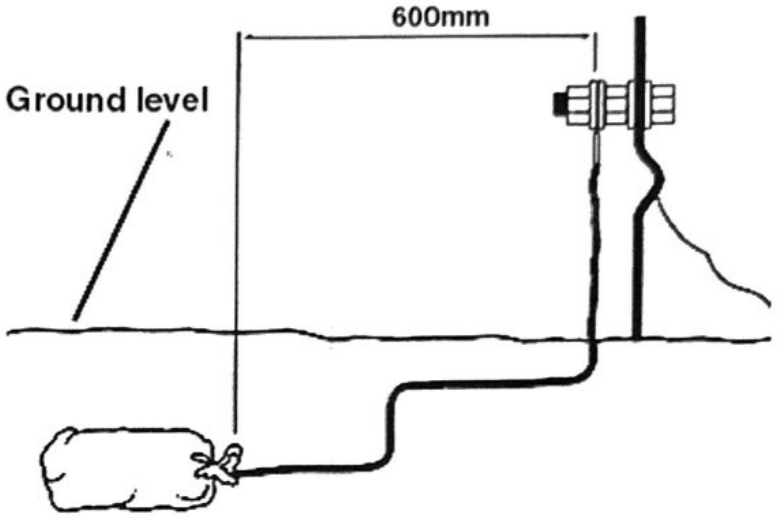
PIONEER
WATER TANKS

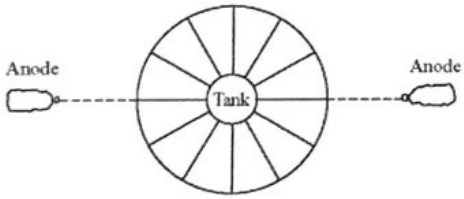
CATHODIC PROTECTION
DATA SHEET

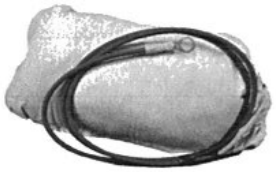
MAGNESUIM BLOCK: Pure Magnesium anode 270mm x 75mm x 60mm
CABLE: Plastic coated copper 12mm Ø
BAG MATERIAL: Calico
BACK FILL MIXTURE: A premixed backfill surrounds the magnesium block.

The ingredients are mixed in the following proportions as required by:
Australian Standards: A.S. 2239 – 1979

Bentonite 50%
Gypsum.....45%
Sodium Sulphate.....5%







TECHNICAL NOTE

In reference to the general application of cathodic protection to structures buried in soil. In brief, normal corrosion results from a transfer of 'ions' and hence electrical current flow between anodic and cathodic zones of a metal surface.

These zones of different potential develop primarily due to variations in metallurgy, oxygen and moisture levels.

When connected to the structure, the magnesium anodes act to counter this transfer by providing a source of electrical current such that the overall net current flow (hence corrosion) approaches zero. Through this action, the magnesium metal gradually dissolves at a rate dependant on a number of variables including moisture levels, soil conductivity and pH.

A secondary effect is the transfer of calcium and other alkaline salts through the soil being deposited on, and protecting the metal surface. This film is known as a calcareous deposit and serves to further inhibit corrosion by elevating the pH to a more alkaline condition.

The magnesium anode system as designed for a Pioneer Water Tank will provide long term corrosion protection over a wide variety of soil conditions but where permanent standing water is likely or saline soils are present, additional anodes may be required.

- **Tanks are normally fitted with two Anodes but additional units are added as required.**
- **Anodes should be replaced every ten years.**