



**CYPHER  
ENVIRONMENTAL**

DUST CONTROL  
SOIL STABILIZATION

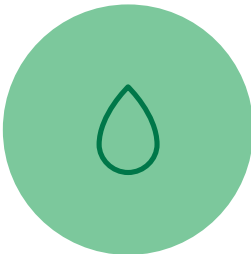


# DUSTY ROADS?

## SUPERIOR MINING SOLUTIONS

**Superior Dust Control**

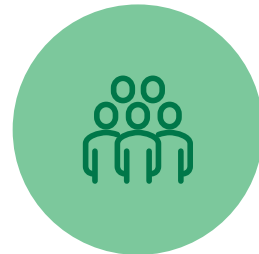
**Superior Soil Stabilization**



CONSERVES  
WATER & FUEL



ENVIRONMENTALLY FRIENDLY,  
NON-TOXIC & NON-CORROSIVE



ELEVATES CORPORATE  
SOCIAL RESPONSIBILITY

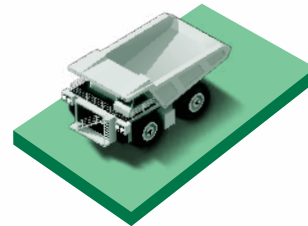
# WHY CHOOSE CYPHER ENVIRONMENTAL?

Cypher Environmental provides superior dust control and soil stabilization solutions specifically engineered for mining. As an industry pioneer, we set ourselves apart by providing products that are not only designed to reduce your environmental footprint, but simultaneously help reduce long-term operating costs. Beyond the positive impacts our products have on the environment, we have a robust philosophy on giving back to the communities where we work by engaging with philanthropic endeavours like our Corporate Social Responsibility (CSR) initiative, Cypher Green Roads. With Cypher by your side, you will enhance project safety, reduce your environmental impact, and improve your bottom line.

# 12+%

**COST REDUCTION OF BUILDING ROADS**

AS REPORTED BY: Eng-Tech



# GLOBAL SOLUTIONS

**COUNTRIES: 40+**  
**MINING OPERATIONS: 30+**  
**MUNICIPAL OPERATIONS: 100+**



## ROAD//STABILIZR<sup>®</sup> Superior Soil Stabilization

**17.4%**

**REDUCTION IN HAUL TRUCK FUEL BURN RESULTING IN MILLIONS OF \$ SAVED**

AS REPORTED BY: Shenhua Beidian Shengli Energy Co. Ltd

**61%**

**REDUCTION IN ROLLING RESISTANCE**

AS REPORTED BY: Syncrude Canada

**300+%**

**CALIFORNIA BEARING RATIO (CBR) MEASURE OF ROAD MATERIAL STRENGTH**

AS REPORTED BY: Geoconsult, S.A.

**63%**

**REDUCTION IN SWELL POTENTIAL**

AS REPORTED BY: EPMMOP - Quito, Ecuador

## DUST/BLOKR<sup>®</sup> Superior Dust Control

**90+%**

**REDUCTION IN AIRBORNE DUST GENERATED FROM THE ROADS**

**85+%**

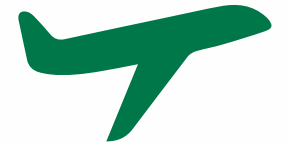
**REDUCTION IN WATER CONSUMPTION**



**CO2 EMISSIONS REDUCED BY 10,000 TONS PER YEAR**

AS CALCULATED: Based on the Shenhua fuel savings case study

**COMPLIES WITH BOEING BSS7432 CONFORMITY**



# DUST/BLOKR<sup>®</sup>

Superior Dust Control

DUST/BLOKR<sup>®</sup>'s primary use is to provide an environmentally friendly alternative for dust control on roads and unpaved surfaces of almost any kind. Additionally, the DUST/BLOKR<sup>®</sup> line of products offers an excellent solution for dust and erosion control of tailings and stockpiles of a variety of materials. Unlike many alternatives, DUST/BLOKR<sup>®</sup> contains no chlorides, hydrocarbons or toxic by-products, so it is neither corrosive to vehicles, toxic to roadside vegetation, nor harmful to use around nearby water bodies or environmentally sensitive areas.



## VERSATILITY

DUST/BLOKR<sup>®</sup> is a revolutionary solution designed to be a cost-comparable, yet environmentally friendly and non-corrosive alternative to road salts and hydrocarbon-based dust suppressants. Arguably the most widely used products in the world for dust control, magnesium chloride and calcium chloride (road salts) are low in cost, but very harmful to the environment due to their highly corrosive properties. Beyond being cost-competitive, DUST/BLOKR<sup>®</sup> yields longer-lasting results, better performance in wet weather, and enhanced engineering properties of the roads it is applied to. Applied using standard equipment and techniques, the product can easily be adopted by any customers who have used a water trucks for dust control applications in the past.



DUST/BLOKR<sup>®</sup>/SB is Safer Choice certified by the U.S. Environmental Protection Agency. Products with this label help consumers and commercial buyers identify products with safer ingredients, without sacrificing quality or performance. It also means that every ingredient in the product has been carefully evaluated by EPA scientists for both safety and performance.



VERSATILE  
NON-TOXIC  
NON-CORROSIVE  
USED GLOBALLY

85+%  
WATER & FUEL SAVINGS

## EASE OF USE

DUST/BLOKR<sup>®</sup> is designed with ease of application in mind and for long lasting results on heavily used industrial roads, tailings piles and stockpiles. Perfectly suited for the mining industry or any other highly traveled roads, DUST/BLOKR<sup>®</sup> can penetrate even the hardest packed soils and withstand the weight of heavy haul truck traffic.

**Safety** is critical on mine haul and access roads. Third-party tests have shown positive results on both brake tests and skid resistance tests, producing no slippery conditions whatsoever after the product has been applied.

## SIGNIFICANT SAVINGS

**Reduction of OPEX** is the main goal of any mine adopting the use of DUST/BLOKR<sup>®</sup> on their property, beyond the environmental benefits. If only water is being used to control dust at your operation, incorporating DUST/BLOKR<sup>®</sup> into your dust control plans will save millions of liters of water annually. This water savings equates to a huge reduction in OPEX because you can now park your water trucks more frequently, saving huge volumes of fuel, significantly reducing maintenance costs and tire life of your water trucks, and labour costs to run them.

Because Cypher employs engineers and engineering technicians, they understand roads. Therefore DUST/BLOKR<sup>®</sup> is also designed to enhance the engineering properties of your roads, requiring less frequent re-application and reduced road maintenance requirements than traditional dust suppressants further helping to improve your bottom line.

DUST/BLOKR<sup>®</sup> is shipped in a highly concentrated form and mixed with several parts water prior to application, creating a solution that is cost-effective enough to ship globally.

*Through a single application of ROAD//STABILIZR®, significant cost savings result through the use of cheaper road building materials, long-term reductions in maintenance costs and vastly reduced rolling resistance. Reductions in dust are also a pleasant side-effect.*



ROAD//STABILIZR® ► XILINHOT, CHINAROAD

**LONG TERM  
STRONGER  
SAFER  
LOW COST**

**300+%**

**CALIFORNIA BEARING RATIO (CBR)  
MEASURE OF ROAD MATERIAL STRENGTH**

AS REPORTED BY: Geoconsult, S.A.



**ROAD//STABILIZR®'S CONCENTRATION IS UNRIVALED IN THE MARKET. 1 LITER TREATS 33 CUBIC METERS OF COMPACTED SOIL MATERIAL, THEREFORE SHIPPING COSTS ARE NEGLIGIBLE, EVEN TO THE MOST REMOTE MINE SITES. THE PRODUCT IS ALSO APPLIED WITH STANDARD ROAD MAINTENANCE EQUIPMENT, MAKING EASY ADOPTION ANOTHER HIGHLY ATTRACTIVE QUALITY.**

**THE DETAILS**

**ROAD//STABILIZR®** is a long-term soil stabilizer that is designed to increase the stability of high clay content materials; **ROAD//STABILIZR®** is used to strengthen the treated material by increasing its density after compaction. As a result of the increased density, treated materials exhibit excellent improvements in CBR values (California Bearing Ratio) and reduced swelling potential, and therefore become a more durable road surface during wet and dry weather.

**SAVINGS \$\$\$**

**Rolling Resistance** is a major contributor to increased operating costs, especially at open pit mines. Rolling resistance can be summed up by the amount of friction between the road and the tire. The more rolling resistance there is, the less fuel-efficient and productive a haul truck becomes. **ROAD//STABILIZR®** has proven to reduce rolling resistance, and therefore produces dramatic reductions in haul fleet fuel consumption while simultaneously increasing productivity.

**STRONG CLAY-BASED MATERIAL**

**ROAD//STABILIZR®** is not a glue - it reacts with the clay component already in the road base. Comprised of a combination of organic catalysts, electrolytes and surfactants, it works by releasing water from the soil, enabling it to be compacted to a denser form. It then manipulates the clay to bind it together permanently, increasing its strength and density. By using the in-situ clay-based material, significant cost savings are also achieved by cutting back on expensive and more traditional stabilization materials, such as aggregates or cement.

**LONG TERM**

The effect on the clay is long-term; it does not wash away in the rain and provides lasting stabilization for several years. In fact, highly travelled **ROAD//STABILIZR®** roads maintain the high densities that are achieved after compaction through the action of the traffic, which helps yield long-term stabilization results. Therefore **ROAD//STABILIZR®** provides a perfect solution for high traffic haul roads.

# ENSURING QUALITY RESULTS

CYPHER IS CAREFUL TO ENSURE ITS PRODUCTS ARE USED SAFELY. ALL DISTRIBUTORS ARE GIVEN A FULL PROGRAM OF TRAINING ON THE PRODUCTS, AND THE COMPANY THEN TAKES A PROACTIVE ROLE IN ENSURING THE PRODUCTS ARE SUITABLE FOR THE INTENDED APPLICATION.

“WE DO A SIGNIFICANT AMOUNT OF DUE DILIGENCE ON OUR CUSTOMERS. I KNOW THAT MIGHT SOUND KIND OF STRANGE, BUT WE NEED TO BE SURE THEY UNDERSTAND HOW THE SOLUTIONS SHOULD BE APPLIED IN ORDER TO YIELD THE BEST RESULTS POSSIBLE.”

- CYPHER'S PRESIDENT, TODD BURNS.



“Always do what’s right.”



## CYPHER GREEN ROADS

Cypher attempts to set the bar high for all other businesses serving the mining industry around the world. With Corporate Social Responsibility being top of mind for all mining companies worldwide, Cypher has adopted a policy that mandates the company always takes the high road. This not only includes such initiatives as donating a portion of all sales to charity and mandated community service hours for team members, but even includes such measures as pension plans, paid benefits, mental health resources and profit sharing for its staff.

Born out of our commitment to Corporate Social Responsibility and Environmental Social Governance, our newest initiative, Cypher Green Roads, aims to give back by enhancing local roads and infrastructure in the communities in which our products are being used around the world. Cypher Green Roads mandates that we donate substantial volumes of product and/or a portion of profits from a project to local communities in need located near mines and large projects that are using Cypher solutions.





**BETTER  
ROADS.  
BETTER  
BOTTOM  
LINE.  
BETTER  
PLANET.**



**CYPHER  
ENVIRONMENTAL**

**DUST CONTROL  
SOIL STABILIZATION**

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**“Always do what’s right.”**