

# CARDOX UNDERWATER NON-EXPLOSIVE BLASTING



## SPECIFICATION SHEET



## OVERVIEW

### Background:

TAMS have historically been involved with the removal of high spots in shipping channels and turning basins across various Australian Ports.

Mobilisation costs associated with large plant and equipment such as backacter dredge barges are often high. Additionally, delays from environmental permit approvals associated with conventional explosives are often lengthy.

TAMS have responded by procuring and testing an innovative system which utilises high pressure gas release to fracture consolidated sediments such as rocky outcrops and isolated boulders.

### TAMS Cardox System:

TAMS have procured a complete Cardox system which allows trained operators to charge and detonate a range of tube formats dependent on the specific substrate that requires blasting.

The system is housed in a compact 8 ft container which supports the necessary cleaning station, re-filling equipment and CO<sub>2</sub> charging system.

The process of re-using tubes minimises waste and

allows for transport of the entire system and all constituents as non-dangerous goods. Additionally, no shot-firers ticket is required for freight, storage, charging or firing of the tubes.

### Case Study:

A recent project in Broome for Kimberley Ports Authority required full extraction of six raked piles from two redundant tripod navigation aid structures.

Divers utilised a pneumatic sinker boar to drill a series of holes into the rocky substrate to fracture and excavate around the piles, thus reducing wall friction. This facilitated the ability of TAMS' multi-cat "AMS BOSS" to winch out the pile stubs and subsequently recover to deck.

As part of the risk assessment process, TAMS conducted a noise study, where acoustic data was acquired via a hydrophone during the blasting process and compared against underwater drilling and ambient 'quiet state' recordings.

The results demonstrated that the frequencies and dB intensities of the blasting files were fairly consistent with other subsea activities such as pneumatic drilling.

