

# DEEPWATER

## RETROBUOY™, RAPAROUND™ AND VSE™ ANODES INSTALLED ON DOCK: DUNCAN WHARF, CANADA

**Deepwater installs cathodic protection retrofit on a Canadian wharf in semi-arctic conditions.**

In 2006, Deepwater Corrosion Services performed a cathodic protection retrofit for the Duncan Wharf, an aluminum loading berth in Port Alfred, Quebec, Canada. Assets to be protected included an H-pile pier (in semi-arctic conditions) and one sheet-pile bulkhead section. The retrofit cathodic protection (CP) system consisted of:

- 40 x Raparound pile anodes (rated 50 Amperes each)
- 8 x RetroBuoys (ICCP buoys rated 200 Amperes each)
- 2 x VSE anodes (Self-burying ICCP anode rated 50 Amperes each)

The existing cathodic-protection system on this jetty structure was an impressed-current system constantly under repair. The maintenance costs were consistently exceeding \$250,000 per year. Understandably, the operator wanted to reduce costs by retrofitting the structure with a more reliable system. Ice and high flow/tide conditions as well as brackish water made most designs inadequate.

The system design included power supplies for all ICCP anodes and a monitoring system (DR-2 CD reference electrodes and monitoring panels) to verify the system's performance. The cathodic-protection design uses the RetroBuoy™ systems to provide the bulk of the required current from a remote location (many meters away from the dock). The Raparound™ anodes protect the piles that are partially shielded from the throw of the buoys, and the VSE anodes protect the remaining section of the bulkhead.

More info at [www.stoprust.com](http://www.stoprust.com)



**RETROBUOY™ ICCP SLEDS**

These powerful anode sleds provided the bulk of CP for the wharf.



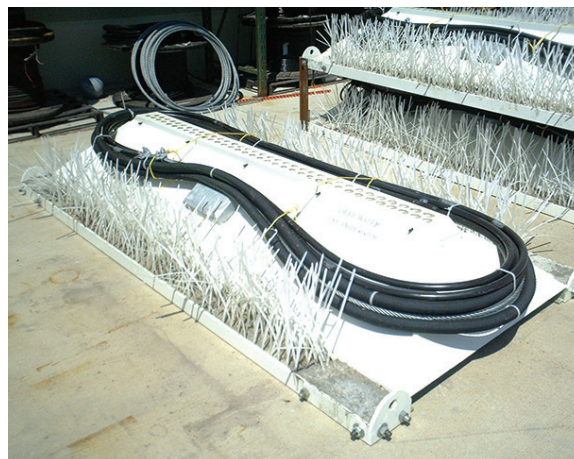
**RAPAROUND™ ICCP ANODES FOR HARSH CONDITIONS**

Impact-resistant pile-mounted anodes are easily installed by divers.



**DUNCAN WHARF**

Shown is the sheet-pile section; three types of ICCP anodes were used to ensure total coverage of the wharf structure.



**VSE™ SELF-BURYING ANODE FOR ASSETS IN SHALLOW WATER**

It allows CP through the mud on the sea floor when tides go completely out.