Notes for UN Special Rapporteur on Hazardous Substances and Wastes, Baskut Tuncak

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SUMMARY

Canadian mining multinationals are causing toxic impacts on surface and ground water and on marine ecosystems in overseas countries where they operate, in part through mine waste disposal practices that are effectively illegal in Canada.

This brief focusses on impacts through practices that are effectively banned in Canada through protective provisions in the Metal and Diamond Mining Effluent Regulations (MDMER) regarding allowable limits of Total Suspended Solids (TSS) in mine effluent released uncontained into fish bearing waters. The MDMERs restrict TSS to 15mg/L for a monthly average.[1] This restriction prohibits unrestricted release of tailings into fish bearing waters.

Overseas, Canadian mining companies are, have or propose to use mine waste disposal practices that are not allowed in Canada. These practices include: disposal of uncontained tailings and waste rock into river systems; disposal of uncontained tailings into the marine environment; disposal of mine effluent high in TSS into the marine environment through proposed Deep Sea Mining practices.

[1] See https://laws-lois.justice.gc.ca/eng/Regulations/SOR-2002-222/index.html; https://laws-lois.justice.gc.ca/eng/Regulations/SOR-2002-222/page-10.html#docCont

The unacceptable harm imposed on the impacted ecosystems – harm that Canadian law recognizes and prohibits – also has repercussions for people who rely on these ecosystems for food, drinking water, and livelihood.

This brief makes the following recommendations:

- That the Government of Canada not provide political support (for example through trade commissioners) or financial support (for example through EDC) to Canadian mining transnationals who dispose of uncontained mine waste with TSS higher than 15 mg/L on average per month into fish bearing waters.
- That the Government of Canada ensure that the newly created Canadian Ombudsperson for Responsible Enterprise (CORE) be empowered with the ability to compel documents and witnesses in the course of her investigations, as was committed to by the Government of Canada in January 2018.
- That the Government of Canada implement mandatory human rights due diligence legislation that would compel Canadian multinationals to implement and report on human rights due diligence by the parent company, its subsidiaries and its business relations, in Canada and internationally, and that would create a cause of legal action in Canada for people who have been harmed by the practices of Canadian multinationals.

ISSUES

1) Riverine Tailings Disposal

This issue is illustrated through Barrick Gold's Riverine Tailings Disposal (RTD) of mine waste at the Porgera Joint Venture Mine (PJV) in Papua New Guinea (PNG).

At Barrick's PJV mine (47.5% ownership as of 2015, previously 95% ownership since taking over Canada's Placer Dome's ownership in 2005) in the highlands of Papua New Guinea (PNG), tailings are dumped into a nearby waterways leading to a river system that stretches for 800 km to the sea and waste rock is engineered to flow like glaciers, for the coming hundreds of years, into valleys surrounding the mine.

Controversial concessions from the PNG government, in 1991 permit the mine to be out of compliance with PNG water quality standards in a 160 km long "mixing zone" in the Strickland River system and even at the compliance point to only be in compliance in regard to dissolved metal concentrations while the PNG standards are in regard to total metal concentrations (dissolved and particulate). The story of how these concessions were won by Placer Dome, and now enjoyed by Barrick, is detailed by academic researcher Philip Shearman in *Giving away another river: an analysis of the impacts of the Porgera mine on the Strickland River system* (2001).[2]

- The Riverine Tailings Disposal (RTD) by Barrick at the Porgera mine would not be allowed in Canada. According to Canada's Metal and Diamond Mining Effluent Regulations tailings are not permitted to be deposited fish bearing waters without containment. One aspect of this prohibition is recognition of the environmental toxicity of total suspended solids that are capped for mine

[2] Shearman, Philip. 2001. Giving away another river: an analysis of the impacts of the Porgera mine on the Strickland River system. In *Mining in Papua New Guinea: Analysis and Policy Implications.* B.Y. Imbun and P.A. McGavin, eds. pp. 181-183.

effluent entering fish bearing waters at 15 mg/L per month on average – effectively prohibiting the uncontained dumping of tailings that would greatly exceed this limit.

- In 2009 the Norwegian Ministry of Finance excluded Barrick Gold from the Government Pension Fund based on a recommendation from the country's Council on Ethics that the Riverine Tailings Disposal at the Porgera Mine caused an unacceptable risk of the Fund contributing to serious environmental damage. Then-Minister of Finance Kristin Halvorsen said: *In light of the documentation at hand, the Council finds that Barrick's operation of the Porgera mine entails an unacceptable risk of extensive and irreversible damage to the natural environment. According to the Council's assessment, the company's riverine disposal practice is in breach of international norms. In the Council's view, the company's assertions that its operations do not cause long-term and irreversible environmental damage carry little credibility. This is reinforced by the lack of openness and transparency in the company's environmental reporting. Considering the intentions presented by the company with regard to production expansion, the Council finds reason to believe that the company's unacceptable practice will continue in the future.*

- Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) monitors the impacts of the RTD for the mine. But these reports are not made public. Earlier on, at least two were publicized.

  In 1996 the CSIRO report noted that:

  1) The impact of Placer's waste disposal on the river was significant;
  2) PJV should urgently explore options to store tailings solids and waste rock on land;
  3) Placer Dome's approach to managing and monitoring the impacts on the river was inadequate.

  The report noted that: "It is possible to detect an effect of the mine in the enrichment of the TSS (total suspended solids) by the metals measured at the compliance point, SG3. Particulate metals (As, Pb, Ag, Cd, Hg, Ni, on a per gram TSS basis) are steadily increasing and may now exceed concentrations that have been shown elsewhere to have long term ecosystem effects, particularly when the river is at low flow." Correspondingly CSIRO found in its preliminary analysis "that fish populations in the upper river system have been in decline since 1993."

  In May 2001, another CSIRO study was published. This study, which aimed at finding "tracer metals" to track the deposition of tailings in the river, makes it abundantly clear that heavy metal enriched tailings are being deposited in the lower reaches of the river, in overbank depositions and off-river water bodies. The study found that silver, arsenic, cadmium, zinc, lead were all present in the tailings in far higher concentrations than in natural river sediments. For example, silver was 140 times more enriched in tailings than in natural river sediments, arsenic was 52 times more enriched, and lead was 45 times more enriched. Furthermore, the study notes that metals such as arsenic, cadmium and zinc are known to be easily mobilized (dissolved) in aquatic environments, making these metals bioavailable. (for more on these studies see Coumans 2002).

- In 2018 Columbia University Law School's Human Rights Clinic released a report relating the dumping of tailings and waste rock into nearby water ways around the mine to impacts on the Right to Water of the local indigenous Ipili population. According to a blog put out by Columbia University's Earth Institute, the "new report titled *Red Water* documents the social, environmental, economic, and health impacts of gold mining in Porgera, Papua New Guinea. The report finds that the communities affected by mining do not have access to consistent and safe drinking water. This is due, in part, to the fact that the PNG government has not met its human rights obligations to respect, protect, and fulfil the right to water in Porgera, and because companies that own and operate the mine — Canadian company Barrick Gold and Zijin Mining

from China — are in breach of their responsibilities to respect the right to water." Currently the mine makes the local population – which used to be able to access clean water in nearby streams – to reply on catching rainwater. However, rainwater is not always readily available in dry periods and necessitates that people walk long distances to access clean streams."

2) Submarine Tailings Disposal

Submarine Tailings Disposal (STD)[3] is the practice of disposing of mine tailings into the deep sea environment via a submerged outfall of a pipe that extends from land into the sea. MiningWatch Canada has researched and written about this issue since 2000.[4]

The immitigable harm caused to flora and fauna in the marine environment by this practice, both anticipated and unanticipated harm, has been well documented (see among others: MiningWatch Canada 2002; MiningWatch Canada and EarthWorks 2012; Edinger 2012; Dold 2014; Ramirez-Llodra et al. 2015; Hughes et al. 2015; Morello et al. 2016; Vare et al. 2018).

Known harmful effects of STD systems included: increased turbidity, which is toxic to certain species unable to avoid it, where plumes shear off the tailings flow, and as a result of, among others, pipe breaks, upwelling and remobilization on the seafloor; metal leaching from tailings and uptake in marine biota; wider than predicted impact zones; loss of biodiversity when tailings are recolonized (Coumans 2002b:5-10; Golder Associates 1996). Additionally, little is known about the impacts of processing chemicals in the marine environment; unintended impacts, such as pipe breaks, cannot be mitigated; and, metals disposed of in the marine environment cannot be reclaimed readily.

In recognition of unacceptable harm caused to the marine environment, STD is effectively prohibited in Canada as it places uncontained tailings that exceed TSS thresholds, set out in the MDMER of 15 mg/L on average per month, into fish bearing waters.

However, Canadian mining companies, such as Placer Dome at the Misima mine in Papua New Guinea and Inmet Mining at the Cayeli Bakir mine in Turkey have engaged in STD in recent years and no Canadian mining company has declared that it will not use this practice in the future.

3) Deep Sea Mining

Canadian mining companies are leading in staking claims in territorial waters and in international waters for possible deep sea mining (DSM) of hydrothermal vents, polymetallic or manganese nodules and possibly cobalt crusts. Canadian mining company Nautilus Minerals[5] was granted the world's first mining permit by the State of Papua New Guinea for its Solwara I project and holds extensive licences in the Pacific region, particularly in the territorial waters of PNG, Tonga, and the Solomon Islands. Additionally, through a subsidiary, Tonga Offshore Mining Limited (TOML), Nautilus holds tenements covering approximately 75,000 km^2 in the Clarion Clipperton Zone (CCZ), in international waters in the Central Pacific. Nautilus has conducted exploration work in these areas.

[3] The practice is also referred to as Deep Sea Tailings Placement (DSTP).
[4] See: *STD Toolkit*. 2002. MiningWatch Canada and Project Underground.; *Troubled Waters: How mine Waste dumping is Poisoning our Oceans, Rivers, and Lakes*. 2012. Earthworks and MiningWatch Canada.; Forthcoming: Coumans, Catherine. 2019. Into the Deep: Science, Politics and Law in Conflicts over Marine Dumping of Mine Waste, in *International Social Science Journal*.
[5] http://www.nautilusminerals.com/IRM/content/default.aspx

While Nautilus's Solwara I project in PNG seems to be halted for now due to financial setbacks (Nautilus has been delisted from the Toronto Stock Exchange), a private Canadian mining company and "frontier investor," Deep Green,[6] is very active in the Pacific region, particularly in partnership with the nation of Nauru, at meetings of the International Seabed Authority where regulations for DSM are being discussed, and seems to have a close relationship with Michael Lodge, Secretary-General of the ISA who appears on promotional materials for Deep Green.[7]

MiningWatch Canada is concerned about a broad range of impacts of possible mining of the seabed. We work on these issues as part of the management team of the Deep Sea Mining Campaign (DSMC).[8] Publications available on the site of the DSMC detail many of these social and environmental concerns. For the sake of this brief we restrict our comments to the aspect of the DSM that involves the spewing of mine effluent into the deep marine environment.

Most deep sea mining proposals involve the use of a service ship where initial processing will occur. Following this initial step, effluent will be pumped back to the deep sea environment. Studies to date have shown that there is a serious concern with deep sea sediment plumes developing that can travel for kilometres.[9] See diagram below.

It is projected that the effluent deposited will contain TSS that exceeds 15 mg/L on average per month making DSM in the territorial waters of Canada effectively prohibited.

6 https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=111318879 ; https://asia.minesandmoney.com/glsponsors/deepgreen-metals/

7 https://vimeo.com/286936275

8 http://www.deepseaminingoutofourdepth.org/

9 See for example - https://www.eu-midas.net/sites/default/files/downloads/Briefs/MIDAS_plumes_brief_lowres.pdf

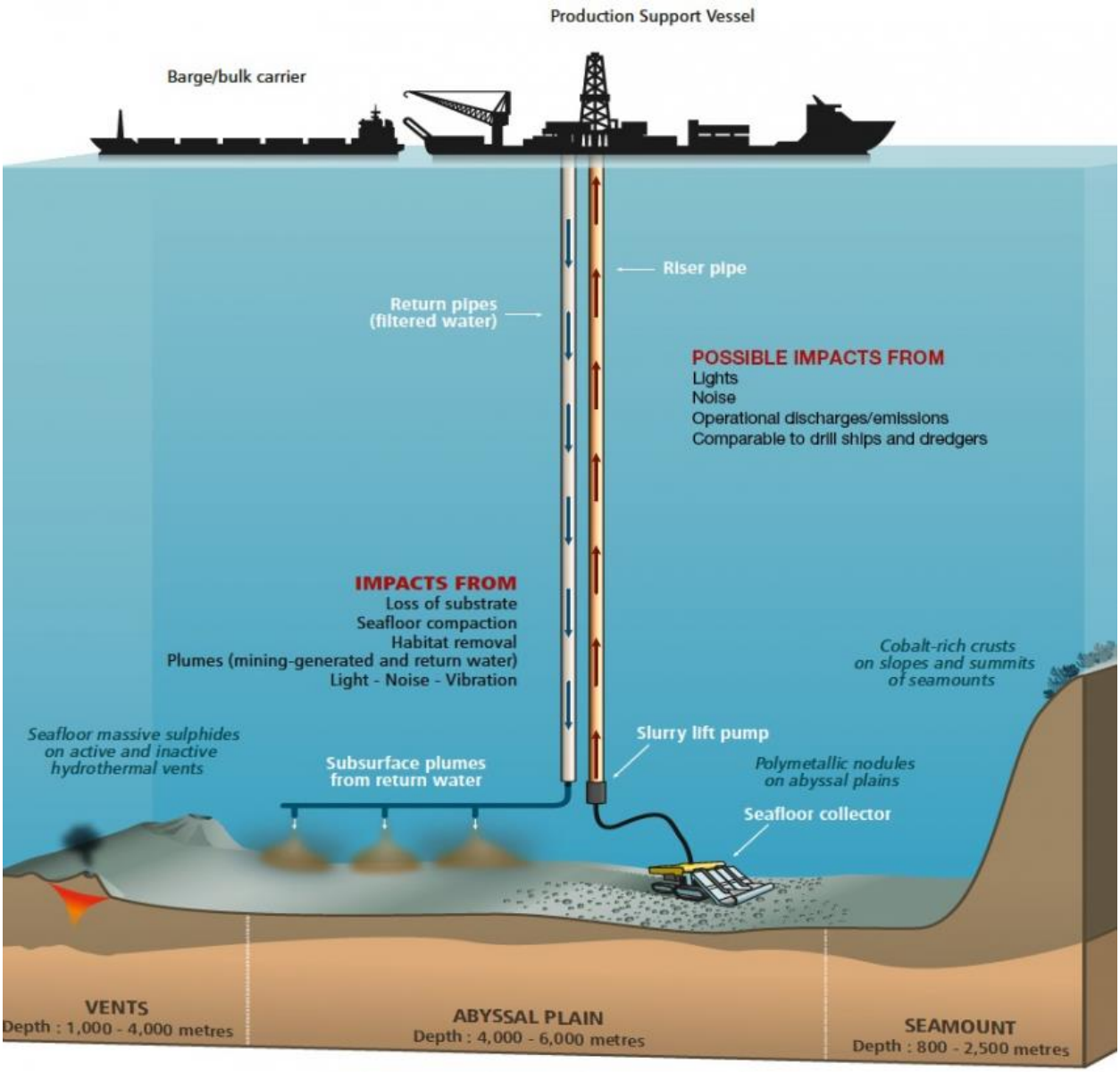

Image credit: IUCN[10]

RELEVANT REPORTS ON CANADA BY UN BODIES

On several occasions United Nations treaty bodies have urged Canada, specifically, to assume its responsibility to protect against human right abuse outside its territory and to provide effective oversight regarding its companies' overseas operations including through regulations with extraterritorial effect.[11]

- In 2002, the **UN Special Rapporteur on Toxic Waste,** Ms. Fatma Ouhachi-Vesely, noted that "self-regulation and voluntary codes of conduct – however laudable – can only complement

[10] https://www.iucn.org/resources/issues-briefs/deep-sea-mining

[11] See also Human Rights, Indigenous Rights and Canada's Extraterritorial Obligations: Thematic Hearing for 153rd Period of Sessions Inter-American Commission on Human Rights. October 28, 2014

legally binding norms for holding transnational companies responsible for human rights violations." She called on Canada to: "…explore ways of establishing extraterritorial jurisdiction over human rights violations, committed by companies operating abroad. The concept of extraterritorial jurisdiction for human rights violations is not unknown in both international and many national laws, and the Special Rapporteur recommends that the establishment of accountability be explored."[12]

- In 2007, the **Committee on the Elimination of Racial Discrimination** (CERD) noted: "reports of adverse effects of economic activities connected with the exploitation of natural resources in countries outside Canada by transnational corporations registered in Canada on the right to land, health, living environment, and the way of life of indigenous peoples living in these regions" the Committee then formally recommended that Canada: "…take appropriate legislative or administrative measures to prevent acts of transnational corporations registered in Canada which negatively impact on the enjoyment of rights of indigenous peoples in territories outside Canada."[13]
- In 2012, the **Committee on the Elimination of Racial Discrimination** (CERD) expressed concern that Canada "has not yet adopted measures with regard to transnational corporations registered in Canada whose activities negatively impact the rights of indigenous peoples outside of Canada, in particular in mining activities."[14]
- In 2012, **Committee on the Rights of the Child** expressed concern that Canada "lacks a regulatory framework to hold all companies and corporations from the State party accountable for human rights and environmental abuses committed abroad."[15]
- In 2017, the **Committee on the Elimination of Racial Discrimination** (CERD)[16] said that "[w]hile noting information received about recent judicial decisions allowing litigation before Canadian courts against Canadian corporations operating abroad, and about existing non-judicial mechanisms, the Committee is concerned that victims of alleged actions by transnational corporations registered in Canada, whose activities negatively impact the rights of persons outside Canada, do not have adequate access to justice" and continues that the "Committee reiterates its previous recommendation (see CERD/C/CAN/CO/19-20, para. 14) that the State party ensure access to justice through judicial and non-judicial remedies for violations of rights of persons by transnational corporations registered in Canada, operating abroad."

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[12] Report of the Special Rapporteur on Toxic Wastes and Hazardous Products, Ms. Fatma Ouhachi-Vesely, on her mission to Canada, 17 to 30 October 2002. Adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights Report, Mission to Canada, 17-30 October 2002´, E/CN.4/2003/56/Add.2 (14 January 2003) para. 126.
http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=4slQ6QSmlBEDzFEovLCuW0JehA%2FFj8BhFpaBkMTxmJmH08wW7M1GFxXz9r%2FAyUPCOr7GmmeKlXm27jJnKB017DEB9JLNOywnwA8lUAOL7wdwcGgRSKZhGNGRGlzR2ydXLf%2F4rHjk1Z06imKqOaqmUA%3D%3D

[13] Committee on the Elimination of Racial Discrimination, "Concluding Observations," CERD/C/CAN/CO/18, 25 May 2007, para.17.
https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CERD%2fC%2fCAN%2fCO%2f18&Lang=en

[14] Committee on the Elimination of Racial Discrimination, "Concluding Observations," CERD/C/CAN/CO/19-20, 4 April 2012, para. 14.

[15] Committee on the Rights of the Child, "Concluding Observations," CRC/C/CAN/CO/3-4, 6 December 2012, para. 29.

[16] Committee on the Elimination of Racial Discrimination, "Concluding Observations," CERD/C/CAN/CO/21-23, 13 September 2017, para. 21-22.
https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CERD%2fC%2fCAN%2fCO%2f21-23&Lang=en

RECOMMENDATIONS

The following recommendations are designed to protect surface and subsurface waters in a preventative fashion and to provide access to remedy for those whose rights have been impacted by failures of Canadian mining companies operating internationally to prevent toxic impacts.

- That the Government of Canada not provide political support (for example through trade commissioners) or financial support (for example through EDC) to Canadian mining transnationals who dispose of uncontained mine waste with TSS higher than 15 mg/L on average per month into fish bearing waters.
- That the Government of Canada ensure that the newly created Canadian Ombudsperson for Responsible Enterprise (CORE) be empowered with the ability to compel documents and witnesses in the course of her investigations, as was committed to by the Government of Canada in January 2018.
- That the Government of Canada implement mandatory human rights due diligence legislation that would compel Canadian multinationals to implement and report on human rights due diligence by the parent company, its subsidiaries and its business relations, in Canada and internationally, and that would create a cause of legal action in Canada for people who have been harmed by the practices of Canadian multinationals.