

Arumpo Bentonite Pty Ltd  
has developed its world class  
Bentonite deposit with indicated  
reserves of 70 million tonnes.

The Arumpo deposit is unique  
because of its extremely high purity The  
shallow depth of  
the resource allows easy mining  
with minimal disturbance  
to the environment.

The Arumpo deposit has been  
recognized as the largest in Australia and is  
strategically located in the Murray basin  
close to the largest markets for Bentonite for  
civil  
engineering, environmental  
and agricultural applications.

The mine is situated in the  
southwest corner of NSW, 95 km north-east  
of Mildura, Victoria  
a major regional centre and is  
ideally between the major  
capital cities of Sydney, Melbourne  
and Adelaide



ARUMPO  
BENTONITE

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**Bentonite  
for  
Sealing  
Water  
Storages**



ARUMPO  
BENTONITE



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## WATER STORAGE SEALING

### BENTONITE & PERMEABILITY

Soils of low permeability are needed for water storage construction to reduce seepage loss. Where the local country soil has high or marginal permeability, addition of bentonite can lower the seepage rate and make the material most suitable for dam construction.

Arumpo Bentonite is ideally suited to sealing water storages due to its extremely fine grain size, swell and liquid limit. It has a low permeability which decreases with increased head pressure.

Addition rates of typically 5-15% in the barrier layer when effectively compacted will reduce permeability many times with substantial reduction in seepage loss. The performance of every soil system differs so therefore it's important to know its characteristics and the best addition level of bentonite to use. Tests are available using specialised laboratories.

For further details on permeability of different soils and the effect of bentonite addition ask for our technical bulletin.

## Low permeability and high performance dam linings

### A DAM LEAK.....

There is nothing more frustrating than to find that the water storage you have built has become a muddy puddle when you most need it. But many dams do just that.

The leak can be most effectively repaired using bentonite to reduce soil permeability and provide a permanent solution.

### METHODS OF USE

The most effective method of using Arumpo Bentonite for dam sealing is during the construction stage or when the existing dam has been completely emptied.

There are 4 techniques by which Arumpo Bentonite can be incorporated into a dam. These are: mixed blanket, pure blanket sprinkle method, and cut-off wall.

Blanket techniques are the most common with new dams. The particular method used depends also on the local country soil type and its permeability characteristics.

The following are brief descriptions. Ask for our detailed technical bulletin for more information.

**MIXED BLANKET** - Incorporation of bentonite with existing soil by rotary hoe, followed by compaction and protection with addition of extra material on top of the barrier. Typically 5-15 Kg/m<sup>2</sup> is needed to form an impermeable seal. This is the most reliable method and is recommended to be applied during construction or when the dam is empty.

**PURE BLANKET** - Application of continuous blanket of Arumpo Bentonite 6-12 mm thick overlaid by 150mm of topsoil.

**SPRINKLE METHOD** - Broadcast of bentonite over water surface area to be drawn into leaking zone. Granular grade material highly recommended, typical usage rate 10kg/m<sup>2</sup> of dam floor area.

**CUT-OFF WALL** - Specialised technique for sealing horizontal flows by back-filling a trench with a bentonite.

**DAM ENTRY/DISCHARGE POINTS**— Arumpo Bentonite can be used in a 30-50% mix to provide an impervious barrier.

### Delivery

Arumpo bentonite is packed in convenient easy to handle 25kg bags and can also be shipped in bulka bags and in bulk trucks.