THE GLOBAL SPECULATOR

20 December 2008

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MEDUSA MINING: "LETTING THE ORE BODY DICTATE THE MINING METHOD"

Medusa Mining (ASX:MML; AIM:MML) is a low cost gold producer operating the Co-O mine on the island of Mindanao in the southern Philippines. With just 146 million shares on issue, no debt and no hedging, Medusa has successfully advanced to the production stage of development. While the operation is still relatively small at 40,000 oz pa, Medusa intends to expand its production profile over the coming years. The first phase will look to increase annual production to 60,000 oz by mid 2009. A further increase to 100,000 oz pa is expected to be achieved by 2010. Co-O is an underground mine developed on a series of narrow epithermal quartz veins. It has been explored in some sections to over 500m depth and importantly remains open at depth. Access to ore is achieved via two adits and a series of shafts and drives. The west side of the deposit is the most advanced and was previously mined over a strike length of 600m. A drilling program in 2004 intersected the vein system on the east side of the deposit, which occurs over a strike length of 500m. This was missed by previous operators due to the tops of the veins not having exposure at the surface.

Given the nature of the deposit, narrow vein mining methods are employed minimizing dilution of the ore. In Australia, companies often employ mechanized mining methods to deposits which are not conducive to this style of mining. Geoff Davis, the CEO of Medusa Mining, was kind enough to share some time with us despite being on holiday. He mentioned the previous owners of Co-O unsuccessfully attempted to use mechanized mining methods. High levels of dilution and increased costs associated with machinery maintenance were key problems. He makes the interesting point that many Australian companies are forced to mechanize due to higher labor costs. This isn't a problem in the Philippines where labor is plentiful and much more affordable. There are gold mining companies operating here in Australia tapping into the Filipino labor force. Kingsrose Mining's Comet Vale operation is one that comes immediately to mind. Davis stresses the importance of social responsibility when operating abroad. More than 99% of Medusa's 1,300 Co-O workforce is Filipino and the company has spent a great deal of time and effort upgrading facilities and improving the standard of living for the local community with great success. Medusa enjoys excellent infrastructure with access to hydro grid power. Previously it was just the processing plant which had access, but the mine has now also been energized with grid power. This will deliver significant savings. Davis had this to say: **"It is hard to estimate the actual cost benefit per ounce as the mine is still expanding and it won't be until several months of steady state operation have been achieved that we will be able to measure the full benefits. Needless to say we will be buying a lot less diesel for gensets and compressors (now only required for surface equipment) with less maintenance costs, services, oil changes, spare parts etc."**

Collectively all these factors assist Medusa in achieving cash costs in the lowest quartile for producing companies. Last quarter the company produced 6,986 oz at an average head grade of 10.42g/t for a cash operating cost of just US$243/oz. The sustaining capital costs associated with Co-O are presently difficult to assess given the expansion related development costs. This will be ongoing for at least another 18 months. In 6-12 months, Davis believes they will be in a better position to assess these numbers. He is confident they will compare very favorably to similar operations here in Australia. Davis explains that given the mechanized approach largely employed in Australia, decline openings are generally larger (4 x 4.5m) in order to fit bigger equipment. These openings require more ground support, accumulate more water and require more ventilation. The development work also very rarely pays for itself. In contrast, Medusa can sink standard sized shafts and develop main level drives which are generally half the size (1.8 x 2.4m), utilizing rail tracks for haulage of the ore. These rarely require ground support other than rock bolting, attract less water and require less ventilation. The other benefit is that many of Medusa's drives are developed along veins which generate diluted ore at a grade that often compensates for the development costs. In Australia, the development costs associated with underground mines typically range from A$150 – A$300/oz (largely associated with decline development). Once Medusa achieves its Phase 2 annual production target of 100,000 oz, ongoing capital costs should be significantly less. Operating cash costs are also expected to fall to a longer term average of US$200/oz.

The key test facing Medusa in this challenging environment is managing its cash position. With the ongoing execution of its expansion plans, Davis believes the increase in production should generate enough cash to internally fund ongoing development. Phase 1, which includes the completion of both the Agsao and Beta shafts on the East side of the mine, is well advanced. Haulage of the first development ore from Agsao is scheduled for the March quarter of 2009. Phase 2 has also commenced and involves the construction of the Baguio shaft plus a ventilation shaft at the western end of the mine. Good ground conditions permitting, the completion of this work is scheduled for the end of 2009. Davis adds: **"The large item capital costs will be spread mainly over the next 18 months. The main immediate one over the next 6-8 months will be the mill upgrade, and quotes for this are being prepared for submission at present with work to commence early 2009. A new tailings dam will be constructed in the next financial year and survey work is presently in progress for this to enable design work to be undertaken followed by quotes. Shaft sinking does not require a big upfront cost but is incurred on a monthly basis."**

The Co-O deposit presently has a resource base of 862,000 oz at 10.7g/t. The estimated probable reserves were 249,000 oz at 10.7g/t as at 30 June 2008. Recent exploration has uncovered a new high grade vein on the west side of the deposit named the Great Hamish Vein (GMV). GMV is interpreted to be between 600 to 650m long and open along strike and at depth. Development on two levels has commenced. Drilling highlights include: 2.65m @ 113.8g/t Au from 217m, 2.5m @ 16.02g/t Au from 257m, 1.45m @ 97.62g/t Au from 366m, 1.6m @ 61.05g/t Au from 195m, 3.45m @ 43.26g/t Au from 172m and 2.25m @ 166.29g/t Au from 259m. Given the large landholding the company has accumulated, there could be more Co-O vein style deposits to be discovered as well as disseminated gold and porphyry copper systems. Medusa is presently drilling 2 copper targets.

Medusa seems set for a very interesting 2009. Like many companies of its size, managing cash flow remains the number one challenge. From all reports, production continues to steadily increase greatly assisting in this job. The company is targeting 38,000 – 45,000 oz for this financial year. One thing that has struck me when looking at Australian companies operating abroad is that there are significant benefits. Generally speaking, the deposits are of a better quality due to little modern exploration in these regions. The costs are significantly less for both labor and energy, allowing companies greater flexibility in employing optimal mining methods thus maximizing returns. The downside is of course the political and social risk factors. Like all risk factors, these can be prudently managed. Medusa makes social responsibility the number one priority. By employing primarily locals and generating significant royalties for the government, there is a big incentive for governments to do the right thing by responsible mining companies. I very much look forward to catching up with Geoff Davis in the second half of 2009, to get an update on Medusa's progress and we thank him for his time.

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