Flipscreen Mining

Capability Statement 2020

About Us

The Flip Screen was invented in Australia by Sam Turnbull, a demolition and excavating contractor with fifteen years of experience in the industry.
The patented design has won many awards, with Sam notching "Inventor of the Year".
FlipScreen continues innovation and development with many models.
From the outset of Flipscreen, the technology has been successfully rolled out to all continents in the world including Antarctica to a total of 43 countries.
The Flip Screen product is known in the market as the best screening attachment in the world. The company has produced models to suit 24 diverse industries from landmine clearing/unexploded ordnance recovery to scrap metal, quarries, mining, and many more.
The company's design team has been nominated for and won many design and industry awards which is recognition the whole industry has given us.
The company currently holds 31 patents plus other revolutionary innovations pending.

How it works

The Flipscreen revolutionary concept is a bucket with a mesh sector on top. The bucket and mesh are rotated to allow the finer particles of the bucket's contents to be screened out. At the end of each revolution, the contents are stopped by a baffle, which holds the contents until the bucket is further rotated, wherein the opening to the bucket is then facing upward. The contents then spill over the baffle and restart their journey around the mesh section of the bucket. This rotation is continued until the smaller particles have all been screened out. Rotating the bucket in the opposite direction then ejects the larger particles.
Demonstration videos can be found on the company website www.flipscreen.net.

The WL3000

The WL3000 is a 90m³ Flipscreen. The WL3000 will utilize Flipscreen's unique patented system to provide high volume, mobile, customizable, and cost-effective screening and crushing solutions to the mining industry. The WL3000 will scoop up 50 tonnes of material and transform this from mixed fines and oversize to saleable sized material in 76 seconds. Resulting in a 1400 tonne per hour result per machine. These new mining practices and processes will liberate capital from balance sheets to revolutionize the mining industry.

Contract Screening

Flipscreen mining has been doing International screening contracting for many years. We now provide a full mining service.

Contracts are based on a per ton rate.

After selling thousands of the current 24 models of Flipscreen in production, Flipscreen LLC + FSA is now manufacturing the new mining WL3000 model.

Digital Drive System.

The revolutionary digitally controlled drive supplies the system with hydraulic pressure and flow at every degree of rotation. This means that the rotation can be stopped or powered at any time without damaging the drives and therefore as shown in Fig 1. The rotation can power at an optimum vertical point which causes large oversize rocks to fall 6metres (20 feet) at 90°onto a manganese crusher plate set in the base of the Flipscreen, breaking it down. Alternatively as shown in Fig 2. The rotation can continue or even accelerate causing the oversize to softly impact the mesh side wall at 41 ° (as per Fig.2) where it is desirable to not break up and contaminate the fine portion i.e remove shale from coal.

The mine manager can determine this remotely from their office so no matter how the operator controls their machine, the result is programmed in.

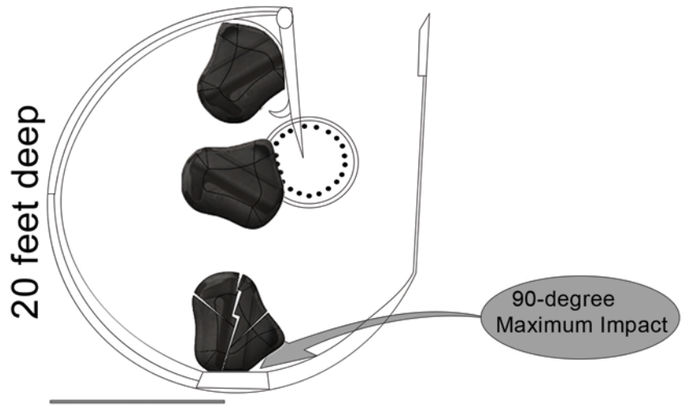


Fig.1

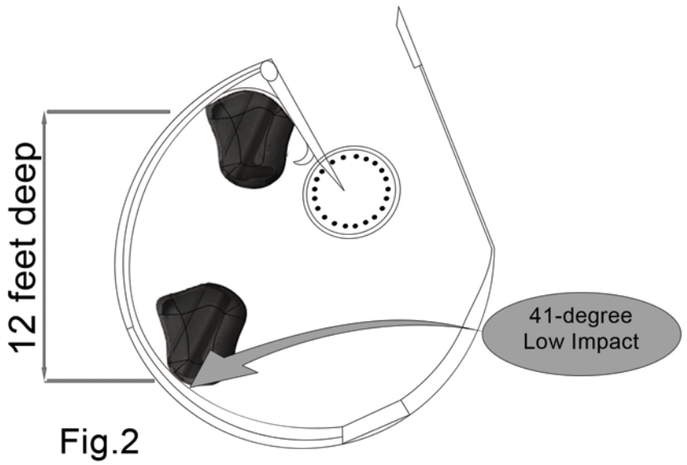


Fig.2

Advantages of the WL3000

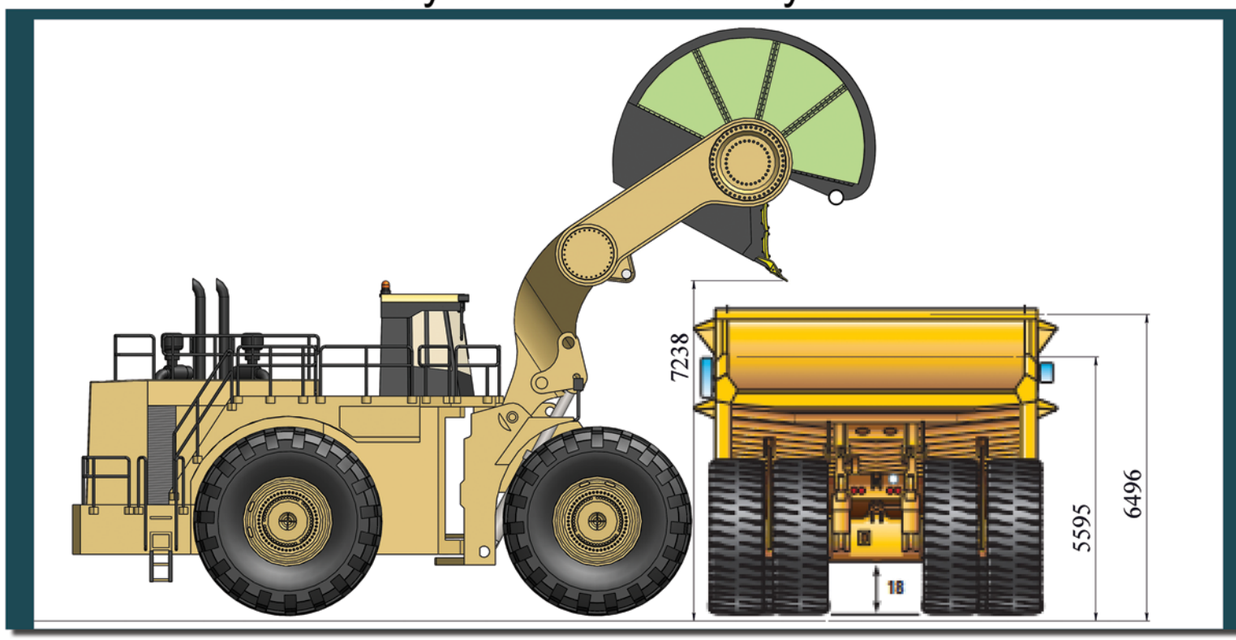
A WL3000 Flipscreen on a CAT 994 or Komatsu WA1200 can screen directly in the pit before the ore is loaded on haul trucks for transport to the primary crushing and screening plant. The WL3000 can also screen into haul trucks, saving on time and double or even triple handling.

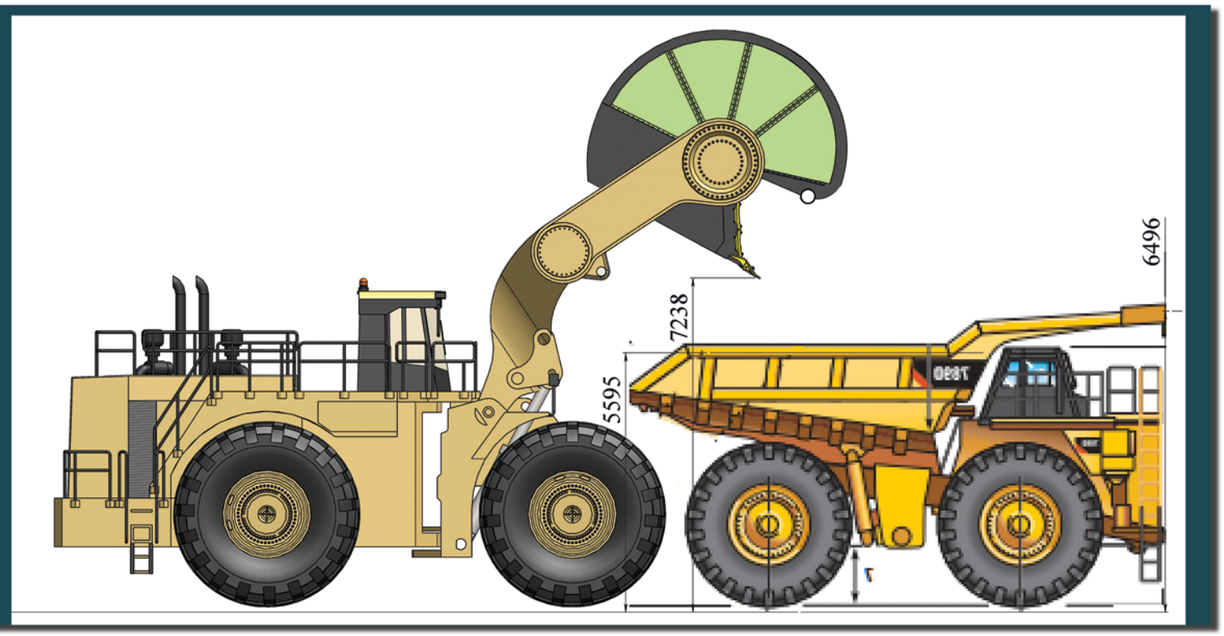
This pre-crush screening can remove oversize that would otherwise block the primary crusher, ie > 850mm.

By removing the oversize in the pit, fewer explosives need to be used in the blast, which will reduce the fines and increase the lumps produced, resulting in a premium earned on Hematite ore lumps.
Or, to remove useable fines, i.e. 31.5mm minus, which can bypass the ROM, and therefore increase total throughput.
The WL3000 can also be used to process previously rejected stockpiles.
By removing oversize, the grade of the ore can be increased, allowing it to be blended into a saleable product.
Including the WL3000 in the mine design can also transform uneconomical mines into viable operations, by reducing or eliminating the need for capital intensive wash plants.

Cleaning badly shale contaminated coal on the low wall. The expectation and project specification were to reach 5% contamination to achieve thermal coal. The result was Flipscreen delivering less than 3% contamination, which is metallurgical coal.

The ability to screen directly into a truck.





Modern Mining

Huge Labour Costs
High Capital Expenditure
Long Set up Time
Design & Build Costs
High Machine Management & Maintenance
Preventative Maintenance
High Levels of Noise & Vibration
Time Wasted on Machinery Resetting
Low Return on Investment
Complex Management & Costing Systems

Two distinct scenarios that Flip Screen can help to improve major project criteria - namely capital expenditure, running costs, productivity & profitability.

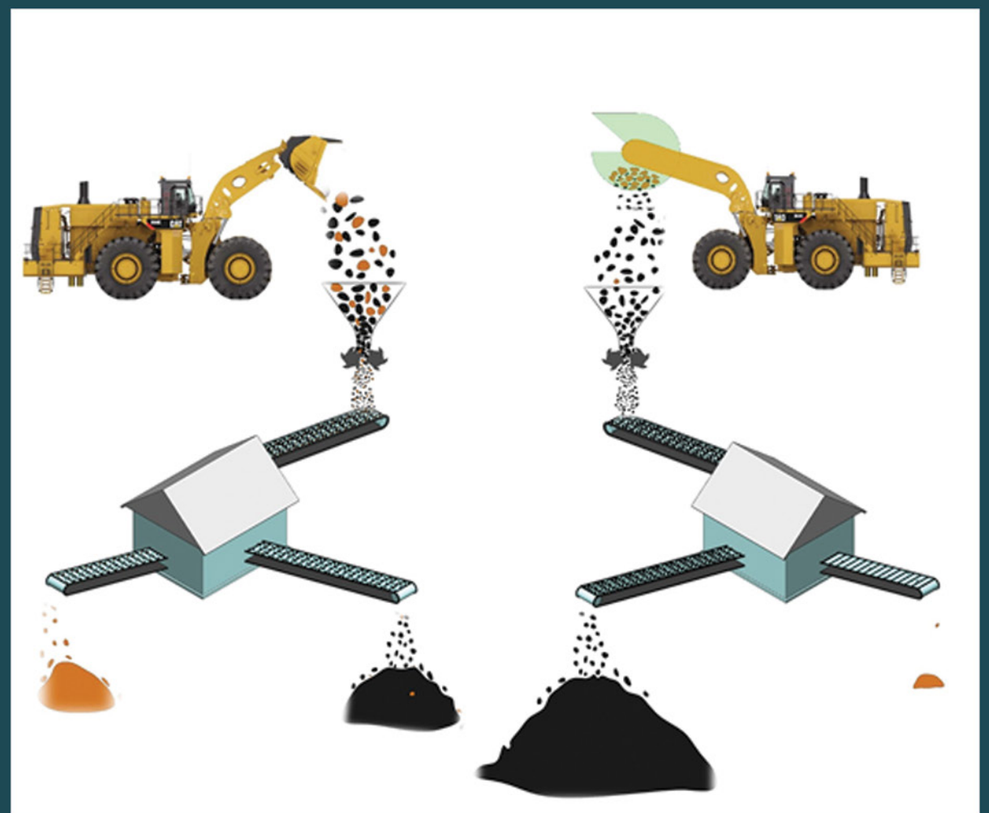
1: Unviable Mine

Mine is sitting unused due to viability constraints of capital expenditure vs turnover.

2. Traditional Site

The quality of the samples can be increased with the addition of a Flipscreen. Furthermore, rocks (intrusion) coming through the plant conventionally, not only slow the process but increase maintenance costs. Thus, the presence of a WL3000, increases both the production output and the sample quality, while decreasing maintenance costs, all increasing the Profitability.

Solution



Demonstration of value in coal mining application.

In both scenarios, the presence of a Flipscreen eradicates the need for any extra capital expenditure, whilst providing greater throughput in existing infrastructure. The Flipscreen reduces the operating costs and saves on time in the operation which results in greater profitability.

We predict a production increase of up to 15% for most sites. We also deliver a greater quality product and our total profit increase is enormous. Uptime of 99%.

Why the WL3000?

Liberate capital from your balance sheets.

Drastically increase EBITDA.

Immediate return with negligible capital outlay.

Reduction in operating expenses.

Make unviable mines profitable.

Flipscreen delivers:

Decrease: Capital Expenditure, Operating Expenditure & Time.

Increase: Profits, Production Rate and Quality of Material.

Screening Rates

	(IN SECONDS)
Loading full cycle	43
Screening 2 rotations	8
Tipping Oversize*	25
Total complete cycle time	76 seconds
	47 complete cycles per hour
30 Tonnes (coal) of material per cycle =	1,410 tonnes of material per hour minimum
Operating 23 hours per day =	32,430 tonnes per day minimum

A typical bottleneck in a mine occurs due to fouling in the crusher. Utilizing a Flipscreen to feed into a crusher plant results in only a 4 - 8 sec rotation time difference. In many instances the oversize will not need to be tipped out after each cycle, saving time, and most importantly you will never experience crusher fouling again.

Flipscreen Mining

235 Copland Street, East Wagga Wagga, NSW, 2650

www.flipscreen.net