

Damang recovers USD 145,577 per blast

MCF improvement from 85% to 100%

Commodity	Ore Grades	Geology	Powder Factor	Flitches	Location
Gold	High	Structured	High 0.6 – 0.8	2	Africa

Damang mine is in south western Ghana, approximately 300km by road from Accra the capital and about 50km north west of Tarkwa the main mining town. Gold Fields holds a 90% attributable portion of the Mineral Resources and Reserve of the mine, with the remaining 10% held by the Ghanaian government.

Challenges

Damang mine has experienced high dilution over the past years

- There has been a decrease in the mine call factor since blasting started
- The company was modelling by assigning about 1 m movement to every blast
- There has been an under estimation of blast movement

Solution

BMM System accurately measured 3D blast movement and translated post-blast dig lines

- Vectors are created from blast movement measurement
- Movement vectors are used to translate ore polygons
- Post blast ore polygon coordinates are stacked-out for mining

Results

Avg. Movement m	Ore Loss			Ore Dilution			Misclassification	
	Tonne	%	USD	Tonne	%	USD,	Tonne	%
5.0	2,944	8	145,577	4,001	11	60,021	1,296	4
Total Ore Recovered				\$ 145,577				

- Improved mine call factor.
- Range of movement determined to be between 1.9 – 4.5 m
- Drastic reduction in dilution
- Improved misclassification
- Recovered ore which would have been lost
- Improved reconciliation

“The system actually pays for itself because each blast that is monitored you are able to make gains from that. For the month of December 2018 alone, we were saving close to \$260,000. Without the use of the blast monitoring technology, this ore would have been thrown to the waste.”
 Selorm Seshie (Unit Manager Geology)

Top Flitch

Bottom Flitch

- Assumptions
- Average grade of 1.5 g/t
 - Metal price of \$1,250/ ounce used
 - Average density of 2.7 t/m3.

