Electronics Watch
Mining monitoring guidance 1.0
2024

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Responsible public procurement.
Rights of electronics workers.

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Background

Electronics Watch monitors mines where 3T+G minerals (tin, tungsten, tantalum and gold), and others required for the ICT or Low Emission Vehicle (LEV) industries (most commonly cobalt, nickel and lithium) are extracted. Most of these mines are located in countries such as Bolivia, Democratic Republic of Congo, Indonesia and the Philippines.

This guidance on monitoring these mining activities was created to guide ongoing work, and to address challenges that monitoring partners in these locations are faced with. It builds on Electronics Watch's Worker-Driven Monitoring Methodology Guidance, which focuses on the ICT sector. The structure is based on questions and answers (Q&A), with ample reference to available literature and similar guidance in the public or academic space.

What are mining, refining and smelting?

- **Mining** is the process of obtaining mineral ore, often by physical digging into the earth.

- **Refining** is the separation of target minerals from the raw ore into a marketable product by extractive metallurgy.

- **Smelting** is the process of applying heat or chemicals to an ore, to extract a base metal in different industrial forms such as ingots or powder.

While Electronics Watch currently focuses on monitoring mines, refining or smelting processes may be encountered within or near the mining compound, and discussions might be needed to identify other potential issues related to these specific activities. It is also important to inform workers of their respective roles and links into the supply chain, because their jobs are interdependent. The minerals mined, refined or smelted are ultimately used in manufacturing and assembly plants for electronic components and products which are already within the scope of Electronics Watch monitoring.

Is monitoring mines completely different from monitoring factories?

Yes and no. There are differences, but there is also an overlap on the core approach and methodology proposed by Electronics Watch. This document, therefore, adapts the guiding principles of monitoring to the specifics of mining, its safety features and the work environment. Of course, countries also have different regulations and regulatory bodies to cover the mining industry. The following is a list of features where monitoring

mines differ from monitoring other industrial workplaces, which are covered in this guidance document:

1. Physical terrain and security
2. Community relations
3. Labour violations
4. Employment structures and employment relations
5. Indigenous communities
6. Environment
7. Health and safety
8. Child labour in mines
9. Armed groups and violence
10. Supply chain
11. International standards and instruments

How about monitoring team formation, planning and logistics?

Teams should include at least one monitor with expertise or experience in mine operations. Accessing and approaching mines is critical, and they are often in remote locations far from towns or industry, so detailed plans including roles and timeframes should be made 2-3 months in advance of any outreach.

Monitoring team leaders should be aware of logistical challenges of access and approach, ensure the safety of each member of the team, and take into account climate, security, and any necessary equipment, transportation, access and accommodation. This is needed in any activity requiring a field operation, but for mines it is absolutely essential to carefully plan ahead.

Why is it important to understand characteristics linked to the target mineral and ore type?

Understanding the mineral and ore type allows the monitors to anticipate likely social and environmental concerns and prepare questions to ask before monitoring teams set foot on the site.

Copper and tin mining, for example, tend to involve deep, vertical pits. Lateritic nickel mining, on the other hand, requires vast areas of open pit mining, because the deposits exist horizontally spread out rather than deep in the ground.

Ore type also determines the mining methods and therefore their risks. Lithium brine does not require vertical pits nor large tailings storage facilities, but requires a process of evapotranspiration, which needs large quantities of water, thus affecting local communities.

Also important are chemical components of the ores and the problems associated with them. Sulfide ores such as those typical with tin have greater risks of acid mine drainage (AMD), a typical environmental hazard associated with mining.

What is acid mine drainage?

Acid mine drainage is one of the environmental hazards associated with mining that it is most difficult to control. When certain sulfuric minerals contact water and oxygen, sulfuric acid is produced and seeps out. This then dissolves the ore body and creates more air pockets. When groundwater seeps into the air pockets, more sulfuric acid is produced and more ore bodies are dissolved, creating more air pockets that create space for more groundwater to seep through. In many cases, a wet environment with access to oxygen also allows bacteria to decompose metallic ions into easily soluble chemical compounds, thus accelerating the process. This cycle has the cumulative effect of producing sulfuric acid that ultimately seeps into the groundwater in increasing concentrations.

The only way to stop this is to completely stop the flow of groundwater in the area, but this is all but impossible to fully accomplish. But prevention is still the only effective approach. This will require around-the-clock pumping of water from the mine pit. The deposits, including sulfuric components, must remain dry or at least have limited exposure to water. This will slow down the process and even if some acid is produced, enough pumping and appropriate water processing can keep the acidity at lower levels.

However, nearby rivers and groundwater can be polluted with sulfuric acid and could be unsuitable for household use or farming. Taking measurements of PH (acidity) in areas with sulfuric ores is therefore an important monitoring tool.

Table 1. Common mining issues by deposit type

Metals	Deposit type	Environmental	OHS	Social issues	Case studies
Cobalt	Oxide *typically mined as by-products of copper mines	Cobalt oxide ore often in association with radioactive isotopes of cobalt	■ Cases of child labour reported in Democratic Republic of Congo ■ PPEs against radiation not supplied ■ Dust inhalation and respiratory problems	(see issues with copper sulphides)	Artisanal mining in Katanga Province (DRC)
	Laterite (limonite/goethite) *typically by-products of nickel laterite	(see issues with nickel laterites)	(see issues with nickel laterites)	(see issues with nickel laterites)	(see issues with nickel laterites)
	Sulphide *typically by-products of nickel sulphides	(see issues with nickel sulphides)	(see issues with nickel sulphides)	(see issues with nickel sulphides)	(see issues with nickel sulphides)
	Deep sea deposits	Known and unknown marine impacts	Lack of oversight in open water processing vessles	Lack of consultation with pacific and other maritime indigenous peoples	Clarion Clipperton Zone nodule mining by The Metals Company (Nauru/Canada)
Copper	Sulphide (chalcopyrite)	■ Close association with arsenic ■ Large-scale mining with massive footprints ■ Large tailings storage facilities ■ Excess use of water resources	■ Long vertical mines ■ Large-scale mining involving explosives ■ Dust inhalation and respiratory problems	■ Large scale mining often associated with land disputes ■ Lack of Free Prior Informed Consent with indigenous peoples	■ Copiapo Mine (Chile) ■ Llurimagua Mine (suspended before exploitation/ Ecuador)

Metals	Deposit type	Environmental	OHS	Social issues	Case studies
Gold		▪ Excessive water use* ▪ Massive amounts of mine tailings in large-scale mines ▪ Use of hazardous chemicals for extraction ▪ Can have close association with arsenic	▪ Lack of oversight regarding use of hazardous materials ▪ Dust inhalation and respiratory problems	▪ Lack of Free Prior Informed Consent with indigenous peoples ▪ Land/water rights disputes ▪ Can have association with 'conflict minerals' in DRC ▪ Cases of child labour also reported in artisanal mining	▪ Porgera Mine (PNG) ▪ Ok Tedi Mine (PNG) ▪ Artisanal mining in the Philippines ▪ Artisanal mining in DRC
Iron	Oxide (magnetite/hematite)	▪ Tend to be large-scale with massive footprints ▪ High association with iron sulfide (pyrite/fools gold) as sources of acid mine drainage ▪ Massive tailings storage facilities ▪ Tailing dam collapse	▪ Long vertical mines ▪ Large-scale mining involving explosives ▪ Tailing dam collapse ▪ Dust inhalation and respiratory problems	▪ Large scale mining often associated with land disputes ▪ Lack of Free Prior Informed Consent with indigenous peoples ▪ Tailing dam collapse	Germano Mine, Córrego do Feijão (Brazil)
Nickel	Laterite (limonite/saprolite)	▪ Close association with chromium/cr-6 ▪ Necessitates open pit mining and deforestation	Inhalation of heavy metal componests through dust	▪ Open pit and large scale mining is often associated with land disputes ▪ Lack of Free Prior Informed Consent with indigenous peoples	▪ Rio Tuba Nickel Mine (the Philippines) ▪ Sorowako Nickel Mine (Indonesia)
Nickel	Sulphide	Many existing mines are large-scale with massive footprints	▪ Long vertical mines ▪ Large-scale mining involving explosives ▪ Dust inhalation and respiratory problems	▪ Large scale mining often associated with land disputes ▪ Lack of Free Prior Informed Consent with indigenous peoples	Norilisk Nickel (Russia)

Metals	Deposit type	Environmental	OHS	Social issues	Case studies
Lithium	Brine	Excessive use of water resources (1.9 million litres of water for 1 metric ton of lithium)	Lack of oversight due to remote locations	▪ Lack of Free Prior Informed Consent with indigenous peoples ▪ Land/water rights disputes	Salinas Grandes (Argentina)
Tin	Oxide (cassiterite) *high association with other metals such as tantulum, tungsten, iron and copper	Tin existing in association with pyrite frequently causes acid mine drainage	▪ Artisanal mining often involves little protection for workers ▪ Dust inhalation and respiratory problems	▪ Artisanal tin mines in the Democratic Republic of Congo associated with "conflict minerals" ▪ Lack of Free Prior Informed Consent with indigenous peoples	Santa Fe Mine (Bolivia)

1. Physical terrain and security

Mines present a difficult environment in which to approach, observe, and engage workers, and to ensure the safety and security of monitors. This section is not meant to alarm or create unwarranted anxiety among monitors: its aim is to protect our work and employees as well as our partnering teams in the field.

Questions and answers below can be used as a checklist by team leaders to ensure all challenges to approach and security are addressed. Please discuss any issues with Electronics Watch, whether covered below or not, in advance or as the work progresses.

What are the challenges in accessing and approaching mines, and how they can be addressed?

Mines are often located away from settlements and industrial areas. Unlike factories, mining land can be wide and heavily fenced, monitored, and protected, and it is not always possible to gain access without being seen. Careful analysis of access options should be made in advance, including contacting local communities or villages nearby. This will provide monitoring teams with information regarding security protocols, while also exploring opportunities to talk to any member of the community who might be an employee in the mine. Where mine workers are not lodged within the compound, but are transported to outside settlements, this could also be an option to contact workers off site. If there is a trade union organised within the mine, then contact with the union will be a good start.

In Bolivia, mining cooperatives are often located very close to communities. One of the challenges faced by monitoring partners is to convince the cooperative mine's leadership of the activity they want to undertake in order to approach the mine. Another challenge is to move from talking to the cooperative leadership, to building trust with the grassroots cooperative members. One way to achieve this is through workshops, and after the workshops to try to talk to the miners. Sometimes, leaders of mining cooperatives do not allow monitoring partners to approach certain groups (women miners, young miners, miners from other regions), and it is the leadership who decides which group the monitoring partner can talk to. Monitoring partners should try to overcome this obstacle by dealing with all groups within the mine on a one-to-one basis.

Language barriers can sometimes make access to mine workers difficult. In Bolivia, for example, some miners speak Quechua, so it is important to have a member of the

monitoring team who speaks the indigenous language, and to conduct interviews in that language.

It is important to understand that the processes necessary to carrying out monitoring activities in mining cooperatives are lengthy.

In the case of strategic minerals whose extraction is linked to the government, the challenges involved in accessing and approaching mines are different. Approaches can be made through leaders of the surrounding communities. These communities often work as transporters for the mine. While avoiding potential corruption involving local politicians, another avenue for the monitoring partner to gain access to the mine is to establish connection with parliamentarians, supported by the endorsement of the local communities and the university.

Will there be threats to the security of the monitoring team and workers they talked to?

There can be. Therefore, the above options should first be carefully explored and haphazard attempts to gain access avoided. The safety and security of teams and workers are always Electronics Watch's priority, and this is even more important for mines. In areas where armed security forces provide protection to mine operations, or where the government convenes such security measures, monitors should first discuss all other options internally as well as with Electronics Watch before attempting any access. Be aware that in some countries, political leaders may resort to financial and operational stifling, such as blocking resources, to dissuade an organisation from carrying out monitoring activities.

2. Community relations

Mines can have a huge physical and economic impact on local communities. This includes but is not limited to:

- Land grab: communities are pressured to abandon land rights, either through forfeiture or long-term leases.

- Depletion of water resources: certain water sources are depleted either through overuse, modification of terrain and/or pollution

- Unfair distribution of compensation/benefits: low-level compensations like smartphones to the benefit of a few male leaders in a community.

- Unfair opportunities for labour, such as selectively hiring politically powerful community members or targeting those who previously opposed mine development.

It is therefore critical to understand the impact on the community, and how the mine is perceived by the community as a whole and by its individual members. A key difference with mines and factories is that factories typically try to take advantage of access to labour, meaning they tend to find locations where it is easier for potential workers to access them. Industrial mines tend to choose locations outside of public view in remote areas, with as few people in the vicinity as possible. This means that community members will most likely know a lot about each other, whereas the monitoring partner might be the only outsider in town. All eyes will be on the monitoring team, and it is important to know the dynamics between local groups.

How important is it to understand local politics?

It is one of the most important points to understand before entering the mine site. Opposition to a mine can be much stronger than to factory construction. Therefore, it is important to understand whether or not local opposition exists, and what their political positions are. Is there strong opposition to mining? Which party does your local partner belong to? While one may not fully understand local politics, it is nonetheless important to have a critical view of who your informants are and what their biases may be.

What if there is no "social license to operate (SLO)"?

It is not uncommon for commercial mines to exist without real community approval, and monitoring teams should keep that possibility in mind. When signs are found that

indicate a lack of SLO, monitoring teams must make a comprehensive assessment of the situation and inform Electronics Watch. The analysis should help decide if further interactions with the community are needed, keeping in mind that the priority should always be the safety of the monitoring team.

Monitoring the working conditions might inadvertently appear to be endorsing the existence of that mine, or create the impression that monitors are employed by the mine management. Monitoring teams should be careful neither to offer false hopes to communities, nor to disempower them.

What if the there is no mining licence or concession to operate?

There are multiple situations that need to be investigated and clarified by the monitoring partners. It is not uncommon for small-scale miners to dig in the ground without prior authorisation from public authorities. These mines are illegal. Sometimes, administrative authorisation has been given for sites that are unsuited to extraction activities or which lack ore. There are also hybrid situations, where an administrative or ministerial authorisation has been given for a site that is already being exploited by another company.

3. Labour violations

Mines are unfortunately associated with forced labour and other labour violations. They tend to be in remote areas where oversight may be lacking. Since manual labour remains an important element in mining, exploitation of labour remains an important factor to monitor.

How can labour violations be monitored effectively in mines, and how do they differ from factory monitoring?

Guidelines for monitoring of labour violations can be quite similar to those for factories, so monitors should first carefully read the guidelines for factory monitoring. However, some elements differ and are noted here.

Monitoring artisanal mines

A major difference is when the target mine is an artisanal mine. Artisanal mining tends to be operated in a similar way to family-owned businesses where timesheets, pay slips, or contracts may not exist. In these situations, recorded interviews and written statements may be the only way to prove labour violations. As such, evidence may be weak, but due to their scale, remedy may also be possible even with limited evidence. However, do also note that due to the small-scale nature of artisanal mining, it may not be possible to protect the confidentiality of informants. Monitoring and pursuit of remedy should avoid conflict wherever possible. Workers are likely to have community relationships beyond employment.

Monitoring mining cooperatives

Another major difference is when the target mine is a mining cooperative. Some countries mandate that artisanal mining must be operated by mining cooperatives, and in other countries it is simply customary to set up cooperatives when opening mining businesses. In either case, labour relations are legally different, and therefore remedy processes will be different. However, working hours, pay structures, benefits, and other basic principles of worker protection are no different. Monitoring teams should look for the same issues. Mining cooperatives can create challenging situations where, due to the cooperative status of the mine, workers are allegedly empowered to address issues as outlined in the cooperative bylaws, and/or workers are "self-employed" and consequently not entitled to the protection afforded by labour laws.

Understanding special work environments

Labour in mines and processing operations at industrial scale usually distinguishes between skilled labour and unskilled labour. The former will be managerial positions, and those that require the use and licenses of heavy equipment and/or explosives. These positions tend to have all the documentation available. There are of course risks of labour violations, but monitoring and remedy processes used in factory monitoring can be effective. It is instead the unskilled and manual labour that tends to be undocumented, outsourced, and at risk of major violations.

It is not uncommon for workers engaged in unskilled labour to be direct employees of the mining enterprise, but legally classified as temporary staff workers, employed by labour agencies. However, this is usually only a set up to reduce employment costs. By law, these workers will regrettably not be allowed to join the unions in the mine, if they exist, nor will they benefit from collective agreements signed by the unions.

> A key element of monitoring would be to identify the evidence that can prove hidden labour rights violations of this kind.

Also important to note is that some mining enterprises will have special derogations in place for flexible working hours, sometimes referred to as Compressed Work Week (CWW) arrangements. For example, a mining company may "offer" workers the option to work 20 consecutive days, and then take 10 consecutive days off. This is sometimes allowed for workers recruited in cities to be able to go back to the city to see family. Since mines can be in extremely remote locations, just taking a weekend off will not allow such family time. This is the typical justification, but in reality, their short-term contracts are essentially terminated when they leave the mine site. The workers are then able to sign for a new contract as soon as they return to the city. In this way, workers simply work for 20 consecutive days with only a few days interval.

This can be further compressed in extreme cases to 10 consecutive days with 16-hour work days. In the Philippines, where CWW is often used, legally, the enterprise must allow workers to take the next 20 days off, but this is not always respected. As such, mining enterprises often have unique working hours.

Not all countries have such labour deregulations in place, but it is still common for countries to have some special accommodations for mine workers. Sometimes, mines can also be seasonal work. Therefore, to conduct monitoring of mines, it is important to take the rules in force into consideration, but also workers' preferences.

4. Employment structures and relations

There are four main employment structures among mines monitored:

- Employment at private enterprises

- Co-owners of mining cooperatives

- Employment at government-owned mines

- Small-scale "artisanal" mines owned by families

Employment relations in mines, therefore, can be more complicated than in industry. Workers can be employed under contracts governed by national labour law, or they can be legally defined as co-owners in mining cooperatives, or they can be civil servants employed by the public authority, or self-employed workers. This distinction is important, but not always sufficient to identify the real situation of the worker and his or her economic dependence on other players: for example, self-employed or cooperative workers have incomes that fluctuate according to market trends and local ore analyses of their mineral production.

What should teams consider if the government is the owner of the mine operations?

There is greater risk involved when monitors access sites owned by government, especially in countries with authoritarian governments; there are often measures against research by civil society organisations. In these cases, it is best to follow the procedures above for accessing such sites with even greater caution. Official prior permission to access the site should be secured.

Should monitors seek access to talk with families operating artisanal mines?

Yes. Small-scale and artisanal miners work as subcontractors within wider mine operations, and although workers technically own these mines, there may be manipulative structures in place to conceal exploitation by larger groups.

Do cooperatives ensure democratic decision making at the mining site?

Not always. Some cooperatives are truly worker-driven, like in Bolivia, but in many cases, forming cooperatives simply allows the company to obtain permits to mine. In

such cases, democratic decision-making processes are not necessarily followed, despite them being there legally. Cooperatives can also be formed to pre-emptively avoid unionisation of workers in mines. Thus, when working with cooperatives, it is important to understand the real decision-making processes and assess whether cooperative principles are followed.

While power relations in cooperatives do tend to be similar to those in private corporations, formal decision-making structures and guaranteed rights are different for the workers in cooperatives compared to those in unionised workplaces and/or non-unionised workplaces. It is critical that the monitoring team obtains the statutes of the cooperative, and that the team understands the real processes and culture as well as the written rules.

Situations may arise in which individuals are harassed during the cooperative decision-making process. This may be covered by cooperative statutes, and lead to remediation.

5. Indigenous communities

The Department of Economic and Social Affairs of the United Nations defines indigenous peoples as follows:

"Indigenous Peoples are inheritors and practitioners of unique cultures and ways of relating to people and the environment. They have retained social, cultural, economic and political characteristics that are distinct from those of the dominant societies in which they live. Despite their cultural differences, Indigenous Peoples from around the world share common problems related to the protection of their rights as distinct peoples.

Indigenous Peoples have sought recognition of their identities, way of life and their right to traditional lands, territories and natural resources for years, yet throughout history, their rights have always been violated. Indigenous Peoples today are arguably among the most disadvantaged and vulnerable groups of people in the world." [1]

Internationally, the special rights associated with indigenous peoples are articulated in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP). In addition, countries may have specific constitutional declarations, domestic laws, ordinances and administrative mechanisms to ensure these rights are protected.

How do mining operations create a negative impact on indigenous groups?

Negative impacts of mining include loss of vegetation cover, mass destruction of water bodies, loss of biodiversity, air pollution, land-use changes and food insecurity, increased social problems and conflicts, and increased cost of living. Mine development often prevents local communities from accessing clean land and water, negatively impacts their health and livelihoods, causes divisions over who benefits from the mine and who doesn't, and changes the social dynamics of a community.

Should monitoring of mines for workers' rights cover outreach to indigenous communities?

Yes, for the following critical reasons:

a. The negative impact on their livelihood and natural habitat as breach of human rights;

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1 https://social.desa.un.org/issues/indigenous-peoples/indigenous-peoples-at-the-united-nations

b. The possibility of some locals working in mines or related operations;

c. The alternative ways indigenous groups are included within operations, such as logistics;

d. Agreements made, but violated, such as compensation not paid.

Mine owners often pit workers against the indigenous people, with a false narrative that they may take their jobs (as they are asking for their land to be returned). Collaboration between workers and indigenous communities is important and should be assessed by the monitors.

For this purpose, monitoring teams should be aware of existing legal frameworks that ensure the protection of indigenous peoples' rights. Some countries have better/ stronger protections for indigenous people, but when such laws do not exist, the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the ILO Indigenous and Tribal peoples Convention, 1989 (No 169) can give guidance on what rights should be considered when monitoring impacts on indigenous peoples. See also the section above about the social license to operate (SLO).

6. Environment

Mineral deposits exist in very small proportions within the environment. Some of the most mineral-rich gold mines possess a mineral ratio of 1 ppm (parts per million). To obtain one gram of mineral in such a mine, one metric tonne of solid mine waste will have to be dealt with. While other minerals exist in higher concentrations, it may still only be 1% or lower.

Therefore, environmental impacts just from the extraction of minerals can be enormous. This includes the massive amounts of mine waste and environmental destruction that comes with extracting minerals: deforestation, alteration of landscape and watersheds, and air pollution from airborne particles. In addition, toxic chemical substances are often used in the processing of minerals. These include high concentrations of acids, cyanides and mercury. Leaks and spills of these substances can damage the environment and are health hazards to both residents and workers.

What is the first step in assessing environmental impacts?

The first step in understanding potential environmental impact is understanding the ore and mining methods at the mine.

For commercial mines, the easiest way to do this is to obtain a copy of the environmental impact assessment or a submission made to local authorities to obtain mining licenses. These documents are typically filed with the local jurisdiction or administrative agencies (e.g. Ministry of Mines). These documents are also important because they offer information on what the mining companies assume to be the risks and how they plan to manage those risks. The risks outlined in these documents will offer hints on what first to look for: does the mine really acknowledge the risks, and are mitigation efforts sufficient? Do the assumptions hold?

How can health impacts be assessed?

Typically, interviews are conducted in the community to identify recognisable impacts on health. When certain symptoms are repeatedly reported, this can be probed further by conducting community health surveys. Gaining trust and cooperation from local clinics and doctors can also offer insight into commonly observed health impacts in the community. When symptoms exceed what might be expected in naturally occurring cases, monitoring teams should find health experts who can assist with further

epidemiological or toxicological studies. More information on hazards and injuries can be found below under the chapter on child labour.

How can impacts on water resources be assessed?

Another element to look for in assessing the environmental impact of mines is the effect on water. Mines, like many factories, tend to be water intensive. Monitors should speak to community members to assess the depletion of water resources. Another impact is alteration of watersheds. By digging a hole in the ground, surface and groundwater flows can be altered and cause some water sources to dry up and others to flood. This information can be found relatively easily through interviews with community members. Try to access local farmers, as they tend to be more aware about water resources.

Water pollution can be less visible. The most common impact is sedimentation, and one measurable water contamination standard is Total Suspended Solids (TSS). The TSS values become higher when, for example, sand and gravel particles are released in the water. This usually makes the water murky and is visibly noticeable. Water with high levels of TSS will not be suitable for household use or farming unless the suspended particles are filtered out.

Other common pollution is not always visible. Even water that looks clear and clean may contain chemicals used in processing, or heavy metal elements that dissolve in water. Since this is not immediately visible, identification can be difficult. Key testimonies to look for are health impacts on people and livestock (e.g. rashes, sudden death of livestock, stomach aches, low yield of produce). Water samples will have to be analysed in sophisticated labs to identify the type of contamination. However, since the universe of toxic elements can be enormous, it is important to identify likely substances that are causing the pollution by first identifying the ore and mining/processing technology that is being used.

For heavy metal pollution, Inductive Coupled Plasma Mass Spectrometry (ICP-MS) analysis of water samples is a good place to start. Many science and technology universities have equipment to conduct this analysis and can assist monitoring teams in understanding which metallic elements exceed international standards.

For chemical pollution, understanding the environmental impact analysis and environmental permits will help identify likely elements.

Other environmental impacts

Other typical environmental impacts include loss of biodiversity and natural habitat. However, this is far more difficult to assess than impacts that can be easily felt by

humans. When deforestation and water pollution is observably severe, it is advisable to partner with environmental NGOs. It is also important to anticipate social consequences, especially by raising awareness with the local population about the impact of mines on the environment. Raising these issues can sometimes bring about an abrupt halt to mining operations, especially when endangered species are affected.

7. Occupational health and safety

> Mining is infamous for its harsh labour conditions. Historically it has been the industry of choice for many cultures to deploy slave labour and/or prison labour. While modernisation has brought much safer conditions for workers, mining remains one of the most dangerous occupations.

What are some typical work-related accidents or illnesses?

The most typical accident worldwide in the mining sector is the physical collapse of mines, or so-called "cave-ins". This happens in small scale/artisanal mines with minimal scientific analysis of mine structure, but also in larger industrial mines due to engineering failures. A famous example of the latter is the Copiapo Copper Mine incident that left 33 miners buried for 69 days. Less severe accidents like rock falls and slip-drops can occur easily in mines.

Physical damage can also be caused by suffocation, especially in deep narrow mines. This can occur either due to lack of oxygen or from hazardous gases saturating the pit.

Repetitive physical trauma is also common in artisanal mines. Hammering and drilling both require repetitive motions that accumulate physical damage. The transport of rock ore can also cause back injuries. In many mines, workers do not alternate between roles, so accumulation of physical damage to specific parts of the body is unfortunately extremely common and is a sign of very basic working conditions.

For longer-term and less immediate effects, monitoring partners should also investigate skin irritations and respiratory issues. The former is typical of the gradual accumulation of chemical reactions to the skin, while the latter is common in mines that generate fine airborne particles that are captured by the lungs.

Both illnesses can be mitigated by wearing personal protective equipment (PPE). However, it is common for workers to have to supply their own equipment, or for the cost to be deducted from their salaries. In most countries, it is the obligation of employers to provide PPE, but this is not always enforced. It is one of the most frequently cited labour violations.

Chemical hazards associated with mining and processing are also common. The best-known and most dangerous among them are the cyanides and mercury used to convert gold into a liquid state to facilitate extraction from the waste rock. They can not only be damaging to the environment, but also create hazards for workers. Both can be easily

inhaled, with cyanide causing acute chemical reactions and mercury causing long-lasting brain damages. Similarly, when mine operations involve on-site processing, risks to occupational health and safety can increase exponentially depending on the type of processing. In modern industrialised processing plants, conditions can be similar to electronics factories, but in more primitive processing plants, additional hazards can arise during the processing phase rather than mining phase, depending on the ore and the specific process.

How can occupational health and safety issues by monitored?

As in factory monitoring, the first steps should be worker interviews validated by payslips, labour contracts, compensation receipts and other documentation. There are many other methodologies that can be applied from experiences in factory monitoring.

Some mining industry-specific points include: 1) special accommodations for flexible working hours such as CWW, 2) high number of physical trauma cases, and 3) high number of fatal incidents.

> To accommodate and justify flexible working hours, payslips and contracts can be quite unique. Obtaining and understanding them is key.

Physical trauma is the most prevalent issue in mine occupational safety. Unfortunately, it has become so commonplace in the industry that workers are almost resigned to numerous cases. Handrails, fixed ladders other safeguards are not common features, and lack of safety remains the industry standard. Communication with workers must be based on that understanding.

The high rate of fatalities also creates difficulties in monitoring. Family members may have moved to cities, and the death of the worker makes it impossible to interview and get to the bottom of accidents.

In addition, workers who suffer lasting disabilities from physical trauma, or family members of deceased workers, may be receiving pensions that make it difficult for them to be openly critical of the mining enterprise. Special caution must be taken to understand causes, prevention and remedies.

To monitor processing procedures, it is important to understand the ore deposit and what the final marketable product is.

List of risks to be identified:

- **Assessment of hazards at the workplace:** this is a comprehensive list and includes information about working hours (underground work and exposure to hazards impact the health of workers).

- **The presence of dust, and the kind of dust:** silica is the most common dust present in ore, but it can also be the element extracted – nickel, copper, etc. Each can cause a specific respiratory disorder.

- **Noise:** instruments/machinery used to extract minerals often cause dangerous levels of noise (above 85 decibels).

- **Vibration:** if workers are using pneumatic tools to drill it can impact their bodies.

- **Chemicals used at the mines as well as at the smelters.** It is very difficult to get information about chemicals, as employers often do not share it. Even though there may be laws about informing workers of the chemicals being used, in the language they understand, and to display this in the workplace, it is very hard for workers to get the exact names. Often they are told to mix chemicals from "the blue container" or it will have some local name. It is very important to get the exact scientific names of all chemicals being used as a first step to assessing the possible impact on the health of workers, as well as nearby communities and the environment.

- **In smelters, furnace explosions are very common and countries have specific laws and inspections to cover these accidents.**

Information on all possible hazards should be gathered from workers and communities. If possible, information about chemicals should be collected from management.

Assessment of health impact on workers

It may be possible to collect accident data either from workers or from local news outlets. It is important to draw a picture of potential accidents, and the kinds of accidents that occur at the workplace, and fatalities or hospitalisation of workers. It is also important to know if workers are covered by health insurance or if they have to pay for the cost of treatment, if workers receive any compensation for ill health or loss of employment due to accidents, and if employers are held liable.

Assessment of health impact is difficult but important to collect, considering that many workers' health is impacted by mining yet remains invisible. To identify the health issues that workers face, information can be collected by interviewing workers and using innovative techniques like body mapping exercises (also known as barefoot epidemiology). It will give an idea of commonly existing diseases among the workers.

If there is concern about chemical exposure, then methods of investigation like bio-monitoring could be applied, to find out what chemicals have entered workers' bodies and communities. Occupational lung diseases are the most common due to inhalation of fine dust particles like silica dust, leading to conditions such as occupational asthma, chronic obstructive pulmonary disease (COPD) and pneumoconiosis. It is also important to know if any workers have died recently of any disease. This information can be gathered from interviewing the workers and communities that live around the mine sites.

Doctors can also be interviewed to understand which common diseases workers are complaining about. However, small artisanal mines may not have proper doctors. In such cases, community health workers or healers can also be approached.

Some of the organized or bigger mines have periodical medical examinations for the workers. It helps to maintain health records of the workers to establish if work is causing any disease. Lung X-rays are an important part of the examination. Employers often do not share the reports with workers, so any information that can be obtained is valuable.

Specific ILO Conventions to be consulted are as follows:

Most relevant convention:
- C176 Safety and Health in Mines Convention, 1995

Other conventions:
- C45 Underground Work (Women) Convention, 1935
- C123 Minimum Age (Underground Work) Convention, 1965
- C124 Medical Examination of Young Persons (Underground Work) Convention , 1965

Recommendations:
- R183 Safety and Health in Mines Recommendation, 1995

8. Child labour in mines

Child labour is defined by the ILO as "work that deprives children of their childhood, their potential and their dignity, and that is harmful to their physical and mental development". (ILO Conventions 138 and 182 refer to child labour.)

It refers to work that:

- Is mentally, physically, socially or morally dangerous and harmful to children; and/or

- Interferes with their education by depriving them of the opportunity to attend school, obliging them to leave school prematurely, or requiring them to attempt to combine school attendance with excessively long and heavy work.

Whether or not particular forms of work can be called child labour depends on the child's age, the type and hours of work performed, the conditions under which it is performed, and the national context. For example, each country determines the minimum legal age for certain tasks or to carry certain weight, unfortunately sometimes below international standards.

In Bolivia, Article 127 of Law 548 of the Child and Adolescent Code states that activities carried out by children and adolescents within the family and community social framework have a formative nature and serve the purposes of socialisation and learning. This article has been used to justify instances of child labour. However, the same Law number 548 regulates this matter in its Articles 129 and 136. The latter prohibits labour activities and work that, by their nature and conditions, are dangerous, unhealthy, or detrimental to the dignity of the child and adolescent. According to its nature, work in mining (such as a miner, driller, lamer, or dynamiter) is prohibited. Therefore, mining work in general is understood as inherently dangerous, hence prohibited for individuals under 18 years of age.

It Is also important to distinguish between child labour and the worst forms of child labour. The Organisation for Economic Co-operation and Development (OECD) refers to Child Labour in its report "Practical actions for companies to identify and address the worst forms of child labour in mineral supply chains" as follows:

"Not all work by children is child labour, and not all child labour falls under the internationally recognized legal definition of the "worst forms of child labour". Many of the activities defined as "hazardous work" under international law occur in mining. These activities include working underground or underwater, working with dangerous machinery

and tools, carrying heavy loads and work that exposes miners to hazardous substances. Children who work for third-party adults have a high risk profile when it comes to other issues such as child trafficking or the risk of sexual abuse, especially for girls. Sexual and physical abuse – also covered under the definitions of worst forms of child labour – are also prevalent in mining work." [2]

How common is hiring underaged workers in the mining industry? Does the mine leadership verify or keep records of workers under 18?

ILO Convention No. 138, the Minimum Age Convention sets the minimum age for work for children at 15, and provides a range of protections to those working children:

"The minimum age of 15 only applies to work that is not defined as one of the worst forms of child labour, including hazardous work, which is prohibited for persons below the age of 18. The ILO estimates the global number of children in child labour at 168 million children. Of this number, about 1 million children are working in mining or quarrying in gold, tin, coal, diamonds, gems, stone and salt mines and the number is increasing. Almost all child miners work in artisanal, small-scale informal mines." [3]

Some of the questions that monitoring partners could ask workers to understand whether child labour is occurring at the mine might include: do your children help you? Do the children sometimes go to school, and do they sometimes come to the mine? These types of questions can help gather evidence although it is by building trust that such information can be made openly available.

Cobalt mining often involves injuries, death and health hazards. Stone mining causes dehydration, respiratory infections and accidents. Gold mining exposes children to toxic vapours and mercury-poisoning, and mining salt exposes child miners to dizziness, skin problems and iris discoloration.[4]

The table below is reproduced from the Organisation for Economic Co-operation and Development (OECD) as seen in its report "Practical actions for companies to identify and address the worst forms of child labour in mineral supply chains":

2 https://mneguidelines.oecd.org/Practical-actions-for-worst-forms-of-child-labour-mining-sector.pdf
3 https://mneguidelines.oecd.org/Practical-actions-for-worst-forms-of-child-labour-mining-sector.pdf
4 https://mneguidelines.oecd.org/Practical-actions-for-worst-forms-of-child-labour-mining-sector.pdf

Table 2. Selected common mining and quarrying tasks, hazards and potential consequences [5]

Tasks	Hazards	Injuries and potential health consequences
Tunnelling, diving into muddy wells	Drilling equipment; explosives; confined spaces; faulty supports; stagnant air; poisonous gases; dust; darkness; dampness; radiation	Death or traumatic injury from tunnel collapse; suffocation from compressor mining; injury from explosions; silicosis and related respiratory diseases; nausea; exhaustion
Digging or hand-picking ore, slabs, rock or sand	Heavy tools; heavy loads; repetitive movements; dangerous heights; open holes; falling objects; moving vehicles; noise; dust	Joint and bone deformities; blistered hands and feet; lacerations; back injury; muscle injury; head trauma; noise-induced hearing loss; breathing difficulties; frostbite, sunstroke and other thermal stresses; dehydration; blunt force trauma, loss of digits, limbs; eye injuries and infections from shards, dust
Crushing and amalgamating; sieving, washing and sorting	Lead, mercury and other heavy metals,; dust; repetitive movements; bending; squatting or kneeling	Neurological damage; genito-urinary disorders; musculoskeletal disorders; fatigue; immune deficiency
Removing waste or water from mines	Heavy loads; repetitive movements; chemical and biological hazards; dust	Musculoskeletal disorders; fatigue; infections; skin irritation and damage; respiratory issues from exposure to chemicals and dust
Transporting materials via carts or carrying	Heavy loads; large and unwieldy vehicles	Musculoskeletal disorders; fatigue; crushed by vehicles
Cooking and cleaning for adults	Physical and verbal abuse; unsafe stoves; explosive fuels	Injury from beatings; sexual abuse; burns
Selling goods and services to miners	Physical and verbal abuse	Injury from beatings; behavioural disorders, sexual abuse or harassment
Mining and quarrying in general	Remote locations; lawless atmosphere; poor sanitation; lack of protective gear; contaminated drinking water; stagnant water and mosquitoes; inadequate nutrition; degraded environmental conditions in air, water, soil, food; recruitment into sex trade; human trafficking and forced labour; gambling, drugs and alcohol	Death for lack of medical treatment; behavioural disorders; addiction; sexually transmitted diseases; pregnancy; stunted growth; diarrhoea and digestive disorders; malaria and mosquito-borne diseases

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5 https://mneguidelines.oecd.org/Practical-actions-for-worst-forms-of-child-labour-mining-sector.pdf

Even though they may not be legally considered children due to their age, monitoring partners should check if young or juvenile workers are exploited in mines, for example through internships or apprenticeships.

It is common to employ young workers or juveniles in mines due to their physical ability to fit into small spaces, as well as ease of exploitation compared to mature or experienced workers. Monitors should carefully examine local and international law governing employment of juveniles in mines, which in almost all cases should be banned due to extreme danger posed by mining activities and threat to development of youth, both physically and mentally.

9. Armed groups and violence

Since the United Nations Special Rapporteur published its report on the causes for the protracted armed conflict in Eastern DRC, it has been internationally acknowledged that mining in conflict areas can be associated with armed groups and violence in the area. It is one of the most crucial elements of supply chain due diligence.

How can mines be monitored for potential contributions to armed groups?

First of all, it is important to note that no mine that is accessible to monitoring teams will admit to funnelling money to armed groups involved in the conflict. Mines that are under the effective controls of armed groups do exist, and this guide does not deny that fact. However, those that are visibly controlled by armed groups should be taken out of the supply chain to begin with, and should not be a target of monitoring efforts. The targets of monitoring by Electronics Watch monitoring partners are mines that claim to be "conflict free".

That said, monitoring teams should also understand that most money flowing into armed groups is not through direct sales of minerals but by illegal taxation of mining communities. Therefore, mining communities and enterprises will claim they are legitimate and conflict free, but their revenue can be deducted through illegal taxation post-sale of minerals, and still fund armed groups. Thus, tracking the physical chain of custody will not necessarily offer monitoring teams any clues on whether the mine is funding conflict. It can be more effective to interview community members about the conflict situation in general, and to see if there are any complaints about illegal taxation or extortion by armed groups, and/or community members involved in violence repeatedly asking for money.

Bear in mind that monitoring teams should take extra caution, as suspicion can lead to retribution and at times can cause life-threatening situations. Journalists and NGO staff continue to be targets of kidnapping and murder. Probing for involvement in armed conflicts should be done with the utmost caution.

What are the steps to consider if signs of involvement with armed conflicts are found?

The situation must be assessed with trusted community members and Electronics Watch staff. As mentioned above, most cases where mineral revenue fuels the conflict involves taxation of mining communities. This means community members are not willing participants in the conflict, and that they are reliant on mining revenues as their source of basic income. Unilaterally cutting ties with such communities increases poverty and can push them into further involvement in the conflict. Thus, regular monitoring, security protocols, and effective development programs should be considered in cooperation with other civil society organisations experienced in armed conflict crisis management, where they exist. Electronics Watch and monitoring partners should work to facilitate the engagement of partners and companies involved in the supply chain with local development experts to mitigate the situation.

10. Identifying supply chains

Needless to say, minerals are not directly sold to consumers or public buyers, so identifying supply chains and communicating the relevance of our monitoring work is critical. Here are some methods that may be useful in identifying supply chains.

Industrial mines

For industrial mines, major investments will have to be made prior to beginning commercial mining. Since the development of mines can take years, developers often make open calls to attract investment where they explain where they plan to sell the minerals once produced. In many cases, they will form joint ventures with downstream suppliers to indicate secured procurement deals. These calls can take the form of press releases by mine developers, or be recorded in Securities and Exchange Committee filings if the company is seeking investments in the United States. In the US and EU, where most investments are obtained, companies cannot state speculative deals when attracting investments. Thus, information noted on calls for investment can be considered concrete evidence of supply chain relationships.

Places to look:

- Corporate press releases

- Corporate SEC filings

- Reporting by financial news outlets (e.g. Financial Times, The Wall Street Journal, Bloomberg News, etc.)

In addition to the above publicly available information, NGOs such as London Mining Network, Mining Watch Canada, Global Witness, Banktrack and Fair Finance International conduct research on investments associated with mining projects, and can be a good source for identifying investments. Activist-leaning thinktanks and consultancies such as Profundo may also assist in gathering information from Bloomberg and Thomson Reuters and other paid subscriptions to investment information.

Artisanal mines

Identifying supply chains of artisanal and small-scale mines can be much more difficult. They do not necessarily publish their buyers, and they do not have the scale to become exclusive suppliers. The key for identifying supply chains for these smaller mines is to

identify smelters. The mines themselves will usually not have the capacity to develop industrial-grade mineral ingredients. In addition, responsible electronics suppliers will have identified supply chains up to smelters and will be essential in communicating with the brands and seeking remedies.

This is also where bagging and tagging identifiers of supply chains can be useful. If the targeted mine is participating in these traceability schemes, it will be easier to identify smelters. If not, monitoring teams will have to identify middlemen, shipment routes, and identify by foot where the supply chain linkages are.

11. International standards and instruments

The following standards are references for monitoring partners. They provide useful guidelines and suggestions for work in the field.

Organisation for Economic Co-operation and Development (OECD)

The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas provides detailed recommendations for companies to respect human rights and avoid contributing to conflict through their mineral purchasing decisions and practices. This Guidance is for use by any company potentially sourcing minerals or metals from conflict-affected and high-risk areas. The OECD Guidance is global in scope and applies to all mineral supply chains.

European Project for Responsible Minerals (EPRM)

The EPRM is a multi-stakeholder partnership with the objective of increasing the proportion of responsibly produced minerals from conflict-affected and high-risk areas (CAHRAs) and supporting socially responsible extraction of minerals that contribute to local development. EPRM provides useful information on its website, including case studies reflecting the challenges and solutions on the way, and how to comply with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

European Union (EU)

The EU has adopted Regulation (EU) 2017/821 that will directly apply to companies that import tin, tungsten, tantalum and gold minerals and metals into the EU, no matter where they originate.

International Labour Organization (ILO)

The International Labour Organization also published a number of important resources that can support monitoring partners. The ILO has adopted the Hours of Work (Coal Mines) Convention (No. 31) in 1931, the Safety and Health in Mines Convention (No. 176), which was adopted in 1995, and the related instrument R183 Safety and Health in Mines Recommendation, 1995.

Additionally, the ILO created Guidelines for the use of the International Classification of Radiographs of Pneumoconioses that provides a means for describing and recording systematically the radiographic abnormalities in the chest provoked by the inhalation of dust.

Initiative for Responsible Mining Assurance (IRMA)

The IRMA standards and guidelines are useful to obtain hints on how monitoring can be more effective. Standards run to over 200 pages, and the guidance document is over 600 pages. Refer to the sections which are most relevant in your monitoring. It is not a fully comprehensive guide to monitoring, but it is more detailed than this guidance document and also gives hints on what evidentiary materials can be looked for to support your monitoring findings.

EU Raw Materials Coalition

This a network of civil society organisations that focus on the environmental impact of mining, although they also consider the impact on local communities. The coalition operates through specialized Working Groups that focus on key topics such as the new Critical Raw Materials Act, Due Diligence and Trade, Beyond Growth and Raw Materials and Global Justice. Electronics Watch is a member of the Coalition.

Appendix: Electronics Watch template for reporting tracking data

In order to facilitate your monitoring activities , use this template to guide your steps and to report your evidence and conclusions. Provide all documentary evidence, including photos and videos, to a secure Electronics Watch folder.

1. Factory or mine

Please provide the following information.

- Full legal name
- Company section, if applicable
- Complete physical address

2. Employer

Who is the employer of the affected workers? Please provide the following information.

- Full legal name
- Complete physical address
- Type of company and relationship with the factory or mine, such as a subcontractor or employment agency. The employer may be the same as the factory or mine, and there may be multiple employers.

3. Products

Please provide the following information.

- Name and/or describe the products the affected workers make or the minerals they mine in as much detail as you can.
- Name and/or describe other products/minerals produced by the factory or mine.

4. Buyers and suppliers

Describe the downstream and upstream supply chain in as much detail as possible.

- List the buyers of the products or minerals and their relative importance, if known.
- Please provide any information you have about the relationship between the factory and the mine and its buyers.
- List any major known suppliers to the factory or mine, including any components or equipment supplied.

5. Methods

Describe the methods you used to track. Use this checklist to make sure you include all activities.

- ☐ Personal interviews with line workers (or cooperative members)
- ☐ Personal interviews with supervisors and managers
- ☐ Personal interviews with other relevant parties
- ☐ Surveys
- ☐ Discussion in focus groups
- ☐ Document collection (list all types of documents, such as contracts and payrolls)
- ☐ Observations of the workers' living and working environment
- ☐ Monitoring online forums in which workers participate
- ☐ Interaction with workers through social media
- ☐ Review of secondary sources, such as academic reports

Answer the next questions.

- For what period of time did you conduct monitoring activities?
- Where did you conduct the interviews and focus group discussions? How long did they last approximately? What were the themes?
- Number of workers you interviewed, including relevant background information: their nationalities, gender, and type of work.
- Number of other people who participated in the investigation, such as HR directors and other managers, recruitment agents, union staff or expert consultants.
- Number of people in individual interviews versus number of people in group discussions.
- Are you still in contact with the workers? Could you follow up with them?
- What are the limitations of the research? What questions were you unable to answer?

6. Question

For each issue, please provide the following information.

6.1. Detailed explanation of the issue

Examples:

If it is about describing incidents, something that has happened to workers, such as forms of harassment or accidents:

- Describe in as much detail as possible: What happened or what is the problem? When did it happen? Where did it happen? Who is involved?

If you are describing working conditions, such health and safety conditions:

- Describe in as much detail as possible: Who is experiencing the conditions? What do they experience? How does it affect them? Where do they experience it? When do you experience it? Who else is involved?

If you describe compensation and benefits

- Describe in as much detail as possible: What do workers receive? When? What type of benefit is it? What do they not receive and should receive? Do workers have to pay for something? Are deductions made from workers' pay checks? How much, how often and for what?

6.2. Affected workers

Describe the workers affected by the problem

- Describe the duties of the affected worker(s) and their daily work.

- Describe the forms of employment of affected workers, such as regular workers, agency workers, temporary workers, student interns or cooperative workers.

- Describe other relevant characteristics of the affected workers, such as sex, immigration status or age. Describe the job functions of the affected worker(s) and their day-to-day work.

6.3. Type and quantity of tests

What type of data do you have for this matter? How many? Please indicate if you have:

- First-hand information from the affected worker or workers

- Second-hand information from other workers

- Documentary evidence (upload this data, along with this report)

- Photographs or videos

- Your own physical observations

6.4. Relevant laws and regulations

Is the issue regulated by a legal code or regulation? If so:

- Please describe the legal requirement in detail.

- Cite the law or regulation in its entirety.

- Provide an Internet link to an English translation of the law or regulation, if available.

6.5. Relevant international standard

If you know, please also indicate whether the issue is regulated by an international standard, such as an ILO convention. If so:

▪ Describe the requirement of the standard.

▪ Provide a full citation of the standard.

6.6. Actual violation or risk of violation?

Please provide the following analysis

▪ Does your evidence show a violation of the law or international standard?

▪ Does it only indicate that there is a risk of infringement, but not an actual infringement?

▪ Does it demonstrate that the working or employment conditions cause harm to workers even if there is no violation or risk of violation?

6.7. Prior efforts on this issue

Previous efforts on this topic

▪ Have you or have others documented the problem before?

▪ If so, who reported it? When did they report it?

▪ Which it was the result?

▪ Please also provide a reference to the report.

6.8. Remediation

Please provide the following analysis and recommendations.

▪ Remediation: What should be done to remedy the violation?

▪ Reparation: Should workers be compensated for the damage they have suffered? As?

▪ Prevention: What should be done to prevent the problem from recurring? What is the root cause analysis?

▪ Who caused the problem and is directly responsible?

▪ Who else may have contributed to the problem?

▪ Who else has influence to remedy, repair and prevent?

▪ What role should Electronic Watch play in supporting remediation, repair and prevention?

6.9. Other areas of relevance monitored during the visit:

- Environmental

- Indigenous peoples' rights

- Other human rights (e.g. residential rights, water rights)

- Armed conflict

- Other

Please describe the (risk of) violation following the same questions indicated above where relevant.