

A FIELD TRIP TO HADES

Seeing the following announcement on the Apprentice Web Site recently rekindled a host of almost forgotten memories. Back when such things were not optional, not even if they were conducted on one's personal time.

**Society of Naval Architects and Marine Engineers
&
Society of Manufacturing Engineers
Attention All Apprentices
Ever wanted to know what's going on inside the Foundry?
Well join SNAME and SME in finding out.
Date: June 20, 2007
Time: 4:15pm
Meeting Place: In Front of The Apprentice School
***Bring your personal protective equipment with you.**
(Hardhat, steel toe boots, safety glasses, and hearing protection.)**

In early September of 1954, a relatively small group (less than forty, as I recall) of all male high school graduates made their way back down to the very bottom of another educational ladder; becoming first-year apprentices at the Newport News Shipbuilding & Dry Dock Company. About half of these aspiring shipbuilders, including yours truly, were local lads whose homes were on or adjacent to the Virginia Peninsula. With no apologies to anyone, it was Company policy to give preference to employees' sons, whenever there were any apprenticeship openings. Remaining slots went to applicants whose home towns were generally in other parts of Virginia or in North Carolina.

Each of us, after enduring pretty impersonal physicals reminiscent of military induction were dispatched to various departments on the basis of Company need; never mind any individual's ill-timed expressed (and then rapidly repressed) request for something else. Scattered around the shops, shipways and ships under construction, we each commenced to learn our assigned trades via the time-honored 'over-the shoulder' method; enduring, to varying degrees, departmental wags' ideas of how novice apprentices should be treated (or mistreated).



We started out at an hourly rate of \$1.29. But unlike other new hires in the shipyard, that rate also applied during the several hours each week when we attended classes in the Apprentice School's educational building. Although not air-conditioned, the school was generally a welcome respite from our hot, gritty and often menial tasks on the waterfront.

Tidewater Virginia, even in September, is, more often than not; hot and humid, and September of 1954 was no exception.

For those of us not living in the apprentice dorm, meeting one another in classrooms that Fall was when we started to form acquaintances that often became lasting friendships; many of which have now endured for over fifty years. That First Quarter (is the school still on the quarter system?) included some pretty basic topics: Algebra and Geometry, Steel Hull Construction, Isometric Drawing, Marine Engineering and...Metallurgy.

Our metallurgy classroom was on the first floor of the educational building in Room 104. That 1940s vintage classroom, typical for the time, had a wall of windows, but they only provided a view of the nearby and steep hillside that supported the Apprentice Athletic Field's home grandstand. We sat on hard, straight-backed wooden chairs at rickety wooden tables that each had four spindly legs that had been carelessly (or perhaps deliberately) cut so that they rocked incessantly. These so-called desks were roughly two feet square, with no storage provisions. Whatever scholastic materials one carried into those classrooms had to share the cramped floor space under the tables with your feet, hard hat and – in winter - coat.

So, there wasn't much there to distract from our assigned task in Room 104: to learn something about Metallurgy. Our instructor, **William Heltzel**, was an engaging, energetic and often pretty off-the-wall humorous fella; hence his nickname of "Wild Bill".



Plus, he was a friendly guy, who didn't talk down to us like some of the other instructors (or was that my imagination?). Not only did Mr. H really know his stuff, we were soon to discover that he also believed in hands-on demonstrations to vividly illustrate how metallurgy would affect our budding careers.

The yard's materials test lab was conveniently located immediately adjacent to the Apprentice School's educational building. Often, during that First Quarter, we would go there to acquire hands-on knowledge about some facet of metallurgy in a real-world atmosphere. On occasion, we were even allowed to destroy a few samples in the pursuit of learning about material properties. The test lab people were unusually nice to – and patient with – us.

I think I now know why... A couple of years ago, while researching the history of the Apprentice Program, I have discovered something we never knew back then (or, if we were told, I wasn't paying attention...a distinct possibility). The shipyard's Chief Metallurgist and Director of the Testing Lab in 1954 was Jesse Carter Jones – the son of the Apprentice School's very first graduate.

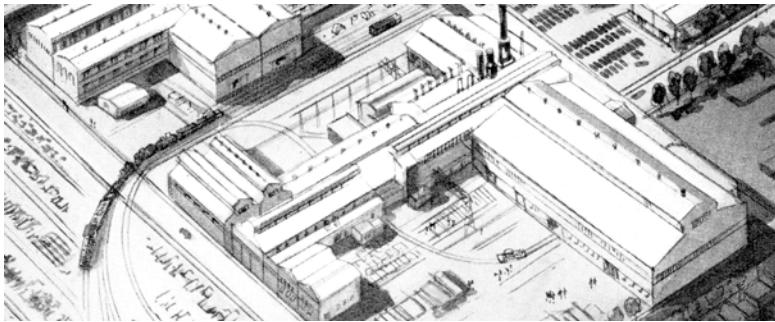
But I digress...

Sometime late in September of that year, while it was still unseasonably and downright frightfully hot, Mr. Heltzel arranged a field trip for us. As memory best serves, the yard's foundry was planning to make a multi-ton pour during a noon hour (timed, I presume, to preclude electric arc furnaces' high ampere draw on the shipyard's power system from interfere with other operations in the yard).

On the appointed day, when the noon whistle blew, we grabbed our hard hats and safety glasses, and followed “Wild Bill” out the main pedestrian gate, looking for all the world – I’m sure – like a flock of fledgling industrial ducklings following their parent. We were not asked if a field trip was how we wanted to spend our lunch hour that day – we were told – and we obeyed without question or complaint.

Well, there was one complaint: Johnnie Hunt was an apprentice molder, and he didn’t think very much of the so-called opportunity. But he wisely didn’t share that opinion with Mr. Heltzel; just quietly said as much to us as we strode along Washington Avenue.

Mr. H was a fast walker, and we hurried to keep up as our gaggle moved north a couple of blocks, bucking the tide of humanity heading for lunch. At 41st Street, we turned east, passing the gothic brick building that served as the yard’s public relations office and once stood where DOROTHY now rests. Moving past the wooden, barracks-like buildings that housed the Hull Drawing Room, and just a block from the shipyard’s majestic main office building, we entered ‘another world’ entirely....the NNS Foundry complex.



An X-70 Staffer met us in front of the large building on the right side of this illustration. A long line of men with soiled faces sat with their backs to the wall of that building, eating their lunch or just resting in the scant shade.

Mr. X-70 led us out of the simmering heat and glare of a noonday sun into what – to me – was a surreal world. Unlike most buildings in the shipyard, it was hotter inside than it was outside. The air was stagnant, and so filled with dust and other contaminants that visibility was severely restricted. Lots of background noise and various metallic, noxious odors. All this, of course, during the noon time, when most workers were outside.

Before proceeding to see ‘the pour’, we observed some men working under pretty primitive conditions; very similar to this scene from the 1940s of NNS Foundrymen degassing aluminum during a melt. The extreme heat, which they seemed to ignore, and their lack – or disdain - of protective gear completely amazed me.



I distinctly remember thinking...we were on a field trip to Hades!

After all, I had never seen such a daunting environment, not even earlier when I first went onboard a ship under construction and experienced those working conditions. When I said as much, Johnnie Hunt just smiled. In 1958, he finished his time as a Molder. My hat's off to him; I couldn't have endured those conditions for more than a brief visit.

After our group moved deeper into the bowels of the foundry, we watched, in awe (and probably a little terror, as well) as two huge pots, suspended by multi-ton cranes, were positioned over an equally huge mold. When tipped, they emitted twin, bright streams of white-hot steel.



MEN (as I thought of them then - and even more so, now - in *capital* letters) moved perilously close, wielding odd-shaped tools and wearing full face shields and reflective full-body aprons. I wasn't the only one that took an involuntary step backward when the molten metal overflowed and splattered, white-hot, in a shower of sparks and suffocating smoke. When the 'show' was over, we gladly escaped to the outside world.

In retrospect, now some five-plus decades later, I'm not sure what Mr. Heltzel expected us to learn from that field trip. Maybe, an appreciation for what man can accomplish

under even the most difficult work conditions.



Or, perhaps, the trip's purpose was to not only teach us some practical aspects of metallurgy, but at the same time stifle any gripes we might have about our own assigned trades.

Or, "Wild Bill" simply thought it was a hell of a show, and worth our while to see and remember. If so, he was right...

Bill Lee
June 2007