

A close-up portrait of Russ Hebblethwaite, a man with a mustache and short brown hair, looking directly at the camera with a neutral expression. The background is a plain, light-colored wall.

# Russ Hebblethwaite

## VAULTING AHEAD

*Enviro Vault aims to set the standard in tank design*

*Text: Paul Wells | Photograph: Daniel Wood*

RUSS HEBBLETHWAITE HAS MADE A HABIT OF BEING all ears when he has an opportunity to converse with those who make their living by immersing themselves in the hands-on, nose-to-the-grindstone realm of field level or operational work within the oil and gas industry.

In fact, the founder and president of Enviro Vault Canada Ltd. comes by it honestly, as prior to starting the company in 1996 he owned and operated an oilfield service business that offered a wide variety of services, including tank maintenance, cleaning and refurbishing. And the lessons learned and the knowledge gained by being engaged in all aspects of the business and seeking the wisdom and ideas from the rank and file have all served Hebblethwaite well.

So it doesn't come as a surprise that a chance encounter with a trucker that began as a discussion about hot tubs ended up being the precursor to the formation of Enviro Vault, a company with a stated mission to be "the future standard in tank design" for the oil and gas industry. The company provides a variety of products that include or build upon a patented concept whereby a recessed chamber is installed inside the tank with an access door through the tank wall, and where all valves, sample taps, electronic controls and heater (if required) are also mounted inside the internal unit.

"The idea came about during an afternoon meeting with an

oilpatch water truck driver when I was introduced to a concept where a vault could be included inside the tank and this recessed chamber would house the valves on a heavy oil tank. An agreement was made with Darryl [the truck driver], and I ran with the concept," Hebblethwaite recalls.

"Field operators and the onsite haulers were battling frozen valves and they were having to call in steam trucks to thaw the equipment before they could even pull a drop of oil, costing the operators time and money. I thought this system was a far better alternative."

So it began. With the discussion with the trucker fresh in his mind, Hebblethwaite was confident he could develop a better method than existing oilfield tank setups and address the problem of freezing valves as well as provide a containment system for valve leaks. After consulting further with other truckers and field operators regarding design considerations, he worked on the engineering details, tweaked and perfected them, and then patented his innovative product.

Essentially a vault within a tank — or an internal chamber concept — Enviro Vaults can be fitted in any size or shape of new tank or in-service tank for any specific application — heavy oil, production tanks, produced water, rental tanks, instrumentation packages, separator packages and any other application where a tank is required.

The first Enviro Vaults were manufactured to address valve-related concerns associated with larger heavy oil tanks, those capable of storing between 750 and 1,000 barrels of the thick crude. A novel concept at the time, industry slowly but surely began to integrate the new technology into their storage operations. Today the vaults have attained widespread popularity and are included in new tanks, large tanks used in plant applications holding up to 5,000 barrels as well as retrofitted into smaller, 25- to 400-barrel tanks used for

storage of produced oil plus water.

“While ‘tradition’ proved to be our biggest nemesis, some 14 years and 16,000 tanks later we are enjoying a steadily increasing market share of the tank valve and piping containment market across Canada and the United States,” Hebblethwaite says.

Beyond the environmental benefits of secondary spill containment and freezing valves, the Enviro Vault system provides operators and contractors with “ground-level” access to valves and instruments, notes Mike Nielsen, general manager of the company. “This dramatically reduces the number of times an operator has to climb up a tank ladder and helps reduce the potential of accidents.”

In the years since first entering the marketplace, Enviro Vault has gained a place of prominence within the Western Canadian oilpatch. With the company’s market share in new heavy oil tank manufacturing now in the 90% range, Hebblethwaite is set to unveil some recently announced technologies that will “open up vast new opportunities” for the internal chamber concept.

As the industry continues to evolve and focus more attention in the regulation of environmental and safety issues, Alberta’s Energy Resources Conservation Board updated Directive 055 to provide better storage practices for the upstream petroleum industry in January 2008. This renewed emphasis has spurred a series of Enviro Vault solutions to meet these new challenges.

At a recent Petroleum Technology Alliance Canada event, Hebblethwaite and Enviro Vault introduced three new designs that will further enhance the operational efficiencies and environmental performance of tanks — the DuoVault, FloVault and ThermoVault.

“We continue to invest heavily into research and development for innovative tank technology and are currently working with both the Alberta and national research councils to develop new products and solutions,” Hebblethwaite says. “It is our commitment to this innovation that will enable us to continue providing the next generation solutions for tank safety and environmental stewardship.”

The issue of secondary containment in the event of a major failure is the principal design behind Enviro Vault introducing its DuoVault product to the market. The DuoVault is essentially a “tank-in-a-tank” concept intended to enable producers to meet the issues of secondary containment while still enjoying all the benefits of the original Enviro Vault. The DuoVault runs vertically from the tank floor to its roof, providing continuous, uninterrupted interstitial space around the primary tank with available 110% containment. The DuoVault also has all the benefits of the original model, such as spill containment, heated and protected instrumentation including site glass, and high level shutdown switches.

Additional products like the FloVault, a separator package inside the Enviro Vault that offers a smaller footprint on the lease and increased heater efficiency, as well as the ThermoVault, an Enviro Vault with multiple catalytic heaters designed to offer a cleaner, safer alternative to fire tubes, round out some of innovative concepts underway at Enviro Vault.

What started as a conversation on a chilly day in the Alberta oilpatch with a trucker in the field has thrust Hebblethwaite and Enviro Vault into an innovative solution provider within the storage tank industry. And with a proven track record and new products in the queue, the company’s founder expects more of the same going forward.

“We have always listened to the concerns of industry, not just the regulatory boards or producers, but the operators and haulers in the field,” Hebblethwaite says. “What are their challenges, how can we push new ideas from the field into our designs to provide savings in servicing costs, personnel safety and a high level of environmental stewardship?” •