



THE DEFEND THEM ALL FOUNDATION

October 14, 2019

Candice McGibbon
Director & Chief Executive Officer
INV Metals Inc.
55 University Avenue Suite 700
Toronto, Ontario M5J 2H7

Re: The community opposition, ecological risks and financial uncertainty of Loma Larga Project at Quimsacocha.

Dear Mrs. McGibbon, and the executives of INV Metals:

We write this letter to express our adamant opposition to the Loma Larga Project (“the Project”) located at Quimsacocha in Azuay, Ecuador. The Project is located within an incredibly sensitive ecosystem, the almost inevitable contamination of which will cause irreversible harm to the land and to the animals – human and non-human – that inhabit it. The environmental and legal risks arising from this translate into high financial risk for all those involved.

Defend Them All Foundation (“DTA”) is a nonprofit organization dedicated to improving the legal protections of animals and the environment. In furtherance of this aim, DTA works directly with advocates in target localities, including Ecuador. The organization is independent and non-partisan. It receives no money, either directly or indirectly, from any government. It is headquartered in Portland, Oregon, United States.

DTA has been cataloguing and evaluating the impacts of INV’s proposed Loma Larga Mining Project since 2015. DTA has met with local advocates, community leaders, and scientists in Azuay to gather information and understand their concerns. It is with this experience and knowledge that we present the following reasons that the Project should not proceed.

Ecological Risks of the Project

The Project is located in an area classified as páramo, a variety of an alpine tundra ecosystem that exists exclusively in high, tropical, mountain environments between the tree line and snowline.¹ Páramo soils have important water retention properties which

¹ INV Metals, “NI 43-101 Technical Report for the Loma Larga Project, Azuay Province, Ecuador” (Toronto: Roscoe Postle Associates Inc, 2016) at 20–17.

² INV Metals, “NI 43-101 Technical Report for the Loma Larga Project, Azuay Province, Ecuador” (Toronto: DRA Americas Inc, 2019) at 302.



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allows them to act as water reservoirs.² They connect lagoons and lakes, create flood buffers in rainy seasons, and provide water sources in the dry season.³

An expert report written by James Kuipers, a consulting engineer with over 30 years of experience in the mining industry, concluded that the Project will inexcusably risk the liberation of arsenic and other heavy metals, and impact surface and subsurface water quality – and that it would be virtually impossible to fully mitigate these risks.⁴ INV determined that geochemical characterization of the waste rock and tailings in the Project proposal suggests that the material is potentially acid generating.⁵ Since the mitigation methods proposed by INV are seriously lacking, Kuipers identifies a very high risk of widespread heavy metal leaching into the environment and contamination of the surrounding waterways.⁶

The full scope of the impacts on water quality and quantity are unpredictable. Even after extensive study, the circulation of subterranean waters is not fully understood, partially due to the variability of hydrogeological characteristics of the rock types found in the area.⁷ Kuipers suggests changes to elements like drainage patterns and underground geochemistry are likely to be significant, yet difficult to predict.⁸ This underscores a significant area of uncertainty about the potential harm cause by the Project.

The risk for contamination of waters presented by the Project is unacceptably high, and the ability to contain any pollution is greatly complicated by the complex hydrology of the Project site. Given the sensitive nature of páramo ecosystems and their inhabitants, any amount of contamination will have devastating effects.

² INV Metals, “NI 43-101 Technical Report for the Loma Larga Project, Azuay Province, Ecuador” (Toronto: DRA Americas Inc, 2019) at 302.

³ Carolina Valladares & Rutgerd Boelens, “Mining for Mother Earth. Governmentalities, sacred waters and nature’s rights in Ecuador” (2019) 100 *Geoforum* 68, at 70.

⁴ James Kuipers, “Expert Report on the Loma Larga and Rio Blanco Projects in the Province of Azuay, Ecuador” (2016), online (pdf): *MiningWatch Canada* <https://miningwatch.ca/sites/default/files/informe_pericial_kuipers_loma_larga_rio_blanco.pdf> at 3.

⁵ *Supra* note 2 at 274.

⁶ *Supra* note 4 at 24.

⁷ Independent French consultant team BRGM, after reviewing the technical studies for the mining area going back to 2005, recommended still further hydrological studies be performed before going further with the project at Quimsacocha, due to large gaps in the information. F. Blanchard & A. Gutierrez, *Asesoramiento técnico científico a la municipalidad de Cuenca (Ecuador) y el i. Concejo cantonal, sobre la temática de las aguas y los impactos ambientales de la posible actividad minera*, Informe final BRGM/RC-62354-FR (2013) at 69.

⁸ *Supra* note 4 at 31-32. See also Carlos Pérez Guartambel, *Agua u oro: Kimsakocha, la resistencia por el agua* (Cuenca: Universidad Estatal de Cuenca, 2012) at 66.



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Significant Impacts on the Surrounding Ecosystem

Through habitat destruction, the polluting of the sensitive páramo hydrological system, and the loss of nesting grounds, the Project will impact the livelihood, habitat, and/or nesting grounds of around 700 species.⁹ According to the Ecuadorian or IUCN Red Lists, 14 of these are endangered or critically endangered,¹⁰ 22 are vulnerable,¹¹ and six are near-threatened.¹² At least three endangered species have been found in the mining tailings impact area,¹³ at least two endangered species are believed to have critical habitat in the Project Area¹⁴ and fifteen species are endemic to Ecuador.¹⁵

One example of the Project's likely impact on sensitive species is the case of the Andean Condor, listed as endangered on the Ecuadorian Red List, with only 28 individuals remaining in the southern Ecuador region. Andean Condors are notorious for reproducing only sporadically and for needing many months and large undisturbed areas for nesting and reproduction.¹⁶ Yet, INV does not know whether the Project Area includes the Condor's nesting grounds.¹⁷ Further, Condors face the additional threat posed by biomagnification of heavy metals – a process whereby even trace amounts of toxins absorbed by organisms low on the food chain become magnified to dangerous levels when repeatedly consumed by apex predators.¹⁸ Lastly, tracking studies of Andean Condors show how heavily they rely on the páramos in and around the Project Area as a place to forage for food.¹⁹

If the Condor population is affected, or even just forced to relocate, a ripple effect will be felt throughout the ecosystem. As scavengers, Condors play an important role in eliminating dead animals and therefore lowering occurrence of disease. They also pick off weak members of a species, accelerating replacement. Some of the animals upon which the Condors feed, such as the Little Red Brocket Deer (classified as Vulnerable), serve a similar

⁹ *Supra* note 2 at 308-314.

¹⁰ *Ibid* at 308-315.

¹¹ *Ibid*.

¹² *Ibid*.

¹³ *Ibid* at 312.

¹⁴ *Ibid* at 308, 312.

¹⁵ *Ibid* at 308-312.

¹⁶ Janet Gailey & Niels Bolwig, "Observations on the Behavior of the Andean Condor (*Vultur gryphus*)" (1973) 75:1 *The Condor* 60; Sergio A Lambertucci & Orlando A Mastrantuoni, "Breeding behavior of a pair of free-living Andean Condors" (2008) 79:2 *Journal of Field Ornithology* 147; Martha A Whitston & Paul D Whitston, "Breeding Behavior of the Andean Condor (*Vultur gryphus*)" (1969) 71:1 *The Condor* 73.

¹⁷ *Ibid*.

¹⁸ Reiner M Mann, Martina G Vijver & Willie JGM Peijnenburg, "Metals and Metalloids in Terrestrial Systems: Bioaccumulation, Biomagnification and Subsequent Adverse Effects" in Francisco Sánchez-Bayo, Paul J. van den Brink & Reiner M Mann, eds, *Ecological Impacts of Toxic Chemicals* (Bentham Science Publishers Ltd, 2011) 43.

¹⁹ Interview with Ernesto Arbeláez, Biologist, Executive Director of Bioparque Amaru Cuenca, 7/8/19.



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function by foraging on páramo flora, accelerating its regeneration. The flora is, in turn, an essential part of water collection and filtration in the páramo, highlighting just one example of how the Project’s potential to impact just one species would have widespread ecological consequences.²⁰

The mining practices at issue also pose risks of unknown magnitude – risks that INV failed to explore in its technical report. These unknowns include the extent to which (1) mining noise will impact surrounding species, as noise pollution from mining activities can cause “substantial changes in foraging and anti-predator behavior, reproductive success, density and community structure”;²¹ (2) wildlife could interact with toxic tailings ponds, and (3) new infrastructure needed to operate the Project will cause range-fragmentation. Range-fragmentation occurs when a species entire habitat is compromised due to its inability to migrate across certain forms of human infrastructure, which can be a major driver of species extinction.²² Yet, INV plans to do just that – build a whole series of roads and infrastructure across the páramos to service its mining project.²³

The mining practices at issue could jeopardize a whole host of species in ways that even the best science does not yet understand. At the very least, more scientific studies are needed to fully assess these risks. Ecuador need not rush to develop its mineral resources. The underground metals are not going anywhere, but Ecuador’s biodiversity will suffer if these metals are unearthed before a more careful consideration of the risks.

These Impacts are Not Simply Inexcusable—They’re Likely Unconstitutional

The risks identified above constitute threats to Nature’s constitutional right to preserve its own biodiversity. Article 71 of Ecuador’s Constitution grants Nature “the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes.”²⁴ For Nature to persist, ecosystems must maintain their biodiversity. For biodiversity to persist, individual species must continue thriving. For species to thrive, individual members of those species must have an ecosystem that supports their welfare. This interrelated well-being – from individual organisms to entire ecosystems – is the “vital cycles, structure, [and] functions” that Nature has a right to maintain.

²⁰ *Ibid.*

²¹ Jesse R Barber, Kevin R Crooks, & Kurt M Frstrup, “The costs of chronic noise exposure for terrestrial organisms” (2009) 29:3 *Trends in Ecology and Evolution* 180.

²² *Ibid.*

²³ *Supra* note 2 at 51–52, 268–281.

²⁴ Constitución de la República del Ecuador, Registro Oficial 449: 20/10/2008, art 71.



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As Ecuador's Constitutional Court has said, rights of nature are transversal, affecting all other constitutional rights.²⁵ Infringements of Nature's rights therefore affect citizens' rights to participate in political processes. Article 71 states that "every...community...can demand of public authorities the fulfillment of the rights of nature."²⁶ Other constitutional articles²⁷ and Ecuador's Penal Code²⁸ further make it apparent that the Ecuadorian government can – and often must – use its powers to defend biodiversity and individual organisms.²⁹

Effects on Surrounding Communities

In addition to, and because of, the aforementioned risks to nature— to the water and biodiversity of a widespread area around the Quimsacocha site – the project threatens to infringe on various human rights and faces strong community opposition. We urge INV Metals to listen to the voices of those who will be directly affected and cease the project before more resources are invested and before irreversible damage is done.

Right to Water

The páramo provides clean, filtered drinking water to all its downstream communities, many of which are subsistence farmers, relying on this essential water source for their farming activities. The almost inevitable contamination of this water through the mining Project would be a violation of Ecuadorians' constitutionally protected rights to water and to priority use of water for food sovereignty.³⁰

Infringement of Indigenous Rights

The Loma Larga mine presents a grave threat to Pachamama – a central figure in the Cañari indigenous culture and beliefs. The Cañari in the area believe that Quimsacocha is a source of sacred energy – energy that is essential to healing and cleansing rituals for all peoples and for Pachamama herself. They feel that Quimsacocha has already been harmed by the mining exploration. Continuation of the Project presents a threat to their constitutionally

²⁵ Corte Constitucional del Ecuador. Sentencia No. 166-15-SEP-CC. Caso No. 0507-12-EP. Registro Oficial, Suplemento, No. 575: 28/08/2015.

²⁶ *Supra* note 24.

²⁷ *Ibid*, art 14 ("Environmental conservation, the protection of ecosystems, biodiversity and the integrity of the country's genetic assets, the prevention of environmental damage, and the recovery of degraded natural spaces are declared matters of public interest").

²⁸ Código Orgánico Integral Penal. Registro Oficial Suplemento No. 180: 10/02/2014, art 247.

²⁹ Craig M Kauffman & Pamela L Martin, "Testing Ecuador's Rights of Nature: Why Some Lawsuits Succeed and Others Fail" (Paper Presented at the International Studies Association Annual Convention, Atlanta, 18 March 2016).

³⁰ *Supra* note 24, arts 12, 318.



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guaranteed right to continue practicing their ancestral traditions, and to the very well-being of their community³¹.

A further indigenous right infringed by the project is the right to free prior informed consultation. This right is guaranteed in the Ecuadorian Constitution, which further incorporates international law and principles to strengthen the interpretation of the right.³² Both Ecuador and Canada are signatories to the United Nations Declaration on the Rights of Indigenous Peoples, which requires prior, informed *consent* and gives indigenous communities the right to conserve and protect their environment.³³ This suggests that consultation be much more in-depth than mere presentation of the project, at the very least attempting to gain consent. Recent case law from Ecuador and the Inter-American Court of Human Rights supports this interpretation.³⁴ The process of informing indigenous communities as carried out by INV was not widespread, in-depth, nor meaningful enough to meet the definition of consultation if challenged in court.

Widespread Community Opposition

The Ecuadorian Constitution also guarantees that communities will be consulted before the state authorizes a project that “could affect the environment”.³⁵ We do not believe that the state nor INV satisfactorily carried out this process. Had they engaged in adequate consultation, they would have found widespread opposition to mining in the sensitive páramo region. Concrete evidence of this opposition is presented by the popular referendum held in the canton of Giron, where 87% of voters were against mining at Quimsacochoa.³⁶ Even the parish of San Gerardo, where INV claimed to have strong support for the project, voted No.³⁷

³¹ *Ibid*, art 57.1.

³² *Ibid*, art 57.7.

³³ United Nations Declaration on the Rights of Indigenous Peoples, UNGAOR, 61st Sess, Annex, Agenda Item 68, UN Doc A/RES/61/295 (2007), arts. 19, 29(1).

³⁴ Acción Constitucional de Protección No. 21333-2018-00159, Corte Provincial de Justicia de Sucumbios, Sentencia de 3 de agosto de 2018, No. 21333201800266; Acción Constitucional de Protección No. 00001-2019, Corte Provincial de Justicia de Pastaza, Sentencia de 9 de mayo de 2019, No. 16171201900001; Corte Interamericana de Derechos Humanos. Caso Pueblo Indígena Kichwa de Sarayaku vs Ecuador. Fondo y Reparaciones. Sentencia de 27 de junio de 2012. Serie C No. 245 at 177.

³⁵ *Supra* note 24, art 398.

³⁶ Kristen Francescone, “Overwhelming ‘No’ Vote in Southern Ecuador Referendum Targets INV Metals Project” (3 April 2019), online (blog): *MiningWatch* <<https://miningwatch.ca/blog/2019/4/3/overwhelming-no-vote-southern-ecuador-referendum-targets-inv-metals-project>>.

³⁷ *Ibid*.



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Furthermore, the current Prefect of the province where the project is proposed was elected on a platform of protecting water by opposing mining in the páramos.³⁸ These communities are committed to fighting their opposition through the continued use of legal and democratic avenues to protect their water sources, highlighting the Ecuadorian peoples' express opposition to this mining project.

INV has stated that the project will benefit Ecuador, and that they have the support of the country. We find these statements to be misleading or overly optimistic at the very least. Even if there will be temporary jobs created, and giving these programs the benefit of the doubt, local communities are not willing to trade these short-term benefits for long-term damage to the environment, health, and their livelihoods.

On a national level, it is true that the Ecuadorian government has supported the Loma Larga project, promoting mega-mining as the solution to the country's debts. However, given the extreme incentives provided to attract mining to the country, Ecuador will not see nearly as much benefit from the project as is being claimed.³⁹ The estimates of revenue to be collected also fail to factor in the environmental and social harm that the country will be left to deal with after the exit of INV.

Financial Uncertainty

The violations of Ecuadorian and international law explained above create avenues for local communities and activists to continue defending their rights. Said communities have expressed a strong willingness to do so, considering what is at stake. This continued opposition and associated delays will have an impact on the financial feasibility of the mine that has not been factored into INV's studies. Financial risks of the Project have been downplayed, given the extreme environmental and legal risks that the Project presents.

It is irresponsible for INV to continue investing in the Project, then later attempt to recuperate these funds from the Ecuadorian government – as they have already threatened to do should anything impede their progress – when these risks have been brought to the attention of INV and they have the option of cutting their losses now.⁴⁰ International

³⁸ Cuenca High Life, "Night of upsets: Surprise candidates Palacios and Perez elected Cuenca mayor and Azuay prefect" (25 March 2019), online (news): <<https://cuencahighlife.com/night-of-upsets-surprise-candidates-palacios-and-perez-elected-cuenca-mayor-and-azuay-prefect/>>.

³⁹ Jefferson Mecham et al, "Ecuador Endangered by Extreme Extractivism" (17 December 2017), online (pdf): *Rainforest Information Centre* <<https://ecuadorendangered.com/wp-content/uploads/2018/04/Ecuador-Endangered-RIC-Report-final.pdf>>; Alberto Acosta & John Cajas-Guijarro, "Mega-mining in Ecuador: the dream of a naive milkmaid – The false hope of a broken pitcher" (3 August 2018), online: *Rainforest Action Group* <<https://rainforestactiongroup.org/mega-mining-ecuador-alberto-acosta-dream-naive-milkmaid/>>.

⁴⁰ Mining Watch Canada, "Ecuadorian Network Denounces Possible Threat of Investment Arbitration Made by Canadian Company" (19 February 2019), online <<https://miningwatch.ca/news/2019/2/19/ecuadorian-network-denounces-possible-threat-investment-arbitration-made-canadian>>.



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Investment Dispute Arbitration processes are costly, long and drawn-out. Will investors really be willing to wait another 5-6 years for a resolution?

Respecting the needs of the land and the people – cessation of the Loma Larga Project

Given the unacceptably high risk that the Loma Larga Project presents, and the undeniable, persistent opposition expressed by those who will be directly affected when these risks materialize, we urge INV Metals to respect the Ecuadorian peoples' rights to nature, to water, and to a fair democratic process for deciding what is in their best interests. As an international organization concerned with the health and well-being of all living things, we further stand behind the biodiversity in danger at Quimacocha and implore INV Metals to abandon this project before more damage is done to this unique and valuable ecosystem.

Sincerely,

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