

**Date:** 15 November 2022

**To:** **Beatriz Balbin**, Chief, Special Procedures Branch, Office of the High Commissioner.

**Marcos Orellana**, Rapporteur on the implications for human rights of the environment management and disposal of hazardous substances and waste

**Fernanda Hopenhaym**, Chair-Rapporteur of the Working Group on the issue of human rights and transnational corporations and other business enterprises.

**David R. Boyd**, Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment

**From:** Mark Bristow, President and CEO of Barrick Gold Corporation

**Subject:** Barrick response to communication AL OTH 88/2022

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Dear Ms. Beatriz Balbin and members of the Working Group:

Thank you for your Joint Communication, dated 16 September 2022, which made enquiries and raised concerns about the Veladero Mine.

Barrick welcomes engagement with our stakeholders and appreciates the opportunity to respond to your request for information on the issue of human rights obligations. This response aims to provide you with additional information and context and to clear up some misconceptions and inaccuracies reported in your letter to us.

As explained below, the allegation of a recent spill or incident is unsubstantiated. It was addressed and refuted by, among other sources, the San Juan Governor, the San Juan Mining Minister, and reputable independent journalists in Argentina. Accordingly, while we understand from your letter that the Special Procedures branch is considering publicly expressing concerns, we urge you to refrain from doing so before all the facts are properly understood. Making any public statement before careful consideration and validation of the credibility of the information underlying the allegations would, in our opinion, be contrary to the principles of discretion, transparency, impartiality, and even-handedness that guide the Special Procedures' information-gathering activities.<sup>1</sup> An adverse public statement would also result in undue community alarm and potential reputational harm to employees and other partners. We accordingly invite you to engage with us to understand the facts first and are available to help facilitate such engagements, including any site visits and discussions.

Before responding to the allegations in detail, I want to reiterate that respect for human rights is a foundational value at Barrick and a central part of our sustainability vision. We work across a diverse range of social, economic, and political contexts and are part of the fabric of society in the communities and countries in which we operate. We also recognise that our activities and those with whom we do business can both promote or negatively impact on human rights.

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<sup>1</sup> See United Nations, Office of the High Commissioner for Human Rights, Manual of Operations of the Special Procedures of the Human Rights Council (Aug. 2008), para. 24.

We acknowledge our responsibility and the opportunity to contribute to realising human rights for peoples around the world. We therefore take active and consistent steps to respect human rights, as described in our standalone Human Rights Policy—which is informed by, among other sources, the UN Guiding Principles on Business and Human Rights (UNGPs), the Voluntary Principles on Security and Human Rights (VPs), and the OECD Guidelines for Multinational Enterprises.

Environmental stewardship is a fundamental responsibility and a critical part of our business strategy. We recognise that the environment in which we work and our host communities are inextricably linked, and we apply a holistic and integrated approach to sustainability management.

We are also committed to transparency and operating with honesty and integrity to ensure the sustainability of our business. It is with this transparency in mind that we welcome your Joint Communication and trust that the Special Procedures branch will objectively assess the facts associated with this case. Barrick acknowledges the duty and responsibility of the Special Procedures branch to assess the details of this case and trusts that the branch will assess the relevant issues objectively.

## **Background and Context**

The Veladero Mine is a 50/50 joint venture between Barrick and Shandong Gold and is situated in northwest Argentina near the border with Chile. Veladero is located in the Iglesia Department, San Juan Province along the eastern slope of the Andes Cordillera, or High Andes. The mine is approximately 374 km by road from the city of San Juan, the Provincial namesake capital. The Department Capitals of Iglesia and Jachal, the nearest communities to the mine, are more than 130 km and 150 km direct distance respectively. The mine is located at an elevation of between 3,800 and 5,000 m above mean sea level. This locality places the mine in the headwaters of the High Andes, which has a low water volume source in relation to the San Juan catchment, with the direct water source being predominantly through snow-melt.

Construction of the Veladero Mine commenced in 2003 and the mine was commissioned in 2005. Veladero is a gold and silver deposit that currently includes two waste rock dumps (North and South) and two open pits: Amable, which is being backfilled, and Filo Federico. The end of the open pit mine life is estimated to be in 2031, and it is anticipated that gold and silver will be recovered from the Valley Leach Facility (VLF) at decreasing variable rates until 2034 or longer, when planned mine closure activities will continue.

The ore mined from the pit is placed on the leach facility or VLF. A closed-circuit operation where all process solution is kept within the system, the VLF is a double-lined facility with a solution management system. It is designed to contain all solution within the system—both for environmental-protection reasons and to ensure that gold is properly recovered, meaning that environmental and financial objectives are aligned. The subsequent recovery of gold and silver from the VLF occurs in a precipitation circuit, using the Merrill-Crowe process and smelting to obtain Doré Bullion. A leak detection system monitors and collects any minor leaks which, if they occur, can be returned to the VLF.

Veladero complies with its environmental commitments and applicable regulations. The San Guillermo Biosphere Provincial Reserve established 3 areas: the Core Zone (managed by National Parks), the Buffer Area, and a Multiple Use Zone (managed by the province). Veladero is located within the Multiple Use Zone, where controlled industrial activities, including mining, are permitted. The mine has been audited by the Provincial Coordination Council for the Protection of Glaciers. In compliance with Law 26,639 for “Minimum standards for the Protection of Glaciers”, the Council concluded that Veladero’s activities—current and projected—do not affect in a direct or indirect manner any of the existing geofoms in the protected glacier and/or periglacial environment.

Moreover, the Veladero mine is currently certified under ISO 14001 standards for its Environmental Management System, ISO 45001 standards for its Safety and Health System, and the International Cyanide Management Code. It is also part of the Towards Sustainable Mining (TSM) initiative in Argentina.

## Summary of 2015 - 2017 Incidents

Barrick has disclosed three prior incidents at Veladero’s VLF. These incidents occurred on the 13 September 2015, 8 September 2016, and 28 March 2017. All these incidents were reported to the authorities, publicly communicated, and subject to different regulatory proceedings.

Only the first of those incidents, however, occurred *out-of-containment* (i.e. where solution actually left the VLF and entered the environment). In particular, the September 2015 incident was the only incident that resulted in the release of cyanide-bearing process solution into a nearby waterway, the Porterillos Stream.

Environmental monitoring conducted immediately by the company and an independent third party demonstrated that the incident posed no risk to human health in downstream communities. In addition, the San Juan Government commissioned the United Nations Office for Project Services (UNOPS) and the United Nations Environment Programme (UNEP) to conduct an impact assessment after the 2015 incident. Likewise, the UN assessment concluded that the incident did *not* cause any impact on the lower watershed areas where the communities are situated. The report is available here: <https://es.scribd.com/doc/312005814/Informe-final-sobre-Veladero>.

The 2016 and 2017 incidents occurred within the VLF perimeter: the solution did not leave the VLF perimeter and did not therefore enter the environment. Accordingly, there was no impact to the environment or risk to human health. We nevertheless disclosed the incidents to the authorities as part of our emergency response procedures—even though they did not result in process solution leaving the lined facility, did not constitute a release to the environment and did not cause any solution to enter any watercourse.

## Environmental Management and Additional Incident Prevention Controls

Following the 2015 incident, we have focussed on building on Veladero’s VLF systems and controls. We therefore reject the allegation that there has been any lack of effective response on Barrick’s part to that incident.

As noted above, the VLF is a closed-circuit system, with a double impermeable liner and with a drainage system for possible filtrations in the surrounding embankment to decrease pressure on the geoliner and direct post-closure drainage. The embankment drainage system consists of trenches in rock along the embankment axis and secondary drainage and connections to the main system.

Furthermore, the VLF design manages surface water by collecting and directing clean surface waters through diversion channels around the facility towards natural water courses downstream of the VLF. Groundwater is managed via a drain system built beneath the VLF—that is, an impermeable system that captures this groundwater and directs it along a central drain towards a pond downstream of the VLF where it can be recovered for plant operations or released into the environment.

In response to the incident in 2015, the company developed increased incident prevention measures, operational control measures, operational procedures, internal communication processes to review any potential issues, new internal incident management procedures, and remediation measures associated with the incident. We devised a Comprehensive Improvement Plan for the VLF, which the provincial authorities approved. This plan considered a range of activities that included, among others:

- Incorporation of a compensation chamber into the collection system;
- The construction of a boundary channel for secondary containment;
- Higher berms and improvements to the perimeter road;
- Heated valves;
- Pipe replacement to high-density polyethylene solid pipes;
- Cameras for additional visual monitoring;
- Enhanced inspections; and
- Training for employees.

Veladero also developed the “Operational Plan for the Monitoring and Maintenance of the VLF System.” This operational plan provides the tools for the timely detection of any potential damage or degradation of the facilities’ components and potential leaks at the VLF, enabling the early and effective implementation of corresponding mitigation measures. It includes the operational parameters for compliance, monitoring, and inspection requirements for each of the respective Process, Environmental, Technical Services and Maintenance departments. Frequent training is conducted on the plans and procedures associated with the operation controls and monitoring of the VLF.

Veladero implements an extensive groundwater and surface-water monitoring program on and off site, and as far as 220 km downstream of the mine. All monitoring data is analysed by a reputable, independent, and certified laboratory, and it is regularly submitted to environmental, mining, and water authorities in line with our permit conditions. Veladero has also consistently undertaken joint and participatory sampling with the authorities and with members of the local communities. To date, since the 2015 incident, there have been no measured exceedances in dissolved mercury at any of our compliance points.

This approved environmental monitoring plan is sufficiently robust and proactive to determine any potential parameter exceedances and ensure that all water-quality results comply with established baseline reference values at the mine’s downstream compliance point, which is named “LA7.”

## 2021/2022 Incident Allegations

Barrick is aware of the allegations regarding a recent incident at Veladero, and categorically denies them. Barrick undertakes significant monitoring, as summarised above, and data is submitted to the Environmental, Water, Mining, and administrative authorities, as well as made public in biennial ESIA updates. Further detail and context in that respect are provided in the Appendix to this response.

The following summary provides important context to rebut the allegations—which we understand were made principally by a Jachal-based NGO named “The Assembly”—of a recent incident.

*First*, the company performs frequent water-quality monitoring, the results of which do not support the accusations made against Veladero. Indeed, Veladero monitors its compliance point (LA7) three times per week. It also monitors the same downstream locations as the National University of Cuyo (UNCu)—on whose raw data the Assembly has seized to make the allegations—bi-monthly. All Veladero’s monitoring data, which is drawn from tests undertaken on a higher frequency than UNCu and analysed by a reputable international laboratory (SGS), shows dissolved mercury *below* laboratory-quantification limits at both the compliance point (LA7) and the overlapping monitoring locations 110 km downstream of the mine.

Local authorities corroborated these findings. The San Juan Ministry of Mining has investigated the Assembly’s claims, reviewed all monitoring data and, along with the San Juan Governor, Sergio Unac, engaged with Veladero to understand the data. Both the Ministry and the Governor have publicly denounced the claims that an incident has occurred.

*Second*, in contrast, the Assembly does not undertake water monitoring or sampling, but instead applies its own interpretation to raw data generated by the UNCu. And that data—which is collected simply to test general water quality—does not provide a credible foundation upon which to base the allegations made against Veladero. The UNCu itself has clarified that its testing does not purport to show that any mining-related spills, incidents, or river contamination associated with Veladero has occurred. In other words, the UNCu made no findings against Veladero. It is instead the Assembly that has wrongly purported to infer that conclusion from the raw data without any further review or analysis.

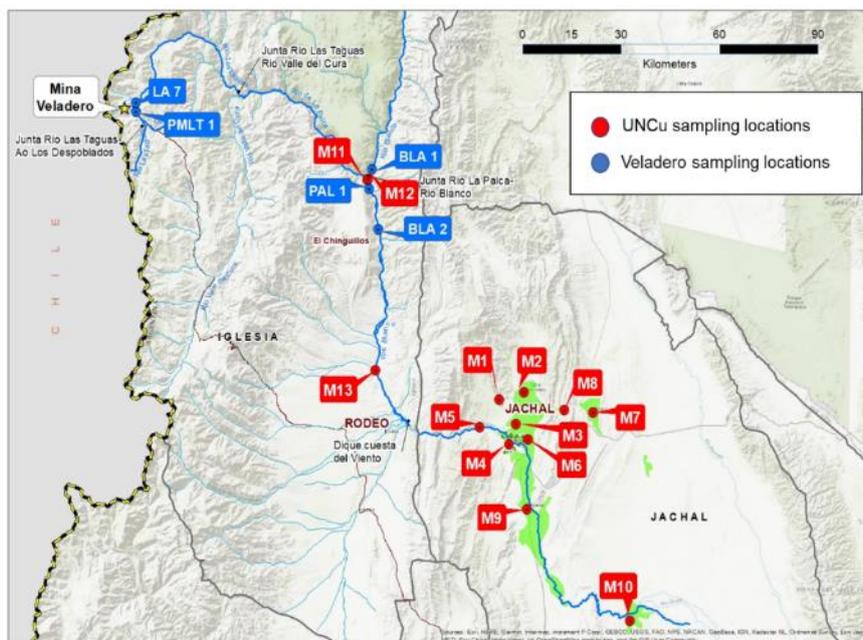
Barrick is not able to comment on the UNCu’s testing process and QA/QC. However, Barrick’s test results—which were assessed by the international accredited laboratory at the same sampling points—did not show dissolved or total mercury.

Yet, even if the UNCu’s tests were reliable and adhered to the QA/QC processes that an international accredited laboratory like SGS follows, they would in any event not allow for the conclusions that the Assembly has attempted to draw from the data.

Put simply, the point from which samples were reportedly taken by UNCu is inadequate to measure any alleged impact caused by Veladero’s operations on water quality. As noted above, Veladero’s defined compliance point is LA7, located on the Las Taguas River and

downstream of the VLF. LA7 is 240 km upstream from Jachal, and below LA7 many tributaries and sub-catchments contribute to the Jachal catchment. Indeed, LA7 (Las Taguas River) contributes only approximately 12% of the total water volume and 1-3% of aluminium mass to the Cuesta del Viento Reservoir in Jachal. Significant water-quality change occurs along the 240 km downstream of the mine. Therefore, while LA7 samples will capture and reveal any impact caused by Veladero's mining operations, subsequent changes in water quality below the LA7 compliance point cannot be attributed to Veladero operations.

As the map below depicts, however, the UNCu's closest sampling point to the Veladero mine is 110 km downstream from LA7. Other UNCu sampling points are even further removed from the mining operations.



Tellingly, the Assembly's allegations also reference the presence of mercury and other metals in water bodies that are in catchments that Veladero does not operate in. It is simply not possible for Veladero to impact the water quality in a different catchment, such as the Blanco River (BLA-1 and M12) upstream of the confluence with the La Palca River. The UNCu's data purported showing of 'presence' of mercury or other heavy metals in these catchments where Veladero does not operate further corroborates that downstream water quality concerns cannot be attributed to the mine.

*Finally*, even taken at face value, the Assembly's allegations show no presence in the waterways of cyanide—which is the predominant compound in the solution associated with the VLF—or other metallurgical-extraction solution that would be present in the event of a mining-related incident. Instead, the allegations concern other elements that the Assembly treats as *indicators* of an incident from the VLF. But there is no evidence to suggest that those elements can be attributed to Veladero's operations, as opposed to naturally occurring processes.

Mercury and other heavy metals occur naturally in the High Andes, as evidenced by the baseline water monitoring undertaken prior to the construction and development of Veladero Mine. Reflecting the naturally occurring mercury and heavy metals that the baseline studies detected, adequate compliance thresholds were established for Veladero. Despite this natural presence, Veladero's compliance point, LA7, produces water samples below laboratory quantification limits for total and dissolved mercury (<0.0005 mg/l), which further corroborates the conclusion that no mining-related incident has occurred.

Separate analyses confirm that conclusion. Following the Assembly's allegations, the Ministry of Mines—in collaboration with the Municipality of Jáchal and the *Centro de Investigación para la Prevención de la Contaminación Ambiental Minero – Industrial* ("CIPCAMI," a centre created through a technical cooperation project between the San Juan government and the Japanese International Cooperation Agency)—analysed the UNCu's and Veladero's results and conducted its own monitoring. The analyses and results concluded that there were no water-quality irregularities.

Noting that total mercury naturally occurs in the region, CIPCAMI's May 2022 report explained the following:

- The samples that the UNCu took in February 2022 “do not detect total cyanide, nor heavy metals associated with metallurgical extraction processes [nor] dissolved mercury.”
- Veladero's samples analysed by SGS, detected no dissolved or total mercury.
- The high total aluminium analysis results from the samples at La Chigua and M13 are mainly due to the erosion of soils [*arrastre de sólidos*] due to the rains.<sup>2</sup>

Accordingly, the CIPCAMI stated<sup>3</sup>: “From the analyses carried out by UNCu and CIPCAMI's own analyses, which by and large coincide,... we conclude that the variation of a natural element in the area is a product of erosion material [*material de arrastre*] produced, in this case, as an effect of rains.”<sup>4</sup>

## Community Engagement, Participation and Grievance Mechanism

As a company, we strive to engage and communicate directly, honestly, and transparently with our stakeholders, something we have done at Veladero for almost 20 years with the communities of Iglesia and Jáchal. The community team, along with mine site leadership, meets regularly (at least monthly) with community stakeholders including the Jáchal Hydrology Board.

A community participatory monitoring program that has been carried out annually since 2007. In October 2022, Veladero enhanced this participatory monitoring program to increase the frequency of the participatory monitoring from yearly to quarterly periods and ensure that more members of the community participate in this monitoring. At least eight persons from the communities participate in each sampling effort. This group is made up of community members of Jáchal and Iglesia, who are selected at a meeting prior to the monitoring run

<sup>2</sup> See CIPCAMI Report, dated May 20, 2022, pp. 1 (noting that test results showed only total mercury, which is present in the rock formations in the region, and that no abnormalities were found) & 5 (summarising conclusions).

<sup>3</sup> Based on translations from Spanish in the CIPCAMI Report.

<sup>4</sup> *Id.* at p. 5.

(anyone at the meeting can be selected). Samples are taken by environmental staff (to assure the QA/QC) at the following monitoring points:

- PAL-1: Serves to monitor the water quality of the watershed in which the Veladero mine is located.
- BLA-1: Represents the Upper Rio Blanco, upstream of the confluence with the Palca. It is a major tributary to the Cuesta del Viento reservoir, not influenced by the activities at Veladero (separate sub-basin).
- BLA-2: The combination of Palca and Blanco River; and
- LA-7: The main compliance point of Veladero.

SGS then analyses the samples in the presence of community personnel, and the results are shared with the community.

Community Development Committees (CDCs) have been established within Iglesia and Jáchal, where community representatives, with assistance from Veladero, develop and decide on Sustainable Development programs and how the mine invests in community development. The CDCs have also become a forum in which to share regular updates related to water quality, allowing direct interaction between the community and environmental technicians.

In addition, Veladero has formalized a grievance mechanism accessible both physically (in two company offices in the Iglesia and Jáchal communities) and by phone or email. This mechanism has clear governance, is compliant with the UNGPs, and is integrated with the operations. In relation to communications, a series of tools are accessible at the [veladero.com](http://veladero.com) website and company social media channels, including live-stream cameras located at strategic compliance points from the VLF.

## **Commitment to Human Rights and Due Diligence**

When Barrick and Randgold merged at the start of 2019, one of our priorities was to deal with a range of legacy issues that required additional attention, research, and energy. Since then, the new management team and operational staff have worked tirelessly to ensure these legacy issues are satisfactorily resolved through review with fresh eyes and a new management approach. Thus, additional due diligence on the previously implemented actions were undertaken following the merger.

Respect for human rights is a foundational value at Barrick and is core to our sustainability vision. I would encourage you to review our [Sustainability Report](#) and our standalone [Human Rights Report](#) for more detail as to how we are managing our salient human rights risks, as well as the progress we have made on the legacy issues. Our Human Rights Report details how we embed our Human Rights Policy throughout the company, including Veladero, and follows the United Nations Guiding Principles (UNGP) Reporting Framework. Our company is committed to human rights respect and environmental stewardship and will continue to work with all stakeholders to address all concerns.

We deny the repeated allegations made by the Assembly, and strongly believe that such allegations are biased, not made in good faith, and intended to alarm the residents of the communities located downstream of Veladero. These unsubstantiated claims do not coincide with messages and feedback we have received from the communities during our engagement with them over the course of nearly 20 years.

Beyond our regular site-based engagement, our Group Sustainability Executive and Sustainability Head for LATAM conducted engagements with our communities as part of our quarterly reviews in October 2022. Water availability and the allegations made by the Assembly were discussed as part of the agenda. None of the community members present raised any concerns of potential water-related impacts from Veladero. Nor did any corroborate or endorse the Assembly's views or express any support for the Assembly more generally.

Moreover, since the start of operations, Veladero has been a positive factor in improving access to, and the quality of, water available in the communities in the districts of Iglesia and Jáchal through sustainable development programs, trust funds, and partnerships. In line with our Water Policy, which recognises access to water as a fundamental human right, these projects aim to improve the baseline water quality in the High Andes which, in its natural state, is unsuitable for drinking purposes. The unsuitable quality of the baseline water is mainly due to elements found naturally in the geology. It must be reiterated that these community investments are to improve baseline water quality; they are not a result of treating mine-impacted water, as they have at times been misinterpreted by some less informed community groups.

Among other initiatives, community-development investments included the construction of an aqueduct that delivered a better water source for Jáchal, as well as 10 potable water treatment plants built and/or refurbished in Iglesia that benefited over 8,000 inhabitants. Water availability and food security projects that Barrick, through Veladero, has invested include:

- 2008–2010: Jáchal aqueduct, which delivers better-quality water to all Jáchal inhabitants, pumping groundwater from two boreholes located in Pampas del Chañar. The project cost US\$6.4 million and includes a 22 km aqueduct to Jáchal. It was inaugurated in 2009.
- 2012–2013: Renovation of drinking water distribution network Las Flores.
- 2013: Extension of drinking water distribution network provincial route no. 10; reconditioning of El Durazno borehole and las Flores reinforcement pipe.
- 2013–2015: Installation of eight drip irrigation systems in cooperatives and agrotechnical schools on more than 50 ha of land and included reservoirs, pumping, and perimeter closures.
- 2017–2022: Engineering and reoperation of 10 water plants in the Iglesia district (Bella Vista, El Tambillo, Las Flores, Villa Iglesia, Maipirínque, Rodeo APN, Hospital, Rodeo Colola, Mariana, Colangüil). The works included the construction of new storage tanks, boreholes, and automated chlorination systems.
- 2019–2021: Secondary canals clearing and maintenance works in the district, including the construction and improvement of sediment and erosion control of the canals.
- 2019 to date: Establishment of the Iglesia Water Committee. Participation from the Water Management Department, the Irrigation Board, the Municipality, the HCD of Iglesia, Jose Maria Mining Project, INTA, Producers, and the DDSS team. Joint work for the development projects was completed to improve Iglesia's irrigation system.
- 2020 to date: Improvements to Jáchal's irrigation network. The first stage consists of the waterproofing of the North and the Matrix Channel. Veladero has contributed over

US\$1m to repair 12 km of channel infrastructure. The channels under repair provide water to 72% (15,000 hectares) of the surface registered in Jáchal.

- 2021: Donation of geosynthetics for waterproofing of 7km of canals with 2000mc geosynthetics.
- 2021 to date: Improvements in irrigation canals, water intakes, and channels in Buena Esperanza, Colangüil, Bella Vista, and Villa Iglesia.
- 2022: Engineering of the necessary works for the optimization of the Agua Negra Channel (currently in the bidding process).

Veladero has also been an engine of economic progress for the region. Since the start of operations, Veladero has paid more than US\$10 billion in goods and services, taxes, and salaries in Argentina. The mine employs 4,162 workers, of which 89% are from the Province of San Juan, including 1,002 workers from the Iglesia and Jáchal communities. Our employment and procurement localisation priority is a critical metric in sharing the benefits of Veladero with those communities nearby, and ensuring access to opportunities and improvement of livelihoods.

## Concluding Remarks

We are deeply committed to engaging with you constructively to clarify any issues and dispel doubts caused by the allegations made against Veladero's operations. We accordingly remain available for any member of your honourable branch to participate in a site visit or further engagements. I would also like to propose a meeting with our Sustainability Executive, who can provide further information and discuss the supporting information attached to this letter. We would, in turn, like to better understand the Special Procedures process, timelines, and envisaged outputs, along with proposed next steps.

Finally, I would also like to recommend that, apart from interacting with Argentina, China, and Shandong Gold, you engage in a direct dialogue with various stakeholders within the communities of Iglesia and Jáchal in the San Juan Province. During this direct engagement, we encourage you to undertake your own water quality sampling. We have no doubt that this outreach to the local communities will serve to further substantiate the facts we report in this letter. We would be happy to facilitate your travel, engagements and site access for sampling in this regard.

I appreciate your time and careful review of the contents of this letter and its appendix below.

Sincerely,



Mark Bristow  
**President and CEO – Barrick Gold Corporation**

## **Veladero project<sup>5</sup>**

The Veladero Mine, a 50/50 joint venture between Barrick and Shandong Gold, is situated in northwest Argentina along the eastern slope of the Andes Cordillera, bordering Chile. The mine is in the Iglesia department of the San Juan Province, approximately 374 kilometres by road from the city of San Juan at an elevation between 3,800 and 5,000 m.a.s.l.

Veladero mine production started in 2005 and is a gold and silver deposit developed with an open pit designed, two crushing stages, leaching in a Leach Valley Facility designed under the concept of a closed circuit, and the subsequent recovery of gold and silver in the zinc precipitation circuit, using the Merrill-Crowe process and smelting to obtain Doré Bullion.

Since the start of operations, Veladero has exceeded US\$10 billion in goods and services, taxes, and salaries paid in Argentina. The mine employs 4162 workers 89% from the province including 1002 workers from Iglesia and Jáchal communities.

The Veladero mine is currently certified under ISO 14001 standards for its Environmental Management System, ISO 45001 standards for its Safety and Health System, and the International Cyanide Management Code and is part of the Towards Sustainable Mining (TSM) initiative in Argentina.

## **Veladero Valley Leach Facility (VLF) and control measures<sup>6</sup>**

The VLF is designed under the concept of a closed-circuit operation (i.e., all process solutions will be kept within the system). For these purposes, the lower part of the facility includes an embankment, an upstream heap leach, a solution management system, and impermeable interior faces. A leak detection system monitors and collects any minor leaks, which, if occur, can be returned to the VLF.

A drainage system for possible filtrations was designed in the embankment to decrease pressure on the geoliner and direct post-closure drainage, consisting of trenches in rock along the embankment axis and secondary drainage and connections to the main system. The VLF design manages surface water by collecting and directing clean surface waters through diversion channels around the facility towards natural water courses downstream of the VLF. Groundwaters are managed via a drain system built beneath the VLF impermeable system. It captures this water and directs it along a central drain towards a pond downstream of the VLF, where it can be recovered for plant operations or released into the environment.

Following the operational incidents in 2015, 2016 and 2017 Veladero's response was based on a Comprehensive Improvement Plan for the Leach Valley Facility that was executed and approved by provincial authorities. This plan considered a range of activities that included pipe replacement to high-density polyethylene solid pipes, incorporation of a compensation chamber (Dropbox) into the collection system, and the construction of a boundary channel for secondary containment. Higher berms and improvements on the perimeter road that is now

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<sup>5</sup> This segment provides a more accurate description of the Veladero described in page 2 of AL OTH 88/2022

<sup>6</sup> This segment addresses observations 1,2,3 of communication AL OTH 88/2022

another security area, heated valves, cameras monitoring, enhanced inspections, and training for employees among many others.

In 2021 Veladero completed and began the operation of Phase 6 of the VLF which represents a new facility with a new wall and process solution circulation systems independent of the previous VLF which will progressively enter a phase of closure.

## **Veladero footprint in the Jáchal River basin<sup>7</sup>**

Surface water resources in the project area were evaluated during the Environmental Impact Assessment by using hydrograph analysis of the stream flow data. The studies concluded that flow rates are seasonal, with the highest rates in the spring when the snow melts and lower in summer and winter. The exceptions are glacier-fed watersheds whose flow rates increase when temperatures are highest in late summer. Both natural surface and groundwater in most watersheds upstream of Veladero's compliance point are unsuitable for drinking water extraction, aquatic life, irrigation, or livestock usage.

The previously described facilities of the Valley Leaching Facility (VLF) and process plant are in the Potrerillos River basin, this water course represents 0.1% of the larger downstream Jáchal river basin. Veladero is located more than 240 km upstream of Cuesta del Viento Reservoir, and the contribution of the catchment area where the mine is located is near 12% for flows and less than 3% for main constituents.

Downstream of Veladero the primary beneficial use of water is for agricultural activities. The populated centres in the area predominantly use water from springs and underground sources for domestic and potable water consumption. The Cuesta del Viento Reservoir is used for recreation, power generation, and irrigation. Jáchal drinkable water system comes from an underground source that the mine helped to build through a trust fund.

There is marked mineralization of the watercourses determined by the geological characteristics of the area. In addition, the limited influence of the water resources that interact with Veladero in the complete catchment, together with the influence of the Blanco River from other tributaries, must be observed in any water quality measurement in the communities of Iglesia or Jáchal.

## **Veladero water quality base line and monitoring program<sup>8</sup>**

Before its construction in 2003 and since the beginning of operations in 2005, Veladero established a water quality baseline and monitoring program in compliance with legal requirements. Surface and groundwater quality data are routinely collected, compared against baseline data, and reported to the authorities every six months to show compliance with environmental commitments and regulations.

The geology/mineralogy directly influences water quality in the area. Average global rock concentrations for Al, Mn, and Hg can be found naturally. Although Hg is low in these bulk lithologies, it is common in epithermal deposits. In the High Andes Hg exists as selenides (HgSe). In these deposits, bulk rock concentrations range from 1s to 10s per mg/kg.

<sup>7</sup> This segment addresses observations 1,2,3,4 of communication AL OTH 88/2022

<sup>8</sup> This segment addresses observations 1,2,3,4 of communication AL OTH 88/2022

Baseline hydrochemistry at Veladero suggests a strong relationship between water chemistry and hydrothermal alteration zones. Water in the Canito and Potrerillos sub-basins is a calcium-sulfate type and slightly acidic to circumneutral or nearly neutral. Water from the Turbio sub-basin headwaters (Veladero's nearest adjacent sub-catchment), located at the Pascua-Lama hydrothermal alteration zone, are naturally acidic and elevated in iron, manganese cadmium, cobalt, copper, nickel, and zinc, and it is of a calcium-sulfate type. Both waters mix before it discharges into the Las Taguas River, increasing calcium and sulfate loads.

The environmental monitoring of water quality and quantity program results are used to monitor Veladero's environmental performance during operation, closure, and post-closure stages. It is essential to mention that monitoring began before mining operations at undisturbed locations, and this period is referred to as the baseline condition. The program aims to minimizing risks and impacts related to water resources and demonstrate compliance with environmental commitments, regulations, and international standards.

The environmental mining authority has set the monitoring station LA-7 as the final control point for the Veladero mine, where the maximum tolerable concentration of the constituents is set (i.e. baseline conditions). Since all the water in the basin of the mining project drains to this point, any impacts caused by the mine would be reflected in quantity (flow) and quality data at this monitoring location. **Therefore, subsequent changes in water quality below this point cannot be attributed to Veladero operations.**

Also, the program has 2 strategic points: PAL-1, located on the La Palca River upstream of its confluence with the Blanco river, which serves to monitor the water quality of the watershed in which the Veladero mine is located; and BLA-1, which represents the Upper Blanco river, upstream of the confluence with the Palca and a major tributary to the Cuesta del Viento reservoir, not influenced by the activities at Veladero (separate sub-basin).

**The Veladero monitoring program includes a series of robust quality assurance and control plans to ensure that complete data is collected.** Quality assurance (QA) is a system of activities designed to ensure that the data meets defined standards of quality. Quality control (QC) refers to the technical activities that reduce errors throughout the sampling program. Based on this we believe the approved environmental monitoring plan is sufficiently robust and proactive to determine anomalies. Also based on the data collected water quality results comply with established baseline reference values at the mine's downstream control point.

## **Community participation and information<sup>9</sup>**

As a company we strive to engage and communicate directly, honestly, and transparently with our stakeholders and there are many examples of this throughout almost 20 years of interaction with Iglesia and Jáchal communities.

Regarding water-related issues, we highlight a community participatory monitoring program that has been carried out continuously since 2007. In this program, neighbours from the

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<sup>9</sup> This segment addresses observations 5,6,7 of communication AL OTH 88/2022

community travel to the mine, select sampling points, sample water, and adhere to the chain of custody protocols until the laboratory results are obtained, which they then share with their community. This has been a yearly activity only interrupted during the Covid-19 pandemic.

The mine has designed an enhanced participatory monitoring program to start in October that will increase the frequency of the participatory monitoring from yearly to quarterly targeting also to incorporate more members of the community.

## **Understanding water as a shared resource and improving access in the community<sup>10</sup>**

Over time Veladero has been a positive factor in improving access and the quality of water available in the communities in the districts of Iglesia and Jáchal through sustainable development programs, trust funds, and partnerships.

The Jáchal Aqueduct was completed in 2008 with a financed trust fund from Veladero, which supplied a new source for the drinking water network to San José de Jáchal from a subsurface water source and eliminated the natural, baseline poor-quality water sourcing from the river.

Veladero completed the re-commissioning of Iglesia's drinking water plants in agreement with the Ministry of Mining, the Municipality of Iglesia, and OSSE in 2022. A total of 10 drinkable water plants were built or repaired by drilling, installing chlorination systems, improvements in the water sources, and diversions to benefit 8,000 inhabitants.

Jáchal's city drinking water and sewage systems were commissioned with the contribution of trusts from mining companies that operate in San Juan, including Barrick and Veladero. In contributions included 2021 with a donation of pipes and fittings for house connections, effectively replacing 1.7 km of an old piping network at Villa Mercedes.

Investment in water for the community has also taken place in Iglesia. It includes the renovation of drinking water networks and equipment in treatment plants since 2015 at Bella Vista, Tudcum, and Rodeo, refurbishing of the Las Flores drinking water network, renewal of the Las Flores - Villa Iglesia aqueduct, and most recently, the refurbishment, and expansion of Rodeo's drinking water distribution network new branches and house connections.

Another pillar of our sustainability programs has been to work consistently in alliance with the rural sectors in programs that improve water availability for crops in Iglesia and Jáchal.

Since 2010, Barrick and Veladero have been executing the Mitigation Agreement with the Hydraulics Department, which involves the contribution of 800 annual backhoe hours for cleaning canals (70% for Jáchal and 30% in Iglesia), which are a vital contribution to the agricultural irrigation network each year.

Other executed initiatives include the installation of drip irrigation systems, 30 water gates donation to Jáchal Water Management Department, irrigation channels cleaning, and donation of geosynthetics for channels waterproofing, among many others.

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<sup>10</sup> This segment addresses observations 5,6,7 of communication AL OTH 88/2022

# BARRICK

As we have clearly stated to this point, the water monitoring results do not support the allegations of mercury affecting the food chain, crops, or water life downstream or in Cuesta del Viento Reservoir. Moreover, the company has been part of different sustainable development programs in partnership with community members that include agricultural programs in Iglesia and Jáchal, a livestock program in Jáchal, construction of sports infrastructure in Iglesia, Jáchal, and support for tourism promotion in Iglesia (with a lot of activities like fishing contest and kitesurfing directly developed on the Cuesta del Viento dam)

Going forward there will be new opportunities related to water and infrastructure development in the community as VLF Phase 6 at Veladero is developed and expected to deliver more than US\$138 million in a new trust fund purposed for building infrastructure work in Iglesia and Jáchal.



Rodeo District Water Treatment Plant, Iglesia



Los Flores Water Treatment Plant, Iglesia

# BARRICK



Pampa del Chañar Aqueduct Water Treatment Plant, Jáchal



Irrigation Channels Maintenance and Clearing Works, Jáchal and Iglesia



Water Gates Donation and Installation to Jáchal Water Management Department



Waterproofing the North and Matrix Channel of Jáchal's Irrigation Network

## Compliance with laws and regulations <sup>11</sup>

We also wish to address unsupported allegations of violations of different laws and regulations. Firstly, on the concerns for the preservation of the San Guillermo Reserve, it is important to note that mining is specifically allowed in the reserve. The Reserve is located in the Iglesia district, covering 980,000 hectares. It was declared as a Provincial Reserve in 1972, and the UNESCO declared it as Biosphere Reserve in 1980. Its management plan, approved by means of provincial Decree No. 654/2013, establishes 3 areas: Core Zone (managed by National Parks), Cushion Area, and Multiple Use Area (managed by the province). Veladero is located on the western side of the Reserve, in the Multiple-use Area where mining and other controlled activities are specifically allowed. Different flora and fauna monitoring reports, with samples regularly taken according to the Veladero Monitoring Program, allow us to affirm that the mine has not altered the balance of the ecosystems in the area. In addition, the company makes contributions to the “San Guillermo Reserve Trust Fund” that is dedicated to infrastructure, goods, services, and advisory services aiming to manage and protect this biosphere.

The care of glaciers and protected geofoms within the periglacial environment is a core priority for Barrick, as well as every other environmental component, and Barrick has included them in its evaluations even prior to the enactment of the Glacier Law. In fact, entire chapters within our Environmental Impact Assessment (EIA) Reports have been assessed and approved by mining environmental authorities, and they are constantly subject to continuous monitoring processes. Veladero has all the permits and authorizations required by the Argentine legislation and has been properly audited as described in Law 26,639 “Minimum standards for the Protection of Glaciers”. The results state that the current and projected activities do not affect in a direct or indirect manner any of the existing geofoms at the glacier and/or periglacial environment.

Veladero is also aware of the obligations of the Minamata Convention and has been a pioneer in Argentina in taking positive steps in its environmental management by complying with its proposal to ship, treat, and safely dispose of mercury in an approved facility in Europe, as agreed with provincial and national environmental and mining authorities. The mine sent the first shipment of 100 t of mercury to Europe in 2019, following strict handling, packaging, and transport procedures to protect people and the environment. The program

<sup>11</sup> This segment addresses observations 1,2 of communication AL OTH 88/2022 and page 5 allegations

resumed in 2021 after Covid-19 with a second 100 t shipment, with the aim of sending a third 150 T mercury shipment in 2023. For this program, Veladero follows a rigorous approach aligned with the ICMM position statement on Mercury Management and all prior permits required by Argentinian and International laws and regulations including the Basel Convention in a coordinated work with specialized treatment and transport companies.

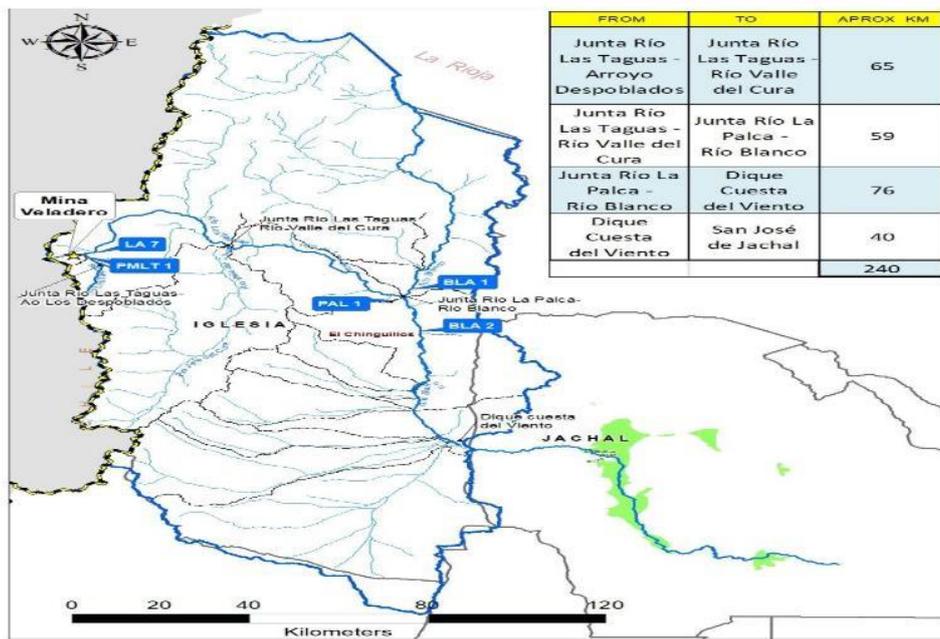
## *Supporting facts*

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### Catchment areas - Jáchal River basin

- Veladero mine is in the Jachal river basin, The principal watercourse of the Veladero Mine area within this basin is the Río de Las Taguas. Veladero only has direct actions over the Potrerillos basin, representing only the 0.1% of the catchment area of the whole basin. LA-7: immediately downstream of the Potrerillos basin, is the main compliance point at Veladero; analyzing the data from this location allows to demonstrate the effects (or absence of effects) of Veladero in the receiving water bodies. PAL-1: it is the last major confluence point on the Palca and upstream of the Rio Blanco confluence, discharging onto the Cuesta del Viento reservoir. BLA-1: represents the Upper Rio Blanco, upstream of the confluence with the Palca and it is a major tributary to the Cuesta del Viento reservoir, not influenced by the activities in Veladero (separate sub-basin).
- The mining environmental authority has established, for the Veladero mine, the monitoring station LA-7 as the final control point, where the maximum tolerable concentration of the constituents must be reached according to the quality standard established for the receiving body. Since all the water in the basin drains to this point, any impacts caused at the site will be reflected in the conditions (flow and quality) at this monitoring location. LA7 is 240 km upstream from Jachal, between which there are many tributaries and sub-catchments that contribute to the Jachal catchment. Therefore, subsequent changes in water quality below LA7 compliance point cannot be attributed to Veladero operations.

# BARRICK



Veladero compared to Cuyo National University Monitoring points

Veladero monitors its compliance point (LA7) three times per week, and monitors the same downstream locations as the UNCu bi-monthly. All Veladero monitoring data (which is undertaken on a higher frequency than UNCu) shows mercury below laboratory quantification limits at both the compliance point (LA7) as well as the overlapping monitoring locations 110 km downstream of the mine.

