



# GLOBAL MINING OBSERVER

INDEPENDENT COVERAGE OF THE MINING MARKETS

## What smelters say:

Analysts have limited info on metal concentrates, because smelters do not publish their contracts. One bank published research this week saying manganese is “beneficial” for smelters. That is true, up to 5 grams per litre (0.5 per cent), because it stops anodes corroding, but above that and manganese forms layers, lowering recoveries and upping downtime. We spoke instead to zinc industry specialists

Q. What are the penalty thresholds on manganese in a concentrate? A. “It’s a sliding scale... It’s not well understood and it’s certainly not well discussed. Smelting companies, they’re the ones that determine what these penalties are.”

Zinc development  
company

Q. Can 1.3% manganese impact a concentrate’s saleability? A. “Yes, it can. Gamsberg has been held up for years for this reason, and Mehdiabad also suffers from the same Manganese problem. Vedanta could handle it by making some changes to the Skorpion flowsheet, and they may be able to absorb some tonnage at Chanderiya in India. Beyond that, high Manganese in Zn Concs forces the seller into retail deals across the industry, since most smelters will have a bottleneck on this.”

Zinc  
smelter  
CEO

## ARIZONA MINING

# Banks Slam Manganese Concerns

*But zinc industry specialists disagree, as Arizona issues statement on metal impurities*

## What the banks say:



### Scotiabank

“...any penalties would appear to be immaterial ...the issues raised in the article are largely unfounded... use any material weakness in the stock

Zinc-concentrate-penalty-thresholds don’t usually come up over lunch. But they have become a hot topic in the mining industry this week, as analysts try to wrap their heads around Taylor, a large zinc deposit in the US.

Taylor was found by

tipping point at which manganese goes from being beneficial to a smelter, slowing the corrosion of anodes, to being harmful, forming layers and clogging up tanks, lowering recoveries and causing downtime, according to a paper

price today to accumulate shares”.

#### TD Securities

“The October 2016 technical report indicated that ore from Taylor could be processed by a conventional process flowsheet... with no 'deleterious' or penalty elements. The issue of elevated manganese levels and the potential impacts on marketability of the concentrate was not highlighted... We have made no changes to our Speculative Buy rating or \$4.00 target at this time.”

#### Canaccord Genuity

“Don't Believe Everything You Read... Erroneous Article Provides Arizona Mining Entry Point Opportunity: Over the weekend, an article (erroneously) highlighted manganese as a potential issue for Arizona Mining's Taylor discovery, a new world class zinc project in southern Arizona... thus providing a great entry point for investors who have been watching the stock run away from them.”

Arizona Minerals. Its shares have shot up this year, as the company has drilled out stellar zinc grades. On Tuesday morning, *Global Mining Observer* retracted an article focusing on manganese levels of 1.3 per cent in Taylor's zinc concentrate, higher than industry norms.

Arizona issued a press release, saying the article was “misleading”, conflating two distinct deposits. Scotiabank said the article was “unfounded”, whilst Canaccord Genuity said it was “erroneous”.

Manganese impurities in concentrates are “beneficial” for smelters, Scotiabank said, because the impurity “saves smelters adding it.”

The comments reveal how poorly concentrates are understood, partly because smelters do not disclose their penalty thresholds, the level at which impurities start to wrack-up charges. “It's a sliding scale,” one zinc company told *Global Mining Observer*. “It's not well understood and it's certainly not well discussed.”

5 grams per litre, equal to 0.5 per cent, is the

published last year by the University of Pretoria.

Now, zinc smelters have weighed in on the debate, confirming what everyone in the zinc industry already knows: stripping manganese impurities out of a zinc concentrate is complex and problematic. Processing manganese-heavy material causes downtime, says a smelter CEO, creating “a bottleneck” and forcing sellers into piecemeal contracts with several groups.

“Zinc and high manganese is a combination that no smelter wants,” says a Germany-based smelter restructuring specialist, who sits on the board of one of Switzerland's largest banks. “It's not good,” says the managing director of the largest concentrates trader in Australia.

Arizona Mining is more optimistic. Manganese levels of 1.3 per cent would lead to additional smelter charges of just \$12 per tonne, making the cost “immaterial”. The figure, it said, was “estimated”. Arizona plans to “conduct further flotation work... in an effort to reduce the manganese in the zinc concentrate.”

#### What Arizona says:

17 March

“...smelter penalty elements like As, Bi

9th December

“There is a bit of manganese in it, but

12th December

“...the Company will conduct further

1.33%

