

PROJECT REPORT



Project Name: Mine Tailings Erosion and Dust Control

Location: Brits, South Africa

Client: Eastern Platinum Ltd. (Eastplats)

Application: EBS Topical Application

Area: *Crocodile River Mine* is located near the town of Brits in South Africa's North West Province, a rural farming and residential community.

Background: The tailings complex covers an area of 82,500m², which after complaints from the neighboring community required a solution to control the dust, created during heavy winds. An in-depth assessment was conducted taking into consideration numerous factors including wind direction, height, position and slope of the tailing walls, location of the local community, existing sprinkler system and accessibility to the tailings.

Due to the slope of the tailings and the accumulated dust accessibility was only possible using tracked vehicles so a specialized spray bar was designed and attached to the arm of an excavator and a pump mounted by the cab for the application of the Engineered Base Stabilizer (EBS).

Soil Solutions provided the EBS, the specialized equipment and technical assistance during the application.



Project Description: The spray bar on the excavator was used to reach the majority of the tailings complex, any areas that were not reachable with the excavator were treated using a pump and spray system on a tractor pulled trailer and sprayed by hand. This method of application allowed the Engineered Base Stabilizer (EBS) to be applied at the specified application rate at an average coverage between 5,000 and 6,500m² per day.



Result: The entire tailings complex was treated creating a light crust over the surface, which will prevent the formation of erosion channels caused from heavy rains, allowed for the integrity of the tailings to remain untouched, eliminated the use of an expensive and inefficient sprinkler system and most importantly prevents dust meeting all environmental requirements, improving community relations and providing a safer and healthier work environment.

Benefits of Mine Tailings application with EBS include the following:

- Product application without disruption to the integrity of the tailings structure
- Elimination of expensive and maintenance intensive irrigation systems
- Substantial reduction in water usage
- PM₁₀ and PM_{2.5} compliant in terms of dust suppression
- Decreased liability along with complete environmental compliance
- Improved community relations
- Safer and healthier working environment

It should be noted that the initial application would last for a minimum of 5 years for all non-traffic areas. For active tailings Soil Solutions offers the ideal solution with our Industrial Dust Machines (IDM).

Effective tailings management will ensure decreased liability, environmental compliance, cost effective dust suppression, less effect on the neighboring community and an overall decreased environmental impact.

Soil Solutions provides value-engineered solutions for dust mitigation and remediation of tailings, which are tailored to meet each client's specific requirements.