



Underwater Inspection & Nondestructive Testing Brief Description

The use of underwater inspection to determine the structural integrity of dynamically loaded structures has long been an accepted tool of engineers in the offshore oil industry. The introduction of nondestructive test methods began in the later part of the 1970's and is still very much an integral part of inspecting offshore oil rigs. The NDT methods used for underwater inspection are evolving to reflect the rapid change in the technology experienced in "topside" NDT.

Bridges, Piers, and Cargo Cranes are dynamically loaded structures that all require extensive inspection to determine their structural integrity. Some of these underwater inspections consist of a "swim by" only, but in most cases this inspection is supplemented with underwater video or still photographic documentation.

In many cases the underwater visual inspection is supplemented by nondestructive testing of the critical welds or selected areas of the support piles of the structure. Underwater sonar is proving an effective tool in determining bridge scour that was often left to a system of depth soundings taken in past inspections. Ultrasonics and magnetic particle are routinely used to determine wall thickness and weld integrity on inland as well as offshore structures.

Coastal Inspection Services is a member of the Association of Diving Contractors and inspection personnel are certified commercial divers. All underwater nondestructive testing is performed by cross trained diver/technicians familiar with all phases of both diving and NDT.



Coastal Inspection was selected by the Naval Historical Center to perform the Underwater NDT of the Confederate Submarine "Hunley" prior to its recovery in August of 2000 in Charleston, SC.



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The inspection of dynamically loaded structures should include the underwater supports.



In many situations it is the unseen parts of a structure that reveal the most serious conditions.



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In some instances small holes in steel piles can be documented and repaired.



In some instances the structural integrity of the facility may need immediate action.