

## Research Insight

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May 26, 2020.

### **Mining and Water: Are operational concerns overriding public interest?**

**Mining companies are much less likely to track and report on their management of water quality compared to water quantity. Other stakeholders sharing the same water resources as mining operations rely heavily on the quality, as well as the quantity, of these resources and they need useful information on water pollution levels. And mining investors, financiers and customers want to know how well companies are preventing water pollution and managing asset-level water quality-related risks. Yet it seems that while companies' operational concerns about their water supply promote more regular reporting of water consumption levels, companies have largely neglected to publicly disclose locally-relevant data on water quality. Research shows that mining companies generally disclose water quality monitoring data only when they are required to do so by producing country regulations.**

#### A key public interest issue

Mining operations can have severe and long-lasting impacts on water quality, and the quality of local water resources determines their usability and safety for agriculture, other industries, local communities and the environment downstream of mine sites' discharge points. As such, water quality is an intergenerational issue of direct relevance to the socio-economic and environmental health of mining areas. It is evident that water users need access to timely and locally-relevant data on the quality of the water resources downstream of mining operations.

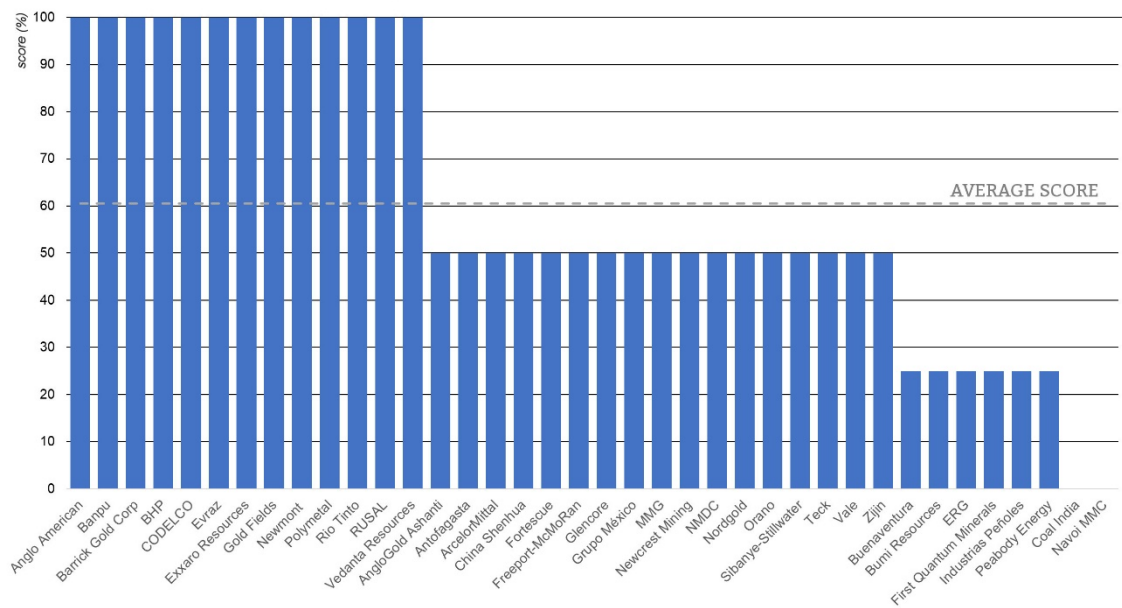
According to Peter Kindt, Head of Metals, Mining & Fertilizers EMEA at ING Bank:

“ Understanding, measuring and analysing water-related issues in the mining industry is a complex and often undervalued task while of great importance to banks and other investors. Not just from an impact investment perspective, but also to manage risks: obtaining and maintaining a local license to operate and understanding longer term climate change related risks.”

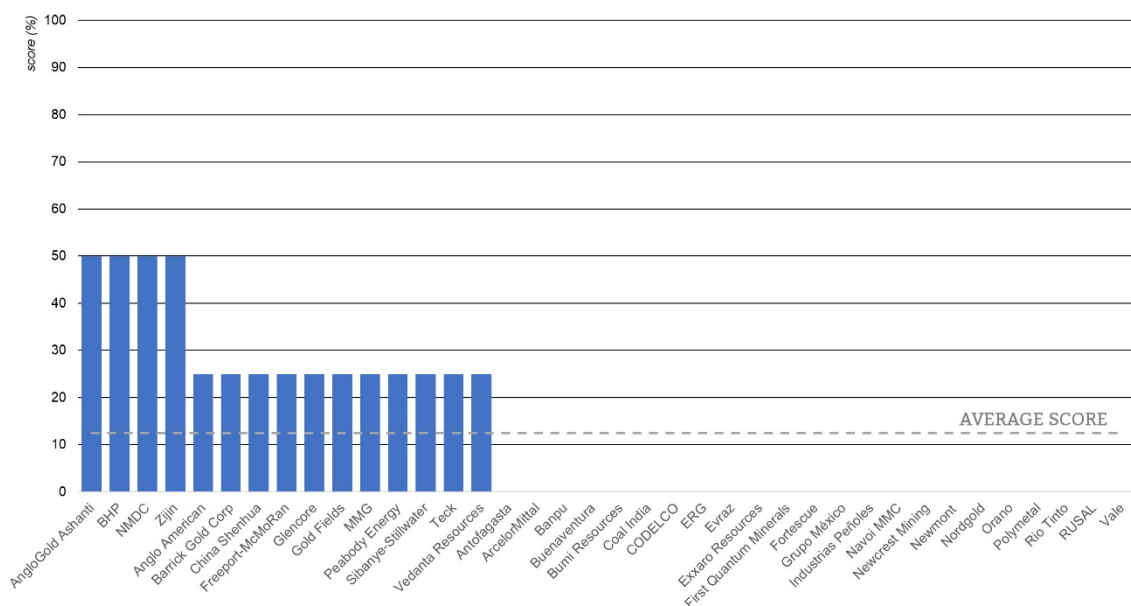
## Lack of attention to quality of water resources

The discrepancy in the availability of data on water quality vs water quantity is very evident in the results of the [RMI Report 2020](#),<sup>1</sup> which assesses 38 large-scale mining companies' policies and practices on a wide range of economic, environmental, social and governance (EESG) issues. The companies score an average of only 13% on tracking and disclosing water quality downstream of their operations – compared to an average score of 60% on tracking and disclosing their water consumption levels (see Figures 1 and 2).

**Figure 1 WATER QUANTITY: Tracking against targets and public disclosure of data**  
(Results from RMI Report 2020 - F.03.2.a)

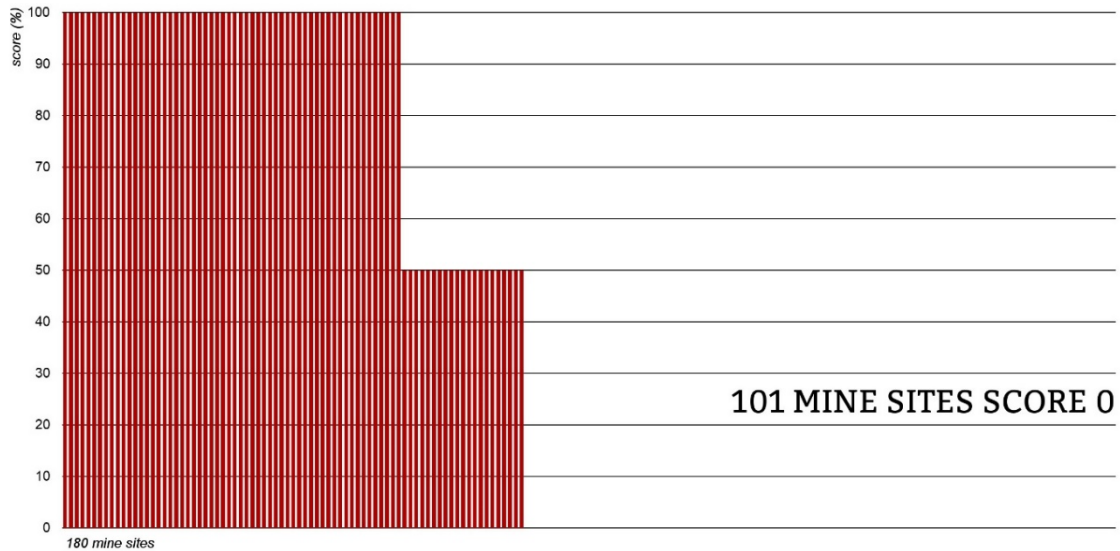


**Figure 2 WATER QUALITY: Tracking against targets and public disclosure of data**  
(Results from RMI Report 2020 - F.03.3.a)



The same pattern is seen at the mine-site level. The RMI Report 2020 mine-site assessment results are very weak on monitoring and disclosure of both water quality and water quantity but again companies are much less likely to track and disclose mine-site-level water quality data (see Figures 3 and 4).

**Figure 3 Public data on WATER QUANTITY at the mine-site level**  
(Results from RMI Report 2020 - MS.08.a)



**Figure 4 Public data on WATER QUALITY at the mine-site level**  
(Results from RMI Report 2020 - MS.07.a)



Notably, only a couple of the companies assessed in the RMI Report 2020 include in their sustainability reports any indication of water quality impacts (and these are limited to brief mentions of major water pollution incidents) whereas companies routinely report statistics on their water consumption. And the RMI Report 2020 results confirm that regulatory frameworks strongly impact companies' propensity to track and disclose water quality data. Overall, mine sites in countries such as India and Australia outperform others on this issue as they are required by the governmental authorities to publicly report their water quality monitoring results. It is important to note that such regulations tend to require companies to report on water quality at specified locations downstream of discharge points – rather than simply the quality of the water being discharged.

### Limited industry expectations on water quality reporting

To some extent there is a lack of 'internal demand' for water quality disclosures, as major water-related reporting norms and guidelines largely ignore water quality. For example, while GRI includes detailed questions on water consumption, it does not cover aspects of water quality beyond requesting a basic two-tier disaggregation of the quality of effluent discharges.<sup>2</sup> Even then, mining companies using this framework rarely provide any indication of quality, reporting only the quantity of the discharge flows.<sup>3</sup> And, while industry guidelines on water *stewardship*, like those from ICMM, stress the need for regular disclosure of performance data on both water quality and water quantity,<sup>4</sup> industry guidelines on water *reporting* focus almost entirely on water quantity issues, again specifying only a two-tier disaggregation of quality level (high or low) of discharges to the environment.<sup>5</sup> What is missing from this superficial reporting is a detailed indication of the quality of the water actually used by stakeholders located downstream of mining operations, such as the rivers and lakes from where water may be used for other industries, livestock production, crop irrigation or home consumption.

### Mismatch with materiality

The lack of tracking and reporting on water quality stands in contrast to the fact that most materiality analyses produced by mining companies identify both water quality and water quantity as priority issues. This calls into question the value of such materiality analyses. It is fair to say that companies have sometimes taken a limited view of what constitutes 'materiality', falling back on the concept's origins in financial materiality – i.e. importance of an issue to the companies themselves, rather than the wider salience of the issue to other stakeholders. This tendency is acknowledged, for example, by the Global Reporting Initiative (GRI), which saw the need to clarify the more inclusive meaning of materiality in its most recent reporting frameworks.<sup>6</sup> And analysts have noted that materiality analyses can be treated as tick-box exercises with the results unconnected to the ESG management and reporting activities of the company.<sup>7</sup> The mismatch seen between how water quality is treated in materiality analyses and in company reporting may be one example of this 'decoupling'.

## Water quality: the bigger picture

With current water purification technologies, mining companies can readily control the quality of their discharges to water resources. And in most cases, companies are already collecting monitoring data on the quality of ambient as well as discharge water. It is simply a question now of making this information available and accessible to other stakeholders in a timely and meaningful manner.

Evidently, mine-site impacts on water quality will vary widely and water quality monitoring will need to be adapted to the specific conditions of the area and the environmental regulations in place. In nearly all cases, the quality of water resources will depend on more than just the quality of individual mining operations' discharges. The presence of other companies, population centres and livelihood activities will also contribute to water quality impacts. Such cumulative impacts make the regular disclosure of detailed data on ambient water quality all the more important. A study by the Columbia Water Center and the Columbia Center for Sustainable Investment shows that these progressive impacts can go unrecorded as many mine operators look only at their own pollutant discharge to surface and groundwater bodies, and assume that water availability will remain sufficient to dilute the pollution to the required level of quality.<sup>8</sup> As cumulative effects of pollution and water depletion become evident, mining operations are likely to face significant social and regulatory pressure and risk loss of their social licence to operate.<sup>9</sup>

One aspect of water quality that is being increasingly addressed by mining companies is the application of participatory water quality monitoring in collaboration with local stakeholder representatives. Commonly used as an engagement tool by mining companies, caution needs to be applied so that these participatory processes are not merely a smokescreen but contribute to transparent reporting and honest and informed dialogue on how shared water needs can best be met.<sup>10</sup>

In addition to addressing the quality of downstream water resources, a mine-site's catchment-level water stewardship strategy needs to cover wider water quality issues such as the prevention of water pollution risks from tailings management or from flooding of abandoned pits.<sup>11</sup>

## Towards open sharing of locally-relevant water quality data

Water quality is of primary importance to local stakeholders around mining operations, and companies can do much more to better manage, track and report on the quality of local water resources. Detailed and timely reporting of water quality levels should be the norm, not only applied where regulations are in place.

By reporting on ambient water quality levels downstream of their discharge points, as well as the quality of the discharge itself, companies can demonstrate responsibility for their role in

the wider ecosystem and their contribution to the UN Sustainable Development Goal (SDG) 6 on Clean Water and Sanitation and in particular the target on reducing water pollution and enabling safe re-use of water.

The RMI Report 2020 noted a few examples of companies demonstrating leading practice by providing detailed water quality monitoring data from water bodies downstream of their operations' discharges. In some cases, these disclosures also show when and where the quality levels dropped below regulatory limits. This level of information, provided as soon as possible after the data is collected, is essential if it is to be useful to local water users. And by regularly sharing of local water quality data, companies can then engage more fully with local stakeholders on this issue.

The mining industry needs to do more to encourage comprehensive, meaningful and comparable water quality data disclosures. By pro-actively making this data readily available, companies can show respect for other water users and the ecosystems in which they operate, demonstrate to investors their management of water risks, and build trust among all stakeholders.

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<sup>1</sup> See RMI Report 2020 <https://2020.responsibleminingindex.org/en>

<sup>2</sup> See GRI (2018) GRI 303: Water and Effluents; Mudd, G. (2008) Sustainability Reporting and Water Resources: a Preliminary Assessment of Embodied Water and Sustainable Mining. *Mine Water and the Environment*, Volume 27, April 2008.

<sup>3</sup> See Northey, S.A. et al (2019) Sustainable water management and improved corporate reporting in mining. *Water Resources and Industry*, Volume 21, June 2019.

<sup>4</sup> See for example ICMM (2014). Water Stewardship Framework.

<sup>5</sup> See ICMM (2017) A Practical Guide to Consistent Water Reporting.

[https://www.icmm.com/website/publications/pdfs/water/water-reporting\\_en.pdf](https://www.icmm.com/website/publications/pdfs/water/water-reporting_en.pdf); also, SASB (EM-MM-140a.2.), GRI (303-4), DJSI Metals and Mining (2.3.4, 2.7.2) among others.

<sup>6</sup> See <https://www.globalreporting.org/standards/questions-and-feedback/materiality-and-topic-boundary/>

<sup>7</sup> Helisek, A. (2019) The Symbiotic Rise of ESG and Materiality. Edelman Insights.

<https://www.edelman.com/insights/symbiotic-rise-esg-and-materiality>

<sup>8</sup> Columbia Water Center (2017) Mining & Water Risk: Diagnosis, Benchmarking, and Quantitative Analysis of Financial Impacts. Columbia University Columbia Water Center, Earth Institute, Industrial Engineering & Operations Research, Columbia Center for Sustainable Investment.

<http://water.columbia.edu/files/2015/05/NBIM-Synthesis-Chapter-Final-4.11.18.pdf>

<sup>9</sup> *Op cit.*

<sup>10</sup> Jiménez, A. et al (2019) The Enabling Environment for Participation in Water and Sanitation: A Conceptual Framework. *Water*, Volume 11, February 2019.

<sup>11</sup> Ugya, A.Y. et al (2018). Water Pollution Resulting From Mining Activity: An Overview. Proceedings of the 2018 Annual Conference of the School of Engineering & Engineering Technology, The Federal University of Technology, Akure, Nigeria, Vol (3).

## Responsible Mining Foundation

The Responsible Mining Foundation (RMF) is an independent research organisation that encourages continuous improvement in responsible mining across the industry by developing tools and frameworks, sharing public-interest data and enabling informed and constructive engagement between mining companies and other stakeholders.

As an independent foundation, RMF does not accept funding or other contributions from the minerals and metals industry. [www.responsibleminingfoundation.org](http://www.responsibleminingfoundation.org)

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