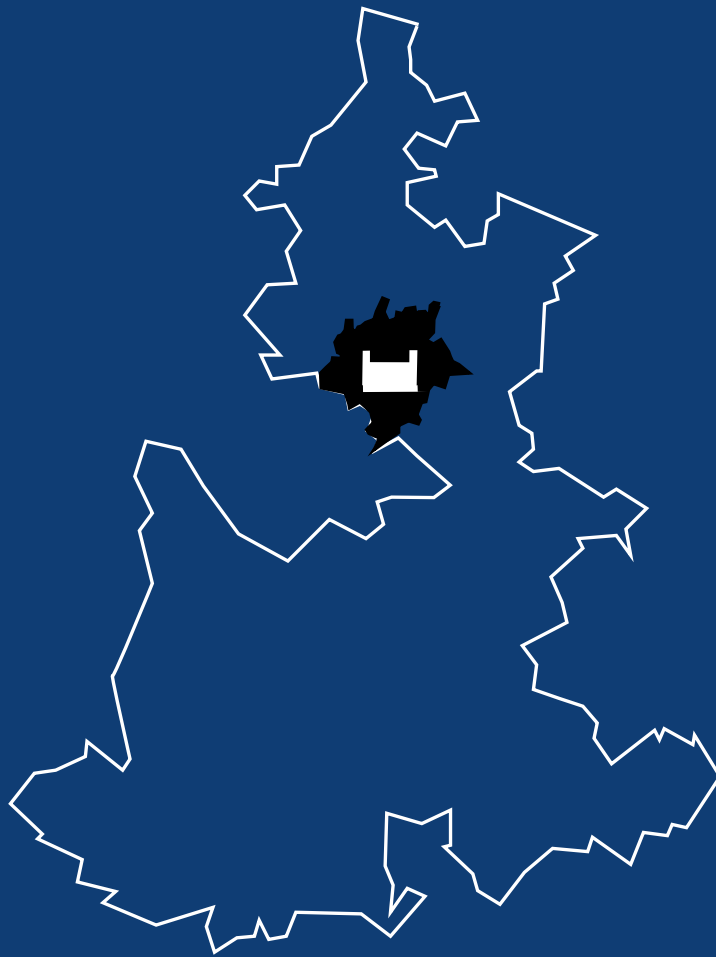




CANADIAN MINING IN PUEBLA AND ITS IMPACTS ON HUMAN RIGHTS

For the life and future of Ixtacamaxtitlán
and the Apulco River basin





PUEBLA
Sierra Norte



Ixtacamaxtitlán

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HRIA

CANADIAN MINING IN PUEBLA AND ITS IMPACTS ON HUMAN RIGHTS

**For the life and future of Ixtacamaxtitlán
and the Apulco River basin**

February, 2017

Translated from the Spanish original





PARTICIPATING ORGANIZATIONS

UNIÓN DE EJIDOS Y COMUNIDADES EN DEFENSA DE LA TIERRA, EL AGUA Y LA VIDA, ATCOLHUA

Ejidatarios and residents of communities affected by the Almaden Minerals project.

CESDER

Centro de Estudios para el Desarrollo Rural

Educational institution founded in 1982, dedicated to promoting development, and run by a team of professionals in the Sierra Norte region of the state of Puebla. It is well-known for its work in education and rural development in the region, especially in Zautla and Ixtacamaxtitlán.

www.cesder-prodes.com

IMDEC

Instituto Mexicano para el Desarrollo Comunitario

Civil society organization founded in 1963 whose mission is to contribute to local sustainable development with justice and equity, to the reestablishment of democracy based on action and citizen participation, and to the full observance of human rights, promoting popular education and communication techniques.

www.imdec.net

PODER

Project on Organizing, Development, Education, and Research

Regional, non-governmental, non-profit organization founded in 2010 and dedicated to corporate transparency and accountability in Latin America from a human rights perspective.

www.projectpoder.org

HUMAN RIGHTS IMPACT ASSESSMENT

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Since September 2014, the organizations PODER, IMDEC, CESDER, and Unión de Ejidos y Comunidades en Defensa de la Tierra, el Agua y la Vida, Atcolhua have accompanied the people of Ixtacamaxtitlán, Puebla, a municipality in the Sierra Norte region of Puebla, in conducting a Human Rights Impact Assessment (HRIA) of a gold and silver surface mining project located in the southeastern portion of the Tuligtic or Ixtaca Project, for which the mining company Gavilán, S.A. de C.V.,¹ a subsidiary of Canadian junior Almaden Minerals Ltd., has held the concessions since March 5, 2003. The mining project is presently in an advanced stage of exploration.

About the impact assessment

This Human Rights Impact Assessment (HRIA) aims to identify, measure, and prevent *ex ante* the Ixtaca Project's negative impacts on human rights. More specifically, the HRIA demonstrates the discrepancy between the State's obligations and the extent to which it fulfills those obligations; it identifies the mining company as an actor obligated to respect human rights and existing Mexican laws and regulations; it provides a baseline of the environmental, water, and public health conditions prior to the launch of the mining project; it evaluates potential impacts; and it documents damage that has already occurred, in order to establish a point of comparison for future scenarios.

This sort of assessment privileges respect for and protection of the human rights of the region's inhabitants over and above business interests focused on productivity and profit generation. This is the first time an assessment of this kind has been conducted in Mexico and, as such, it provides a precedent that can be replicated in other communities affected by extractive projects. It serves as a tool that provides technically consistent information produced by and for the communities that inhabit the region, while promoting the idea that decisions regarding mining projects must first take affected communities into consideration.

Objectives of the participating organizations

The team responsible for implementing this HRIA had the following objectives:

- 1) Understand the current state of the human rights to a healthy environment, water, and health;
- 2) Identify the impacts on human rights that have already occurred in the advanced exploration phase of the project, as well as the potential impacts should exploitation begin;
- 3) Conduct an advocacy process with the aim of preventing and mitigating the project's negative impacts on human rights; and
- 4) Contribute to counteracting inequality in access to information, as well as the imbalance of power between stakeholders, including local communities, the company, and municipal, state, and federal authorities, regarding both the Ixtaca Project and extractive projects generally.

Sources

The information referenced in this impact assessment is taken primarily from Almaden technical reports, which are not readily accessible to persons unfamiliar with the mining industry or corporate transparency mechanisms. Additionally, the research team investigated other projects in which Almaden has participated, as well as the companies that make up its supply chain, in order to learn about their business structures and primary decision-makers in relation to the Ixtaca Project. Independent technical studies were also conducted on the current state of water—its quality, availability, and accessibility—and health services for the people of Ixtacamaxtitlán, as well as the current state of the environment.

Human rights defenders

Given the prevailing context of violence against human rights defenders and the criminalization of protest in Mexico, this report primarily presents research results, as opposed to the organizing work of local communities. As such, the names of the inhabitants of Ixtacamaxtitlán who provided testimonies have been withheld.

Nonetheless, it is worth noting that the United Nations Working Group on Business and Human Rights, in a statement on its September 2016 visit to Mexico, identified “an urgent need both for the government and business enterprises to publicly acknowledge the critical role played by human rights defenders and civil society organizations, including journalists, and to take a clear stand against cases of attacks and intimidation.”²

It is in this context that, in December 2016, Almaden Minerals, through its subsidiary Minera Gorrión, presented a new environmental im-

pact preventive report in order to continue exploration of the Ixtaca Project. While this report—and any subsequent information, for that matter—is not considered in this impact assessment due to the timing of publication, the company’s plans for further exploration are evidence of its indifference to an ongoing legal dispute and a series of claims filed by the inhabitants of Ixtacamaxtitlán. On January 25, 2017, the preventive report was rejected by the Federal Delegation of SEMARNAT (Secretary of Environment and Natural Resources) in the state of Puebla on the grounds that it “does not fully identify that the works and activities to be performed comply with the guidelines established in NOM-120—SEMARNAT-2011.”³

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notes

1 The three concessions were requested by Minera Gavilán, an Almaden subsidiary, and registered several months afterward with the Registro Público de Minería (Public Mining Registry). The concessions will remain valid for 50 years after their respective dates of registration. An application for the Cerro Grande concession was submitted on October 28, 2002, filed with the Public Mining Registry on March 5, 2003, and is valid until March 5, 2053. An application for the Cerro Grande 2 concession was submitted on July 14, 2008, filed with the Public Mining Registry on February 23, 2009, and is valid until February 23, 2059. An application for the Caldera 3-a concession was submitted on October 1, 2010, filed with the Public Mining Registry on November 21, 2012, and is valid until November 21, 2062. Source: Coordinación General de Minería (General Coordination of Mining) and Dirección General de Minas (General Directorate of Mines), information registry cards for title numbers 219469, 241003, and 233434.

2 United Nations Human Rights Office of the High Commissioner, “Statement at the end of visit to Mexico by the United Nations Working Group on Business and Human Rights, Mexico City, 7 September 2016,” <http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=20466&LangID=E#sthash.uZTpJkrO.dpuf>.

3 Resolution of the Federal Delegation of Semarnat in the State of Puebla regarding the Ixtaca IV Preventive Report, January 25, 2017, <http://apps1.semarnat.gob.mx/dgiraDocs/documentos/pue/resolutivos/2016/21PU2016MD066.pdf>, accessed February 16, 2017.

ACRONYMS

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CNDH

Comisión Nacional de los Derechos Humanos
[National Human Rights Commission](#)

Semarnat

Secretaría de Medio Ambiente
y Recursos Naturales
[Secretary of Environment
and Natural Resources](#)

SE

Secretaría de Economía
[Secretary of Economy](#)

Sedesol

Secretaría de Desarrollo Social
[Secretary of Social Development](#)

Conagua

Comisión Nacional del Agua
[National Water Commission](#)

Conabio

Comisión Nacional para el Conocimiento
y Uso de la Biodiversidad
[National Commission for the Knowledge
and Use of Biodiversity](#)

Profepa

Procuraduría Federal de Protección
al Ambiente
[Federal Prosecutor for Environmental
Protection](#)

NOM

Norma Oficial Mexicana
[Official Mexican Standard](#)

DGIRA

Dirección General de Impacto
y Riesgo Ambiental
[General Directorate of Environmental
Impact and Risk](#)

IPESCR

[International Pact on Economic, Social
and Cultural Rights](#)

ILO

[International Labor Organization](#)

OHCHR

[Office of the United Nations High
Commissioner for Human Rights](#)

CESCR

[Committee on Economic, Social
and Cultural Rights](#)

HRIA

[Human Rights Impact Assessment](#)

PEA

[Preliminary Economic Assessment](#)

SIA

[Social Impact Assessment](#)

GLOSSARY

MINING

The combination of activities carried out to discover and extract minerals from the earth's crust. It involves the extraction of any mineral substance (solid, liquid, or gas) from the earth for utilitarian purposes and can be carried out in mountains, flatlands, or the sea. The technique and methods used for mining depend on the type of resource to be extracted, the surrounding geography, and the concentration, amount, and depth of the mineral. Some of the methods include surface mining, underground mining, and cut-and-fill mining. Depending on the aforementioned variables, the mineral can be separated from the rest of the material using a variety of procedures; notable methods include leaching, froth flotation, and electrostatic separation, among others.

In recent decades, Latin America has seen the imposition of an economic model of territorial appropriation for purposes of natural resources extraction. This approach to the exploitation of common goods and territories has accelerated with the international financial crisis, the rise in the price of natural resources, and the emergence of new technologies that enable the extraction of resources from territories previously considered unproductive. Mining is a paradigmatic example of this model as an activity that relies on the extraction of materials from the earth—materials that exist

in limited quantities and that, once extracted and used, cannot be replaced. The industry loots minerals and other resources, and threatens the health and well-being of neighboring populations.

The majority of mining projects seek to extract precious metals and are undertaken by non-state actors, primarily private multinational companies that use surface mining technologies. The involvement of international companies and the predominance of financial market transactions are fundamental characteristics of contemporary large-scale mining operations. Companies do not only look to extract, process, and commercialize minerals; there is also a branch of the industry dedicated to financial speculation. Speculation increases the value of mining projects during the exploration phase, attracting millions of dollars in investment by virtue of holding a concession and promoting it in the international financial markets, taking advantage of international metals prices.

In contrast to traditional pick-and-shovel mining, which extracted precious metals only from mineral veins, today mega-mining is an accelerated and intensive technique that uses more aggressive methods to target both mineral veins and smaller mineral particles (sometimes almost dust-like) in less time and at a lower cost.

SURFACE MINING

A mining technique in which the surface layer of soil and rock is removed to access underground mineral deposits.

PICK-AND-SHOVEL MINING

Small-scale mining, associated with rudimentary and subsistence methods of exploitation.

MEGA-MINING

Mining procedures for the exploitation of large deposits that “require the movement of large masses of rock and the crushing and separation of thousands of tons of mineral,” which generates serious impacts on the landscape and has environmental, social, economic, and political implications.

MINING CONCESSION

The first permit required to explore or exploit substances located within a given mining plot. A mining concession does not grant the concession holder any rights to the earth’s surface, only to the resource found underground. The concession holder must reach a private agreement with the landowner in order to begin operations.

MINERAL PROSPECTING

The stage in which a territory of interest is studied to determine the possibility for mineral exploitation. Factors taken into consideration include: the area’s geological features, mineralization characteristics, social and environmental characteristics, and local, state, and national regulations. Nearby mining activity is also taken into consideration. The objective of prospecting is to predict the advantages and feasibility of a given mining project.

EXPLORATION

The stage in which the physical features of a plot and its economic potential are evaluated in detail. In Mexico, in accordance with the Mining Law, this stage is aimed at identifying

mineral deposits. In other words, the mining company obtains and interprets an area’s geological information, the quality of its mineral resources, what can be extracted, and how much it will cost. It does this by drilling test holes and excavating and testing minerals in the subsoil.

BLAST HOLES

Holes drilled in rocks and filled with explosives to break and shatter rock, which allows for taking mineral samples from the subsoil during the exploration stage.

EXPLOITATION

The stage in which minerals are extracted, whether in surface mining or underground mining, and when the storage of minerals begins.

QUARRY

The area from which minerals are extracted in surface mining.

TAILINGS DAMS

Deposits of mineral residue. These residues can come from the extraction process, topsoil, and soil capping, or mineral treatment processes like leaching and smelting.

LEACHING

The process by which a substance is applied to fragmented rocks to dissolve and separate the mineral. Leaching is a widely used technique in mega-mining to convert metals into soluble salts in aqueous media, thereby separating them from all other materials that are not useful to the mining industry. The material collected in the exploitation process is deposited in mud ponds, where it is sprayed with a mix of water and acid that triggers the leaching process and separation of the metals.

CYANIDE

A chemical compound used in mineral treatment plants to dissolve gold and silver. It is

highly toxic and potentially lethal. This compound is commonly used in surface mining during leaching of gold and silver.

HEAVY METALS

A group of high-density chemical elements. They are generally toxic for human consumption and those most susceptible to appearing in water include mercury, nickel, copper, lead, and chromium.

ACID ROCK DRAINAGE (ARD)

Leaking of sulfide minerals that condense during the mineral exploitation process. Acid rock drainage is produced due to water runoff that exposes the minerals and forms drainage channels. It is a process caused by the oxidation of sulfide minerals (iron minerals like pyrite, pyrrhotite, and marcasite) and the leaching of related metals derived from sulfide mineral rocks when they are exposed to air. The process generates a low-pH solution with high concentrations of sulfates, metals, and total dissolved solids. Upon reaching a certain level of acidity, bacteria can appear that accelerate oxidation and acidification, and the metal residue leaches even more. When mining operations excavate sulfate minerals, they react with the air or water creating sulfuric acid that is then transported by rain or surface water to streams, rivers, and aquifers. The primary environmental concerns include adverse effects on aquatic life in the receiving environment and on the quality of drinking water.

WATER TABLE

An underground layer of water formed during the water cycle. It includes aquifers, or natural infrastructure systems that work as storage vessels and water reserves. These structures, in turn, regulate seasonal variations in rainfall and are the only permanent water sources in arid regions, supplying water to much of Mexico's rural population. In Mexico, underground water is considered property of the nation.

SUBSOIL

The layer of soil found underneath the earth's surface. According to the Political Constitution of the United Mexican States, this includes natural resources, minerals and products derived from the decomposition of rocks. When their exploitation requires labor underground, they are considered property of the nation.

ENVIRONMENTAL IMPACT STATEMENT (EIS)

A document based on technical and scientific studies that allows for the identification and dissemination of significant and potential environmental impacts that a project or activity could cause, as well as the measures necessary to avoid or mitigate any negative impact. This document is used to request authorization for any large-scale work in Mexico. Once the EIS is presented, the corresponding environmental authority carries out an environmental impact assessment (EIA), which establishes the conditions for the project in order to prevent ecological disequilibrium and ensure compliance with limits established to protect, preserve, and restore ecosystems. The EIA is undertaken in three cases: presentation of an environmental impact preventive report, environmental impact statement (particular case), and EIS (regional case). Environmental impact statements contain detailed information about projects that can be useful to affected populations in making decisions about their territory and a project's viability.

Environmental impact statements are public documents that must be published in Semarnat's Ecological Gazette upon approval and undergo a public consultation if required by populations affected by the project. Currently there are only inadequate means for the dissemination of projects, meaning that local populations often do not learn that concessions have been tendered or granted in their territory. This is a problem for investors because a community's decision to reject a project can

put their investment at risk. It is also a violation of the human rights of the populations that live in territories where projects are undertaken.

ENVIRONMENTAL IMPACT PREVENTIVE REPORT

A less technically detailed document than the environmental impact statement, although it is also presented with the aim of identifying significant and potential environmental impacts of a project or activity. This document is presented only when: “I. There exists an Official Mexican Standard or other regulation that regulates the emissions, discharges, use of natural resources, and, generally, all relevant environmental impacts that the works or activities could produce; II. The works or activities concerned are expressly planned for a partial urban development or ecological land-use plan; III. It concerns installations located in authorized industrial parks.”

PRELIMINARY ECONOMIC ASSESSMENT

An analysis undertaken to evaluate the feasibility of carrying out a project, activity, or work. It considers factors such as profitability, dependency on market conditions, and adverse or favorable conditions in the medium and long term. These studies are presented by companies to their investors and contain project information relevant to affected populations. When this information is obtained through corporate transparency mechanisms, such as stock exchanges or banking and securities commissions, it allows communities to learn about the projects and the company’s intentions for their territory. These studies are not undertaken for communities, which are generally not informed about projects, but rather for investors. Corporate research allows for this information to be shared with communities as part of the decision-making process.

HUMAN RIGHTS IMPACT ASSESSMENT (HRIA)

A process that measures discrepancies between commitments made by the State (human rights in principle) and the concrete possibility of enjoying those rights (human rights in practice). It aims to identify rights that are not being respected and rights that may be infringed upon in the future in order to prevent future impacts. The process identifies and recognizes the company as an actor obligated to respect human rights and prevailing regulations. It generates a baseline for the current state of human rights to be evaluated prior to the start of the project. It favors a perspective of respect for and protection of human rights above and beyond corporate profit.

SOCIAL IMPACT ASSESSMENT (SIA)

A document that identifies the peoples in the area of influence of a project, and identifies, characterizes, predicts, and assesses the consequences that could result, mitigation measures, and social management plans. Any party seeking to obtain authorization to develop projects in Mexico’s energy sector must present this assessment. Social impact assessments are carried out by private contractors for the project developer and subsequently presented to the Secretary of Energy. They are a mechanism that allow companies to learn about local communities, though the documents are not public, which means that communities cannot access or question their content.

INDIGENOUS CONSULTATION

This is the process by which indigenous peoples exercise their right, guaranteed by the State, to be consulted about issues that affect them in different spheres. Communities must be consulted with the aim of obtaining their consent and establishing agreements regarding the implementation of activities and development plans in their territory, including the possibility that projects be considered unfeasible.

ble by the population consulted. The consultation must be free, prior, informed, public, continuous, participatory, in good faith, co-responsible, flexible, culturally appropriate, and carried out with gender equity, according to the standards established in ILO Convention 169.

CABILDO ABIERTO (PUBLIC COUNCIL MEETING)

Cabildos are representative governmental bodies through which governmental and administrative acts are carried out. They are considered open in that they aim to guarantee citizen participation and transparency in the actions of local authorities.

LAND USE

The private purposes for which areas or properties can be used in a population center or settlement. A change in land use involves the modification of the economic and social activities in a territory. Changes in land use are granted by municipalities.

SUSPENSION OF ACTIVITIES

The temporary stoppage of a mining concession in favor of one of the parties in a legal dispute through a writ of amparo.

SEASONAL AGRICULTURE

A type of agriculture where the growth cycle of crops depends on rainwater and its success, therefore, depends on precipitation and the capacity of the ground to retain water. This classification is independent of the duration that a crop lasts in the soil, which can be more than ten years.

SIERRA MADRE ORIENTAL

A mountain range in eastern Mexico, with a northeast-southeast orientation. It begins in the south of Texas, before turning east near Monterrey and continuing south until Veracruz. It is home to a great diversity of fauna and flora, among which cloud forests are par-

ticularly noteworthy. The mountain range constitutes a balanced ecosystem that connects the states of Coahuila, Nuevo León, Tamaulipas, San Luis Potosí, Hidalgo, Puebla, Querétaro, and Veracruz.

HUMAN RIGHTS

Universal legal guarantees that protect individuals and groups against actions that interfere with their fundamental liberties and human dignity. “Without them we cannot cultivate or fully exercise our attributes, intelligence, talent, and spirituality.” Human rights enjoy legal protection, government compliance with them is obligatory at the state and federal levels, they cannot be overlooked or abolished, and they are universal.

CONSERVATION

Actions that preserve areas of historical or cultural value, or that protect and maintain ecological equilibrium in environmental areas.

NATURAL PROTECTED AREAS

Areas in national territory and territories over which a nation exercises sovereignty and jurisdiction, in which the original environment has not been significantly altered by human activity, or which require preservation and restoration.

EXECUTIVE SUMMARY

The **IXTACA PROJECT**, a **gold** and **silver mining project** in an *advanced stage of exploration*, is located in the municipality of **Ixtacamaxtitlán** in the **Sierra Norte** region of **PUEBLA**, in the southeastern portion of the Tuligtic Project. The *concessions* for the project were granted to **ALMADEN MINERALS LTD.**, a *Canadian company* that has participated directly or as a shareholder in other mining projects, such as **Caballo Blanco** and **White River**, that proved to be *harmful* to the environment and to human rights, and which were later suspended. Furthermore, the company responsible for preparing the *preliminary economic assessment* and the *environmental impact statement* for the Ixtaca Project was **KNIGHT PIÉSOLD ENGINEERING**, which participated in the **Mount Polley** project in Canada and the **Yanacocha** project in Peru, both of which caused *serious environmental consequences* due to **spills** that *damaged the health of nearby populations*.

IN IXTACAMAXTITLÁN THE RIGHTS TO WATER, THE ENVIRONMENT, AND HEALTH ARE NOT CURRENTLY GUARANTEED AND SURFACE MINING WOULD CAUSE IRREVERSIBLE DAMAGE. THE PRESENCE OF ALMADEN MINERALS CONSTITUTES A RISK TO THE FULL ENJOYMENT OF THESE RIGHTS AS IT WILL INTENSIFY COMPETITION FOR LAND AND WATER IN THE AREA.

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THE PROJECT THAT ALMADEN HAS PRESENTED TO INVESTORS—ALTHOUGH NOT TO THE MEXICAN AUTHORITIES OR LOCAL INHABITANTS—WAS ANALYZED BY A TEAM OF TECHNICAL AND SCIENTIFIC SPECIALISTS WHO IDENTIFIED IRREGULARITIES IN THE EXPLORATION STAGE, DAMAGE TO THE ENVIRONMENT, WATER, AND HEALTH OF THE POPULATION, AND POTENTIAL NEGATIVE IMPACTS SHOULD THE EXPLOITATION STAGE BEGIN.

CURRENT STATE OF HUMAN RIGHTS

WATER: Scientific studies analyzed in an international laboratory determined that water in the entire region is presently of good quality. Nevertheless, it is scarce and not all inhabitants can meet their basic necessities. A study done by the 2014-18 municipal government of Ixtacamaxtitlán indicates that “actions must be taken to strengthen the countryside with water storage, [and to respond to] the need to improve housing and basic services like drainage systems and drinking water.”

ENVIRONMENT: There is currently enough land for both crops and conservation areas. It is an adequately healthy ecosystem, but one that will become vulnerable if new economic activities are introduced to the region, especially industrial activities.

HEALTH: The most common illnesses in the region are associated with the respiratory tract and, should the mining project proceed, they would worsen due to the effects of dust. Should illnesses caused by mining activities occur, the population is located far from specialized public health infrastructure. Even worse, 57% of the population does not have medical insurance, according to a study done by the 2014-18 municipal government.

HUMAN RIGHTS IMPACT ASSESSMENT

CHARACTERISTICS

Identifies, measures, and aims to prevent negative impacts to human rights caused by mining.

Shows the discrepancies between the State's obligations and its compliance with those obligations.

Identifies the company as an actor obligated to respect human rights and prevailing regulations.

Generates a baseline assessment of the current state of the environment, water, and public health prior to the start of mine exploitation.

Privileges a perspective of respect for and protection of the human rights of the inhabitants of Ixtacamaxtitlán above and beyond generating corporate profits.

This evaluation was carried out by a team of organizations; other evaluations were conducted by the companies involved, such as the social impact assessment (SIA), as a requirement of Mexico's recent energy reform.

As the first report of its kind in Mexico, this HRIA can serve as an instrument for other cases of territories threatened by extractive activities.

Specialists in biology, geochemistry, cartography, corporate research, health, and human rights collaborated to provide technically consistent information from and for the communities affected by Almaden Minerals.

OBJECTIVES

—Understand the current state of human rights.

—Identify the business structure, decision makers, supply chain, and the human rights record of Almaden.

—Identify the impacts or harm inflicted to the environment, water, and health during the 2010-16 exploration phase and potential impacts should exploitation take place.

—Carry out an advocacy process in order to prevent negative impacts from the mining project.

—Counteract the unequal access to information and the power imbalance between the communities, the company, and the authorities in order to contribute to the empowerment of the population in decision-making processes.

DOCUMENTS CONSULTED

—Official information from the Mexican government: technical preventive reports, court records, and public information requests.

—Official information from the company for investors: financial reports, technical reports, economic feasibility studies, and press releases.

—Company interactions with the affected communities.

—Authorities' interactions with the affected communities.

—Information from affected residents: testimonies, perception surveys about the current state of human rights, and participatory workshops.

STEPS OF THE METHODOLOGY

SELECTION, DELIMITATION, AND COLLECTION

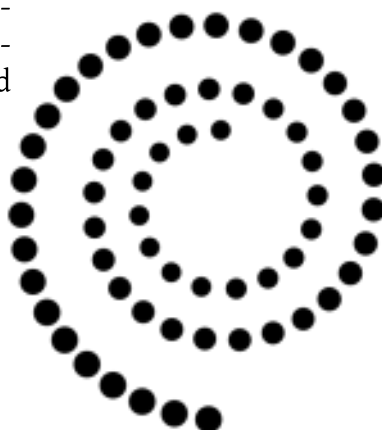
Explore and define the main characteristics of the impact assessment in order to determine its viability; once agreed upon, begin by collecting evidence and designing indicators for the HRIA.

EVALUATION AND FOLLOW-UP

Continuously monitor the impacts and commitments in order to prevent those mentioned in the HRIA report.

PUBLICATION

Design and publish the final HRIA report in order to disseminate procedures and findings, and thereby influence the mining project.



FEEDBACK

Involve relevant actors, especially affected ones, in commenting on design, development, and results of HRIA.

ANALYSIS

Of the project's existing and potential impacts from a human rights perspective.

ADVOCACY

Hold meetings between affected population and governmental authorities to communicate findings of the HRIA while respecting the free self-determination of affected groups.

RECOMMENDATIONS

Regarding main findings of HRIA, including proposals and alternatives.

REFLECTIONS ARISING FROM COMMUNITY WORKSHOPS

—The impacts of mining on water, the environment, and health are the communities' main concerns and, therefore, the priorities for this impact assessment.

—The governmental authorities do not monitor the company's compliance with Mexican regulations regarding mineral exploration or human rights, as stipulated in Article 1 of the Mexican Constitution.

—The company has established a clientelistic relationship with the community, offering economic handouts and consumer goods to sway public opinion.

HRIA RESULTS

FEDERAL, STATE, AND MUNICIPAL GOVERNMENTS' ACTIONS AND OMISSIONS

24

—Authorities at all three levels of government do not inform or consult the communities and, therefore, know very little about the project: 90% of the people surveyed in Ixtacamaxtitlán indicated that they had not been informed about the positive effects of the mining project, and over 50% of the population were unaware of the potential negative effects on the environment, water, and health. Governmental authorities do not monitor human rights issues or consider the population's opinions regarding their territory.

—Semarnat withheld information from the National Human Rights Commission (CNDH) regarding the environmental impact preventive reports it authorized after the inhabitants of Ixtacamaxtitlán filed a civic complaint in response to violations of the human rights to water, a healthy environment, and health. The CNDH decided against issuing a recommendation, arguing that there were no serious violations and that the corresponding authority was the environmental regulator Profepa, which had been assigned oversight duties for this case.

—Government offices indicated that they are not responsible despite the HRIA's documentation of a series of irregularities that were shared with the corresponding authorities along with the full report:

The company violated environmental regulations when it drilled 236 more blast holes than the number authorized, with a higher density and depth than that permitted by the Official Mexican Standard (NOM), and exceeded the time limit authorized by Semarnat for mineral exploration.

The company drilled into the aquifer, by its own admission. The aquifer is located 158 meters below the surface and Almaden Minerals reports having drilled holes up to 700 meters deep, even though it informed Semarnat that it would not drill deeper than 150 meters.

The company reported to investors that it had drilled water wells for hydrological studies and monitoring. The Ixtacamaxtitlán Water Committee has reported that the company is measuring and extracting water from existing wells. Conagua indicates that the company does not have authorization to drill water wells, but thus far has not undertaken more than a visual inspection in which "no wells were observed," according to Julio Fierro Cauffman from the inspection and monitoring arm of the local Conagua delegation in Puebla. The use of water for industrial activities without Conagua's authorization or appropriate management in a region where water is mainly used for human consumption and agriculture poses a serious risk for inhabitants of Santa María Zotoltepec.

Semarnat ordered the company to conduct a prior consultation due to the project's location in a region with indigenous inhabitants, but instead the company sued the government to prevent this. The legal process is ongoing while the company continues its activities in the region.

—Conagua, Profepa, Semarnat, the Secretary of Economy, and CNDH do not monitor mining activity, as mandated by law, and thereby allow the company to carry out activities that result in regulatory and human rights violations.

—The authorities, by failing to comply with their responsibilities and obligations, facilitate companies' extractive activities and hinder citizen participation and decision-making about projects that affect them.

—The Secretary of Economy indicated that, in order to grant a mining concession, it is not required to first verify whether the territory is inhabited. Human rights are not taken into account when granting concessions, as the only requirement is that the concession does not overlap with that of another concessionaire.

—Semarnat indicated that, if the minerals are exploited as projected, the company would be violating Mexican explosives regulations due to its location less than three kilometers from the locality of Santa María Zotoltepec.

—After analyzing the HRIA report, Conagua concluded that its content did not fall within its purview, despite the facts that one of the central concerns is the right to water and that the company publicly recognizes it is drilling water wells and that these reached beyond the aquifer's depth.

—The municipal president affirmed that he will not grant a change of land use, although he has yet to hold a public meeting (cabildo abierto) to declare Ixtacamaxtitlán a municipality free of mining.

—The authorities are more worried about guaranteeing business for the companies than the well-being of the original owners of the territory.

ALMADEN MINERALS ACTIONS AND OMISSIONS

—Almaden's mining project is located at the headwaters of the Apulco River basin, several meters from the town of Santa María Zotoltepec, and would affect the croplands of the population of Loma Larga. A spill would affect a stretch of 200 kilometers from the tailings dam to the Gulf of Mexico, causing permanent and irreparable damage.

—Mineral exploitation has not yet begun and CEO Morgan Poliquin declared that "the recently discovered veins demonstrate the potential for expansion of the project", which means that a larger area than previously anticipated could be affected.

—The company denies that the municipality is inhabited, saying that it is "empty," that land use is "null," and that the area is "cleared out," in a municipality with 20,000 inhabitants who carry out productive activities within the immediate vicinity of the site. Furthermore, the site where the dam is planned is a sparrow hawk nesting area.

—Almaden lies to its investors about potential investment risks, for example indicating that it will only use rainwater, even though Profepa states that none of the 1,250 mining operations in the country uses solely rainwater.

HRIA RESULTS

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—**The company withholds information from investors** by failing to indicate that writ of *amparo* 445/2015, of the Juzgado de Distrito de Amparo Civil, Administrativo, del Trabajo y Juicios Federales del Estado de Puebla (District Court for Civil Amparo, Administrative, and Occupational Matters, and Federal Trials of the State of Puebla) is valid and that the judge has suspended activities because the project affects an agrarian community and indigenous Nahua territory in Ixtacamaxtitlán.

—**Almaden lied to the people of Ixtacamaxtitlán by claiming that cyanide is not harmful to human health.** Cyanide will be used in the leaching process and will be stored in the tailings dam after the mine is closed.

—**It has co-opted certain local authorities,** such as those of Santa María Zotoltepec that allow the company to occupy its offices while the government instead relocates to a preschool.

—**Almaden has initiated the purchase of a “Rock Creek Mill” from Canada,** even though the company informed the HRIA implementation team that it had no intention of exploiting the mine. It has also transferred all of its projects, except Ixtaca, to Almadex, another private company run by CEO Morgan Poliquin. This may indicate that Almaden wants to become an exploitation company.

—**The company does not understand the people of Ixtacamaxtitlán,** refuses to meet with them to learn about the HRIA results, and claims it obtained a copy of the report even before the report was made public.

—**It sued the Mexican government because it does not want to pay taxes** for mining activity and does not intend to consult the population affected by its activities.

—**The company was fined by Profepa in 2009 for irregularities** during the exploration process.

—**Almaden has a record of human rights violations** in previous exploration projects, as do the companies it hired to conduct economic feasibility studies and environmental impact assessments, Knight Piésold and Moose Mountain.

—In written correspondence with the HRIA implementation team, Almaden denied the feasibility of the project presented to its investors, putting in doubt its ethical and economic responsibility.



IMPACTS OF THE MINING PROCESS ON HUMAN RIGHTS

27

ENVIRONMENT

**On the earth, the atmosphere,
and the landscape:**

changes to soil; erosion and deforestation; dust and gases; noise; and deterioration of the landscape.

**On flora, fauna, and ecological
equilibrium:**

removal of vegetation; changes to habitat; displacement of fauna; loss of biodiversity; and impacts on agriculture.

WATER

Pollution

by cyanide, heavy metals, and derivatives of acid rock drainage.

Reduction

in the available volume.

Competition

due to changes in water use.

Degradation of the aquifer

and an increase in sediment.

HEALTH

Impacts from noise:

loss of auditory sensibility, sleep disorders, cardiovascular and physiological effects, mental health and behavioral changes, and stress factors in children.

Impacts from gases:

affect the cardiorespiratory tract and increase the rate of bronchitis in patients with asthma.

Impacts from dust:

affect the cardiorespiratory tract and eye diseases.

Cyanide poisoning:

affects the brain and heart and can cause coma and death.

Ingestion of heavy metals

affects the brain, liver, kidneys, and bones; aggravates chronic illnesses; affects the nervous system, digestive system, and bones; causes eye and skin diseases; and is carcinogenic.

Almaden's mining project could severely affect the health of the population in the impact area due to exposure to, ingestion of, inhalation of, and skin contact with hazardous substances, as well as changes in the environment: **70% OF THOSE SURVEYED BELIEVE THAT, IF THE PROJECT IS CARRIED OUT, THEIR HEALTH COULD BE AFFECTED, AND 20% SAY THAT THE PROJECT HAS ALREADY AFFECTED THEIR PHYSICAL OR EMOTIONAL HEALTH AND THAT OF THEIR FAMILY.**

CONCLUSIONS AND RECOMMENDATIONS

THE IXTACA PROJECT IN ITS EXPLORATION PHASE HAS ALREADY CAUSED GRAVE DISTURBANCES. IF IT WERE TO LEAD TO THE EXPLOITATION OF AN OPEN-PIT GOLD AND SILVER MINE, IT WOULD CAUSE SERIOUS HARM TO THE ENVIRONMENT, HEALTH, AND WATER DUE TO POLLUTION, ENVIRONMENTAL DESTRUCTION, AND THE DETERIORATION OF VITAL RESOURCES, SUCH AS LAND AND WATER. THE COMMUNITIES OF IXTACAMAXTITLÁN, LIKE MANY OTHERS IN MEXICO, ONLY LEARN OF THE MINERAL RESOURCES BENEATH THEIR TERRITORY, OF THE EXISTENCE OF ENTITIES THAT LOOK TO PRIVATIZE THEM, AND OF THE COMPANIES INTERESTED IN EXPLOITING THEM AFTER THE SECRETARY OF ECONOMY AWARDS THE CONCESSIONS.

Almaden Minerals, motivated by profit and private benefit, researched the region where its concession is located, and the wider area known as the Sierra Madre Oriental or Trans-Mexican Volcanic Belt, without sharing that information with the people of Ixtacamaxtitlán, thereby preventing them from making informed decisions about the resources in their territory.

This company is not the exception to the rule. It is just one of many from Canada, Mexico, and other countries that take advantage of the services that the Mexican government affords to mining companies looking for speculation opportunities and mineral exploitation under more favorable economic conditions than those found in other countries.

The HRIA is focused solely on one project in the Sierra Norte region of Puebla—Almaden's main project—though the company possesses 72% of mining concessions in the region. Although it may appear small, this mining project is part of a larger model of territorial occupation and dispossession through the privatization of common goods that affects not only mineral resources but also energy projects that privatize water, solar energy, and the air.

ALMADEN MUST:

- Respect human rights and the Mexican legislation.
- Remediate the damage caused to the human rights of the inhabitants of Ixtacamaxtitlán and violations of environmental regulations.
- Inform Conagua that it has perforated the aquifer and remediate the damage it has caused by potentially redirecting watercourses.
- Inform the affected communities about the project it intends to implement, which to date it has only reported to its investors.

—Inform its investors that the project entails economic risks, as a wide range of groups have voiced their opposition to it after learning about the harm that will befall the communities. Local inhabitants have already presented complaints to the CNDH about human rights violations and to Profepa about environmental damage, in addition to other legal proceedings that have halted exploration activities.

THE MEXICAN STATE MUST:

—Protect, guarantee, and prevent human rights violations, as mandated by Article 1 of the Mexican Constitution.

—Guarantee the rights of indigenous peoples established in Article 2 of the Mexican Constitution.

—Conduct rigorous investigations of the companies to which it awards mining concessions and promote projects that privilege the well-being of the general population and rural communities over profits.

—In particular, Profepa, Semarnat, Conagua, CNDH, and the Secretary of Economy must thoroughly investigate the irregularities and human rights violations documented in the HRIA report. Semarnat should make all legal records, environmental impact preventive reports, and environmental impact statements available to the communities affected by mining activities.

—Municipal, state, and federal authorities must order the suspension of exploration activities and guarantee the reparation of the damages documented in the HRIA report, as well as other possible damages.



METHODOLOGY

RESEARCH, INFORMATION, AND DATA FROM AND FOR COMMUNITIES

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Through a series of participatory workshops and surveys, the inhabitants of the area affected by the Ixtaca Project identified two general subjects of interest: understanding the potential impacts of mining and reviewing the current state of human rights in the area. Four workshops were conducted based on the rights enshrined in the Universal Declaration of Human Rights so that community members could plan, implement, and strengthen strategies for defending their rights against abuses by the company and authorities.⁴ In turn, the HRIA was designed according to its own particular methodology, based on the Getting It Right guide⁵ and the United Nations Guiding Principles on Business and Human Rights.⁶

The guarantee of human rights in Mexico is stipulated in Article 1 of the Mexican Constitution and through the international treaties to which Mexico is a party. Together these legal frameworks take precedence over the principles, codes of ethics, and social responsibility guidelines that companies create voluntarily in their own interests.

Participants of the workshops and surveys identified the human rights to water, health, and a healthy environment as the main priorities for the impact assessment. They also highlighted the lack of information about the impacts of extractive projects in their territory and each of the aforementioned rights. As a result, the workshops strengthened their vision of individual and collective rights in public decision-making about common goods.

This was especially important given that Mexico's Mining Law reform of 2014⁷ excluded any mention of decision-making by affected communities. Indeed, the Secretary of Economy affirms that the only factor it must take into account when awarding a concession is to verify that the area in question does not overlap with an existing concession. Essentially it does not matter whether the land in question is inhabited,⁸ even when human rights protections are in question.

There are currently a number of proposals before the Mexican Congress that would regularize the right to free, prior, and informed consent of indigenous populations,⁹ and the national mining industry association (Cámara Minera de México) has undertaken a strong lobbying effort to combat such initiatives. This organization is made up of Mexico's largest mining

companies, which collectively account for over 90% of domestic ore production.¹⁰ In later sections, this report further addresses the regularization of the consultation process and the reasons to support the incorporation of affected communities in the decision-making process regarding their territory, particularly concerning projects that put their lives at risk.

Survey results confirmed that municipal, state, and federal authorities have not taken any actions to inform local communities about the mining concession, the Ixtaca Project, and its consequences for the human rights to water, health, and the environment. For example, the inhabitants of Ixtacamaxtitlán were unaware that, in 2014, prior to authorization of the Ixtaca III environmental impact preventive report, environmental authorities had informed Almaden of its obligation to conduct a prior consultation and that the company had sued Semarnat in return, arguing that prior consultation is only required where indigenous people account for more than 40% of the population.¹¹ Local residents were also unaware that Profepa has fined Almaden for irregularities committed in 2009.¹²

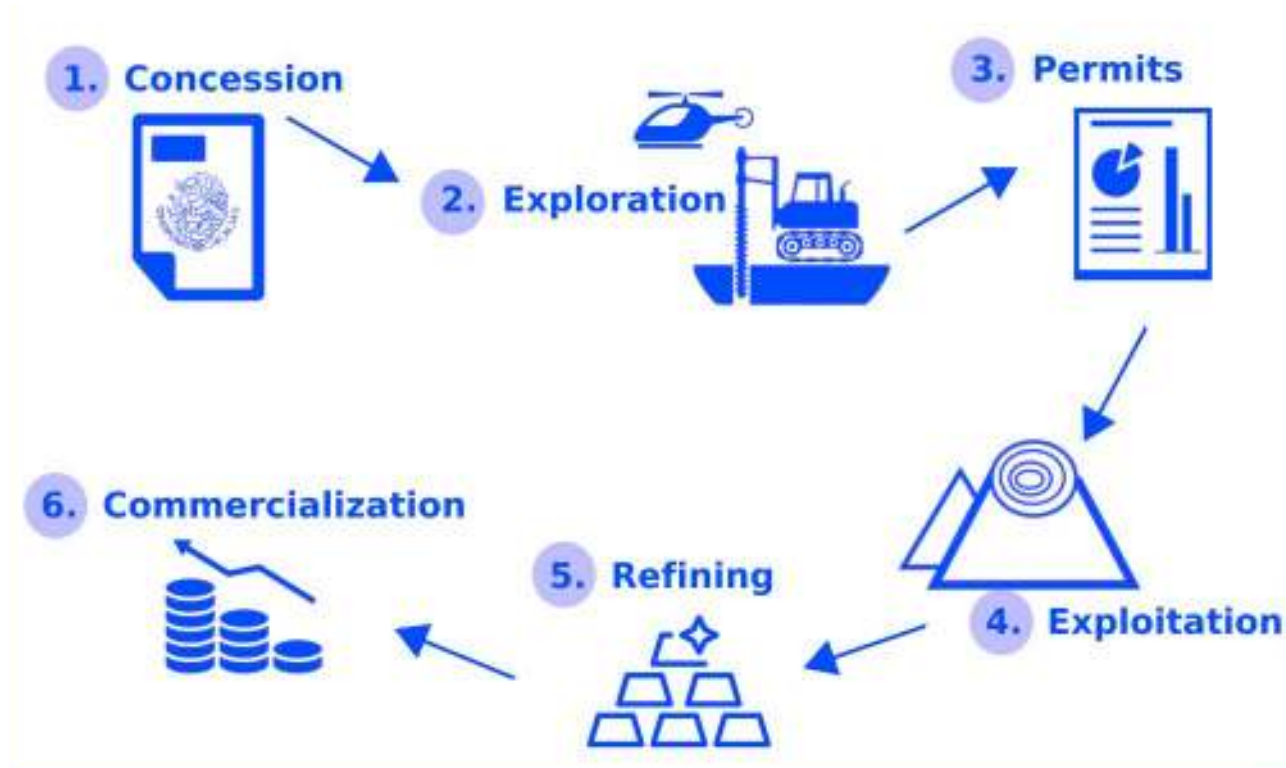
The aforementioned lawsuit has yet to be resolved, but as a result of the work performed in preparation of the HRIA, the municipal president of Ixtacamaxtitlán announced in late 2015 that he would not issue Almaden Minerals a change of land use permit.¹³

Implementation of the HRIA

The research for this HRIA report generated proven and verifiable evidence of human rights impacts, which allowed for the identification of both rights holders and duty bearers, as well as for clarification of the corresponding rights and responsibilities. The HRIA implementation team included technical experts in geochemistry, biology, cartography, public health, corporate research, and human rights that took up the concerns of the people of Ixtacamaxtitlán and analyzed the official information presented by Almaden Minerals to its investors in Canada and the United States, as well as the information presented to the Mexican authorities by subsidiaries Minera Gorrion and Minera Gavilán.¹⁴

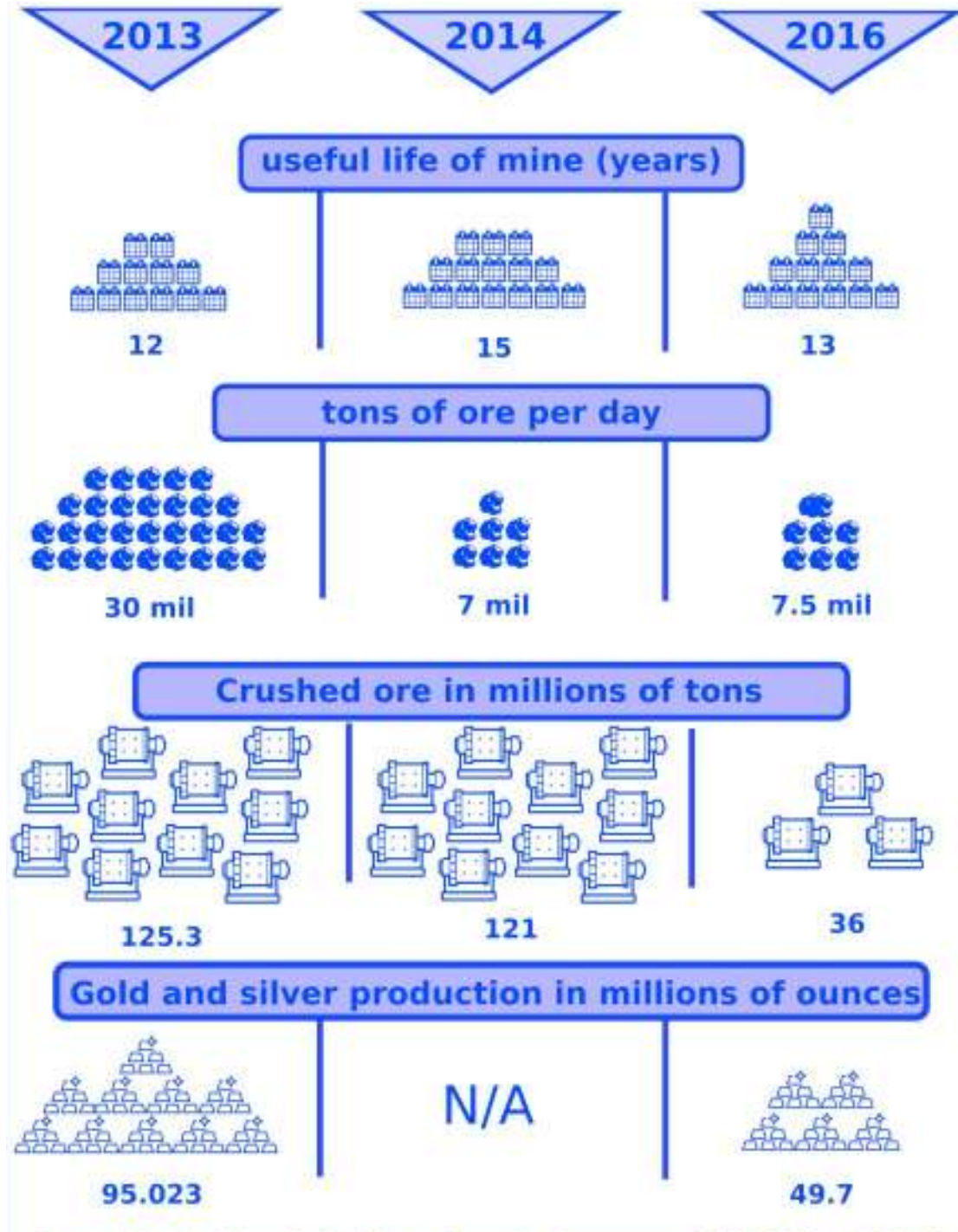
In communications with the HRIA implementation team, the company effectively recognized that the information it had presented to investors was false, writing that “at the proper time, and once the appeal is ruled upon and the possibility of establishing a mining operation settled, we will continue with an open and transparent, fact-based dialogue.”¹⁵ Clearly, its prospects for exploitation may vary, as they have on previous occasions; some of these possibilities are described elsewhere in this report.¹⁶

STAGES OF THE MINING PROCESS



IXTACA PROJECT AS PRESENTED BY ALMADEN TO ITS INVESTORS

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SOURCE: Almaden Minerals Preliminary Economic Assessments (2013, 2014, and 2016).

Currently, Almaden Minerals says that it will process 7,500 tons of ore per day over a span of 13 years, which would amount to a total of 36 million tons of rock by the end of the mine's useful life and 49.7 million ounces of gold and silver.¹⁷ This will leave an open pit of approximately 1,000 meters in diameter and hundreds of meters deep due to daily ore extraction that would require at least 16 trucks with a capacity of 177 tons each.¹⁸ It is estimated that, during the exploitation and maintenance phase, the mine will consume 1,095,000 cubic meters of water per year, over 12 years, and as many as 3,000 cubic meters of water per day.¹⁹ At the end of its useful life, the mine's tailings pond²⁰ would contain 35 million tons of slurry, 60% solid and 40% liquid, and would be unlined, making it a potential source of atmospheric and subsoil pollution due to runoff.

In a press release on September 13, 2016, the company announced that it was interested in expanding the project; Morgan Poliquin, CEO and president of Almaden Minerals, stated that the "newly found veins demonstrate the potential to expand the project."²¹ This means that the consequences to the water, health, and the environment of the inhabitants of Ixtacamaxtitlán will surely surpass those estimated in the report. For this reason, once the ex ante assessment process has been completed, the HRIA implementation team will continue monitoring future scenarios and working to ensure that the voices of the people who inhabit the region are heard.

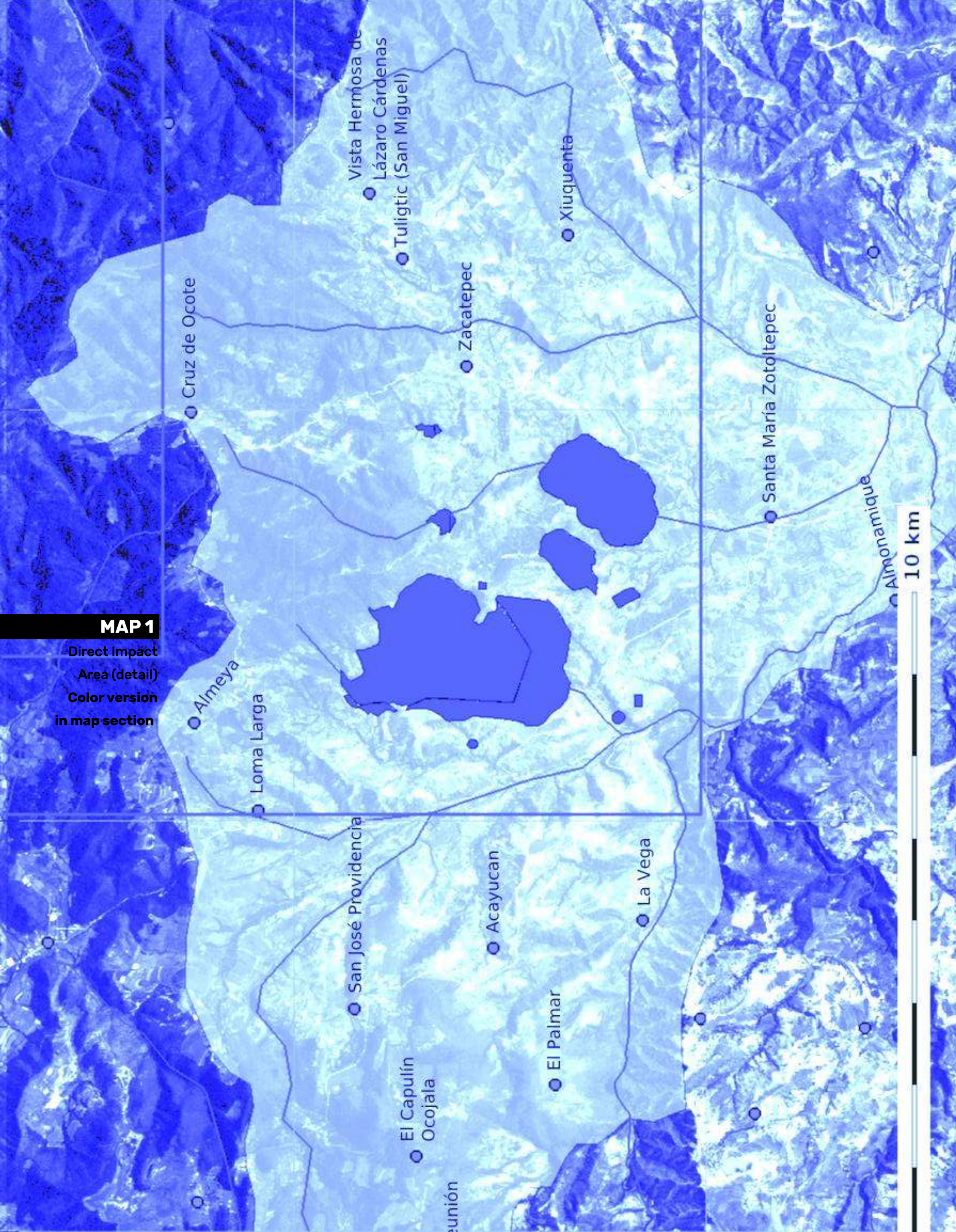
notes

4. A series of participatory workshops were organized about the Almaden Minerals corporate structure, as well as national and international human rights frameworks. Participatory mapping was conducted and different methods for documenting and evaluating potential human rights impacts were addressed. The HRIA included diverse activities: meetings, training workshops using popular education techniques, consultations, strategic corporate research (Annex 1), micro-basin analysis (Annex 2), analysis of water quality and public health (Annex 3), an analysis from a human rights perspective of the project presented by the company (Annex 4), participatory mapping workshops (Annex 5), field research, corporate transparency and public information requests, and analysis by independent experts. A series of random surveys were conducted with members of the communities within the project's impact area to understand their concerns about their rights to water, health, and the environment. Questions were based on the methodology used in Getting It Right, to which some adaptations were made by the imple-

mentation team (Annex 6). The information collected was used exclusively for purposes of the study, in strict confidentiality, and on an anonymous basis. Local community members were trained to conduct the survey on their own, going house to house to survey random subjects. They interviewed 500 people in 14 communities and worked to maintain a balance between male and female respondents, both young and old.

5. Rights & Democracy International Centre for Human Rights and Democratic Development, *Getting It Right: Human Rights Impact Assessment Guide*, <http://hria.equalit.ie/en>.
- 36 6. According to Principle 17 of the United Nations Guiding Principles on Business and Human Rights, the process of due diligence “should include an assessment of actual and potential human rights impacts, a summary of conclusions and actions taken in response to them, the tracking of responses, and communication of how negative impacts are addressed.” From *Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework*, U.N. Doc. A/HRC/17/31.
7. The most recent reform of the Mining Law, as published in the Diario Oficial de la Federación (Official Gazette of the Federation), August 11, 2014, www.diputados.gob.mx/LeyesBiblio/pdf/151_110814.pdf.
8. Juan José Camacho, General Director of Mining Development in the Secretary of Economy, indicated as such on July 7, 2016, when the HRIA was presented for his observations.
9. Minutes submitted to the Commissions on Indigenous Affairs of the Senate and the Chamber of Deputies can be found in the Gaceta Parlamentaria (Congressional Gazette): <http://gaceta.diputados.gob.mx>.
10. For more information about the mining industry association’s position on the right to free, prior, and informed consent of indigenous peoples, see: Camimex, Informe Anual 2016, LXXIX Asamblea General Ordinaria, February 15, 2016, <http://camimex.org.mx/index.php/secciones1/publicaciones/informe-anual/informe-anual-2016>, accessed September 8, 2016, p. 59.
11. Information provided by Alfonso Flores Ramírez, Director for Environmental Impact and Risk, Semarnat, and Daniela Migoya Mastretta, Representative in the State of Puebla, Semarnat. See Annex 7. The lawsuit filed by Almaden against Semarnat is registered under file number 2502/14-EAR-01-1, in the Federal Court for Fiscal and Administrative Matters, before the Panel Specializing in Environmental and Regulatory Issues.
12. Arturo Rodríguez Abitia informed us that Profepa conducted an inspection in the locality of Zacatepec on October 20, 2009, in relation to mining company Gavilán, S.A. de C.V.’s exploration and ore exploitation activities, and that it found irregularities and fined the company a total of 292,019 pesos. Efforts to determine the nature of those irregularities are ongoing, as we were unable to obtain further information during the meeting. Procedure number PFPA/27.2/2C.27.5/0039-09, see Annex 7.
13. Leticia Ánimas, “Niega alcalde que haya dado permisos de extracción a Almaden”, Radio Expresión, September 9, 2015, www.radioexpresion.com.mx/index.php/municipios/41690-niega-alcalde-que-haya-dado-permisos-de-extraccion-a-almaden, accessed September 14, 2015.

14. See 2013, 2014, and 2016 Almaden reports for Canada at www.sedar.com; for the United States at www.sec.com; and for Mexico at www.semarnat.gob.mx/gobmx/transparencia/constramite.html.
15. E-mail from Mauricio Heiras Garibay, legal representative of Minera Gorrión, S.A. de C.V., to Benjamin Cokelet, Founding Executive Director of PODER, August 25, 2016. See Annex 7.
16. Annex 2 describes the scenario presented by the company that assumes a 12-year scaling up period, initially processing 7,000 tons of rock per day and finishing with 30,000 tons per day. Annex 3 describes the scenario presented by the company that assumes the processing of 30,000 tons of rock, and Annex 4 describes the scenario presented by the company in 2016 that assumes 7,500 tons of rock processed per day.
17. See Annex 4.
18. *Ibid.*
19. See Annex 2.
20. The tailings pond is a reservoir that permanently stores the liquid and solid residues of the leaching process (cf. 29).
21. Almaden Minerals, "Almaden hits further high grade mineralisation outside of amended PEA Pit, hits 5.50 metres of 5.06 g/t gold, 219.6 g/t silver," press release, September 13, 2016, www.almadenminerals.com/NEWSROOM/2016/AlmadenNR_Sept13-16.pdf, accessed September 19, 2016.



MAP 1

- Direct Impact
- Area (detail)
- Color version in map section

DIRECT IMPACT AREA OF THE IXTACA PROJECT

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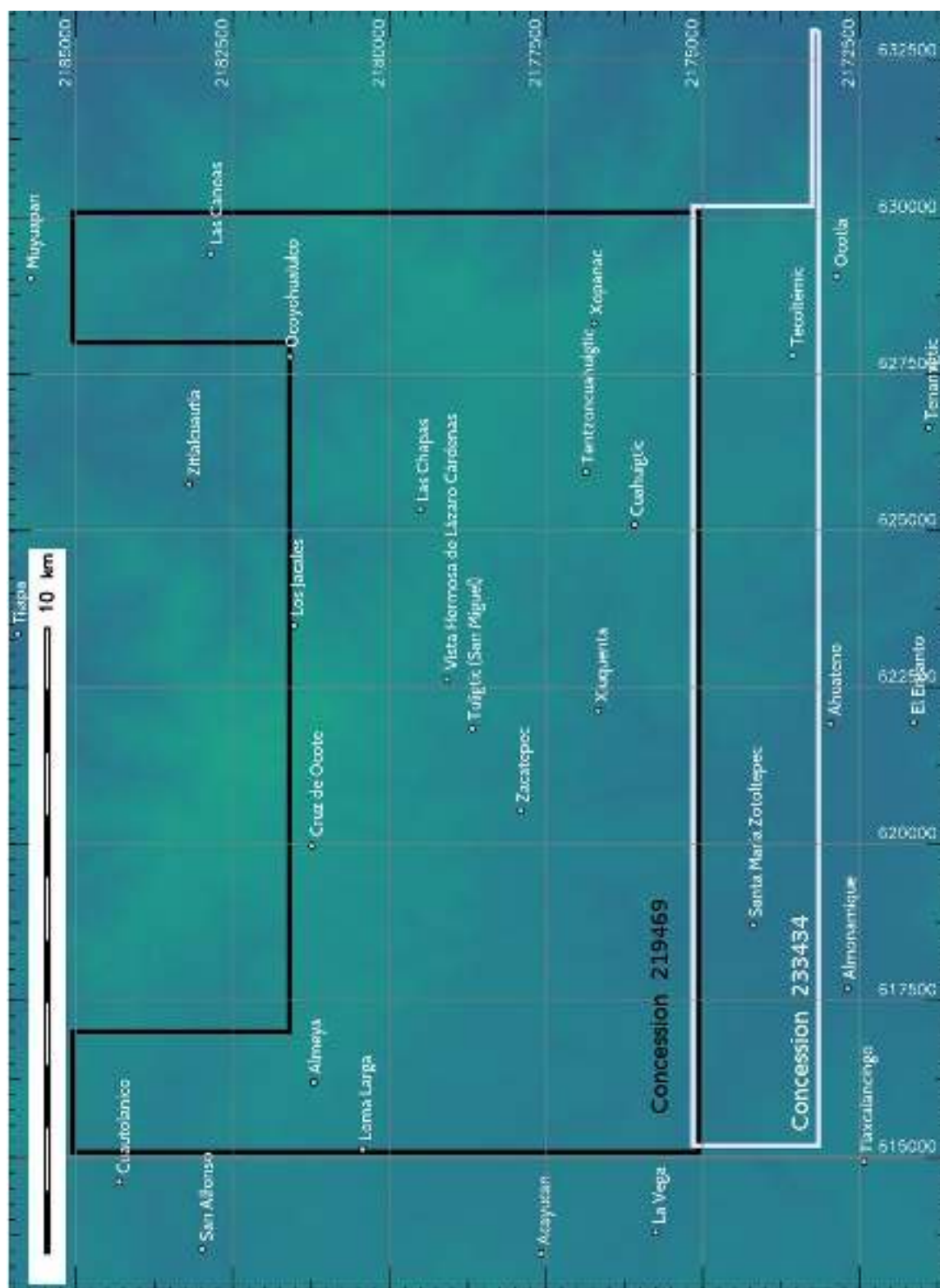
The Ixtaca Project's impact area²² is composed of the communities that will be affected—along with the region's physical and biological environment—in the event that exploitation activities are conducted. Map 1 shows the location of the mining project, the extent of the mining concession, the hydrological currents that pass through the tailings dam, and the open-pit mining area. The depiction of the impact area draws on one presented by Almaden Minerals in the Ixtaca and Ixtaca II environmental impact preventive reports, which were authorized by Semarnat. This area would be damaged and its ecosystem affected simply by the removal of the projected 214 million tons of rock and the accumulation of millions of tons of toxic waste, including cyanide, in a reservoir traversed by water currents. Mining exposes the environment to materials that are usually found only in the subsoil. Furthermore, actions taken in the higher areas of a watershed can cause environmental degradation in lower areas.

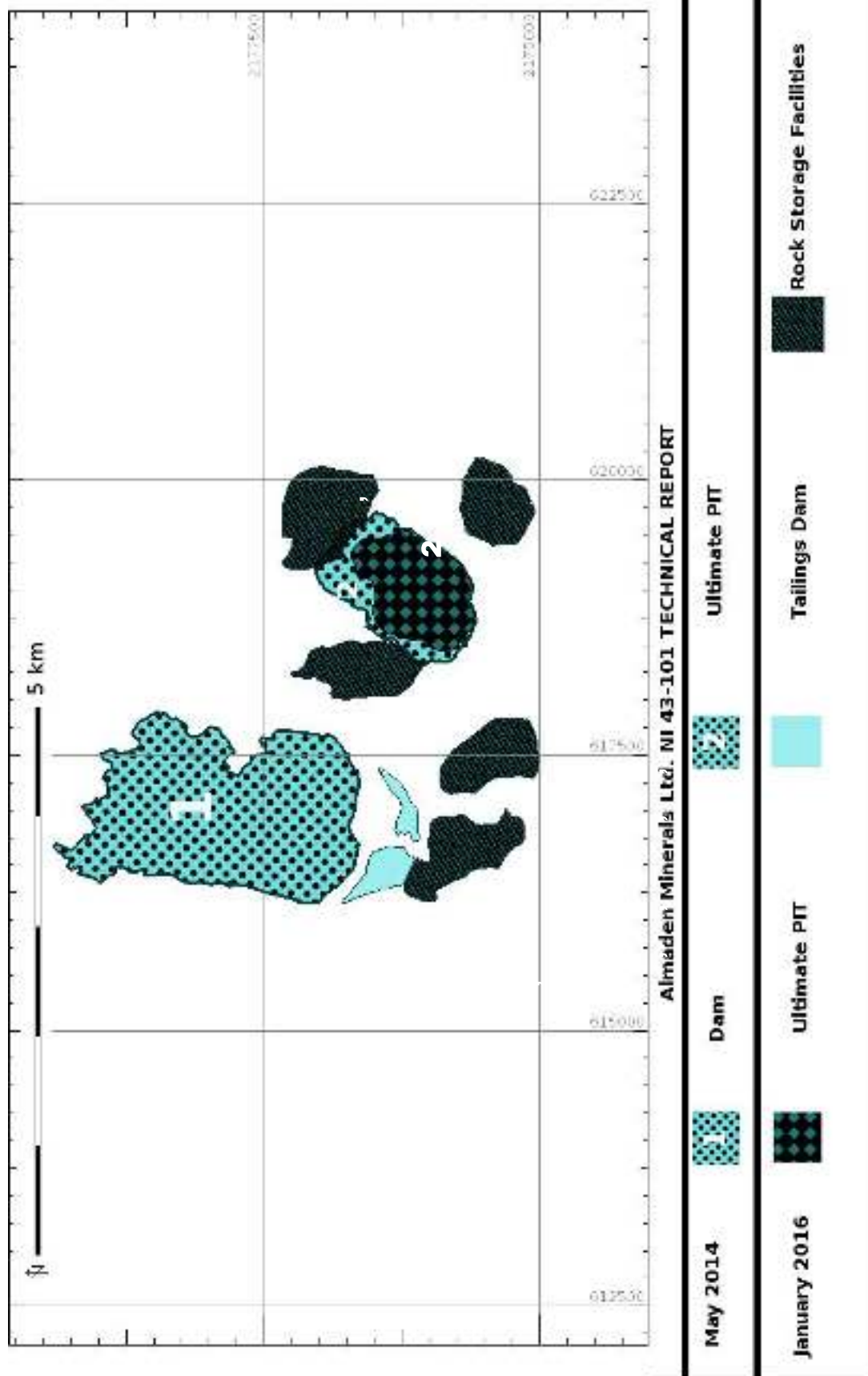
The Ixtaca Project is located in the Tecolutla River basin, which is traversed by numerous streams and rivers that feed into the Apulco River and whose headwaters coincide with the foot of the projected mine site; the river traverses the municipality along a 30-kilometer stretch, ultimately emptying into the Gulf of Mexico almost 200 kilometers downstream. Map 1 shows the communities located within the area of direct impact: Tuligtic, or San Miguel (226 inhabitants), Xiuquenta (94 inhabitants), Vista Hermosa de Lázaro Cárdenas (236 inhabitants), Zacatepec (243 inhabitants), El Capulín (67 inhabitants), El Palmar (2 inhabitants), Loma Larga (120 inhabitants), Almeya (88 inhabitants), Cruz de Ocote (98 inhabitants), Santa María Zotoltepec (431 inhabitants), and Almonamique (39 inhabitants). The lives of 1,644 people would be immediately affected by the exploitation of this mining project.

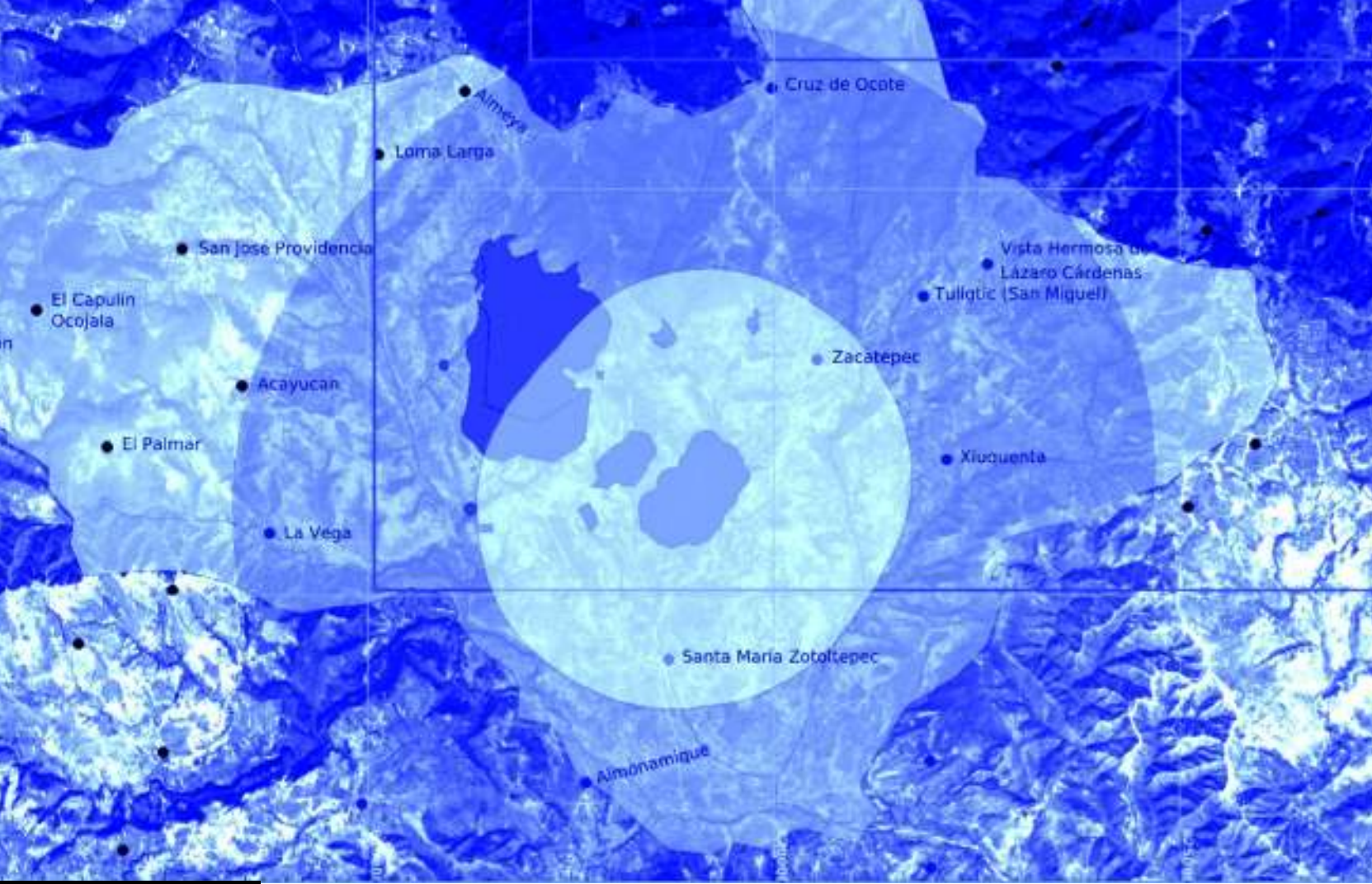
It should be noted that the impact area might increase or decrease depending on how the project unfolds, whether due to project expansion or

MAP 2

Concessions,
mining project,
and localities







MAP 4

Noise Impact Area
Color version
in map section

accidents such as tailings or leaching spills. The documentation of similar accidents, which have caused permanent damage to communities near surface mining projects, serves as a precedent for such scenarios. Some of these cases are presented in Annex 2.

Map 2 shows the location of the Cerro Grande and Cerro Grande 2 concessions, where the Ixtaca Project is located. Map 3 shows the total area to be occupied by the mine, as projected by the company, from a closer perspective. These maps show that the Ixtaca Project is extremely close to the localities of Santa María Zotoltepec, Loma Larga, Almeya, Zacatepec, Tulligtic, Vista Hermosa, and Xiuquente, as well as others that fall outside the area of the concession but are nonetheless close to the project. They also show that the tailings dam and the open pit will be situated in an area traversed by watercourses and which forms part of the larger basin's headwaters. The cropland used by the population of Loma Larga falls within the area projected for the tailings dam. In February 2016, the company announced that it was designing a new exploration program in order to evaluate, at the end of the year, new veins adjacent to the known ore deposits, as well as the possibility of expanding the pit originally planned in the preliminary economic assessment.²³

Map 3 details the installations that Almaden is planning to build, including the tailings dam, the open pit, and rock storage facilities.

Map 4 shows the area that will be affected by noise from the work site, including communities located within 2–5 kilometers of the mining site.

At the end of this report, the complete color versions of these maps can be consulted, as can other maps produced during the investigation.

notes

22. For a detailed description of the methodology employed, as well as an analysis of the micro-basin and the description of the Ixtaca Project impact area, see Annex 2, pp. 42–53.

23. Almaden Minerals, "Almaden hits 43.0 meters of 2.26 G/T AU, 85.7 G/T AG including 12.75 of 6.1 G/T AU and 158.5 G/T AG in Ixtaca Zone Metallurgical/Infill Drillhole," press release, February 22, 2016, www.almadenminerals.com/NEWSROOM/2016/AlmadenNF_Feb22_16.pdf, accessed March 9, 2016.



This chapter summarizes the key findings regarding the current state of the human rights to the environment, water, and health, the damages the company has caused during the exploration process, and the potential human rights impacts in the event that the mining project is implemented.²⁴ Based on water samples taken, it was possible to determine that water in the region is generally of good quality, although it is scarce and not all of the inhabitants of Ixtacamaxtitlán can cover their water needs throughout the year. Local residents' health indicates that the most common illnesses are respiratory in nature and could therefore worsen with the dust and noise associated with mining activity. Aggravating this situation is the considerable distance separating communities from public health infrastructure and the fact that more than half of the population (57%) lacks health insurance, "leaving them vulnerable to all sorts of illness."²⁵

The land in the region serves as the basis for the economic activities of local inhabitants and much of that land has the possibility of being designated for conservation, which would guarantee the right to a healthy environment. One study of citizens' perceptions conducted by the municipal administration for the period 2014-18 indicates that, in Ixtacamaxtitlán, "the conditions exist for growth in the productive sector, but attention should be focused on caring for the environment, actions should be taken to strengthen the countryside through water storage, and results also showed the population feels a need to improve housing and basic services such as potable water and drainage systems."²⁶

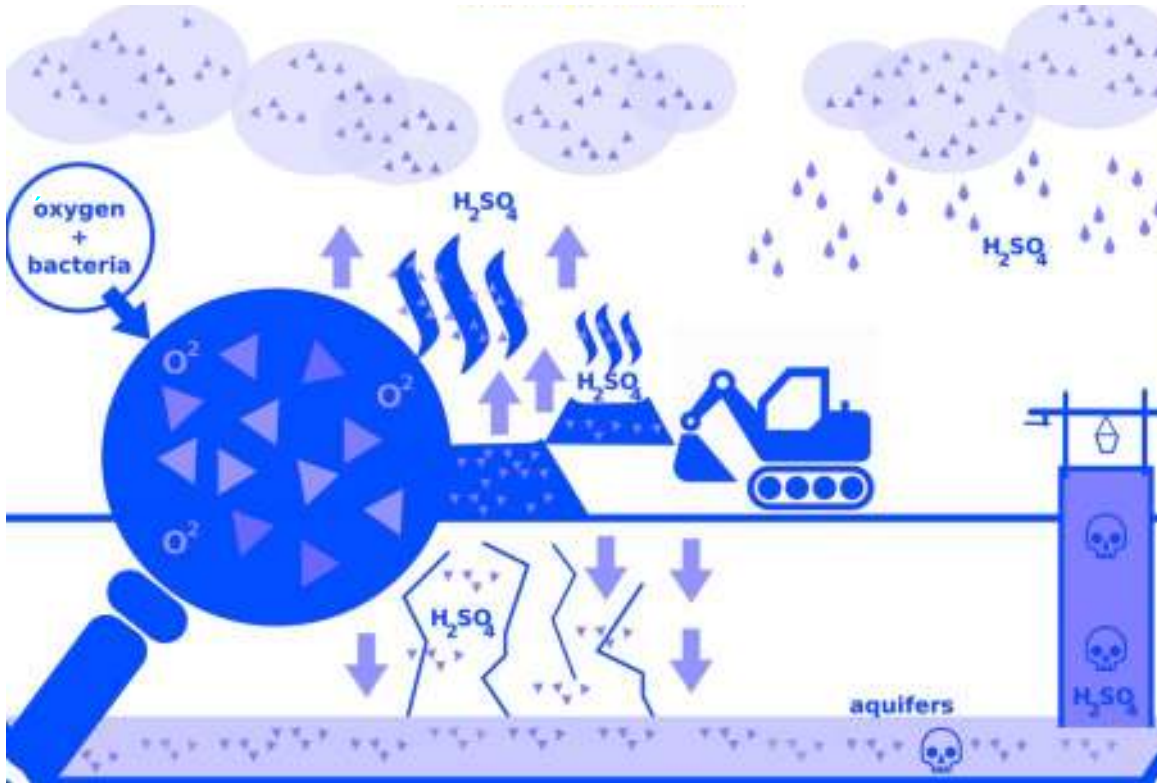
In the words of one local, it is contradictory that "the government supports us with resources to protect our forests and, on the other hand, awards concessions to companies for the open-pit extraction of gold and silver." Although the concession is for extracting minerals from the subsoil, the minerals cannot be reached without removing and damaging the land and habitat. This paradox becomes all the more troubling when Mexico's mining industry association reports in its 2016 annual report that "mining compa-

nies participate on the advisory boards of more than nine Protected Natural Areas,” and that, following a lobbying campaign, “the authority, along with the mining industry, decided to eliminate the so-called innovative mechanism for current management programs, a decision that was accepted by the National Commission for Protected Natural Areas, and has now allowed for the inclusion of a special subzone for natural resource exploitation.” This decision “is aimed at providing legal certainty for mining concessions located within Protected Natural Areas and their management programs, for both the exploration and extraction phases.”²⁷ This shows that the environmental authorities are more concerned with guaranteeing mining companies’ business than with protecting the environment and the well-being of populations who live in the regions they regard as priority conservation areas, but which are subject to possible permanent and irreparable destruction by open-pit mining.

The possible negative affects of the Ixtaca Project include damage to the soil, scenery, flora, and fauna due to fragmentation of the ecosystem caused by removal of the edaphic surface, which is the layer of earth from 0 to 30 centimeters that contains the organic material necessary for fertile soil. With regard to local fauna, the inhabitants of the area collect ant eggs (escamoles) for consumption, and the area contains a sparrow hawk nesting area, a habitat that will be transformed by the noise and dust of mining, causing migration or reducing their numbers. Such developments would amount to a loss of biodiversity and directly affect the population’s economic activities. According to Almaden’s own numbers, the situation does not appear promising. The company reported to its investors that it had drilled 236 holes for purposes of exploration,²⁸ which is more than the number authorized by Semarnat. Furthermore, they were drilled over a longer period than that authorized by Semarnat and at a greater concentration than that allowed by Mexican regulations. This means that the exploration process alone has already damaged the ecosystem and infringed on inhabitants’ right to a healthy environment.

The technical studies presented by the company and analyzed by a specialist in geochemistry indicate a potential contamination of both surface and ground water as a result of acid mine drainage and leachate storage in a pond located in the headwaters of the watershed (see Map 1). It is projected that, by the time the mine shuts down, it will leave behind approximately 35 million tons of tailings from residues of the leaching process and 165 million tons of overburden (waste rock), both of which are potential generators of acid mine drainage, which in turn contaminates the soil, subsoil, aquifers, surface waters, and atmosphere (see infographic).

ACID ROCK DRAINAGE (ARD)



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When rock containing sulfide minerals is excavated these minerals react with air or water to create sulfuric acid, which is then transported by rain and surface water to streams, rivers, and aquifers. **Acid rock drainage** is a low-pH solution with high concentrations of sulfates, metals, and total dissolved solids caused by the oxidation of sulfide minerals (iron minerals: pyrite, pyrrhotite, and marcasite) and the leaching of associated metals from sulfide rocks; upon reaching a certain acidity level, bacteria may appear, which accelerates oxidation and acidification and mineral residues leach even more. Related environmental concerns include an adverse impact on aquatic life and the quality of drinking water. See Annex 4, pp. 8-12.

Leaching is the process by which usable metals are separated from other excavated materials. These materials are deposited in a mud pond and sprayed with a mix of water and an acid compound—in this case cyanide, among other compounds—which triggers the leaching process. For a detailed analysis see Annex 4, pp. 17-18.

The company also projects that it will use 38,000 tons of bulk explosives over the course of the mine's useful life. When the environmental authority learned of these plans, it responded that the proximity of the houses in Santa María Zotoltepec to the area where the company intends to store its explosives would constitute a violation of Mexican regulations on the use of explosives. The aquifer may have already been damaged during the exploration process, as Almaden reported to its shareholders in the United States that it has drilled holes up to 701 meters deep, while the environmental impact preventive reports authorized by Semarnat indicate that the drilling would not exceed a depth of 150 meters. Therefore, Almaden has already engaged in violations of the rights to water and the environment, as well as violations of corresponding Mexican regulations.²⁹ So far the company has not been granted permits for water use, according to Conagua. In a report to investors, the company indicated that it would use rainwater, although federal environmental authorities both in Puebla and Mexico City have noted that this is impossible—of the 1,250 mining operations authorized by Semarnat, not one has been able to operate with rainwater, much less in a municipality where the meteorological station registers annual precipitation averages between 600 and 800 mm, with monthly totals between 8 and 10 mm from November to February.

It should be unsurprising then that the Ixtacamaxtitlán Water Committee has protested that the company is measuring and extracting water from existing wells without authorization by Conagua. A farmer who lives in Santa María Zotoltepec explains, "I used to bring water for my crops, which was hard work, but those miners were drilling holes in the area where the water flows and, after they drilled those holes, we were left without water. I went to say to them, 'You say you're coming to help us, but it turns out you came to screw us over. We don't have much water in these parts; if it's well-managed we have enough, but we have to take care of it. Now I can't grow crops on this land. They left me without water.'" This information is confirmed by the most recent report to the company's investors, in which Almaden states that it is drilling wells in Ixtacamaxtitlán.³⁰

According to technical studies presented by the company and analyzed by independent specialists in biology and geochemistry, the quantity of water that Almaden will require could affect the supply and quality of water. The work of acquiring potable water has generally been achieved through collective participation among neighbors. Human rights impact studies indicate that Almaden's presence in the region means that the company will be competing with local inhabitants for

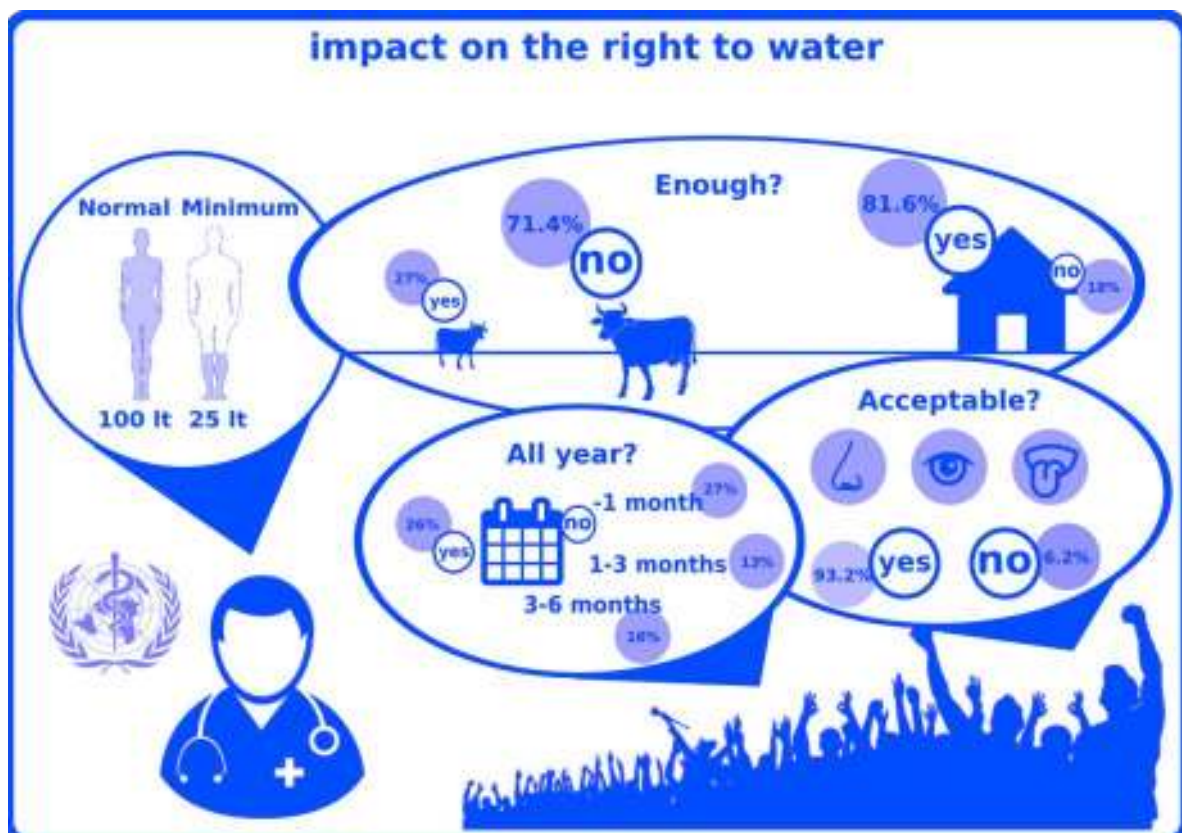
land and water. One resident of Ixtacamaxtitlán asked a Semarnat official, “How many meters under the ground belong to us and from what point down can the mining company start to exploit?” The official did not provide an answer. The question is especially relevant given the two possible meanings of the phrase “the subsoil is property of the nation” (from the Mexican Constitution); here, the Secretary of Economy interprets “nation” as a stand-in for government, rather than the Mexican people. The companies and the government forget that a concession is a permit, not a transfer of rights or a land deed.

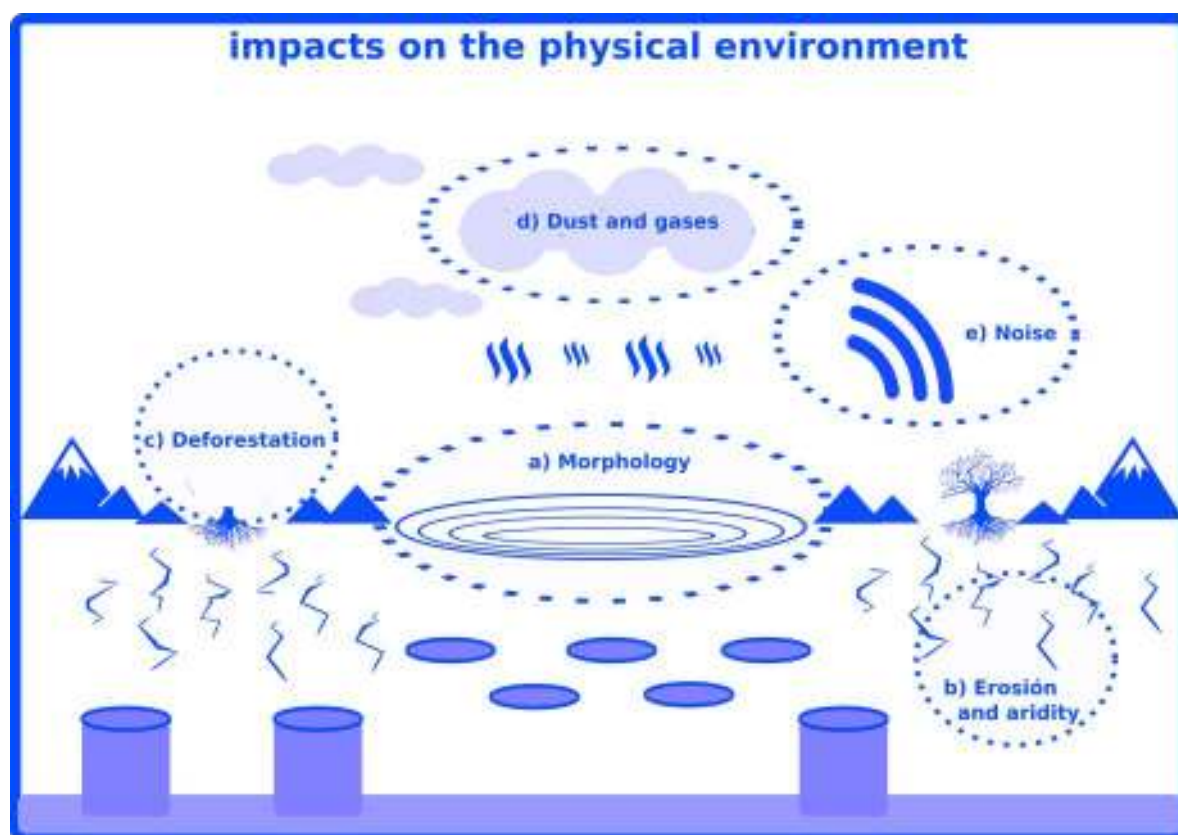
Surveys conducted by the HRIA implementation team indicated that some communities already struggle to meet their water needs for human consumption and crops: 16% of households in Ixtacamaxtitlán lack connections to public water.³¹ In other words, if there is already a scarcity of water before the company starts mining, once it begins exploitation activities the competition for water will intensify.

According to the testimonies of local residents, the company has told them that cyanide—which is necessary to the leaching process and later ends up in the tailings pond—does not contaminate the water and poses no threat to health. According to a young housewife from Santa María, “The mine has reported that cyanide isn’t bad, that it is in the food we eat and has never caused us harm.” Another resident of the same community reported that 14 of his goats died just two weeks after drinking water the company pumped out of the storage units in which it prepares the material extracted from the subsoil to be sent to Canada for analysis. He said that the water was green, different than the water normally found in the Tecolote gully, where water flows during the rainy season.

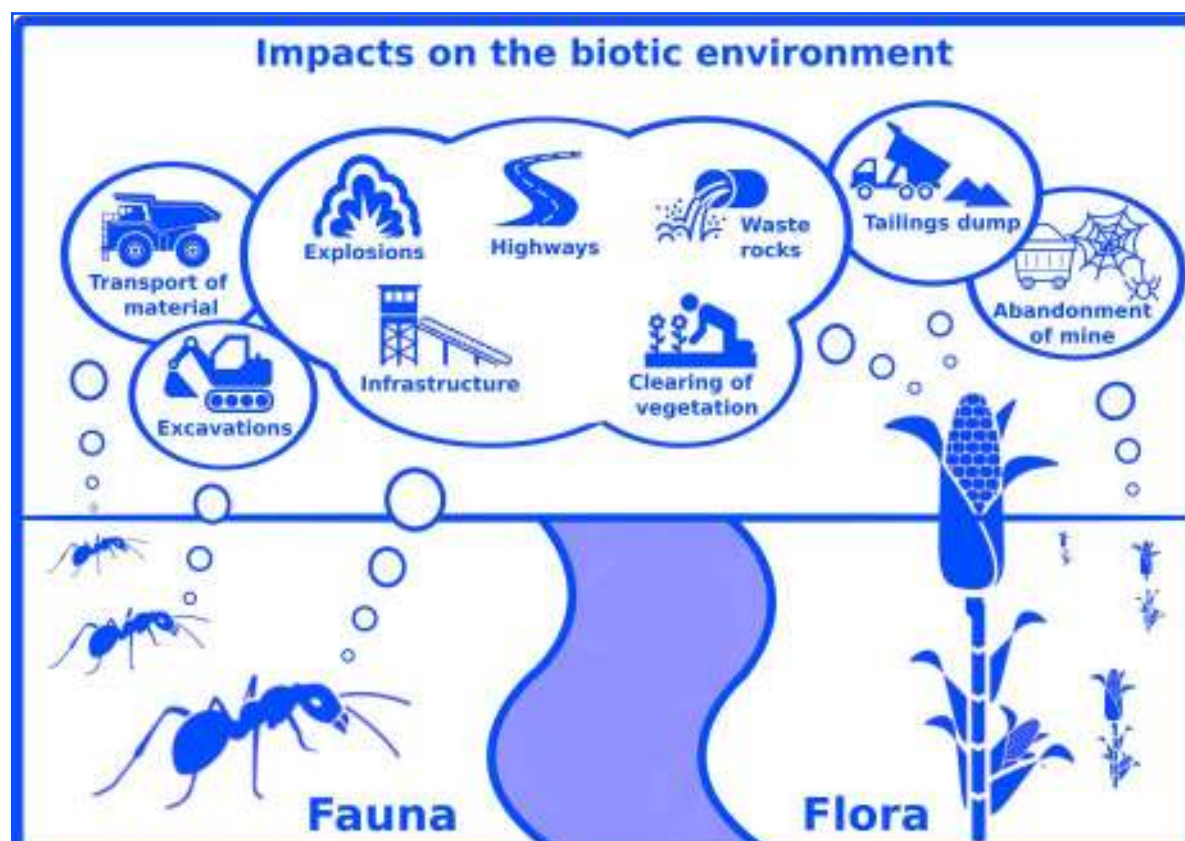
In a region with excellent water quality, the gradual increase in mining activities has begun to cause damage, leading inhabitants to call for an inspection by Conagua to verify the pollution. The use of water for industrial activities without authorization by Conagua or proper management poses a serious risk to municipalities where water is used primarily for human and agricultural consumption, for example in Santa María Zotoltepec where the company has conducted activities for the past 15 years.

Despite all this, the Ixtaca Project represents only a small part of the concessions held by Almaden Minerals, although it could expand in the future, a possibility that has been acknowledged by CEO Morgan Poliquin. According to the company, the surrounding land is “cleared” and its value is “null.”³² This contradicts the evident diversity of flora and fauna of a region where the local population conducts its economic activities.





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Despite Almaden's insistence that it owns the land where it will conduct activities,³³ the inhabitants of Santa María Zotoltepec, where the concession is located, have reported that the company has yet to buy all of the land required and that some of their neighbors have been pressured by the company to sell.³⁴ When neighbors expressed these concerns to government officials during a meeting with the General Directorate of Mining Development, they responded that they cannot intervene because "the company needs to work out something with the land owners; the Secretary of Economy does not get involved in issues between private parties. If they don't reach an agreement, there will be no mine."³⁵ But reality indicates that these land deals instead occur between two unequal parties. Although the municipal president affirmed that he would not approve a change in land use, he has yet to declare Ixtacamaxtitlán a "territory free of mining," as the people of the municipality have asked.³⁶ During this process, the authorities have tended to facilitate the work of companies and make it difficult for citizens to participate. The company has set up offices in the town's central plaza in a location granted by the Justice of the Peace of Santa María Zotoltepec, thereby intervening in local political life. In a later section, this report describes a similar situation in relation to state and federal authorities that was identified after sharing this study with different government offices.

Almaden's technical reports leave no room for doubt that it chose the site where it intends to build the tailings dam based solely on economic criteria (proximity to the quarry, difference in elevation between the quarry and the dam, which eases transportation of material, catchment area, potential expansion)³⁷ with no regard for the proximity of the communities of Santa María Zotoltepec and Zacatepec.

The HRIA has shown that mining activity will have adverse effects on public health, beginning with the fact that it will limit access to potable water and a healthy environment, thereby putting the health of local residents at risk. 70% of survey respondents believe that their physical and/or emotional health may be affected should the mining project proceed, while 20% say that the mining activities have already affected their physical or emotional health or that of family members.

One frequent concern among survey respondents was the extent to which communities and families are divided by their opinions about the potential and extant impacts of the mine, a phenomenon that has affected the social fabric and health of the community. This division is exacerbated by Almaden's promises of jobs and the resources it invests in social responsibility programs (explained later in this report). However, one of the local resi-

dents hired by Almaden Minerals to participate in the drilling operations comments, “I worked for the mining company about two years ago. I developed sores and I don’t know why. I think it might be because of the liquid they use for drilling or the gases that are released.” Another local adds, “Two workers got fungal infections from wearing wet shoes all the time. They just gave them a little money to go take care of it. One of them went outside the community to attend to it, but when he came back and asked them to reimburse him they told him to choose between being reimbursed or continuing to work... I worked the night shift and sometimes when it got really cold we had to make a fire with diesel, and there we were breathing the smoke, covered in grease, and cold... They never installed toilets the entire time I worked drilling.”

Conclusion

The HRIA demonstrates in its baseline study that currently the right to the environment is guaranteed, that water is of good quality though scarce, and that the right to health is partially guaranteed but could be gravely affected due to inadequate public health infrastructure to attend to illnesses resulting from mining activity.

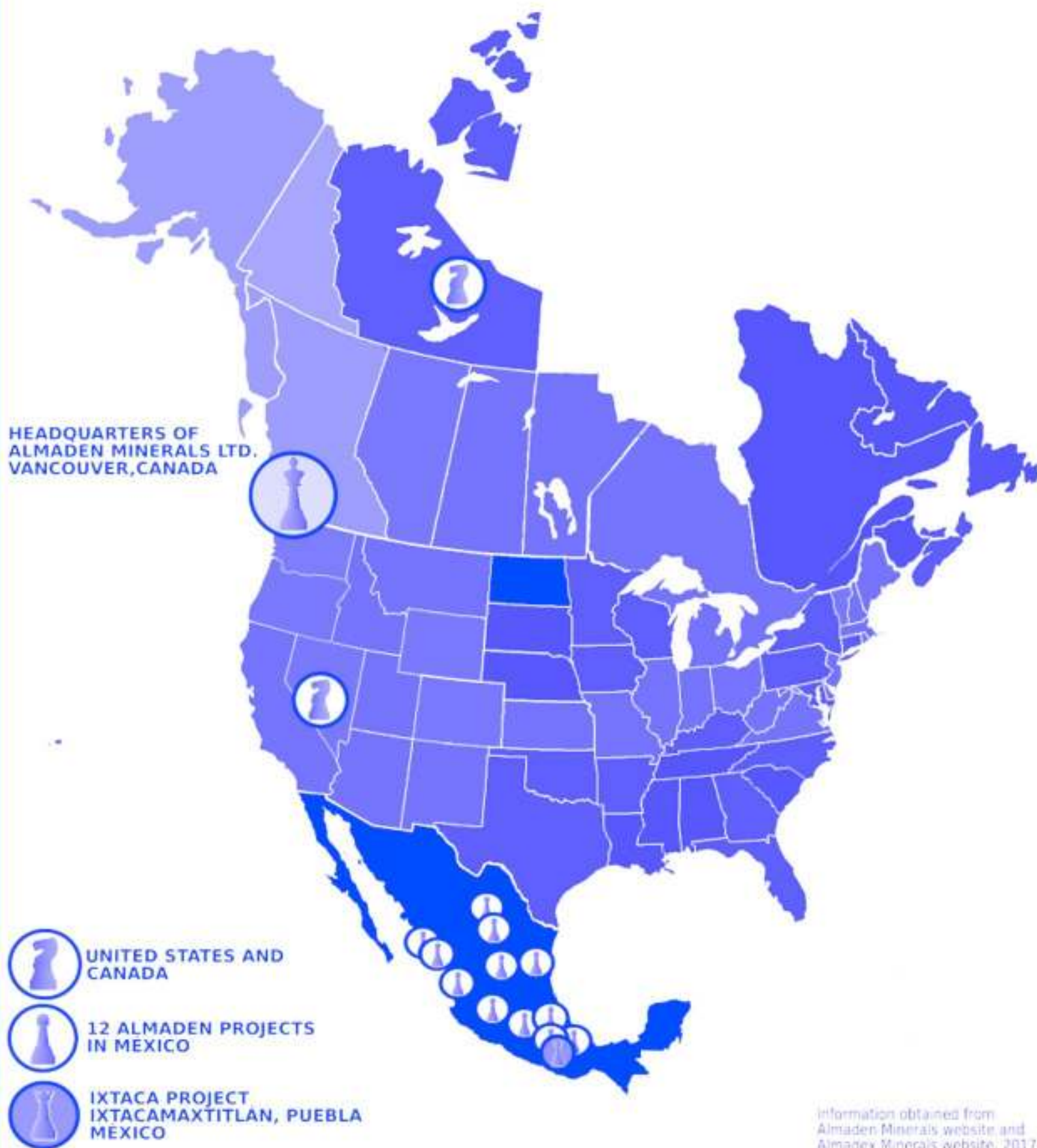
Almaden Minerals has already committed a series of violations of the rights to health, water, and a healthy environment during the exploration process, particularly in Santa María Zotoltepec, the locality closest to the projected site of the open-pit gold and silver mining project. If the project is implemented, the initial phase alone will increase the negative effects on health, water, and the environment. Greater risks to take into consideration include possible spills, project expansion, or abandonment of the mine without mitigation or reparation of damages.

notes

24. The section “Systematization of the Ixtaca Project’s human rights impacts” expands upon the baseline, national and international legislation, damages inflicted during the exploration process, and the potential impacts should the project be executed. Annexes 2–5 offer a detailed explanation of the methodology employed to learn about the current state of the rights to a healthy environment, water, and health, as well as the models that were developed based on the project presented by the company to its investors in relation to these three rights.

25. Ixtacamaxtitlán Municipal Development Plan, 2014-18 Municipal Government, www.ixtacamaxtitlanpuebla.com.mx/wp-content/uploads/2014/07/plan-municipal-de-desarrollo-ixtacamaxtitlan-2014-2018.pdf, accessed October 3, 2016.
26. *Ibid.*, p. 25.
27. Camimex, 2016 Annual Report, LXXIX Ordinary General Assembly, February 15, 2016, <http://camimex.org.mx/index.php/secciones1/publicaciones/informe-anual/informe-anual-2016>, accessed September 8, 2016, p. 59.
28. These holes, perforated using an auger, are drilled to determine the quantity and quality of the mineral content in the subsoil during the exploratory phase. In this case the holes were made using the diamond drilling method to extract samples. This method consists of cutting and collecting cylindrical samples of rock or subsoil collected by the drill bit in order to construct a lithological and geological profile of the subsoil at the depths intended for exploration. Such drilling usually reaches depths of 300-1,500 meters to collect samples between 5-8 cm in diameter. On average, a 600-meter perforation takes 6-10 days. In order to avoid contaminating aquifers it is important to ensure that no surface water get
29. "NOM-120-ECOL-1997, which establishes the specifications regarding environmental protection for direct mining exploration activities in areas with dry temperate climates and with vegetation typical of xeric shrubland, tropical deciduous forests, or coniferous or oak forests," dof.gob.mx/nota_detalle.php?codigo=4900046&fecha=19/11/1998, accessed October 28, 2015; "NOM-120-SEMARNAT-2011, which establishes the specifications regarding environmental protection for direct mining exploration activities in agricultural, livestock, and uncultivated areas characterized by dry temperate climates with vegetation associated with xeric shrubland, tropical deciduous forests, or coniferous or oak forests," dof.gob.mx/nota_detalle.php?codigo=5238496&fecha=13/03/2012, accessed January 6, 2016.s through, which requires the proper sealing of drill holes and the use of potable water in the drilling process (see Annex 2).
30. Almaden Minerals, "Almaden hits further high grade mineralization outside of amended PEA Pit, hits 5.50 meters of 5.06 g/t gold, 219.6 g/t silver", press release, September 13, 2016, www.almadenminerals.com/NEWSROOM/2016/AlmadenNR_Sept13-16.pdf, accessed September 19, 2016.
31. Ixtacamaxtitlán Municipal Development Plan, 2014-18 Municipal Government, www.ixtacamaxtitlanpuebla.com.mx/wp-content/uploads/2014/07/plan-municipal-de-desarrollo-ixtacamaxtitlan-2014-2018.pdf, accessed October 3, 2016.
32. Almaden Minerals, "Almaden hits 43.0 metres of 2.26 g/t au, 85.7 g/t ag including 12.75 metres of 6.1 g/t au and 158.5g/t in Ixtaca zone metallurgical/infill drillhole", press release, February 22, 2016, p. 2, almadenminerals.com/NEWSROOM/2016/AlmadenNR_Feb22_16.pdf, accessed March 15, 2016.
33. Almaden Minerals, "Almaden Minerals Ltd. Annual Report 2015 (Form 20-F)," March 31, 2016, p. 28, almadenminerals.com/INVESTORS/FINANCIALS/2015/2015_Q4-Almaden%20Form%2020-F.pdf, accessed May 16, 2016.

34. Presentation of main results of the HRIA in Santa María Zotoltepec, Ixtacamaxtitlán, Puebla, April 17, 2016.
35. Information provided by Juan José Camacho, General Director of Mining Development, when he received a draft copy of this report for commentary, July 7, 2016.
36. Leticia Ánimas, "Niega alcalde que haya dado permisos de extracción a Almaden," Radio Expresión, September 9, 2015, www.radioexpresion.com.mx/index.php/municipios/41690-niega-alcalde-que-haya-dado-permisos-de-extraccion-a-almaden, accessed September 14, 2015.
37. Almaden Minerals, "Almaden Minerals hits further high grade mineralization outside of amended PEA pit, hits 5.50 meters of 5.06 G/T gold, 219.6 G/T silver," press release, September 13, 2016, almadenminerals.com/NEWSROOM/2016/AlmadenNR_Sept13-16.pdf, accessed September 19, 2016.



Almaden Minerals has developed a discourse in which it claims that the Ixtaca Project “is at the vanguard of mineral exploration” due to its emphasis on “the enjoyment of human rights;”³⁹ however, thus far Almaden has primarily engaged in speculation activities, as its business structure shows that it acquires exploration projects only to later resell them while retaining a percentage of ownership to obtain additional profit. This practice is common among junior mining companies that lack the experience and resources to invest in mine exploitation.⁴⁰

Almaden has expressed interest in beginning the exploitation of the Ixtaca Project. It has spent years conducting economic feasibility studies and it has also purchased a mill.⁴¹ The Rock Creek Mill is currently in Nome, Alaska, and was operated for only two months because the mine at which it was located was closed for several reasons, including environmental concerns.⁴² A



Rock Creek Mill bought by Almaden.
Source: www.almadenminerals.com

pending line of research is to analyze whether the environmental damages caused by the mine were related to the mill that Almaden decided to acquire. The recent creation of Almadex Minerals (2015), a company dedicated to exploration to which Almaden has transferred all its projects except Ixtaca, is yet another indication that Almaden is looking to transform itself into an exploitation company.⁴³

ALMADEN MINERALS BUSINESS STRUCTURE

Almaden Minerals Ltd. was founded in 1986 under the laws of British Columbia, Canada. It trades on the Toronto and New York stock exchanges and is the parent company of 10 subsidiaries: one in the United States, four in Canada, and five in Mexico.⁴⁴ Its fiscal residence is Suite 1103, 750 West Pender St., Vancouver, Canada.⁴⁵ The company is dedicated to developing mineral deposit exploration and assessment projects in Canada, U.S., and Mexico. It currently controls 38 projects, 13 of which are wholly owned by the company.⁴⁶ Minera Gorrión and Minera Gavilán, two of its subsidiaries, hold the concessions that contain the Tuligtic Project.

While it is a relatively small mining company, its regional presence affords it economies of scale and a strategic advantage due to its knowledge of the region, including legislation, the economy, and local culture. Almaden president and CEO Morgan Poliquin has been familiar with the region since 1994 when he conducted research for his doctoral thesis and for the company, of which his father, Duane Poliquin, is both chairman and founder. Currently Almaden's main public shareholder is Ernesto Echavarría Salazar, who, together with Duane Poliquin, controls more than 5% of the company's shares, which affords them veto power. Morgan Poliquin can also make decisions regarding a percentage of Echavarría's shares under a trust arrangement. Data is available on 37 of Almaden's main shareholders. The ones that stand out, as of February 2017, are Global Strategic Management, Inc., a privately held investment firm that holds 5.47% of Almaden shares via Adrian Day Asset Management⁴⁷; Royal Bank of Canada, with 2.72%; and Euro Pacific Asset Management, LLC with 4.45%.

There have been growing concerns in recent years regarding the effects that companies have on human rights, mainly thanks to pressure from civil society organizations. This pressure to respect international standards has been motivated by serious human rights violations due to business operations. In response, a number of initiatives have been developed in relation to the impacts companies have on human rights, which are summarized in Annex 8. For purposes of this HRIA, an analysis was conducted of the in-

ternational instruments and principles that Almaden Minerals has signed or at least indicated to its investors that it is interested in joining, as this is an important indicator of the company's interest in respecting human rights—even though the company's actions contrast with its stated intentions.

Its 2014 Corporate Social Responsibility Report mentions some international initiatives, but so far it has not signed any of them.⁴⁸ The way in which it conducts its operations—on its own, with other companies in its supply chain, or with associated companies in mineral exploration joint ventures—reveals a record of human rights violations, and, in the case of the Ixtaca Project, impacts in the exploratory stage and regulatory irregularities, according to local and federal authorities.⁴⁹

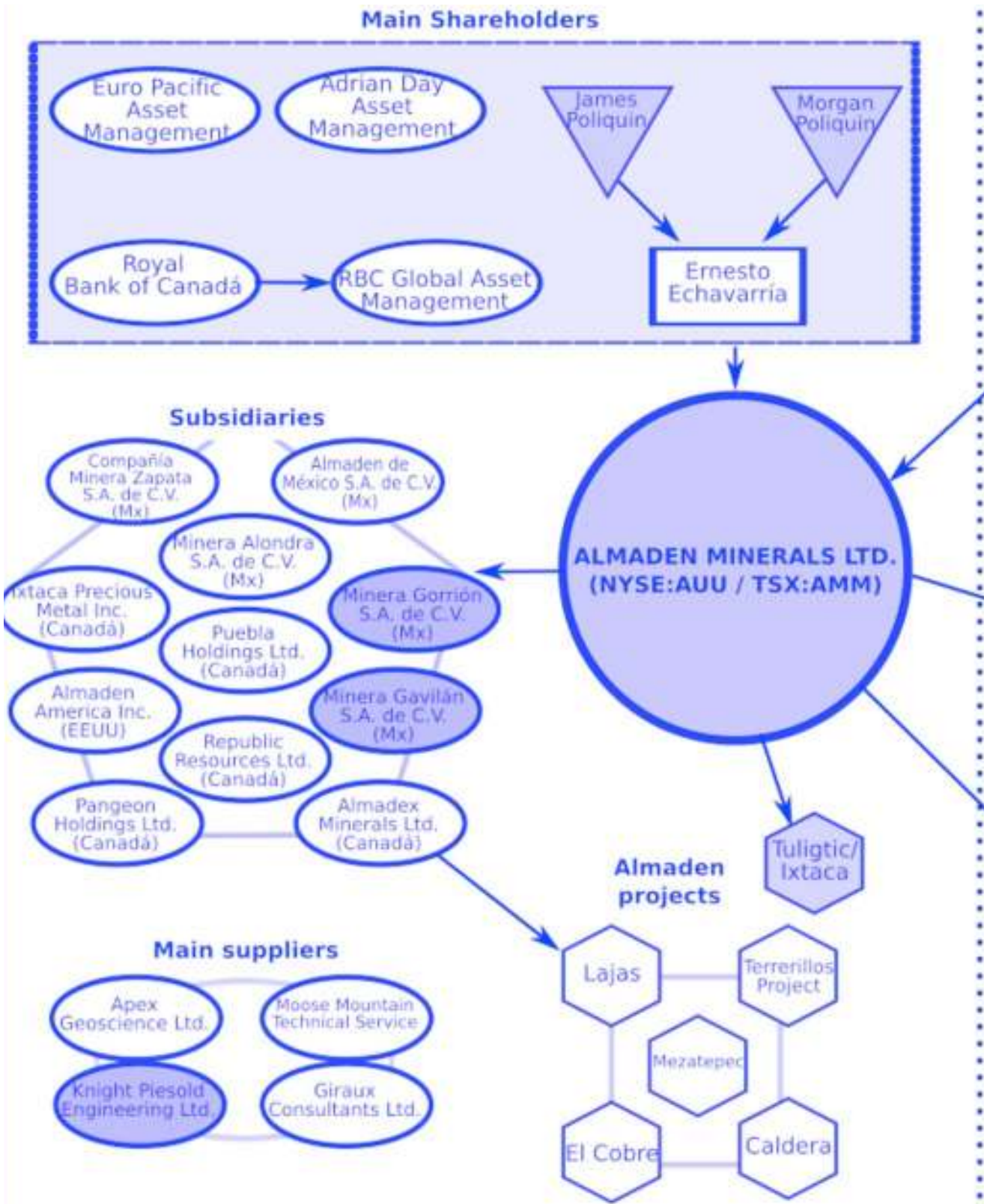
In 2015 an effort was made to contact Duane and Morgan Poliquin, the majority shareholders and principal decision makers at Almaden, in order to provide them with a draft of this HRIA. Following a series of communications with their lawyers, on June 12 they received the HRIA implementation team at their offices where they expressed the company's interest in participating in the assessment. Two days later, on July 14, the team contacted Almaden's lawyers to follow up and see who had been assigned to coordinate the initiative, but no response was forthcoming. Once the research stage was completed, the team requested an interview with Morgan Poliquin in Puebla to get background information and learn about any measures adopted by the company regarding the human rights to water, the environment, and health. On September 8, after sending the same request several times, a lawyer responded that the company's position on human rights could be consulted on its website and that mining companies are fully aware of what they must do to comply with environmental laws, as follows:

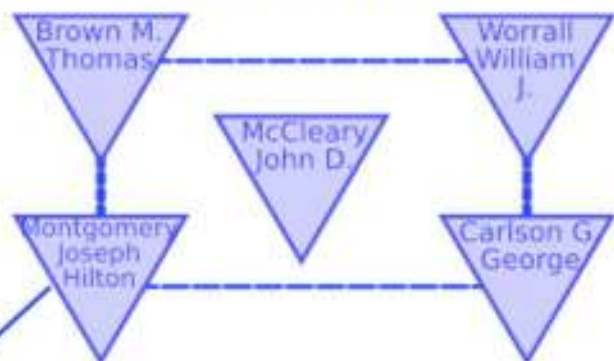
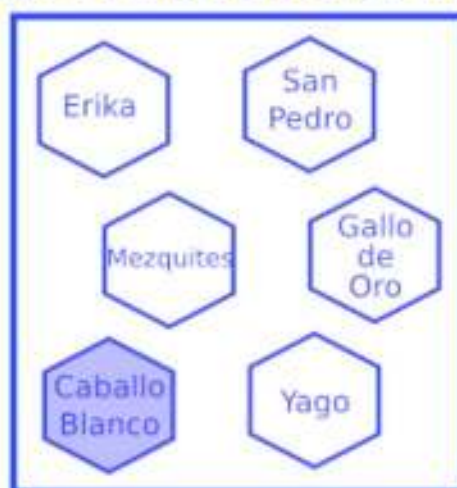
For more than 10 years, all of the mineral exploration activities related to my client's project have adhered to human rights. Our Social Responsibility and Community Relations program in Ixtaca has been a cutting-edge example of outreach to different localities, always respectful of related groups and maintaining a symbiotic relationship with the community. At the same time as we are reviewing your request, we are working under very adverse economic conditions for mining projects. Metals prices have fallen considerably, as has the investment environment for this type of project. My client is not currently turning a profit or conducting any exploitation operations and we are looking for ways to carry the project forward.⁵⁰

Almaden did not agree to meet with the implementation team during all of 2016, despite efforts to share the report with the company and hear its perspective. In July 2016, a message was sent to Morgan Poliquin requesting a meeting to deliver the draft version of the report, but no response was received.

BUSINESS STRUCTURE OF ALMADEN MINERALS LTD.

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Board of Directors**Companies with shares owned by Almaden****Projects sold by Almaden to companies where it owns shares****Companies associated with Almaden (by project)**

A month later, Minera Gorrión legal representative Mauricio Heiras Garibay responded, “We appreciate your interest in providing us with a detailed explanation of the assessment you have undertaken, which has already been brought to our attention and which we are currently reviewing in detail.”⁵¹

Almaden has the capacity to exert considerable influence over other companies in which it has partial ownership and to which it has sold more than one project.⁵² Furthermore, it has a number of suppliers, most notably Knight Piésold and Moose Mountain, which have conducted preliminary economic assessments and are currently drafting the environmental impact statement for the Ixtaca Project. Due to the strategic nature of these relationships, the implementation team researched the history of Almaden’s supply chain in relation to the rights to a healthy environment, water, and health.

Among others, one case that stands out is the Caballo Blanco project, in Veracruz, which Almaden explored and later sold to Goldgroup, but not without retaining some ownership. The company had to withdraw its environmental impact statement in 2012 due to technical inconsistencies in the exploitation project, as well as the major impact it would have on the environment and health of the population. A similar case is the White River project in Yukon, Canada, belonging to Tarsis Resources Ltd., of which Almaden is also a shareholder. The project was shut down by the Yukon Supreme Court in 2013 due to its location on White River First Nation lands, as well as the adverse impacts it would have on wildlife and habitat, on traditional land use, and on the culture of First Nations living there, according to the Yukon Environmental and Socio-economic Assessment Board (YESAB) (See Annex 1).

Another related case is the ecological disaster at the Mount Polley gold and copper mine in British Columbia, Canada, property of Imperial Metals and for which Piésold Engineering, Ltd. was the engineer of record for the tailings dam. In August 2014, the dam structure collapsed because it was built on muddy land unsuitable for such a construction, causing a spill of 8 million cubic meters of tailings, in what is considered the worst environmental disaster in Canadian history. Knight Piésold denied any responsibility by claiming that it had ceased being the engineer of record for the project since 2011 and therefore had no responsibility for—or knowledge of—the design of, modifications to, or oversight of the operation of the Mount Polley tailings pond.⁵³ We mention this precedent because Almaden reports that Knight Piésold is conducting preliminary economic assessments and the environmental impact statement for the Ixtaca Project.⁵⁴

Knight Piésold is also linked to the worst disaster on record caused by metallic mercury. It was hired by Newmont Mining Corporation and Compa-

ña de Minas Buenaventura, joint owners of the Yanacocha mine in Cajamarca, Peru. Knight Piésold designed the leaching plants, holding ponds, channels, and access roads, provided infrastructure, technical support in general, and specifically for water management, and it participated in the construction, quality control, permit requests, and operation of the mine.⁵⁵ In June 2000, a truck full of poorly-secured mercury containers spilled 151 kg of the metal onto the main street of the community of Choropampa, causing mercury poisoning and grave consequences for over 1,000 inhabitants.⁵⁶

The main suppliers of Almaden are private Canadian companies that hinder access to information about their activities, to transparency regarding their involvement in the project, and therefore the possibility of demanding corporate accountability in the case of irregularities. This represents a risk both for investors and human rights.

Conclusion

Almaden's projects, and those of its suppliers, have caused serious environmental problems and adversely impacted human rights in various countries. The cases described here serve as indicators of what could happen in the communities of Ixtacamaxtitlán and all of the Apulco River basin.

notes

38. The information in this section is taken from Annex 1, where the original sources can be consulted for an in-depth analysis of Almaden Minerals and related companies.

39. Daniel Santamaría and Rosario M. Uzcanga, "Proyecto Ixtaca, vanguardismo en la explotación del mineral; percepción minera con proyección al disfrute de los derechos humanos," presentation at the XXXI International Mining Convention in Acapulco, Guerrero, October 7-10, 2015, www.geomin.com.mx/publicaciones/pub4_XXXI%20Conv_AIMMG%20Memorias.pdf, accessed February 9, 2017.

40. See Annex 1.

41. Almaden Minerals, "Almaden enters into mill purchase option agreement," press release, October 19, 2015, www.almadenminerals.com/NEWSROOM/2015/AlmadenNR_Oct19-15.pdf, accessed March 8, 2016.

42. Moose Mountain, "N43-101 Ixtaca PEA Update Report," January 22, 2016, p. 7.
43. See Annex 1.
44. Almaden Minerals, "Almaden Minerals Ltd. Annual Report 2014 (Form 20-F)," SEC, March 31, 2015, p. 25, www.sec.gov/Archives/edgar/data/1015647/000110262415000507/alma-den20f.htm, accessed February 9, 2017.
45. Almaden Minerals, "Consolidated financial statements of Almaden Minerals Ltd. for the year ended December 31, 2014," SEC, March 31, 2015, p. 4, www.sec.gov/Archives/edgar/data/1015647/000110262415000487/exh99_1.htm, accessed February 9, 2017.
46. Of the 13 projects that are wholly owned, one, the Ixtaca Project, belongs to Almaden Minerals, while the rest were transferred in 2015 to its subsidiary Almadex Minerals. See Almaden Minerals, "Ixtaca-Gold Silver Deposit," www.almadenminerals.com/PROJECTS/Ixtaca.html, Almadex Minerals, "Mexican Portfolio," www.almadexminerals.com/ASSETS/Properties.html, accessed February 9, 2017.
47. Almaden Minerals, "13G Annual Beneficial Ownership Filing For Almaden Minerals," SEC, December 23, 2014, www.sec.gov/Archives/edgar/data/1015647/000141330314000026/0001413303-14-000026.txt. As of July 2016, this company sold its shares in Almaden: www.sec.gov/Archives/edgar/data/1015647/000141330316000038/aau20160525.txt, accessed February 9, 2017.
48. Almaden Minerals, Minera Gorrion. Responsabilidad Social Corporativa 2014, www.almadenminerals.com/RESPONSIBILITY/Documents/Almaden_CSR.pdf, accessed February 23, 2016.
49. See Annex 7.
50. E-mail from Mauricio Heiras Garibay, legal representative of Minera Gorrión S.A. de C.V., to Benjamin Cokelet, Founding Executive Director of PODER, September 6, 2015. See Annex 7.
51. Letter from Mauricio Heiras Garibay, legal representative of Minera Gorrión S.A. de C.V., to Benjamin Cokelet, Founding Executive Director of PODER, August 25, 2016. See Annex 7.
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THE IXTACA PROJECT AND THE CHALLENGES TO DUE DILIGENCE

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The human rights of local inhabitants should be respected by the company, protected by the authorities, and monitored by the inhabitants themselves. The government officials and institutions charged with authorizing mining activity should use this study to prioritize the rights of the people who live in Ixtacamaxtitlán, their well-being, and their perspectives on development above and beyond the business of mining, as stipulated in the first article of the Mexican Constitution—even if this means that the project is unviable.

Almaden, which is bound by the first article of the Mexican Constitution to respect human rights, should recognize that the site where it seeks to construct its open-pit mining project is not “empty” or “dilapidated,”⁵⁷ as it claims, but rather a municipality where at least 25,326 people live, according to the 2010 population census conducted by the National Institute of Statistics and Geography. The municipality includes 126 localities with less than 2,500 inhabitants, and more than 60 settlements with less than 100 inhabitants.

According to the 2014-18 Municipal Development Plan,⁵⁸ “one of the main characteristics [of Ixtacamaxtitlán] is that the population is dispersed throughout its localities,” which means that “all of the people who live in the municipality are considered rural residents,” and the “municipality’s main productive sectors are agriculture and livestock, so public policy should be focused on attending to those sectors.” Land use in the region is split between agriculture (41%), forest or scrubland (49%), and pasture (9%); only 0.5% is urban,⁵⁹ confirming the prevalence of agricultural activities and the conservation of almost half of the territory, which remains undeveloped.

The World Bank has recognized that mining in Mexico is a speculative activity that does not generate jobs. This conclusion coincides with the company’s claim that it has created about 70 jobs in Santa María,⁶⁰ a tiny number compared to the number of inhabitants in the municipality who will be affected by the mining activity. Furthermore, Almaden has not explained

in its annual reports the working conditions, job quality, and length of employment it will offer, though in this report we cite the negative experience of those who have worked for the company. Almaden has little control over job creation; the consultancies that conduct its research and studies require highly-qualified personnel and almost surely will not hire locals.

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It should be noted that modern mining, unlike traditional pick-and-shovel mining, demands highly-skilled labor and does not tend to employ local residents. As a World Bank report notes, “the mining sector employs close to 275,000 people [...] and accounts for a very small share of employment nationwide: a mere 0.69% of workers in the country are in mining, which is far lower than mining’s share of the national economy, something that in part reflects the capital-intensive nature of mining activities and, hence, its reduced labor needs per production unit.”⁶¹

Following Mexico’s 2013 energy reform, the prevailing economic model regarding communities is to treat free, prior, and informed consent and social impact studies as bureaucratic requirements that, in reality, ease companies’ entrance into communities by mapping out local actors for the company’s private use. The objective of social impact studies is to provide companies with an “X-ray of the region, to determine whether there are indigenous communities and whether it is necessary to undertake a consultation.” The company then conducts a social impact assessment to arrive at a “long-term vision of its activities: negotiation process, occupational benefits, contract viability.”⁶²

The Social Impact Assessment of the Tuxpan–Tula Natural Gas Transport System,⁶³ ordered by TransCanada, reveals that its objective was to collect “information using diverse methods, with the aim of obtaining relevant, credible and valid information about the beliefs, attitudes, opinions, customs and socioeconomic characteristics of the people who live in the area of influence,” and it emphasizes that “a fundamental section of the social impact assessment is the analysis of actors and interest groups.” The assessment includes: 1) identification of actors who operate in the area of influence (stakeholders); 2) relations between, and degree of influence exerted by, the various stakeholders; 3) stratification of stakeholders based on their degree of influence and position relative to the project (in favor, neutral, or opposed); and 4) communications and outreach strategies of the various stakeholders.”

As of today companies are still not required to make their social impact assessments public and communities are not granted the right to any information about those companies operating in their territory, nor do they have channels for expressing their positions, concerns, or opposition. Com-

panies' abilities to conduct detailed legal research about the political and organizational context provides them with a comparative advantage relative to local communities.

The State has become a collaborator in the systematization of these procedures. Katya Puga, former Deputy Director of Social Impact Assessment at the Secretary of Energy, explains that "prior assessments afford project developers a comprehensive understanding of the system." The Mexican authorities advise companies to investigate the "socio-demographic characteristics of communities; maps and analysis of stakeholders; the community's relationship to its natural resources; legal and traditional forms of land possession and ownership; social cohesion, social capital and cultural expression; [and] the prevailing situation of access to services."⁶⁴

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Information about mining in Mexico is becoming increasingly privatized by means such as the sale of information by the Mexican Geological Service and private consultants, often at inaccessible prices. This affects the right to information and deepens the power imbalance between mining companies and communities. Since the energy reform, prior consultations with indigenous communities do not promote the free, prior, and informed consent and participation of the population in decision-making about projects, but rather are used to facilitate government approval of projects despite opposition from affected communities.⁶⁵

For example, in the Sierra Norte region of Puebla the consultation conducted for the Puebla 1 Hydroelectric Project was widely refuted by inhabitants of Tlapacoya and San Felipe Tepatlán, who saw it as a mere simulation exercise to buy their loyalties.⁶⁶ The consultation, in this case, far from serving as a participatory channel, became a means for deepening the conflict surrounding the imposition of the hydroelectric project.

In other words, the federal government promotes the concentration of information by the State and companies, using methodologies like the social impact assessment and prior consultation as tools for deepening their understanding of communities and legitimizing the imposition of extractive projects. In addition, they regard such assessments as part of their industrial property and generally do not publish or share them, as an Exxon Mobil representative in Mexico has explained.⁶⁷

This Human Rights Impact Assessment was undertaken before the initial exploitation phase of the Ixtaca Project with the aim of providing local communities with ex ante, preventive decision-making tools, given that, according to the United Nations Working Group on Business and Human Rights, "not all investment projects can be regarded as viable."⁶⁸ While Mexico is

a signatory to the International Labor Organization's Convention 169 and its right to free, prior, and informed consent, mining companies pressure the authorities not to conduct such consultations because "they fear that indigenous consultations give too much decision-making power to indigenous communities and make it impossible to conduct reasonable negotiations, and eventually make the prospect of investing less appealing," which could lead to the "death of mining."⁶⁹

This is a paradoxical stance given the disproportionate resources that companies enjoy for making business decisions. By prioritizing productivity as their principal goal, they make their position clear: the opposition of local populations and the evaluation of human rights abuses translate into losses for the company.

At the conclusion of its visit to Mexico in 2016, the United Nations Working Group on Business and Human Rights explained:

All businesses have the responsibility to respect human rights, independently of the State's ability to fulfill its own human rights obligations. [...] Businesses must do much more to uphold human rights standards and avoid benefiting from impunity, corruption, and the lack of transparency and accountability. [...] Businesses could and should, in all cases, take an active interest in ensuring the exercise of human rights due diligence, including in their supply chains.⁷⁰

Almaden has provided detailed information to its investors but not to the people of Ixtacamaxtitlán.⁷¹ In its reports, the company justifies the social viability of the mining project by arguing that, in the corresponding concessions, there are no ejidos (communal land), there is only "minimal" land use, and there are "no village or family groups," meaning that "they will not have to be relocated." At the same time, the company says that the project is located in an area where "there is a general deterioration of the ecosystem, with extensive areas devoid of vegetation, roads and trails used by the inhabitants of neighboring localities, and extensive croplands." In other words, the company cannot seem to get its story straight as to whether the region is highly populated or "empty."⁷²

What is certain is that the hamlet of Santa María Zotoltepec is located at the foot of the hill Almaden intends to exploit, and that the people of Loma Larga grow crops where the company intends to build its tailings dam. The company has also failed to inform its investors of local inhabitants' discontent, potentially a material risk to their investment. For example, its 2016 annual report fails to mention the petition for a writ of amparo filed on

April 14, 2015, by members of the Tecoltémic ejido due to the company's invasion of their land.⁷³

In its report on corporate social responsibility, Almaden Minerals recognizes that people live in the region that it intends to exploit, but maintains the following:

We work in remote and rural areas, where, due to various circumstances, there is a lack of resources and opportunity. If we are successful as prospectors, then we generate new mineral resources for the people who live in the surrounding areas. While resource generation is our objective, we do this in collaboration with local communities. [...] Ultimately, [the communities] decide how these resources should be developed.⁷⁴

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But the surveys we conducted indicate that the population is unaware of the work the company is doing: over half of the population had not been informed of the negative impacts the mine could have on water, and almost 90% said they had not been informed of any positive impacts that the project might bring. The company has reported to its investors about actions it has taken to promote its mining activities, including trips to see other mining projects, a Day of the Dead festival with the local population to promote mining activity, scholarships for 40 law, psychology, architecture, and business administration students, the construction of new restrooms for the Santa María health clinic, and the distribution of wheelchairs to children who need them.⁷⁵ All of these activities indicate a relationship of clientelism that the company seeks to establish with the people of Santa María Zotoltepec, rather than informing them about the mining project. It does not tell its investors about the conflicts that have arisen from its presence in the region: land invasions, damage to the adobe walls of houses where heavy vehicles transit, the breaking of ground without authorization by Semarnat, the use of the municipality's Justice of the Peace office as a company office, adverse affects on springs and watercourses, and the death of animals due to industrial activities, among others.

In a recent statement to investors, Almaden Minerals recognizes that it has performed “hydrological studies and drilling, including the drilling of test wells and the installation of hydrological equipment for baseline monitoring of existing subsurface water flow and quality on the project site.”⁷⁶ However, it has not shared this information with Conagua—which confirmed that the company is not authorized to use water—or with the population of Santa María, which is upset about the invasion of their land.

The company's studying of the region is not new. Morgan James Poliquin, president and CEO of Almaden, as well as one of the company's main



TESTIMONIES

Three years ago, when they moved in the drilling rigs, they passed in front of my brother's house. You could feel the vibrations when they passed by because of how much they weigh. The adobe wall in front of the house was damaged; the wall shifted several centimeters outward. Because of that we prohibited them from using the road to move their heavy equipment and they had to look for another road. But they never paid for the damage.

**TESTIMONY OF AN INHABITANT
OF SANTA MARÍA ZOTOLTEPEC**

shareholders and decision makers, focused his doctoral studies on the geology, geochemistry, and stages of mineralization of the Sierra Madre Oriental and the Trans-Mexican Volcanic Belt while at the University of Exeter in the United Kingdom. The son of Duane Poliquin, Almaden founder and another of its main shareholders, Morgan Poliquin is intimately familiar with the territory and he obtained financing from his own company and the Australian company BHP Billiton for “the exploration programs that made the field work and research possible” for his doctoral thesis⁷⁷—in which he thanks other companies, research centers, and universities for their support in the acknowledgments. Poliquin had the support of five geologists and four field technicians who accompanied him to “Mexico unknown” since 1994 and flew over the area in a helicopter “during many hours of dangerous flying in Mexico,” which afforded him a different view than that afforded by daily life, agricultural uses, and the traditional customs of the people of Ixtacamaxtitlán.

The possibility of studying a territory from a macro perspective, with financing and scientific and technical support, is of great importance to decision-making about that territory. According to Poliquin’s thesis, the research in Tuligtic did not begin when the concession was awarded to Minera Gavilán in 2003, but rather when he identified the Tuligtic Prospect “as an exploration target during the course of this investigation [his doctoral thesis] in 2001.” The research was carried out over “multiple field seasons from 2002 to 2008 and was supported by trucks and helicopters made available through the exploration programs of Almaden Minerals.” The San Carlos, Tuligtic, Caldera, and Caballo Blanco concessions were first identified by Poliquin, after which “the mineral rights were acquired by Almaden, the author’s employer,”⁷⁸ thanks to the authorization of the Secretary of Economy.

Conclusion

Currently it is necessary to counteract the imbalance of power and information between mining companies, government authorities, and local inhabitants. The large amount of information that investment studies generate should be available to the public. Authorities like the Secretary of Economy cannot deny responsibility for protecting human rights despite their attempts to do so, as demonstrated by the complaint presented by inhabitants of Ixtacamaxtitlán to the National Human Rights Commission (CNDH), in response to which the environmental authorities denied the existence of environmental impact preventive reports for exploration activities authorized for Almaden Minerals, despite the fact that they previously shared said reports with the HRIA implementation team.⁷⁹

notes

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*El agua vale mas
que el oro*

SHARING THE REPORT WITH THE COMMUNITIES, AUTHORITIES AND COMPANY

ACTIONS AND OMISSIONS

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Once it had obtained scientifically and technically consistent information about the possible impacts and consequences of the Ixtaca Project, the HRIA implementation team shared a draft of the report with the people of Ixtacamaxtitlán. On April 19, 2016, the preliminary results were shared with various communities at a public meeting in Santa María Zotoltepec, the settlement closest to where the mining project is to be implemented.⁸⁰ Participants decided it was necessary that the report reach the different authorities so that they would be aware of the adverse effects they had been subjected to and those that might occur in the future.⁸¹

Two months later, on June 26, a public event was held in the same community in which a draft of the report was delivered to local authorities: 23 Justices of the Peace from the municipality of Ixtacamaxtitlán received a copy of the report so that they would know more about the mining project and its consequences for health, water, and the environment. Ixtacamaxtitlán Municipal President Eliazar Hernández Arroyo had also been invited, but he did not attend despite having confirmed his presence. On June 29, the document was delivered to the municipal government offices of Ixtacamaxtitlán.⁸² The municipal secretary issued a formal response on August 10, 2016, stating that the municipal president was willing to meet with the HRIA implementation team, adding that he had “been following the various reactions from those who are in favor or opposed to the exploitation of mines in Santa María and Zacatepec, although not without first clarifying that authorization of the project does not depend directly on the municipal administration that I have the pleasure of presiding over.”⁸³

On September 7, 2016, we were able to meet with the municipal president to present our evaluation of the human rights impacts caused by Almaden in the area. His message to the inhabitants of Ixtacamaxtitlán was, “Rest assured that, when I am presented with a change of land use permit, I will not authorize it.” He also explained that, contrary to information published in a newspaper article, the mining company had not contributed any

funds for public works and that he would not “let them get their hands on municipal resources.”⁸⁴ The Unión de Ejidos asked for a public meeting of the municipal government to formulate a statement declaring Ixtacamaxtitlán a territory free of mining. It was agreed that the municipal president would respond on September 28,⁸⁵ but as of the date of this report’s publication the municipal government has not responded.

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Appointments were also requested with various government agencies involved in the decision to authorize the mining project in order to communicate our results and ask them to take appropriate action. The persons contacted were Rafael Pachiano Alamán, Secretary of Environment and Natural Resources (Semarnat); Daniela Migoya Mastretta, Federal Delegate for Semarnat in the State of Puebla; Guillermo Haro Bélchez, Federal Prosecutor for Environmental Protection (Profepa); Roberto Ramírez de la Parra, General Director of the National Water Commission (Conagua); Germán Sierra, Local Director of Conagua in Puebla; Luis Raúl González Pérez, President of the National Human Rights Commission (CNDH); Ildefonso Guajardo Villarreal, Secretary of Economy; Mario Alfonso Cantú Suárez, General Coordinator of Mining; and Christina Prefontaine, of the Canadian Embassy.⁸⁶

These federal and state agencies, as well as the Canadian embassy, received the HRIA implementation team in their offices, which delivered the report in person and gave a presentation on the main findings of the investigation, as well as impacts that have already occurred and possible future impacts. All of the offices visited recognized the work that went into the research and even indicated that it would be good if other citizens undertook similar initiatives. In response, the HRIA implementation team insisted that this initiative was undertaken due to the communities’ lack of information about the project, because neither the company nor the authorities had fulfilled their obligations to disseminate information and consult the local communities about the project, or to protect the human rights of the people of Ixtacamaxtitlán.

Government officials provided observations during the meetings and the draft report was left with them for further comment. Their technical observations are distributed throughout this report, though written responses were only received from Conagua in Puebla and the Municipal President of Ixtacamaxtitlán (see Annex 7).

Visit to the National Water Commission (Conagua)

Conagua indicated that the subject matter of the report did not fall under its purview but instead to Semarnat,⁸⁷ though during the meeting in Puebla with Director Germán Sierra, and in the federal offices with the Manager for

Qualifying Infractions, Analysis, and Evaluation, Miguel Ángel Herrera Tapia, they said they would carry out a visual inspection to see whether the company had committed any irregularities and confirmed that the company did not have any permit for water use—whether federal, state, or forestry-related—from Puebla or the Gulf region.

The first visit by Conagua to the area took place on September 1, 2016, when engineer José Armando Tejera Aguilar reviewed two water wells and indicated he would check the information to see whether there was any impact caused by the company and that he would return to conduct a technical inspection to determine whether the company was using water without authorization. If this accusation—reported by the Ixtacamaxtitlán Water Committee and residents of Santa María Zotoltepec, and recognized by the company in its official documents—⁸⁸ is found to be true, it would be grounds for closure by Conagua. Furthermore, upon presenting the results of the investigation to Conagua officials, they explained that the priority for water use is human consumption and, given that local residents had claimed that they did not have enough to cover their basic necessities, it would constitute a violation of the human right to water and, were that water to be used for mining, of the law. In a phone call on November 11, 2016, Julio Fierro Cauffman, from the department of Water Administration Inspection and Oversight, said that “it was confirmed that there is no well drilling.”

Visit to the Secretary of Environment and Natural Resources (Semarnat)

At Semarnat, the General Director of Environmental Impact and Risk, Alfonso Flores Ramírez, commented that he was unfamiliar with the information Almaden Minerals had presented to its investors, but that if the company were to present the environmental impact statement with the same parameters projected in the preliminary economic assessments, he would not authorize the mine because of its proximity to Santa María Zotoltepec and because the tailings dam was planned for location in the headwaters of the watershed. Furthermore, Semarnat in Mexico City and in Puebla confirmed that the company was bound by the International Labor Organization’s Convention 169 on Indigenous Peoples and Tribes, to which Mexico has been a signatory since 1990, to conduct a prior consultation.⁸⁹ It is concerning that Almaden recently informed its investors that new activities were underway, aimed at concluding the exploration process and beginning exploitation activities.⁹⁰ Furthermore, the regulation of such activities is a State responsibility that the Mexican authorities must assume, guaranteeing that it is the inhabitants of Ixtacamaxtitlán who make the decisions about

the management of their territory. Granting this power to the company violates ILO Convention 169 as it does not guarantee free, prior, and informed consent given that Almaden has already begun operations.

Lastly, the General Director of Environmental Impact and Risk explained that, if the company did not abide by what was indicated in the environmental impact preventive reports authorized by Semarnat, Profepa should investigate and sanction the company. For this reason, the people of Ixtacamaxtitlán decided to file a popular complaint with Profepa on July 26, 2016. The complaint was forwarded to the local Profepa delegation in Puebla and admitted on August 25, 2016.⁹¹ An early draft of this HRIA report was presented as an attachment to the complaint, which clearly specifies that the cited irregularities are the result of the exploration process. Nevertheless, in the Qualification and Admission Agreement more emphasis was placed on the possible impacts that would occur if there were an exploitation project,⁹² because if an inspection is carried out no evident damage will be found, as mine exploitation has not yet begun.

Visit to the Federal Prosecutor for Environmental Protection (Profepa)

In the meeting between the HRIA implementation team and Profepa, an official explained that, before granting the exploration and exploitation permits, Semarnat must establish the conditions for evaluating the project. If the conditions are not included in the environmental impact statement or in the environmental impact preventive reports, Profepa cannot sanction the company.⁹³ The Profepa official indicated that Semarnat is indeed in a position to conduct an inspection. The problem with this division of functions is that it takes more time and steps to obtain a clear response from the government regarding the irregularities or human rights violations that companies commit. Furthermore, the lack of rigor in reviewing case files often leads to the inclusion of erroneous information. So, in addition to the inequalities in access to information and power, one must add an increasing bureaucratization of procedures, which obliges citizens to visit various offices before being able to understand how the administrative processes are organized and which channels are effective for exercising their rights. As of February 2017, Profepa has not yet conducted an inspection to verify the popular complaint.

Visit to the National Human Rights Commission (CNDH)

Residents of Ixtacamaxtitlán also filed a complaint with the National Human Rights Commission due to the violation of the human right to the environment, among others. The complaint was filed on July 5, 2016, the same day this

report was presented to the CNDH. The complaint was forwarded to the adjunct examiner, Nallely Hacha, who consulted with all interested parties: Secretary of Economy, General Directorate of Environmental Impact and Risk (DGIRA), and Profepa. Shortly thereafter, the Secretary of Economy responded that it had not found any environmental impact preventive report evaluated about the project in question, attaching copies of four concession titles (Caldera A, Caldera B, Cerro Grande, and Cerro Grande 2), as well as the applications for withdrawal of the first two and a copy of the filing of the writ of *amparo* from Tecoltemic. The DGIRA sustained that the preventive reports did not exist and that it had no record of having received any document for the environmental impact assessment.⁹⁴ Profepa, for its part, has not yet responded to the CNDH.

Visit to the Secretary of Economy

On July 7, 2016, the HRIA implementation team visited the Secretary of Economy where we were received by Claudia Ibarra, General Director of Mining Regulation, and Juan José Camacho, General Director of Mining Development. They informed us, as previously explained, that the only consideration in granting a concession is that the footprint of one concession does not overlap with another; the opinion of the people inhabiting the territory where the concession is granted is not considered. Camacho explained that it is a problem of differing visions: “We’re always halfway there. There are a lot of authorities involved in making [a mine] work.” The Secretary of Economy only grants concessions, which are just the first in a series of permits that the company must obtain in order to undertake mining activities. For this reason, the process of a mine’s development is highly compartmentalized, not just in terms of bureaucracy but also among companies. There are companies engaged in exploration and obtaining permits, while others engage in exploitation. Generally, the former are engaged primarily in speculative activities; while they explore the subsoil, they promote the project among investors, establish relationships with the corresponding authorities, and obtain permits. Almaden Minerals is one of these companies. The bureaucratic complexity of mine development would appear to oblige citizens to become specialists about the processes, which is not within the realm of possibility for much of the population.

Our visits to the different Mexican institutions demonstrate that they have neglected to fulfill their obligations; they follow compartmentalized procedures and, by failing to recognize their own responsibilities, send requests from one office to the next, obligating citizens to make precise and nuanced



arguments just to convince a given office to perform its responsibilities. Since the authorities are required by law to do so, such cases are a violation of citizens' rights. Furthermore, they often fail to make existing information public, as when the DGIRA reported to the CNDH that no exploration process exists for the Ixtaca Project.⁹⁵ But despite having noted this, the CNDH prematurely indicated that it would not recommend any action to be taken due to the fact that there were no violations committed, and that it might resolve the issue with an agreement by which the responsible authorities would be required to inform the CNDH periodically about the project's development. Lastly, the Commission proposed that, once Profepa responds and before they enact such an agreement, it holds a meeting with the inspector general so that he might explain how such an agreement would work.

Visit to the Canadian Embassy

Although officials from the Embassy explained that the current Canadian government prioritizes human rights, environmental issues, and the protection of human rights defenders and vulnerable groups, the HRIA presentation was met with no response other than to say that the Embassy would suggest the company follow best practices and act as a good partner. They added that, in any case, there is an existing mediation mechanism between Almaden and the affected populations, overseen by a Corporate Social Responsibility Counselor from the Canadian government, but that the mechanism is voluntary and can only be activated when both parties decide to participate. Given the company's response thus far, it is reasonable to assume that it will not consider participating.

Request for an appointment with Almaden Minerals at its Ixtacamaxtitlán office

Although the HRIA implementation team requested an appointment with president and CEO Morgan Poliquin to present the report at the company's offices in Santa María Zotoltepec, he did not agree to receive the document. Instead, the legal representative of Almaden subsidiary Minera Gorrión, Mauricio Heiras Garibay, responded as follows:

We thank you for your interest in explaining in detail the assessment you have conducted, of which we have been informed and which we are reviewing in detail, and reiterate that in the current phase of the project, the company I represent has not yet been able to decide on the possible establishment of a mine and, if it does, the methods that your study considers to be imminent.⁹⁶

This declaration contrasts with the information Almaden has given to its investors. "We have been focused on developing the Ixtaca deposit into a signi-

ficant precious metals producer in Mexico, and are currently busy with engineering work and studies towards producing a PFS.”⁹⁷ The HRIA implementation team does not know how the company gained access to the report, but its answer was addressed only to PODER, mentions IMDEC and CESDER, and omits any mention of Ejidos y Comunidades en Defensa de la Tierra, el Agua y la Vida, Atcolhua, indicating that the company is uninterested in dialogue with the inhabitants of the region who will be directly affected by the mining project.

Conclusion

Besides obtaining new information from visits to government offices, the process of sharing the report with authorities enabled the HRIA implementation team to document the compartmentalization of government bureaucracy in mining, how the mining project contributes to a lack of information, and how the authorities also contribute to this dearth of information. These results favor companies and complicate the work of human rights defenders. Demanding compliance with human rights requires a specialization of knowledge that contrasts with the way communities are organized. The lack of due diligence by the authorities and the company allows them to avoid their duties and responsibilities. New regulations only deepen this level of specialization, which makes procedures more complex, adds more actors, and therefore creates more ways to evade responsibilities to protect human rights and the interests of the region’s inhabitants. And as the regulatory process grows and becomes more complex, the lack of access to information worsens and participation in decision-making is weakened, which translates into difficulties and obstacles in obtaining access to justice for the affected population. Meanwhile, the company continues its exploration project while accumulating further violations of the right to a healthy environment, water, and health for the inhabitants of Ixtacamaxtitlán.

notes

80. “Main results of the human rights impact assessment (HRIA) of the Ixtaca mining project of Almaden Minerals in Ixtacamaxtitlán, Puebla,” www.projectpoder.org/2016/04/main-results-of-the-human-rights-impact-assessment-hria-of-the-ixtaca-mining-project-of-almaden-minerals-in-ixtacamaxtitlan-puebla, accessed September 6, 2016.

81. Leticia Ánimas Vargas, “Empresa canadiense Almaden engaña a pobladores de Ixtacamaxtitlán,” *Regeneración*, <http://regeneracion.mx/empresa-canadiense-almaden-engana-a-pobladores-de-ixtacamaxtitlan>, accessed September 9, 2015.

82. Leticia Ánimas Vargas, “Ixtacamaxtitlán busca opinión de autoridades sobre daños a derechos humanos,” *Municipios Puebla*, <http://municipiospuebla.mx/nota/2016-06-27/tetela-de-ocampo/ixtacamaxtitlan-informar-de-violaciones-sus-derechos-por-minera>, accessed September 27, 2016.

83. "Comentarios al EIDH," letter from Eliazar Hernández Arroyo, Municipal President of Ixtacamaxtitlán, to Benjamin Cokelet (PODER), Silvia Villaseñor (IMDEC), Marco Antonio Aguilar (UECD), and Alejandro Marreros (CESDER), June 13, 2016, delivered on August 10, 2016.
84. Martín Hernández, "Unión de Ejidos denunciará abusos de Almaden ante edil de Ixtacamaxtitlán," *La Jornada de Oriente*, September 5, 2016, www.lajornadadeoriente.com.mx/2016/09/05/union-de-ejidos-denunciara-este-miercoles-abusos-de-almaden-ante-edil-de-ixtacamaxtitlan; see also Leticia Ánimas, "Minera canadiense paga sobornos y quiere evadir pagos por el oro y plata extraídos," *Regeneración*, September 5, 2016 <http://regeneracion.mx/minera-canadiense-paga-sobornos-y-quiere-evadir-pago-por-el-oro-y-plata-extraidos>, accessed September 8, 2016.
85. Leticia Ánimas Vargas, "Niega alcalde que haya dado permisos a Almaden," Radio Expresión, www.radioexpresion.com.mx/index.php/municipios/41690-niega-alcalde-que-haya-dado-permisos-de-extraccion-a-almaden, accessed September 9, 2016.
86. To consult communications with all of these agencies, see Annex 7.
87. Oficio number B00.920.04.1.772/16 from Germán Sierra Sánchez, Local Director of Conagua in Puebla, to Lucía Martínez López of the Unión de Ejidos y Comunidades en Defensa de la Tierra, el Agua y la Vida, Atcolhua, August 16, 2016. See Annex 7.
88. Almaden Minerals, "Almaden hits further high grade mineralisation outside of amended PEA Pit, hits 5.50 meters of 5.06 g/t gold, 219.6 g/t silver," press release, September 13, 2016, www.almadenminerals.com/NEWSROOM/2016/AlmadenNR_Sept13-16.pdf, accessed September 19, 2016.
89. Daniela Migoya Mastreta to the Legal Representative for Galvan, "Resolutivo del Informe Preventivo," May 29, 2014, <http://apps1.semarnat.gob.mx/dgiraDocs/documentos/pue/resolutivos/2014/21PU2014MD015.pdf>, accessed September 5, 2016.
90. Almaden Minerals, "Almaden hits further high grade mineralisation outside of amended PEA Pit, hits 5.50 meters of 5.06 g/t gold, 219.6 g/t silver," *op. cit.*
91. Ma. Guadalupe Arminda García Coronel, General Director of Environmental Claims, Complaints and Social Participation, Legal Department, Profepa, to Fidel Pérez Martínez and signatories, oficio number PFPA/5.3/2C.28.5.1, August 25, 2016. See Annex 7.
92. Profepa, Department of Complaints, Claims and Social Communication, "Acuerdo de Calificación y Admisión a Investigación," file number PFPA/27.7/2C.28.2/0102-16, August 25, 2016. See Annex 7.
93. Arturo Rodríguez Abitia, meeting to deliver HRIA draft report for comments, Profepa offices in Mexico City, July 26, 2016.
94. Review of the Complaint file number 62241, September 27, 2016; a copy cannot be obtained until the investigation process is completed.
95. Annex 7 includes an e-mail from Salvador Hernández Silva, Director of Technical Development at the General Directorate of Environmental Impact and Risk, in which he sent the numbers of the preventive reports mentioned to the implementation team, June 27, 2016.
96. Letter from Mauricio Heiras Garibay, Legal Representative of Minera Gorrión, S.A. de C.V., to Benjamin Cokelet, Founding Executive Director of PODER, August 25, 2016, sent by e-mail. See Annex 7.
97. Almaden, "Almaden hits further high grade mineralisation outside of amended PEA Pit, hits 5.50 meters of 5.06 g/t gold, 219.6 g/t silver," *op. cit.*



SYSTEMATIZATION OF THE IXTACA PROJECT'S HUMAN RIGHTS IMPACTS

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Almaden Minerals presented various reports to its investors and Mexican environmental authorities. Analysis of this official information made it possible to identify the impacts that have already occurred to the right to a healthy environment, water, and health during the exploration process in which Mexican regulations have been violated, and the violations that could occur if the project reaches the exploitation stage. The complete development of the methodology, modeling, and detailed technical analyses conducted by experts in geochemistry, environment, health, biology, and cartography can be viewed in Annexes 2–6.

This stage of research began with the regulatory framework of human rights in Mexico. First, we reviewed and summarized human rights at the international and national levels in order to generate a point of comparison regarding the rights to the environment, water, and health, and to clarify which rights Almaden must respect, which rights the State is obligated to guarantee, and which rights the inhabitants of Ixtacamaxtitlán are free to enjoy, monitor, and demand of both parties.

Since 2011, the Mexican State has incorporated the obligation to respect human rights into its constitutional framework. Any breach of this obligation gives footing to legal claims by the inhabitants of the region where Almaden is planning this mining project. Furthermore, it can be used as a tool to resist company activities that prevent human rights defenders from doing their work. As Michel Forst, UN Special Rapporteur on the situation of human rights defenders, observed at the end of his visit to Mexico in February 2017:

Defenders of indigenous and rural communities shared examples with me that indicate a deliberate attempt by the authorities and companies to apply “divide and conquer” strategies to obtain approval of large-scale projects. I am concerned by the way community members are pressured to accept projects, in exchange for money or social projects. Defenders who oppose these projects are frequently characterized by companies and authorities as a minority acting against community interests.

REGULATORY FRAMEWORK TO THE HUMAN RIGHT TO HEALTHY ENVIRONMENT

LEVELS

INTERNATIONAL

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Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration): “Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.” Principle 2: “The natural resources of the earth, including the air, water, land, flora and fauna...must be safeguarded for the benefit of present and future generations through careful planning or management.”

Rio Declaration on the Environment and Development: “Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature. [...] The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.”

REGIONAL

Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights (Protocol of San Salvador): “Everyone shall have the right to live in a healthy environment and to have access to basic public services.” The text also mentions the State’s obligation to promote “the protection, preservation, and improvement of the environment.”

NATIONAL

Political Constitution of the United Mexican States: “Everyone has the right to a healthy environment for their development and well-being. The State shall guarantee respect for this right. Environmental damage and deterioration will generate responsibility for whoever causes it.”

General Law of Ecological Balance and Environmental Protection (LEGEEPA), regulating the Constitution, refers to “the preservation and restoration of ecological equilibrium, as well as environmental protection.”

General Law for the Prevention and Integral Management of Waste: “Protection of the environment in the area of prevention and integral management of waste in national territory. Its provisions are of the public order and in the public interest and have as their objective the guaranteeing of the right of every person to a healthy environment and encouraging sustainable development through the monetization, comprehensive management, and prevention of generation of hazardous waste, [...] preventing on-site pollution with these wastes and carrying out the necessary remediation.”

General Law of Wildlife

General Law of Climate Change

Law of Environmental Responsibility: “Originates from damages caused to the environment, as well as the repair and restitution for those damages when enforceable through federal judicial processes. [...] Its objective is the protection, preservation and restoration of the environment and ecological equilibrium, to guarantee the human rights to a healthy environment for the development and well-being of all, and the responsibility generated by environmental damage and deterioration.”

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Mining Law and regulatory laws. Official Mexican Standards regulating mining activity:

NOM-120-SEMARNAT-2011, which establishes the specifications of environmental protection for direct mine exploitation activities in agricultural, livestock or vacant lands and in areas with dry and temperate climates.

NOM-023-STPS-2012, regarding underground and surface mines, establishes workplace safety and health conditions in order to establish minimum workplace health and safety requirements for preventing risks to workers engaged in underground and surface mining activities.

NOM-141-SEMARNAT-2003 establishes the procedure for classifying tailings, as well as specifications and criteria for classification and preparation of the site, project, construction, operation and prospecting of tailings.

NOM-147-SEMARNAT/SSA1-2004 establishes remediation criteria for soil contaminated by metals. Its objective is to establish criteria for determining concentrations for remediation of soil contaminated by arsenic, barium, beryllium, cadmium, hexavalent chrome, mercury, nickel, silver, lead, selenium, thallium, vanadium and their organic compounds; as well as remediation criteria.

Political Constitution of the Free and Sovereign State of Puebla: “Every person has the right to an environment adequate for their development, health and well-being. The State and the municipalities shall promote and guarantee, in their respective spheres of competence, an improvement in people’s quality of life and productivity, through environmental protection and preservation, restoration and improvement of the ecological equilibrium, in a way that does not compromise future generations’ ability to meet their needs.”

SUBNATIONAL

The Law for the Protection of the Natural Environment and Sustainable Development of the State of Puebla is intended to “support sustainable development through the prevention, preservation and restoration of ecological equilibrium and protection of the environment.”

Also applicable is the *Law for the Prevention and Integral Management of Solid Urban Waste and Waste Requiring Special Handling for the State of Puebla*.

REGULATORY FRAMEWORK TO THE HUMAN RIGHT TO WATER

LEVELS

INTERNATIONAL The human right to water derives from the right to an adequate standard of living (*ICESCR, article 11*) and is inextricably linked to the right to the highest possible level of physical and mental health (*ICESCR, article 12*), as well as the right to life and human dignity.

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Committee on Economic, Social and Cultural Rights, General Observation no. 15: “The right of all to have sufficient, healthy, acceptable, accessible and affordable water for personal and domestic use.”

Convention on the elimination of all forms of discrimination against women, article 14.

Convention on the Rights of the Child, article 24.

Convention on the Rights of Persons with Disabilities, article 28.

ILO Convention 161 of the 1985 Occupational Services Convention, article 5(b).

REGIONAL *Protocol of San Salvador: “Everyone shall have the right to live in a healthy environment and to have access to basic public services.”*

NATIONAL *Political Constitution of the United Mexican States: “Everyone has the right to access to, availability of, and sanitation of water for personal and domestic consumption, in sufficient, healthy, acceptable and affordable form. The State shall guarantee this right and the law shall define the bases, supports and methods for equitable and sustainable access and use of water resources, establishing the participation of the federal government, states and municipalities, as well as the participation of the citizenry, in pursuit of those ends.”*

SUBNATIONAL *Water Law: “The conservation of water supply sources and water reserves of the State that are assigned by the competent authority; [...] VI. The prevention and control of water pollution” are in the public interest.”*

COMPONENTS

AVAILABILITY Continuous and sufficient supply of water and sanitation for personal and domestic use (consumption, bathing, washing of clothes, preparation of food, personal hygiene and household cleaning).

QUALITY Should be healthy, meaning free of microorganisms and chemical or radioactive substances that constitute a hazard to health.

ACCEPTABILITY Acceptable color, odor, and flavor.

ACCESSIBILITY *Physical accessibility:* Water, installations and services must be within the physical reach of all of the population and they must be able to access it without threats to their physical safety.

Economic accessibility: The direct and indirect costs of the water supply must be affordable and must not compromise the exercise of other rights.

Non-discrimination: Water and water services and installations should be accessible to all, including the most vulnerable and marginalized sectors of the population, with no discrimination.

Accessibility of information: The right to request, receive and distribute information about water.

REGULATORY FRAMEWORK TO THE HUMAN RIGHT TO HEALTH

LEVELS

INTERNATIONAL

Universal Declaration of Human Rights: “Everyone has the right to a standard of living adequate for the health and well-being of himself or herself and of his or her family, including food, clothing, housing, medical care and necessary social services.”

ICESCR: “The right of every person to enjoy the highest possible level of physical and mental health.”

CESCR, General Comment No. 15, which specifies that the right to health is closely linked to the exercise of other rights (to food, life, non-discrimination and access to information). The right to health is not limited to proper health care, but “extends to the underlying determinants of health, such as food and nutrition, housing, access to safe and potable water and adequate sanitation, safe and healthy working conditions, and a healthy environment.”

Convention on the Elimination of All Forms of Racial Discrimination, article 5 e-iv.

Convention on the Elimination of All Forms of Discrimination against Women, articles 11 1f, 12 and 14 2b.

Convention on the Rights of the Child, article 24.

International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, articles 28, 43e and 45c.

Convention on the Rights of Persons with Disabilities, article 25.

REGIONAL

Protocol of San Salvador: “Everyone shall have the right to health, understood to mean the enjoyment of the highest level of physical, mental and social well-being.”

NATIONAL

Political Constitution of the United Mexican States: “Every person has the right to the protection of health.”

General Health Law: “The physical and mental health of man in order to contribute to the full exercise of his capacities.”

SUBNATIONAL

State Health Law: “The right to the protection of health afforded to every person in article 4 of the Political Constitution of the United Mexican States and in articles 12 and 121 of the Political Constitution of the Free and Sovereign State of Puebla, establishes the bases and forms of access to health services provided by the State and its responsibility in the area of general and local health, as well as the way in which municipalities will supply health services.”

COMPONENTS

AVAILABILITY Health establishments, goods and services; health care centers and programs; clean drinking water as basic determinant.

QUALITY Quality of establishments, goods and services from a scientific and medical standpoint.

ACCEPTABILITY Establishments, goods and services must respect medical ethics as well as persons, minorities, peoples and communities (in other words, must be culturally appropriate).

ACCESSIBILITY Non-discrimination; physical accessibility (includes both medical services and basic determining factors such as clean drinking water and services within a reasonable distance); economic accessibility; and access to information.

CURRENT STATE OF THE HUMAN RIGHT TO HEALTHY ENVIRONMENT

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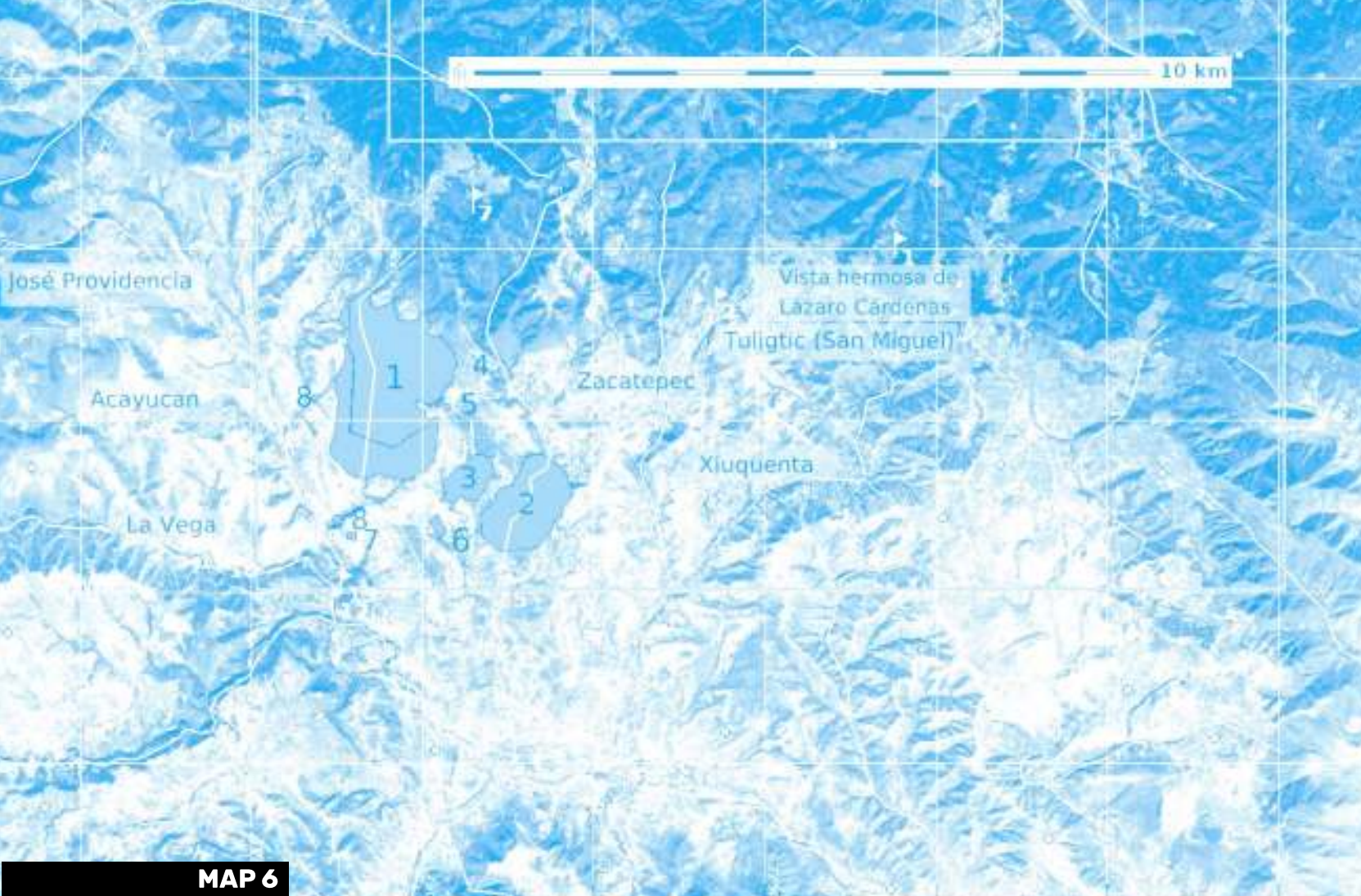
The study of the micro-basin revealed that the environment in the municipality of Ixtacamaxtitlán is currently in adequate condition. It allows inhabitants to work in agriculture and livestock as their main economic activities, which in turn allows for the persistence of areas with original vegetation. The area has large wooded zones with pine, sacred fir, and juniper. Seasonal farming is practiced in deforested areas, which are generally located near roads and riverbeds.

The area planned for the open-pit mine is outside the area of cultivation, so the vegetation there is original—desert scrubland with rosette-type plants associated with secondary shrub vegetation. Although it is currently in adequate condition, the ecosystem is vulnerable to the entry of new economic activities previously unknown to the region, especially industrial activity. Once mining exploration begins, there is an impact on the environment that affects surrounding vegetation and fauna. When the extraction phase begins, severe soil deterioration processes are triggered, resulting in a loss of fertility and the potential for practically any agricultural activity. When a mine is closed, it leaves behind a huge hole without enough sterile earth to fill it. The effect on the environment is permanent.

Economic activities (livestock, farming, and logging) have contributed to deforestation, so reforestation and conservation measures must be implemented. Semarnat considers this to be a high-priority region for conservation; it falls within the Priority Watershed Region of the Tecolutla River and is part of Ecological Region 16.10, which has an unstable and critical outlook for 2033.⁹⁸ The National Forestry Commission found that the juniper forest located in the municipality of Ixtacamaxtitlán has its own fauna and very old trees, giving rise to a need for increased conservation activities.⁹⁹ The region is also home to threatened or endangered species classified as such under NOM059-SEMARNAT-2010. This critical situation does not even take into account the fact that mining activity would wipe out an area of one-thousand meters in diameter and hundreds of meters in depth where the pit would be located, an even bigger area for the tailings pond, deposits of low-grade rock, and explosives installations, among other buildings and facilities, which total 516 hectares according to the current plan for the mine. There would also be access roads, which Semarnat has not authorized but the company is already building. All of this will contribute to soil erosion, loss of biodiversity, fragmentation of the ecosystem, and the disappearance of carbon sinks. Since these are highly permeable soils, they tend to be easily and quickly contaminated, which affects the habitat of endemic species and the territory inhabited by the people of Ixtacamaxtitlán. The project is



Environmental
features
Color version in
map section



MAP 6

Water sampling
stations

Color version
in map section

located in an aquifer recharge region, where the inhabitants of Loma Larga have their farmlands and where the village of Santa María Zotoltepec lies, besides being situated at the headwaters of the Tecolutla river basin, which flows into the Apulco River and continues for over 230 kilometers to the Gulf of Mexico. A highly intrusive activity like surface mining would be at odds with national and international environmental care plans and programs related to global warming.¹⁰⁰

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CURRENT STATE OF THE HUMAN RIGHT TO WATER

To measure the current state of the human right to water, the HRIA implementation team evaluated various criteria: quality, availability, acceptability, and accessibility, using indicators and reference values.¹⁰¹ The assessment of water quality in Ixtacamaxtitlán focused on chemical substances, specifically heavy metals, since these can become contaminators with a high impact on health and the environment as a result of mining processes. A series of samples were taken to determine the current quality of spring water and surface water at various points near where the Ixtaca Project is planned, with sampling zones upstream and downstream in both surface water and groundwater.¹⁰² The results indicate that water in the region is of very good quality, both in springs and surface water, and only at two sites was water found to be inappropriate for human consumption because it presented: 1) above-normal manganese levels (in a spring), which is normal in a region where there are minerals in the subsoil, and 2) aluminum and iron at two sampling points that surpassed the quality limits for rivers that protect aquatic life. The study found that the quality of water taken from springs is appropriate for human consumption according to national drinking water standards (NOM-127-SSAI-1994) and WHO global standards. River water is also of very good quality and within permissible Mexican standards according to Ecological Water Quality Criteria (CE-CCA-001/89).

As for water availability, the population is not guaranteed access to sufficient water for its domestic and hygiene needs, and less still for agriculture and livestock. In Texocuictic, for example, 79% of respondents said they did not have access to sufficient water; in El Encanto, 47%; in Loma Larga, 33%; and in Tlaxcalancingo, 25%. In Almeya, 90% of respondents said they did not have enough water for farming, as did almost 89% in Loma Larga and Tlaxcalancingo, and 86% in San Francisco, Texocuictic, and Tuligtic. Most of

The background image shows a wide river with a rocky, light-colored bank in the foreground. A person is standing on the bank, looking towards the camera. The water is calm, reflecting the sky and the person. In the distance, there are hills or mountains under a clear sky. The entire image has a blue tint.

TESTIMONIES

"The mining company told my daughter there was no danger, it's not going to do any damage, they even invited her on a trip to where they supposedly did not pollute, but we're not convinced about the mining project."

Woman, 59 years, housewife from Loma Larga

"The mining company [said] that we shouldn't worry, that they're not doing anything harmful to our water, but I think they will do us harm. I don't know that, but I think so."

Woman, 31 years, housewife from Xiuquenta

"They told us it wouldn't contaminate anything. We took a trip to Zacatecas with people from the company."

Woman, 38 years, housewife from Tlaxcalancingo

"We know absolutely nothing about the project."

Woman, 50 years, Santa María

"That they're going to reforest, that there's going to be money... When we ask about toxic waste the people from the mine don't answer."

Man, 51 years, farmer from Santa María.

those surveyed (66.8%) suffer from interruption in their water supply to varying degrees. Almost 40% lack access to water for more than one month a year, and 26.6% go without water for more than three months a year. Therefore, the water supply is neither continuous nor sufficient, and the population lacks water access during one season of the year.

The population currently pays between 60 and 100+ pesos a month for water consumption in the municipality. Much of the population has no fixed income and almost 70% report very low income. If water costs rise due to scarcity or if residents are forced to buy bottled water because their local supply is contaminated by mining activities, it would represent a clear violation of the human right to water, which is already not fully guaranteed.

Physical access to water is not guaranteed for almost a third of the population and only to a basic extent for another third. Therefore, there is currently a water shortage. According to official data from the municipal government cited above, 16% of homes in Ixtacamaxtitlán lack plumbing. If we add to this the increasing pressures on water that will come from industrial use by the company, it is obvious that there is the potential danger of worsening the lack of access to water in Ixtacamaxtitlán. The vast majority of survey respondents, more than 90%, said they were satisfied with the current condition (color, odor, and flavor) of the water they use, though this too is vulnerable to contamination with the start of industrial activity, as explained below.

More than half of those surveyed said they had not been informed of the impact of the mining project on their water. 74.4% of the surveyed population said they believed that a mining project could change the quality of the water they use or the quality of underground water. There has been a surprising absence of information from the authorities, as no one said they had received any information from the federal, state, or municipal governments.

CURRENT STATE OF THE HUMAN RIGHT TO HEALTH

The human right to health is closely linked to other rights, including the right to water, because the latter is both a human right in itself and a determinant of the former. Therefore, if there is a negative impact on any of the components of the right to water, it would simultaneously mean a violation of the right to health to the extent that a determining factor of human

health is compromised, such as access to drinking water and/or healthy working and environmental conditions, due to exposure to chemical substances or heavy metals. Similarly, the violation of the human right to a healthy environment would have direct implications for the health of the population.

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The state of people's health in the region is determined largely by their distance from areas where public health infrastructure is located, which entails its own risk. The main illnesses they face are associated with the respiratory tract and could worsen if industrial activities produce additional dust. Furthermore, new illnesses could emerge as a result of exposure to substances not currently present in the region, triggering chronic diseases, cancers, and ingestion or absorption of toxins.

Currently, 57% of the region's population has no medical insurance, "leaving them vulnerable to all types of illness."¹⁰³ This is exacerbated by the fact that in the municipality's 100+ villages there are only 22 rural primary care centers¹⁰⁴ that do not have specialty areas for dealing with illnesses caused by mining activity. For specialized medical attention, locals must travel to hospitals in Puebla (two hours away) or Chignahuapan (over an hour away). According to data from the Secretary of Social Development, 78.6% of homes in Ixtacamaxtitlán lack basic services, which means housing conditions are inadequate for some 20,059 people. In 2010, the incidence of lack of access to food was 31.8%.

Respiratory infections and conjunctivitis occur at a higher rate than in other municipalities, at the state level, and nationally. These diseases may worsen if mine exploitation begins, due to the increased amount of dust in the environment. The most frequently occurring illnesses at the municipal, state, and national levels (taking into account the classification of illnesses linked to mining activities) are acute respiratory infections, urinary tract infections, and intestinal infections.

The people of Ixtacamaxtitlán are not guaranteed access to health care services, particularly considering the possible effects of mining activity. The quality of medical services at present does not meet the needs of the population because any illness that requires attention beyond "check-ups, general medicine, vaccination, pediatric and maternal care, family planning, teen care, and nutritional orientation," which are offered in Rural Medical Care Units,¹⁰⁵ must travel to Rural Hospitals, whose services in turn are limited to "general surgery, anesthesiology, pediatric care, internal medicine, obstetrics and gynecology, emergency care, prenatal control, laboratory testing, X-rays, ultrasound, odontology, social work, pharmacy and hospitalization."¹⁰⁶

For specialties dealing with heavy metal intoxication or cancer, people must travel more than two hours to a city for care, if they are insured, which means that more than half the population of the municipality remains vulnerable to illness. Therefore, difficulties accessing health care services and guaranteeing the right to health are widespread. The acceptability of service requires further research, but for the effects of this assessment it was found that medical personnel who have already been convinced by the company of the benefits of mining will tend to respond to people concerned about their health by saying that they must back-up their concerns with scientific information. When people present such information, medical personnel reject it. This does not mean that the inhabitants of Ixtacamaxtitlán are in poor health, but rather that the State has not guaranteed minimum health condition, even before the arrival of the mining project. The current state of health in the communities is, in general, close to municipal, state, and national averages, which indicates that there are not significant vulnerabilities apart from lack of infrastructure. Generally speaking, the inhabitants of Ixtacamaxtitlán enjoy health conditions similar to the rest of the national and state population. The level of marginalization and poverty (rezago social) is high, while the human development index is average.¹⁰⁷

ENVIRONMENTAL IMPACTS AND IRREGULARITIES DURING THE EXPLORATION PHASE

Almaden Minerals has committed a series of violations of Mexican regulations, which require an adequate inspection by the competent environmental authorities (Semarnat and Profepa) given the amount, extension, depth and density of the drilling carried out so far. The company has already affected the right to a healthy environment for the people of Ixtacamaxtitlán. Despite this the company's legal representatives have declared that "surface exploration activities generally have a very low environmental impact; and in an exploration project, NOM-120-SEMARNAT-1997 is applicable for carrying out low-impact surface work, such as drilling."¹⁰⁸ In July 2010, Almaden began the drilling program that resulted in the Ixtaca Zone project, an epithermal deposit of gold and silver contained in limestone and volcanic rock that contains approximately equal values of those metals per metric ton. However, information provided by Profepa indicates that the company began exploration activities without permission in 2009, which resulted in a fine of 292,019 pesos. Between 2010 and 2013, exploration work in the Ixtaca Zone consisted of geological mapping, miner-

alogical characterization, and geochemical testing of rocks and soil, which resulted in the identification of various zones in which the company reports a high concentration of mineral. During the exploration phase, the company is obligated to abide by environmental laws and regulations to avoid affecting the environment. The company reported that it would use existing roads and passes, so Semarnat did not authorize the opening of new roads, which Almaden has built anyway.

EXPLORATION PHASES IN THE IXTACA ZONE

<i>Report</i>	<i>Date</i>	<i>Drill holes</i>	<i>Depth (m)</i>	<i>Affected Area (m²)</i>
Ixtaca	octubre, 2011	75 de 13 x 13 m	200 a 500	12,675
Ixtaca II	abril, 2013	180 de 10 x 10 m	-	18,000
Ixtaca III	abril, 2014	18 de 10 x 10 m	50 a 150	1,800
Ixtaca III Bis I	julio, 2015	18 de 10 x 10 m	100 a 150	1,800

Upon comparing the information authorized by Semarnat with what the company has presented to investors abroad, a series of irregularities are evident in the exploration phase:

Number of drill holes

The four environmental impact preventive reports put the total number of drill holes at 291. In its 2014 report to investors, however, Almaden said that since the year 2010 it had completed a total of 423 drill holes.¹⁰⁹ In its most recent technical report, published in January 2016, Almaden claimed that since 2010 it had completed a total of 475 drill holes at Tuligtic, totaling 154,566 meters.¹¹⁰ This is a difference of 184 drill holes, meaning the company told its investors it had drilled 184 more holes than it reported to Semarnat, and 184 more than those authorized by that agency in the four exploration phases reported as of the date of its last technical report. A new report published by the company in October 2016 identified 52 new drill holes, bringing the total to 236 more holes drilled than authorized.

Depth of drill holes and impact on aquifer

In the environmental impact preventive reports IXTACA III and IXTACA III bis, Almaden reported that the average depth of the drill holes would not exceed 150 vertical meters and claimed that the aquifer is between 158.8 and 196.15 meters deep, so it should not be affected.¹¹¹ If the aquifer is located at the depth the company says, we can deduce that the company already perforated the aquifer during the Ixtaca phase because the reported drill depth is between 200 and 550 meters, and possibly in the Ixtaca II phase (where drill depth was not reported). In fact,

in its October 2014 technical report, Almaden reported that the drill holes had a minimum depth of 60 meters and a maximum of 701 meters, with an average of 325. The Ixtaca phase is required to comply with NOM-120-1997, which indicates that if an aquifer is perforated the National Water Commission must be notified (number 4.1.8).¹¹² The exploration phases Ixtaca II, Ixtaca III, and Ixtaca III bis were regulated by NOM-120-2011, in which number 4.1.4 expressly states that the existence of aquifers must be verified so that exploration activity does not reach the water table.¹¹³

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Area of impact

According to NOM-120-2011, for diamond bit drilling the maximum limit of impact per hectare is 720 m².¹¹⁴ When considering exploration by phase within a single site, the impact generated at the site in prior phases must also be taken into account. After reviewing the coordinates of the drilling sites in the first three exploration phases reported to Semarnat and those mentioned in the October 2014 technical report, we found that the number of drill holes per hectare exceeds the permitted limit.¹¹⁵

The environmental impact preventive reports specify that for Ixtaca each drill hole has a footprint of 13x13 meters (169 m²), and for Ixtaca II and Ixtaca III each has a footprint of 10x10 meters (100 m²). Because the permitted area of impact is 720 m², a maximum of four drill holes would be permitted at Ixtaca (169×4=676) and the maximum number for Ixtaca II and Ixtaca III would be (100×7=700). Upon observation of the sections with the greatest drill hole density in the October 2014 technical report, more than seven drill holes can be counted, which is greater than the maximum number permitted.



Quadrants with the greatest number of drill holes, which exceed the number authorized by NOM-120-2011. Source: Moose Mountain Technical Report, modified by Aretha Burgos. See Annex 2.



TESTIMONIES

"I worked for a while with them, when they first came to my community, but when I realized what they were doing I didn't want to continue. I worked the night shift, 12 hours drilling holes, and I realized they were liars because they would always tell us they weren't hurting the water or the environment, but they are harming them, because for each drill they used 5 drums with 10 liters of diesel each. They washed the machines and all that oil was just washed into the gully. They've made a lot of drill holes, they say... but there must be more, because some of them they just fill back in and leave them without identifying them like they should. To fill in each hole they drill 410 to 420 meters deep, they use 7 sacks of cement that are poured in 3 sessions—can you imagine? In some drill holes a lot of water has come out, under a huge amount of pressure. After getting capped with the cement, some of the water changes course and works its way into cracks, and the water table is affected."

Inspector from Zacatepec, Ixtacamaxtitlán

In June 2014, workers from the mining company Almaden Minerals entered the Almeya Ejido without the consent of the general assembly and ejido authorities, intending to drill holes, damaging the land and trees belonging to the ejido, and despite our demand that they repair the damage, they never did. We told them to remove their equipment and not come back.

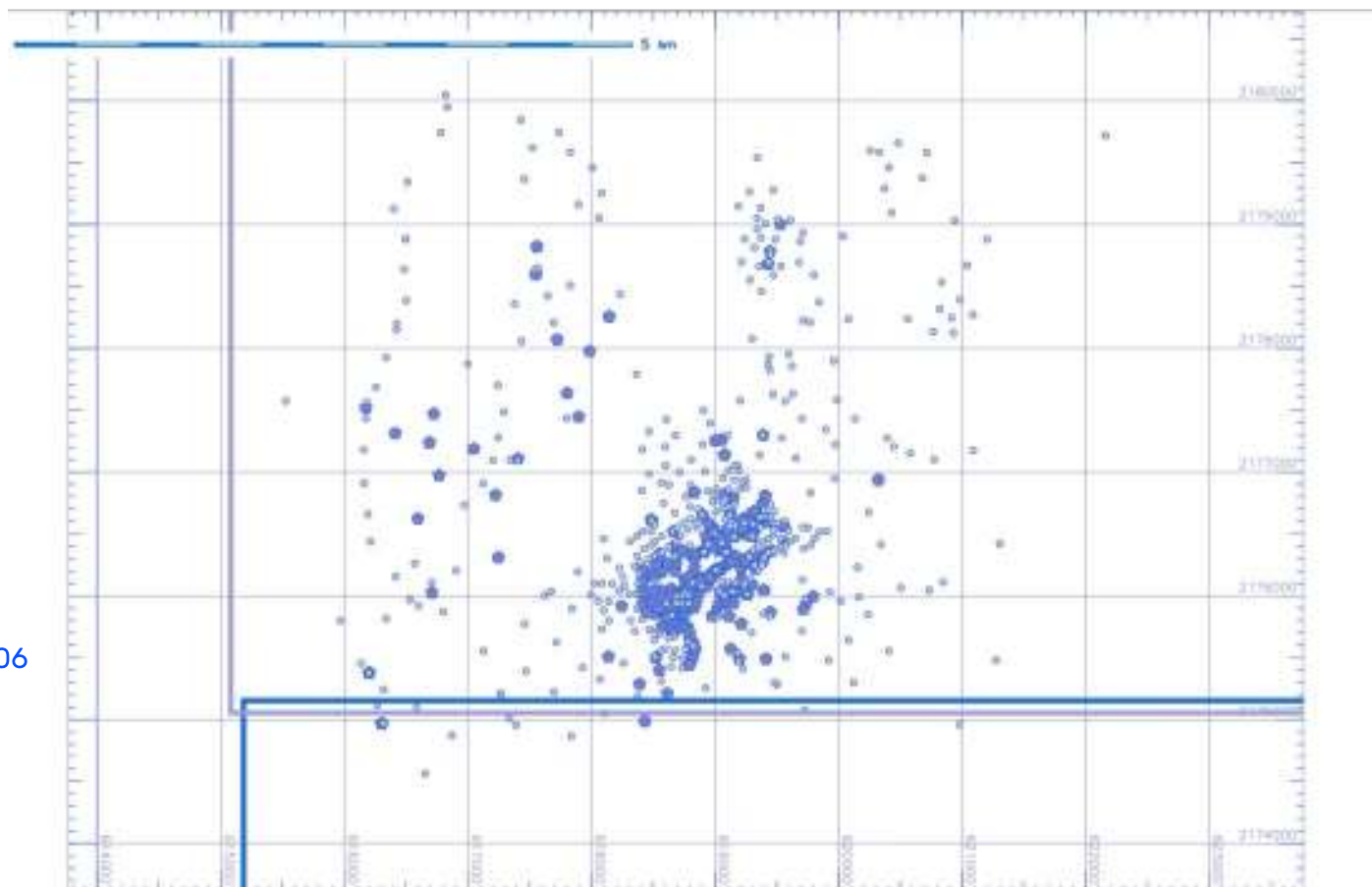
Ejido Commissioner of Almeya, Ixtacamaxtitlán

Drilling dates

According to technical reports, drilling activities in the preliminary phase in the main zone of Ixtaca began in July 2010. The second drilling phase, conducted in the north zone of Ixtaca, took place throughout 2011, and there was more drilling in 2013, 2014, and 2015. Almaden's website indicates that it reported the results of the first drilling in the Ixtaca Zone in August 2010.¹¹⁶ However, the first environmental impact preventive report (Ixtaca) was not presented to Semarnat until November 2011. Therefore, the preliminary activities and some of the subsequent activities reported in the technical report were not evaluated as required by Semarnat before activities began.¹¹⁷

The two testimonies of local and ejido authorities about the company's exploration work indicate that it has affected water sources during the exploration phase, if not the aquifer. They also reveal that there was an invasion of ejido lands in one of the agrarian nuclei that fall inside the concession area. These testimonies contrast with the information reported by Almaden's Chairman, who claims, "It has been an exceedingly rich experience for our company, and I believe we have made positive impacts on the lives of those with whom we have interacted over the years, be they employees drawn from local communities or land owners."¹¹⁸ He fails to mention that the project has had or could have negative effects on people's lives.

Information about irregularities and impacts committed by the company during the drilling phase led the inhabitants of the municipality of Ixtacamaxtitlán to undertake a series of legal actions, among them filing a complaint with the National Human Rights Commission, a popular complaint with Profepa, and an inspection request with Conagua, in June 2016. As of February 2017, Almaden Minerals was continuing its activities and completing new drill holes, and it maintained its plan to go forward with the mine, while the authorities had not addressed the claims filed by the affected population.

**MAP 7**

Authorized and
unauthorized
drill holes
Color version
in map section I

The following table summarizes the results of research carried out by specialists using environmental impact preventive reports, preliminary economic assessments, and additional documentation presented by the company to its investors and the Mexican authorities for the purpose of obtaining operating permits. This information should be useful for the authorities in sanctioning the company and to demonstrate the project's non-viability in its current form, in addition to the human rights challenges that Almaden Minerals and the Mexican government must address.

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THE IXTACA PROJECT'S IMPACT ON THE ENVIRONMENT

IMPACT	DETAILS AND OBSERVATIONS
<p><u>VIOLATIONS</u> of Mexican environmental laws and</p>	<p><i>Number of drill holes</i> The company reported 184 more drill holes to its investors than were reported to and authorized by Semarnat.</p>
<p><u>VIOLATIONS</u> of the right to a healthy environment</p>	<p><i>Depth of drill holes and impact on aquifer</i> According to company information, the aquifer was reached by drilling in the Ixtaca phase and possibly the Ixtaca II phase.</p>
<p><u>ALREADY COMMITTED</u></p>	<p><i>Drilling density</i> The number of drill holes per hectare surpasses permitted levels.</p> <p><i>Time frame</i> Environmental impact preventive reports were not found for certain exploration activities and drill holes. This indicates they were done without permission from Semarnat.</p> <p>The General Directorate of Environmental Impact and Risk concealed information about the environmental impact preventive reports from the National Human Rights Commission in response to its request for information on the project in connection with a complaint filed by the inhabitants of Ixtacamaxtitlán.</p> <p>In October 2016, the company reported new drill holes, bringing the total of unauthorized drill holes to 236.</p>

LACK OF INFORMATION
to support the
company's assertions

No geochemical information, only metallurgical testing, is reported in the preliminary economic assessment (PEA), so it is impossible to: 1) verify the findings of the PEA regarding the potential for metal leaching and acid rock drainage from the deposit, 2) quantitatively predict the chemistry of the water runoff from the mineral deposit, the rock storage facilities, and the tailings dam, or the quality of the water in the lake that will fill the abandoned open pit, or 3) calculate the possible impacts of the Ixtaca mine on the quality of downstream surface and underground water. This means that neither affected communities, the State, nor investors can know what the potential impact will be of acid rock drainage and metal leaching on the water, health, and environment of Ixtacamaxtitlán, according to the information from Almaden Minerals reports.

IMPACT ON
THE LAND

Alteration of landforms and soil composition due to the illegal construction of access roads to the mine and/or alteration of the geomorphology of the zone.

An increase in erosive processes caused by the destruction of the edaphic surface in the mining area.

Desiccation of the soil in the surrounding zone, and formation of sinkholes and swamps.

Tendency toward aridity in the municipality as a result of a domino effect (deforestation-erosion), reduction of forest areas intended for conservation, and reduction in the use of such resources in the lumber and forestry industry.

Mining activities will not coexist with the agricultural activities currently carried out by inhabitants of the municipality of Ixtacamaxtitlán, but will rather compete with them. The tailings dam is planned for a site where the local population carries out agricultural activities, and the quarry itself is located in a conserved area as it is not currently being used for farm production. The mining company competes with both activities, which are basic to the reproduction of life

in Ixtacamaxtitlán. Considering that inhabitants of the region have already said that the company's presence has caused conflicts between families and communities, as well as the death of animals, water shortages, and illness, it is to be expected that these conflicts will worsen with the start of mining activities due to growing pressure on the land and water.

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ATMOSPHERE
dust and noise

Dust clouds raised by truck traffic on unpaved roads, blasting and dumping activity, and also from crushing and grinding processes and preparation of blast holes.

Concentrations of atmospheric contaminants primarily in the daytime (when work and traffic in the mine will likely be active) may pose health risks because they exceed $50 \mu\text{g}/\text{m}^3$ in a 5-kilometer radius with wind speeds of $1\text{m}/\text{s}$, and in a radius of 2 km with wind speeds of $4.5 \text{ m}/\text{s}$. Populations within a 5-kilometer area will suffer from significant concentrations of dust contamination.

Gases emitted by combustion engines, natural emissions during the extraction process (production of CO_2 and CO), emissions from blasting and smelting (SO_2). In general, gold and silver produced in smelting furnaces can generate high levels of mercury, arsenic, sulfur dioxide, and other metals.

The communities significantly affected by air pollution (dust, gaseous emissions, aerosols) would be Santa María Zotoltepec and Zacatepec because they are closest to the extraction plant or the quarry. The communities of Tuligtic, Ahuateno, Almeya, Cruz de Ocote, El Encanto, Ixtacamaxtitlán, Loma Larga, Texocuictic, Tlaxcalancingo, Xiuquenta, and Vista Hermosa would also be affected.

Noise pollution is another factor.

The hazards posed by rising dust levels and possible contaminants in the atmosphere are of particular importance because the municipality of Ixtacamaxtitlán

already shows high levels of respiratory tract illnesses, which would be worsened by the presence of more dust in the atmosphere.

GEOPHYSICAL PROCESS Increase in erosion in the mine area.

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LANDSCAPE Deterioration of the landscape due to an open pit 1,000 meters in diameter and the adjoining infrastructure facilities, which amount to a total of 516 hectares.

FLORA Removal of vegetation and deforestation.

FAUNA Alteration of natural habitats due to fragmentation and displacement of fauna.

**ECOLOGICAL
EQUILIBRUM** Loss of biodiversity.

The construction of mining facilities would result in the division of natural habitats into sections. This phenomenon, known as fragmentation, creates areas that are different than the original habitat because they are smaller and isolated from each other to varying degrees. This also causes edge effects, which are differences experienced at the edges of forests, for example, where there are changes in the composition, structure, and function due to microclimate changes (wind, temperature, and humidity). These differences bring about changes in the abundance and ecological relationships of species. Due to edge effects, the functional size of the resulting fragments is smaller than their real size. Once the fragmentation process begins, it triggers a series of changes in ecological processes and affects populations and communities of flora and fauna, as well as soil and water, in response to the new structure of the fragments.¹¹⁹

The quarry is located in a sparrow hawk nesting area where ant eggs (escamoles) are also collected for human consumption.

The impact that mining has on fauna occurs indirectly due to various types of pollution, like noise and vibra-



tions, which startle animals and provoke abrupt movements. Mating customs are altered, nests are abandoned during the hatchling phase, and some species migrate. Air and water pollution and erosion from heaps of sterile waste cause poisoning from residual reagents contained in water from the exploitation zone. Higher levels of sediment in rivers have a notable effect on aquatic life.¹²⁰

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Exploitation of the mine may cause the loss of some species, primarily those with more sedentary habits, like reptiles and small mammals, as well as birds but on a smaller scale.¹²¹ The impact of mining on fauna is aggravated in this region by the presence of species registered in risk categories under NOM-059-SEMAR-NAT-2010, including:

1) *Mammals*. The species *Bassariscus astatus* is under the protected category as a threatened species (A).

2) *Birds*. *Contopus sordidulus* is reported as a species under special protection (Pr) and *Spizaetus ornatus*, or the ornate hawk-eagle, is in danger of extinction (P).

3) *Reptiles and Amphibians*. *Micrurus diastema* is under special protection (Pr) and registered in Appendix III of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). *Anolis naufragus* is also under special protection (Pr) as is *Bufo cristatus* (Pr).

4) *Insects*. The ant *Liometopum apicolatum* (whose larva are known as *escamoles*) is an ecologically important species that also possesses great nutritional and economic value for the region. The production of *escamoles* is unique to this area. Its nutritional importance lies in its protein content of between 40% and 60%, in addition to fats, vitamins, and minerals, making it much more nutritious than beef or chicken.¹²²

With respect to its economic importance, in a 2014 statement Sagarpa delegate Alberto Jiménez Merino announced conservation actions for the ant *Liometopum apicolatum* in order to revive and promote the production of *escamoles* in the municipality of Ixtacamaxtitlán. These measures were taken because deforestation and fires in the area had diminished its production.



TESTIMONIES

“I’m 61 years old, I’m a farmer, I have a disability in one of my arms, and I walk with a cane because of a spinal problem. I grew garlic for 23 years on the small parcel of land I have to help my family’s economy. In 2013, I had about 600 kilos of garlic I was about to harvest, and one day the water stopped coming and the garlic dried up. I lost the harvest. [...] And I went and said to them, ‘you tell us you’ve come to help us and what you’re really here for is to screw us’. We don’t have much water around here, but I’ve always said that, properly administered, it’s enough, we just have to take care of it. Now I can’t plant anything on that land. They screwed me, they left me without water for my work. The same thing happened to a neighbor of mine, water stopped coming to his house. He changed his hose for a smaller one to see if water would come out that way, but nothing. He went to talk with the ‘gringo’ or Canadian at the mine named Norman to tell him to pay him for the hose and the damage he’s suffered, but they told him to get lost, that they couldn’t help him... But it was after they made their drill holes that this happened, that we were left without water...”

Farmer from Santa María Zotoltepec

“The problems in the community began in 2012. The company robbed us of peace and quiet and brought divisiveness. To begin with, sales of alcohol increased a lot. Mine employees would spend the night drinking and getting young people drunk, even minors. Once they were drunk they would start lighting firecrackers at 3 or 4 in the morning... They were that way for a few weeks, that’s how they won over the young people... Sexually transmitted diseases increased a lot among young girls in Santa María, where they were doing more work... That’s why I say they robbed us of peace and quiet. In 2013 some people came and entered the community lands without permission, looking for the springs. When we went to ask what they were doing, they said they were from the Regional Pacific North office of Conagua, which doesn’t correspond to the state of Puebla.”

Inhabitant of Zacatepec

AGRO-PASTORAL
ACTIVITIES May suffer a decline in yield due to a reduction in the availability of water, higher levels of sediment in rivers, contamination of agricultural produce from heavy metals, and poisoning from bioaccumulation of these metals in livestock.

USE OF
EXPLOSIVES Production of greenhouse gases resulting from the use of explosives. Impact on the environment and health, due to: (i) noise pollution, (ii) intensity of vibrations generated, and (iii) air pollution from the generation of dust (atmospheric particulate matter).

NOISE AND
VIBRATIONS
from blasting Noise and residual vibration. Vibrations with minimal noise may be produced at distances of up to five kilometers from the blast site. Vibrations affect the stability of infrastructure, buildings, and the homes of people living close to the mine.

RISK OF
SPILLS The zone where the tailings dam is planned exhibits steep slopes and rocks that may break away. During the rainy season there may be earth slippage that could affect, for example, the stability of the tailing dam walls, in particular, or the deposit structure around tanks holding explosives or cyanide. Of particular concern here is that the company Knight Piésold is in charge of the environmental impact statement and this company is linked to the worst spill in Canadian history after successively increasing the size of a dam, leading to its collapse.

ALMADEN'S
ENVIRONMENTAL
RECORD The Caballo Blanco Project, explored and sold by Almaden Minerals (which retained shares in the project), was linked to real and potential environmental impacts and was suspended after inconsistencies were found in its environmental impact statement.

The White River project in Yukon, which was to be explored by a Canadian firm of which Almaden Minerals is a shareholder, was halted due to impacts that would affect local fauna and its habitat, as well as the traditional land use and culture of the First Nations of Canada.

Knight Piésold, responsible for the preliminary economic assessment and environmental impact statement for the Ixtaca Project, has been linked to two projects with adverse impacts on human rights: the Mount Polley spill and the Yanacocha mine in Peru.

THE IXTACA PROJECT'S IMPACT ON THE RIGHT TO WATER

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LACK OF GEOCHEMICAL INFORMATION

The preliminary economic assessment contained no information on geochemical results, so it was impossible to quantitatively verify the potential for metal leaching and acid rock drainage and metal leaching in the Ixtaca deposit.

RISK OF CONTAMINATION BY HEAVY METALS for water and health

Metallurgical testing revealed high concentrations of certain metals (iron, manganese, lead, and zinc) in the ore that would be transported to various mine facilities (storage pile and tailings dam). The reported mineralization of gold and silver is associated with high concentrations of arsenic, mercury, antimony, copper, and lead in rock samples, as well as mercury and antimony in soil samples from the Ixtaca deposit and nearby, which could potentially contaminate the water and be harmful to the health of species that ingest it, including human beings.

CHEMICAL COMPOSITION OF WASTEWATER FROM IXTACA PROJECT risk of acid drainage and contamination from heavy metals

The low-grade storage pile would not be lined. No methods are mentioned to control the potential for acid drainage from the ore in the pile during operations or after closure if the project is suspended or stopped altogether before the projected end of the mine's life.

Incorrect placement of the concentrate in the installation could lead to active zones of acid drainage that may release metal-rich acid infiltrations to the surface or the water table.

The quarry may fill with water to form a lake or it may remain dry. The underground water, runoff from the walls of the quarry, and the waste rock used to refill

the quarry may be possible sources of acid drainage or alkaline drainage, as could metals that leach into any water that fills the quarry.

WATER AVAILABILITY Although the company says water from the aquifer will not be needed for the operation of the Ixtaca Project and that rainwater would be sufficient, there are no studies to back up that statement available to the public. A detailed water balance analysis would be required for the entire site, as well as for each facility in particular, and it would also be necessary to prepare a detailed water management plan.

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The environmental authorities have indicated that running the mining project only on rainwater is not feasible given the amount of water required, especially considering that between November and February the region receives less than 4 mm of rainfall per month.

At present, the available amount is neither continuous nor sufficient, and days often go by without access to water for much of the population. Any activity or operation that affects the amount of water available would worsen the situation and negatively impact the human right to water, which is not fully guaranteed.

INCREASE IN SEDIMENT Another potential impact of mining activity is the disturbance of soil in excavations, road construction, transportation of materials and machinery, deforestation, and successive soil erosion. All of this generates a large amount of sediment that, without proper control, could flow into rivers, streams and other water bodies.

WATER CONTAMINATION
FROM CYANIDE The Ixtaca Project plans to use the Merrill-Crowe leaching process,¹²³ which uses cyanide and zinc. There is a risk that these chemical agents could be spilled or leaked, that cyanide and/or waste contaminated by cyanide could pass through geomembranes or linings, or that for any reason they could reach nearby water bodies.

**IMPACTS ON WATER ALSO
AFFECT THE RIGHT
TO HEALTH**

Negative impacts on any component of the right to water could, in turn, affect human health, for example by restricting access to drinking water and to healthy working conditions and a healthy environment.

**CONCERNS OF
THOSE SURVEYED**

Almost 70% of those surveyed believed that their physical or emotional health could be affected if the mining project went forward.

**IMPACTS THAT HAVE
ALREADY OCCURRED**

20% of those surveyed reported that activities carried out by the mining company have already affected their health or that of their family, either physically or emotionally. Of this percentage, almost half expressly indicated that they had been affected emotionally. Some mentioned feeling worried, living with anxiety, and suffering skin conditions.

**EXPOSURE TO
HAZARDOUS
SUBSTANCES**

Impacts of this kind would be related to people's exposure (through ingestion, inhalation, and skin contact) to hazardous substances and altered conditions in the environment and surroundings. Whether due to the quantity, concentration, or physical, chemical, and infectious characteristics of hazardous substances, these could contribute to an increase in mortality and severe illness.

NOISE

Potential impacts on health include loss of auditory sensitivity, sleep disturbances, cardiovascular and physiological effects, alterations in mental health, and behavioral effects, including poor school performance. Noise is a stress factor in children as evident in higher blood pressure among those exposed to it.

**GASEOUS
EMISSIONS**

Prolonged exposure to a mix of polluted air in open spaces containing sulfur dioxide (SO₂), carbon monoxide (CO), and carbon dioxide (CO₂) has direct effects on the cardiorespiratory system, particularly an increase in bronchitis in asthmatic patients.

DUST Dust generally has a negative impact on human health, contributing to diseases relating to the cardiorespiratory system and ocular disorders.

CYANIDE Exposure to high levels of cyanide for even a brief period of time causes brain and heart damage and could result in coma or death.

HEAVY METALS Through ingestion of contaminated water and food products, heavy metals accumulate in some organs (like the brain, liver, and kidneys) and in the bones, and are an aggravating or decisive factor in many chronic illnesses affecting the nervous system, digestive system, bones, eyes, and skin, and cause cancer.



TESTIMONIES

COMMUNITY MEMBERS

"Emotionally damaged—there have been problems between families, there are a lot of factors. Because of the mines, a lot of distance has been created between communities and families."

Housewife, 36 years old, Tuligtic.

"Emotionally my community is very divided by this mining project."

Woman, 22 years old, Zacatepec.

"I'm very worried, emotionally, that's where our water comes from, close to the project. It upsets us to think they're going to pollute our water."

Woman, 31 years old, Ahuateno.

"A brother who worked on the mining company got some pimples and they haven't gone away. It all started when they spilled something on him accidentally."

Small business owner, 38 years old, Tuligtic.

"We're worried because if they open the mine they're going to bother us with the pollution, they might even drive us out of here, and where would we go?"

Woman, 88 years old, San Francisco Ixtacamaxtitlán.

"I worked in the mining company like two years ago. I got some pimples and I don't know why, I think maybe because of the liquid they use for drilling or because of the gases that come out. They pay well, but you have to abide by their conditions and I don't like that."

Man, 37 years old, Tuligtic.



ALMADEN WORKER

“We weren’t trained or given proper equipment, our gloves would get wet right away, and two workers got fungal infections from being in wet shoes all the time. They just gave them a little money to go take care of it. One of them went outside the community to attend to it, but when he came back and asked them to reimburse him they told him to choose between being reimbursed or continuing to work... I worked the night shift and sometimes when it got really cold we had to make a fire with diesel, and there we were breathing the smoke, covered in grease, and cold... They never installed toilets the entire time I worked on the drilling.”

Notes

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99. Manuel Morales Martínez, "Estudio de cuenca de abasto para la región Chignahuapan-Zacatlán, Puebla," Conafor, 2014, pp. 208–9.
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101. Office of the United Nations High Commissioner on Human Rights (OHCHR), *Human Rights Indicators: A Guide to Measurement and Implementation*, 2012, p. 19. Human rights indicators "provide specific information on the state or condition of an object, event, activity or outcome that can be related to human rights standards; that addresses and reflects human rights principles and concerns; and that can be used to assess and monitor the promotion and implementation of human rights." Reference values that assign specific values to each indicator allow for their measurement.
102. The results can be consulted in Annex 3.
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104. *Ibid*, p. 26.
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107. 2014–18 Municipal Government, "Ixtacamaxtitlán Municipal Development Plan," www.ixtacamaxtitlanpuebla.com.mx/wp-content/uploads/2014/07/plan-municipal-de-desarrollo-ixtacamaxtitlan-2014-2018.pdf, accessed October 3, 2016, p. 30.
108. E-mail from Mauricio Heiras, legal representative of Minera Gorrión S.A de C.V., to Benjamin Cokelet, Founding Executive Director of PODER, September 6, 2015. See Annex 7.
109. Almaden Minerals Ltd., *Almaden Minerals' Annual Report 2014*, pp. 33–4.
110. Moose Mountain Technical Services *et al.*, "NI 43-101 Technical Report Preliminary Economic Assessment of the Ixtaca Project," January 22, 2016, pp. 37, 41, www.sedar.com.
111. Consultores en Ecología con Visión Integral, S.A. de C.V., "Informe Preventivo de Impacto Ambiental. Sector Minero. 'Proyecto de Exploración Ixtaca III' de acuerdo a la NOM-120-Semarnat-2011," Semarnat, April 2014, and "Informe Preventivo de Impacto Ambiental. Proyecto de Exploración Ixtaca III bis. Minera Gorrión, S.A. de C.V.," July 2015.
112. NOM-120-ECOL-1997 "establishes the environmental protection specifications for direct mining exploration activities in dry and temperate climates, in areas characterized by dry

scrubland, deciduous tropical forest, pine or red oak forests." www.dof.gob.mx/nota_detalle.php?codigo=4900046&fecha=19/11/1998, accessed October 28, 2015. See Annex 2, p. 26.

113. NOM-120-SEMARNAT-2011, "which establishes the environmental protection specifications for direct mining exploration activities in agricultural or livestock farming areas or vacant lands and in zones with dry and temperate climates, in areas characterised by dry scrubland, deciduous tropical forest, pine or red oak forests," www.dof.gob.mx/nota_detalle.php?codigo=5238496&fecha=13/03/2012 accessed January 6, 2016; Annex 2, p. 27.

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114. NOM-120-SEMARNAT-2011. See Annex 2.

115. Moose Mountain Technical Services, op. cit., p. 67.

116. *Ibid.*

117. See Annex 2.

118. Almaden Minerals/Minera Gorrión, "Letter from the Chairman," *Almaden Minerals/Minera Gorrión Corporate Social Responsibility 2014*, http://almadenminerals.com/RESPONSIBILITY/Documents/Almaden_CSR.pdf, accessed March 17, 2016.

119. Semarnat, "Pérdida y alteración de los ecosistemas," in *¿Y el medio ambiente? Problemas en México y el mundo*, 2007, pp. 15-42, semarnat.gob.mx/archivosanteriores/informacionambiental/Documents/05_serie/yelmedioambiente/2_perdida_alteracion_v08.pdf, accessed August 13, 2015.

120. Luis Enrique Sánchez, "Impacto sobre los ecosistemas," in *Curso Internacional de Aspectos Geológicos de Protección Ambiental*, Departamento de Ingeniería de Minas, Escuela Politécnica, Universidad de São Paulo, pp. 328-9, bvsde.paho.org/bvsacd/cd29/impacto-ecosis.pdf, accessed October 15, 2015.

121. Alexis Montes de Oca Risco, "Estudio del impacto ambiental y medidas de rehabilitación en la cantera Los Guaos," *Revista Desarrollo Local Sostenible*, Vol. 5, No. 13, 2012, pp. 5-9.

122. Sagarpa, "Va Sagarpa por rescate e impulso de la producción de escamoles en Puebla," May 25, 2015, sagarpa.gob.mx/Delegaciones/puebla/boletines/2014/mayo/Documents/B2505R14.PDF, accessed August 6, 2015.

123. For a more detailed explanation of this leaching method, see Annex 2.



The Human Rights Impact Assessment of the Almaden Minerals mining project in Ixtacamaxtitlán, Puebla, concludes that: 1) if the mining exploitation phase is carried out there will be serious violations to the human rights to the environment, water, and health; 2) the human rights to water and a healthy environment have already been violated during the exploration phase, which was identified both by inhabitants of the region and by specialists; 3) after analyzing its supply chain and corporate structure, the implementation team found that Almaden has a history of violating human rights to the environment, water, and health in previous projects, both directly and through other companies and projects in which it participates or has participated.

The information presented in this HRIA report confirms that both Almaden and related parties have been involved in serious environmental impacts and that its operations have negatively affected the human rights of many communities, both in Ixtacamaxtitlán during the exploration phase and in other parts of the world with similar projects.

The cases presented here are an indicator of what communities in the Ixtaca Project's area of impact, and other communities in similar conditions, can expect. Like many other mining companies, Almaden Minerals takes advantage of the facilities Mexico affords to mining companies looking for speculation opportunities—and looks to widen its profit margins due to low labor costs and weak environmental regulations.

One specialist's report on this project's environmental impact explains that “the introduction of new types of mining [mega-mining, which is machinery-intensive and does not require local labor] and the exponential growth of the mining industry within the state represent an environmental problem to which special attention should be paid,” and continues, “Mining has intensified change globally, competing in nations where labor costs are lower, with fewer environmental restrictions and low energy costs.” The re-

port concludes by noting that “mining has shifted to the southern hemisphere, where opportunities are greater and the industry is less regulated” (See Annex 2).

The HRIA has focused solely on Almaden Minerals’ main project in the Sierra Norte region of Puebla, which contains 72% of that region’s mining concessions. The project is part of a larger model of territorial occupation and dispossession by means of privatizing common goods, in this case subsoil resources. It goes hand-in-hand with energy projects that privatize water, solar energy, and the air.

One recommendation of this study is that the Mexican State rigorously investigate the companies to which it grants mining concessions and that it promote projects that place a priority not on profit but on the well-being of the Mexican population and rural communities. However, the efforts to share our findings with the various government offices in charge of this task, such as the Secretary of Economy, Semarnat, DGIRA, Profepa, Conagua, and CNDH, have so far revealed a notable failure to perform their responsibilities. In each office, the HRIA implementation team was met with various excuses: that it was not within their purview, said some officials, or that they had inadequate budget resources, according to others. It is the responsibility and the obligation of municipal, state, and federal authorities to supervise and have in place procedures for monitoring investment projects from the earliest exploration phases.

The State has an obligation to inform citizens of the projects it approves before it does so and to ensure full citizen participation in the decisions made regarding these projects. One of the most frequent problems identified throughout the HRIA has been the lack of information and consultation provided to the population affected by the Ixtaca Project. The results of the impact assessment indicate that municipal, state, and federal authorities have been remiss regarding the risks and damages to health, water, and the environment caused by the company. When the results of the investigation were shared with them, the authorities responded only by denying that they had failed in their responsibilities. But they have not demonstrated otherwise, either through their actions as public officials with an obligation to answer to the will of the people, or with documentary proof—when asked they simply deny or conceal information.

The federal authorities have been remiss in investigating or taking into account the prior human rights violations linked to Almaden Minerals, which are explained in detail in this report. A new model is urgently needed, something which the federal government itself recognized in an investigation of the state of biodiversity in Puebla:

Almost three-quarters of Puebla's territory presents severe land use problems; the reasons for this involve public policy, administrative organization, population growth, a model of unplanned economic growth that has relied on unsustainable industrialization, the use of energy-intensive technologies, and irrational agriculture and livestock practices. All of this has led to the presence of serious environmental problems that affect the functioning of the local and global ecosystem.¹²⁴

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If the Ixtaca Project moves forward, it would compete with the people of Ixtacamaxtitlán for land and water, thereby jeopardizing the subsistence of the families that live in the project's area of impact. Motivated by profit and private benefit, the company conducted a study of the region where it holds the concession and of the broader region known as the Sierra Madre Oriental or Trans-Mexican Volcanic Belt, but has never shared its findings with the people of Ixtacamaxtitlán, depriving them of the opportunity to make informed decisions about the natural resources found in their territory. So far the company has refused to meet with the HRIA implementation team, with the exception of the company's legal counsel. In its response to a request for a meeting to present the document, the company refused to recognize the Unión de Ejidos y Comunidades en Defensa de la Tierra, el Agua y la Vida, Atcolhua, addressing its response only to Benjamin Cokelet, Founding Executive Director of PODER, and mentioning IMDEC and CESDER. It continues to deny, as it has in its annual reports, that there is an indigenous population in Ixtacamaxtitlán.

Furthermore, the company obtained a draft of our report from an unknown source, as it informed the HRIA implementation team that it already had a copy, despite the document not having been made public and the goodwill shown by the Unión de Ejidos y Comunidades en Defensa de la Tierra, el Agua y la Vida, Atcolhua in inviting president and CEO Morgan Poliquin to visit them in their communities in order to personally present him with a copy of the report. The communities of Ixtacamaxtitlán, like many others in Mexico, only learn of the wealth existing in the subsoil of their territory, and of the companies and people who want to privatize it, after the concession has already been granted.

The projected processing of 7,500 metric tons per day over 13 years would entail the destruction of the environment in the area of impact, along with a concentration of wealth and multimillion-dollar profits for the company's shareholders. It does not take into account the present and future of the inhabitants of Ixtacamaxtitlán who, if the project goes forward, would suffer serious harm to their health, pollution and depletion of the water

sources their lives depend on, the destruction of flora and fauna, and the severe degradation of productive land, affecting communities throughout the Apulco River basin. Meanwhile, the company will have extracted all the ore to be found, as the potential for expansion is largely unrealized.

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The recent presentation of a new environmental impact preventive report to expand the area of exploration, together with the declarations of the Almaden Chairman about the potential for expansion, are evidence of this and of the recurring unwillingness to recognize the proven and measurable damages that the project would cause.

notes

124 Conabio, *La biodiversidad en Puebla: Estudio de Estado*, 2010, p. 47.

INDEX OF ANNEXES

A substantial part of this HRIA involved the collaboration of specialists in different fields in order to document the current state of human rights and the impacts of Almaden's mining project. Given the length and technical language of each report, they have been included as annexes for whoever needs to consult them in detail and verify previously cited information. In complementary fashion, we have also included a copy of all communications with officials and representatives of Almaden and various other institutions; the results of the diagnostic and baseline surveys for the HRIA; a summary of international instruments; and the current state of the Almaden Minerals exploration project. These materials can be found on the website of Colaboratorio, a collaborative space for strategic corporate research:

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www.colaboratorio.org/proyecto/proyecto-minero-ixtaca

ANNEX 1

ALMADEN MINERALS LTD. (TSX: AMM)

CORPORATE RESEARCH REPORT FOR HRIA

Dra. María Julieta Lamberti

ANNEX 2

IXTACA PROJECT: MINING AND ENVIRONMENT

REPORT ON ENVIRONMENTAL IMPACTS FOR HRIA

Dra. Aretha Burgos

ANNEX 3

CURRENT STATE OF THE RIGHT TO WATER AND THE IXTACA PROJECT'S POTENTIAL IMPACTS ON WATER, HEALTH, AND THE ENVIRONMENT

Source International

ANNEX 4

SUMMARY OF THE PROPOSED MINE PLAN AND OF THE IXTACA PROJECT'S POTENTIAL CONSEQUENCES FOR THE ENVIRONMENT

Dr. Steven Atkin

ANNEX 5

GEOMATIC METHODOLOGY AND COMMUNITY CARTOGRAPHY

Mtra. Mayeli Sánchez

ANNEX 6

RESULTS OF BASELINE SUVEYS FOR HRIA

Lic. Andrés Martín Vignon Wagely

ANNEX 7

COMMUNICATIONS BETWEEN THE IMPLEMENTATION TEAM AND MUNICIPAL, STATE, AND FEDERAL AUTHORITIES, ALMADEN MINERALS, THE CANADIAN EMBASSY, AND VARIOUS SPECIALISTS

ANNEX 8

INTERNATIONAL INITIATIVES FOR THE REGULATION OF BUSINESS ACTIVITIES IN RELATION TO HUMAN RIGHTS

ANNEX 9

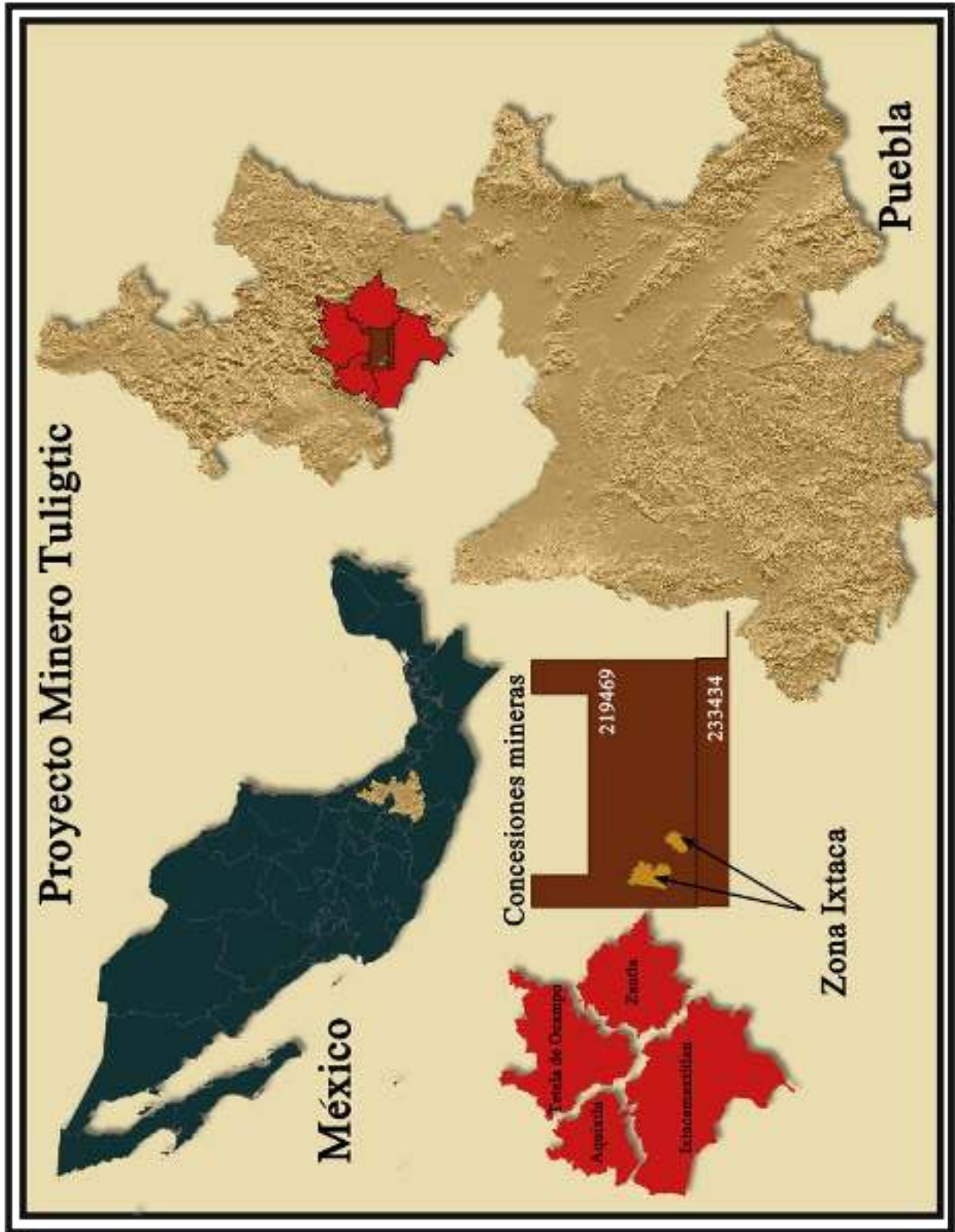
HRIA: REVIEW AND UPDATE OF INFORMATION FOR THE IXTACA MINING EXPLORATION PROJECT



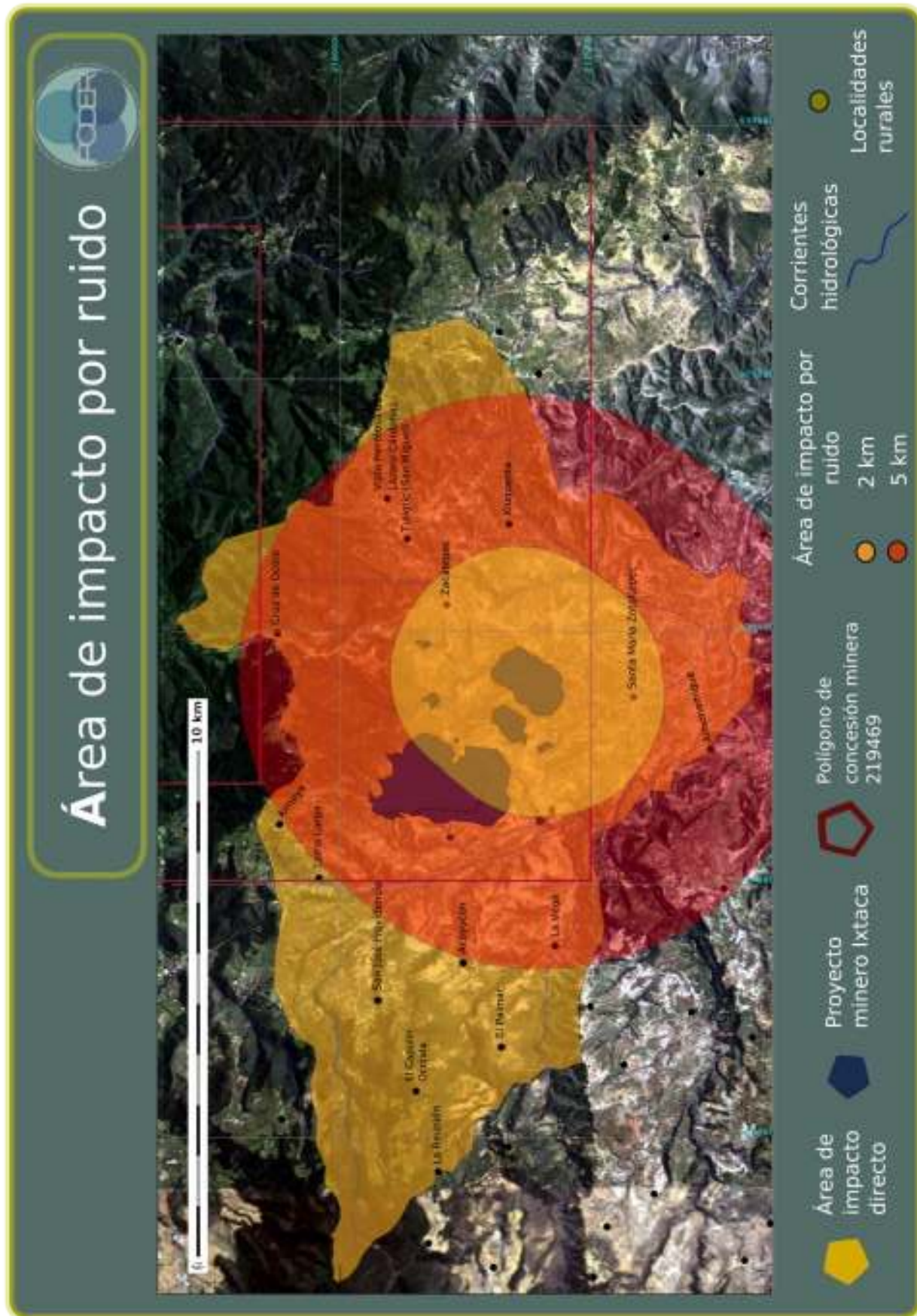
MAPS

MÉXICO - PUEBLA - IXTACA AREA

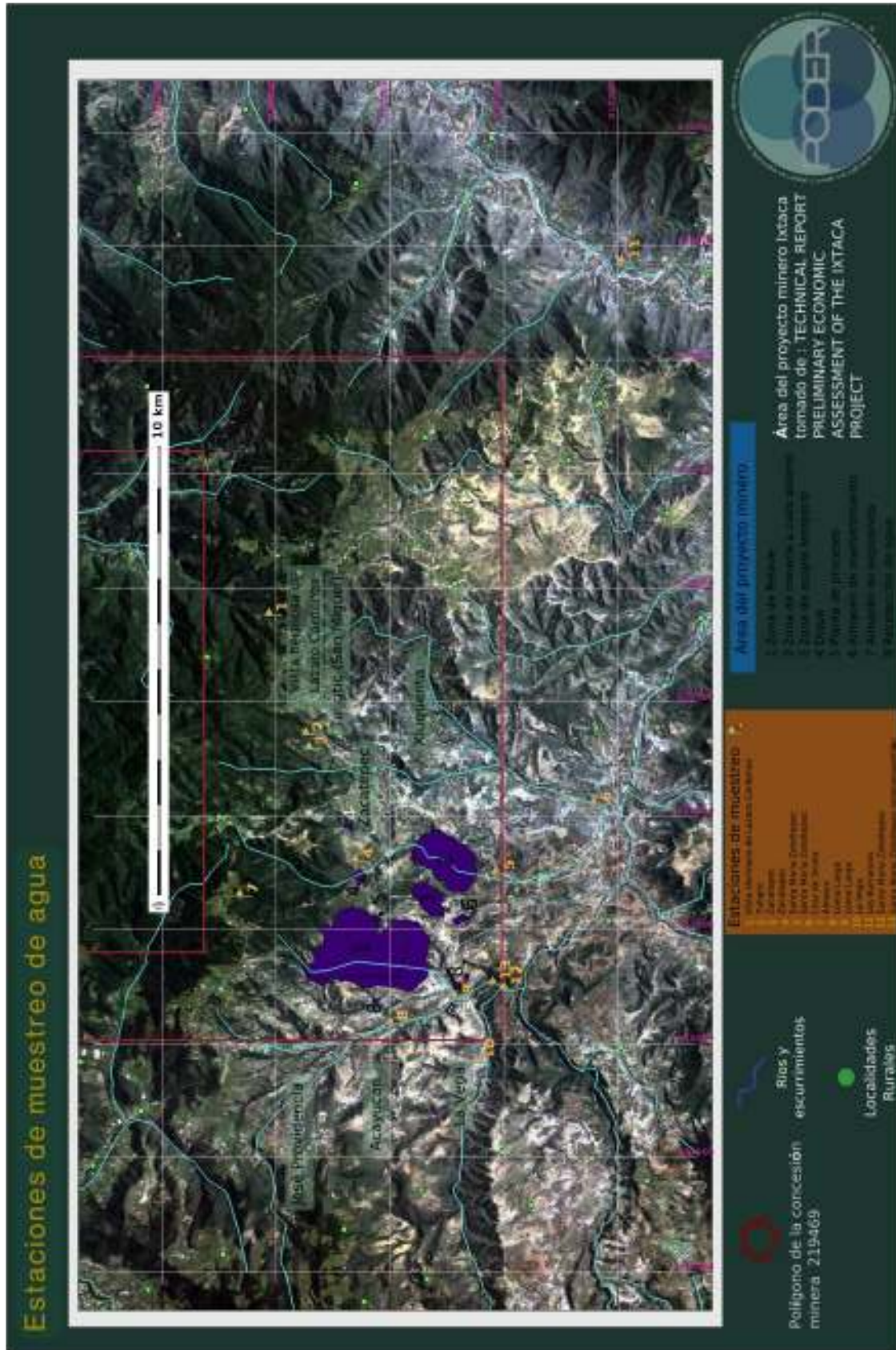
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IMPACT AREA: NOISE

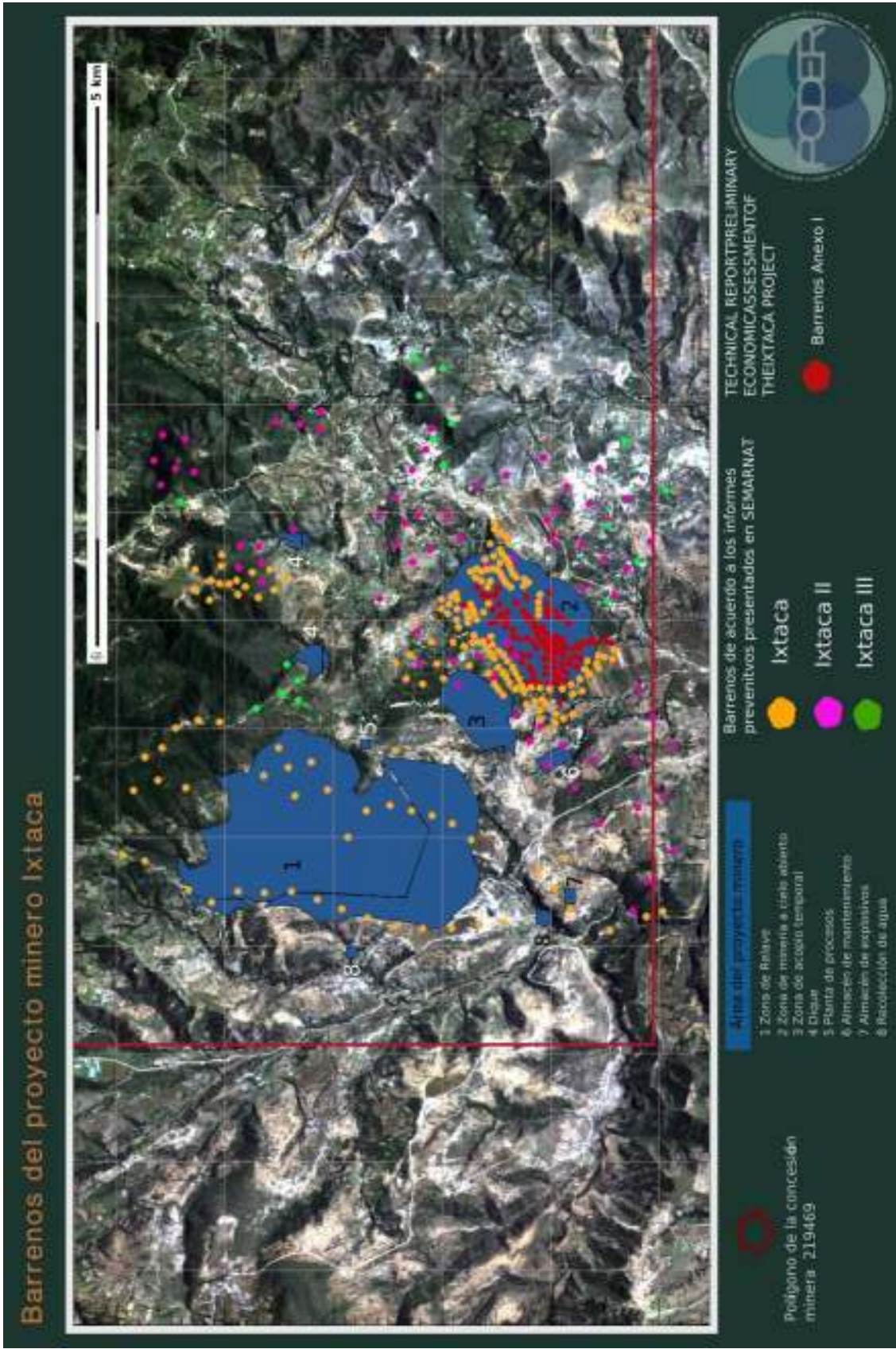


IXTACA MINING PROJECT: WATER SAMPLING STATIONS

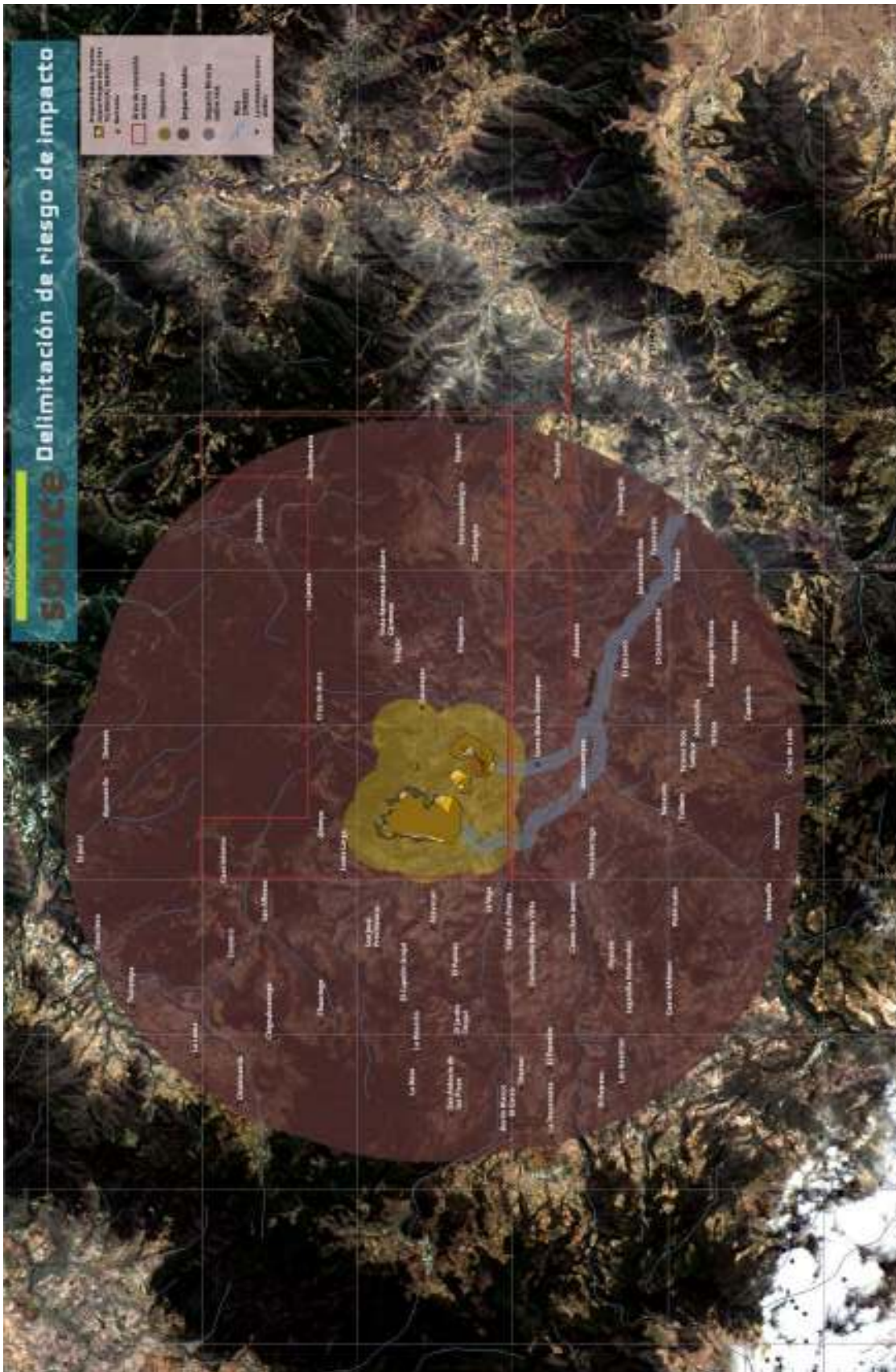


IXTACA MINING PROJECT: DRILL HOLES

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IMPACT AREA IN CASE OF SPILL





This report was completed, in Spanish, in February 2017. The free software programs Scribus, Gimp, and Inkscape were used, as were the free typefaces Gentium and Rubik. The many hours dedicated to this project, which was enriched by many peer reviews and comments, cannot compare to the communities' struggle for their territory in the face of the mining industry. To the life and future of the Apulco River basin.



THIS COMMUNITY-LED HUMAN RIGHTS IMPACT ASSESSMENT (HRIA) AIMS TO IDENTIFY, MEASURE, AND PREVENT THE IXTACA PROJECT'S NEGATIVE IMPACTS ON HUMAN RIGHTS. More specifically, the HRIA demonstrates the discrepancy between the State's obligations and the extent to which it fulfills them; identifies the mining company as an actor obligated to respect human rights and existing Mexican laws and regulations; provides a baseline of the environmental, water, and public health conditions prior to the launch of the mining project; evaluates potential impacts; and damage that has already occurred. This HRIA provides technically consistent information from and for the communities affected by Almaden Minerals' activities. It is based on research conducted by specialists in geo-chemistry, biology, cartography, corporate research, health, and human rights. The current state of the rights to water, health, and a healthy environment is that they are only partially guaranteed. The presence of Almaden Minerals constitutes a risk to the full enjoyment of these rights as it implies increased competition for land and water, as well as irreversible damages to water, health, and healthy environment caused by open-pit surface mining.