DURA Veg®
Sustainable revegetation

Black Diamond Mine Case Study

SITUATION

During the 1940s and 50s, mining at the Black Diamond Coal Deposit created a deep pit that later filled with water. Despite fencing and warnings, the location became a popular but unsafe recreation spot, leading to several spinal injuries and one fatality. The Collie Shire needed to eliminate the cliffs and stabilise the site to prevent further incidents. Working with DMIRS, Soilwater Group and DuraVeg® from PGG Wrightson Turf, the slopes were reshaped to 26 degrees with the aim of establishing vegetation that would eventually blend into the surrounding woodland.



Follow-up inspection years after application showing sustained growth



ProGanics applied in the foreground; Flexterra in the background



Follow-up inspection years after application showing sustained growth

CHALLENGE

Once reshaped, the site presented several constraints. The soil test showed depleted, highly erodible material with minimal organic matter and an acidic pH of 4.4. These conditions, combined with 1V:2H slopes and erosion rates previously recorded at 167 tonnes/ha/year, made vegetation establishment difficult. Limited topsoil, steep gradients and ongoing public interference further increased the risk of failure. With traditional seeding methods unlikely to work in this environment, the project required a system capable of rebuilding soil function and protecting the slopes during establishment.

SOLUTION & APPLICATION

Profile® recommended using the ProFlex™ System to address both the soil limitations and erosion risk. ProGanics® Biotic Soil Media™ (BSM™) was applied at 5,000 kg/ha to supply organic matter, improve soil chemistry and create a more favourable growing environment. Flexterra® HP-FGM® followed at 4,000 kg/ha to protect the slopes and minimise soil loss. Liquid Lime was applied at 10 L/1000 m^2 to lift the acidic pH toward an optimal range for vegetation growth. This combination provided the structure and stability needed for the site to establish.

RESULTS

After one year, the site successfully established vegetation despite early trampling by the public during the establishment period. The ProFlex™ System provided the support needed for consistent germination and early growth on the newly shaped slopes. Over time, shrubs and trees have continued to grow in, reducing erosion risk and helping the area transition back toward the appearance of the surrounding woodland. The government considered the project a success and remains pleased with the progress observed as the vegetation continues to develop.

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THE 5 FUNDAMENTALS

A holistic approach to erosion control and vegetative strategies These five fundamentals take the guesswork out of the crucial decisions that need to be made to ensure project success.

1

Understand your substrate

Creating Optimal Soil Conditions Soil testing provides essential information to determine what adjustments, if any, need to be made to assure a more favorable growing environment.

2

Pick the right plant species

Picking the Right Plant Space It is essential to select plant species that are adapted to project locations, its conditions, intended use and maintenance requirements.

3

Select the right erosion control material

The correct cover is necessary to protect both seed and soil, taking into account erosion control effectiveness, ability to facilitate growth and functional longevity.

4

Ensure proper installation

Correctly installing these products in accordance with the manufacturer's mixing, application and installation guidelines will maximise their performance.

5

Follow-up inspection & maintenance practices

Monitoring project progress will ensure compliance issues are being addressed. Maintenance may be required to mitigate unexpected challenges.

ProGanics™
BIOTIC SOIL MEDIA

What was used in this case study?

KEY ATTRIBUTES

ProGanics® Biotic Soil Media™ is engineered to replicate natural nutrient cycling by supplying key biological components, organic material and patented bark and wood fibers. These elements stimulate root development, promote microbial activity and rebuild depleted soils. As an Engineered Soil Media™, it provides the structure, nutrients and organic matter needed to initiate vegetation establishment where topsoil is limited or unavailable.

RELEVANCE

ProGanics® is particularly relevant for sites with low organic matter, low nutrient levels and poor biological activity—conditions where traditional revegetation methods commonly fail. It is designed as a practical alternative to topsoil, especially on steep, remote or difficult-to-access projects. By accelerating soil development and improving growing conditions, ProGanics® supports more reliable establishment across a wide range of challenging environments.

BENEFITS

Using ProGanics® delivers consistent vegetation establishment and improved erosion control by rapidly enhancing soil function. It rebuilds nutrient availability, increases organic matter, and promotes strong early root growth. This leads to better plant performance, reduced failure risk and long-term soil regeneration. For contractors and asset owners, the result is a more predictable, cost-effective solution compared to hauling or placing traditional topsoil.

For help on your next project, contact our DuraVeg® team at PGG Wrightson Turf



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