



REINFORCED eARTH

MINING & ENERGY



Delivering solutions together



1. Iron Ore Mine / Western Australia
TerraMet[®] dump wall

2. Rio Tinto / Kestrel Coal Mine / Queensland
TechSpan[®] drift tunnel

3. *Reinforced Earth*[™] structures combine granular fill,
tensile reinforcements and modular facing panels

Reinforced Earth Mining & Energy *part of your team*

Our clients have entrusted the Reinforced Earth Mining & Energy team of experienced engineers and project managers to deliver time-critical infrastructure solutions that are vital for the long-term commercial sustainability of their multi-billion dollar investments. From early concept design through bankable feasibility to construction, our team becomes part of your team and is dedicated to your success.

**4. New Hope Corporation /
New Acland Coal Mine / Queensland**
TerraPlus® dump wall



Walls anywhere, anytime *any practical height*

1. First Quantum Minerals, Nickel Mine,
Western Australia
TerraMet® – Lightweight, transportable,
fast and easily erected with a flexibility that
adapts to significant foundation settlement
while maintaining structural integrity



concrete / steel / wire facing panels

Reinforced Earth™ structures combine engineered granular fill, tensile reinforcements and modular facing panels to create efficient load bearing, mass gravity retaining walls to any practical height. Our Mining & Energy specialists join your team to find cost-effective solutions for every project.

Since pioneering the technology in 1963, we have continued to develop new Reinforced Earth™ wall applications through value engineering and targeted research and development. We have delivered reliable solutions for more than 40,000,000 square metres of walls up to 40 metres high in 80 countries throughout the world.

2. Etruscan Diamonds / South Africa

TerraTrel® – When labour and durable stone are readily available at reasonable cost

3. Energy Resources LLC Coal Mine / Mongolia

TerraClass® – Iconic face, fast to erect, durable and excellent performance on soft foundations

4. Coal & Allied Operations (Rio Tinto) / New South Wales

TerraPlus® – Larger panels offer faster erection with the durability of concrete



Customised tunnel solutions



TechSpan® is the leading precast concrete arch system in the mining industry today for reclaim tunnels, vaults, conveyors, haul trucks and trains. Its funicular shape, custom design and three pin arrangement provides a versatile, robust and reliable concrete tunnel. Concrete durability is enhanced because tensile stresses in the concrete in the finished structure are minimised.

Reinforced Earth Mining & Energy engineers tailor each tunnel design to your project-specific foundation conditions, in-service loads and variable stockpiles. The modular components are optimised for transportation and installation.

**1. Resource Pacific, Newpac Coal Mine /
New South Wales**

Reclaim tunnel and vault

**2. & 3. BHP Billiton / Mining Area "C"
Iron Ore Mine / Western Australia**

Rail overpass tunnel

**4. Fortescue Metals Group / Cloudbreak Iron
Ore Mine / Western Australia**

Reclaim tunnel



stockpiles / conveyors / haul trucks / trains



Minerals, metals, liquids and gases

Reinforced Earth Mining & Energy engineers are at the forefront in developing innovative infrastructure solutions for accessing, processing, storing, containing and transporting bulk minerals, metals, liquids and gases for our energy needs. Our structures have survived the extremes of earthquakes, explosions and oil fires under static and dynamic loading at high altitudes and at remote sites. With off-site manufacturing and on-site assembly we deliver solutions faster and more cost-effectively than conventional alternatives.



1. Port Valdez / Alaska, USA

Oil tank farm retaining walls and containment dykes

2. Dorstfontein / South Africa

Coal storage slot bunker

3. Shell / Alberta, Canada

Supporting oil sands separator tanks

4. Santos / Stony Point, South Australia

LNG tank farm containment dykes



accessing / processing / storing / containing / transporting



5. Trekkopje Uranium Mine / Namibia
Water reservoir (5.4 megalitres)

6. Iron Ore Mine / Western Australia
Reinforced Earth™ vault and *TechSpan®* reclaim tunnels



investigation / feasibility / serviceability / upgrade, repair, maintain / replace



Sustainable solutions



Reinforced Earth Mining & Energy engineers are committed to providing safe and sustainable solutions for our clients and our staff using the best technology available to conserve and leverage our valuable resources. With a unique, multi-national research and development platform, we have a permanent interest in the performance of our structures.

1. Upgrade of load capacity

Existing *Reinforced Earth™* dump wall

2. Rio Tinto / Yandi JSE Iron Ore Mine / Western Australia

TerraMet® dump wall



experienced and reliable