the best of shape but that fact did not cause me so much disquiet as the "foreclosure, bank owned" signs that had been put up in front of these establishments, along with the "Sorry, we are closed" signs, positioned prominently inside the front windows of these motels, as well as in the front windows of fast food joints that lined Tamiami Trail and that had once served the public a greasy but tasty burger with the inevitable irresistible french fries.

After two miles, the landscape changed dramatically as I moved from the rundown section to the obviously affluent area, with tall, imposing buildings fronting a drive that encircled the bay. These buildings were not skyscrapers, buildings rising forty, fifty or more stories, but many could boast of twenty to thirty floors, a phenomenon, I was later told, that began to take hold about two decades ago in Sarasota. At dinner Arter told me that more than sixty per cent of the households in Sarasota relied exclusively on passive income: in other words these households were affluent and relied on interest and capital gains to survive, and did not have to work for a paycheck. (Incidentally, I do not agree with the implication of passive income, it takes a lot of work and insight to score a capital gain.)

The Ritz Carlton sign was virtually obscured by several large palm trees and I worried that I would never find the hotel. The placement and size of the sign, I thought, was understatement at its most powerful. I drove back and forth along Sarasota Bay, finally finding the hotel after asking construction workers, pedestrians, and drivers where the Ritz Carlton was. To emphasize its snob appeal, the Ritz Carlton sign was not only small, but it appeared to be deliberately hidden. I had a Mapquest with me that Meredith Bohot had so thoughtfully prepared, but I found, not for the first time, that Mapquests, as do other maps, often have severe limitation, although the maps are usually helpful.

At dinner I learned a little bit more about Sun, especially of the difficulty of setting up offices in Korea and in China, and trying to gently introduce the democratic culture of Sun into the hierarchal structure and culture of the Chinese and Korean workplace, a mighty task, according to Tricia Fulton.

A Tour of the Sun Hydraulics Plant

I was back at Sun headquarters after a good night's sleep. I walked to the receptionist's desk and asked for Rich Arter. A few minutes later Rich greeted me and we walked through the non-factory work area, where engineers were hunched over working on software programs on their personal computers.

Arter introduced me to Mark Bokorney a mechanical engineering graduate of Oklahoma State University, who had joined Sun in 1996. Bokorney, Arter explained, would be my guide for the next several hours as I toured the plant.

Bokorney indicated that we would begin by looking in on the testing area, where several people were testing the valves. Bokorney asked me to observe the mirrors above each tester's work station. The mirrors helped each worker to feel part of the main plant floor, and not isolated, confirming that the testing of the valves was an integral part of the manufacturing process.

We moved on to the manufacturing area, where I observed several large machines running quietly. Again, like the area that Bokorney works in, the plant was clean, the lighting was good, the air conditioning was in full force (this was Florida and it is rare for the temperature not to be warm, and even hot.) On this day the mercury was near eighty, the machines were producing a lot of heat, and the workers, moving steadily around the machines they were guiding and using, contributed to the heat.

Bokorney was an excellent guide and teacher, answering politely and intelligently my many questions, many of which he must have thought were elementary, or at least unsophisticated. As all good teachers are, he was never condescending, but always patient.

Fred Russell Falls in Love with Motoman

One encounter with a robotic machine named Motoman was especially entrancing and powerful.

Hundreds of parts were lined up in a box waiting for immersion in a rust preventative solution. The Motoman would pick up one part, then move to the immersion area, take its arms or jaws, and lower the part into the liquid. Motoman was a very efficient machine as it moved tirelessly, accurately, from one part to another. It would then reverse the position of its jaws, pick up a finished part, and insert it back into the box. Again it would reverse the position of its jaws, pick up another piece, and go back to the immersion area. The robot was immune from making mistakes. The Motoman seemed to live up to his (its) reputation as a model worker: with excellent judgment he knew what to do, he did it well, and he did not attempt to do what he could not do, but he was certainly willing and able to do other tasks than the one I had witnessed, as Bokorney later emphasized in a phone conversation with our firm on Monday, December 29.

The Motoman was well educated and versatile. Motoman did not get sick nor did he dress inappropriately. Motoman works cheap, but his cost of adoption usually runs between twenty to fifty thousand dollars. Motoman has eighty brothers and sisters at Sun.

“We use the robots for many tasks at Sun, such as loading and unloading valves for testing, installing o-rings (o-rings are designed to make the valve air tight and to prevent leakage), for loading and for unloading valves for laser engraving, so that part numbers and the company’s logo can be cut in or burned into the valve.” Each valve has its own part number which is engraved into the valve. (The above quote is taken from a call I placed to Bokorney after I had returned from Florida)

I was also impressed with the final process that would complete the cartridge valves and make them ready for shipping: this was the heat treatment process. Sun customizes a heat treatment furnace, making it a competitive advantage because Sun does the heat treatment in house (or in factory) and the furnace is programmed exclusively for cartridge valves. In North America, Sun’s competitors send the cartridge valves out to be heat treated but those furnaces are not specially programmed for cartridge valves, they are designed to heat treat many different parts and sizes.

Heat treatment is necessary to harden the working parts and improve the surface finish, making the parts wear resistant. To heat treat in house requires the purchase of a million dollar machine, a commitment that Sun’s competitors evidently do not wish to make.

I looked up and realized that time had passed quickly. The tour was over and Bokorney had done an excellent job. We walked back to say goodbye to Arter and all of us stopped for a few minutes to discuss the value of the kind of trip and tour I had just made. **As we were talking, Arter said that the company encouraged visits like mine, but very few shareholders took the time, the money, and the energy to do what I had just done. He guessed that during any given year only three to five shareholders visited headquarters and took a tour of the plant.**

Throughout the tour of the factory and the offices it was clear that this was a company with few walls, metaphorical and physical. The culture encouraged everyone to talk with each other when they wanted to discuss a concept, debate a strategy, or arrive at a collective decision. This did not mean chaos. In fact, the offices were unusually quiet. Bokorney told me it took some getting used to, but now he was happy with the Sun arrangement and the culture that produced it.

The writer of this report, Fredric E. Russell, lists his academic and professional background as follows: B.A., Swarthmore College, Swarthmore, PA; M.B.A, and M.A., Washington University, St. Louis, MO. He also holds the CPA certificate, and has taught accounting at the university level. He believes his love for writing and his usually correct grammar come from spending four years learning the English language at Deerfield Academy in Deerfield, MA, and from reading everything well written he can find.

Meredith Bohot and Jim Carnett made important contributions in the research that went into this letter.

Thanks to Rich Arter, Mark Bokorney, Allen Carlson, and Tricia Fulton at Sun Hydraulics Corporation.

You may read more about us, find other investment letters and the details of our record on our website: www.fredricerussell.com.

