



BHP IN SOUTH AMERICA

BHP-Billiton is the world’s largest mining company. The dual-listed company was formed in 2001 with the merger of Australian mining company BHP and Anglo-Dutch Billiton plc.

Communities living near BHP mines in South America have a long history of resistance and subsequent problems associated with the company. Controversy has dogged many of BHP’s interests in South America, sometimes for decades. Then of course there was Samarco, the world’s worst tailings mine disaster and Brazil’s worst environmental disaster.

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** Copper cathode is used for copper rod for the wire and cable industry.*

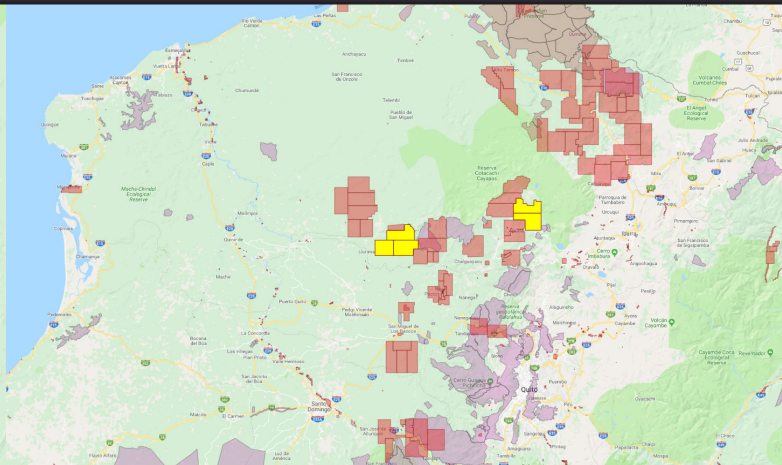
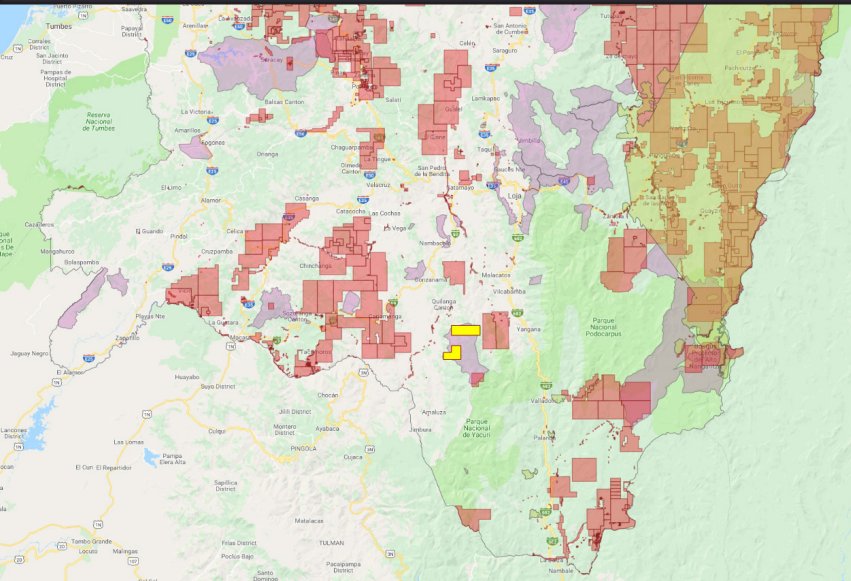
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ECUADOR - EXPLORATION HOTSPOT

BHP CONCESSIONS IN ECUADOR



BHP concessions (in yellow). Mauve areas on map indicate Protected Forests. Left top: South of Ecuador. Above: North of Ecuador. Left: Ecuador with SolGold concessions (in yellow).

BHP and Newcrest Mining are now both major shareholders in Brisbane-based company SolGold, with BHP holding a 11.2% stake, and Newcrest holding a 14.5% stake.

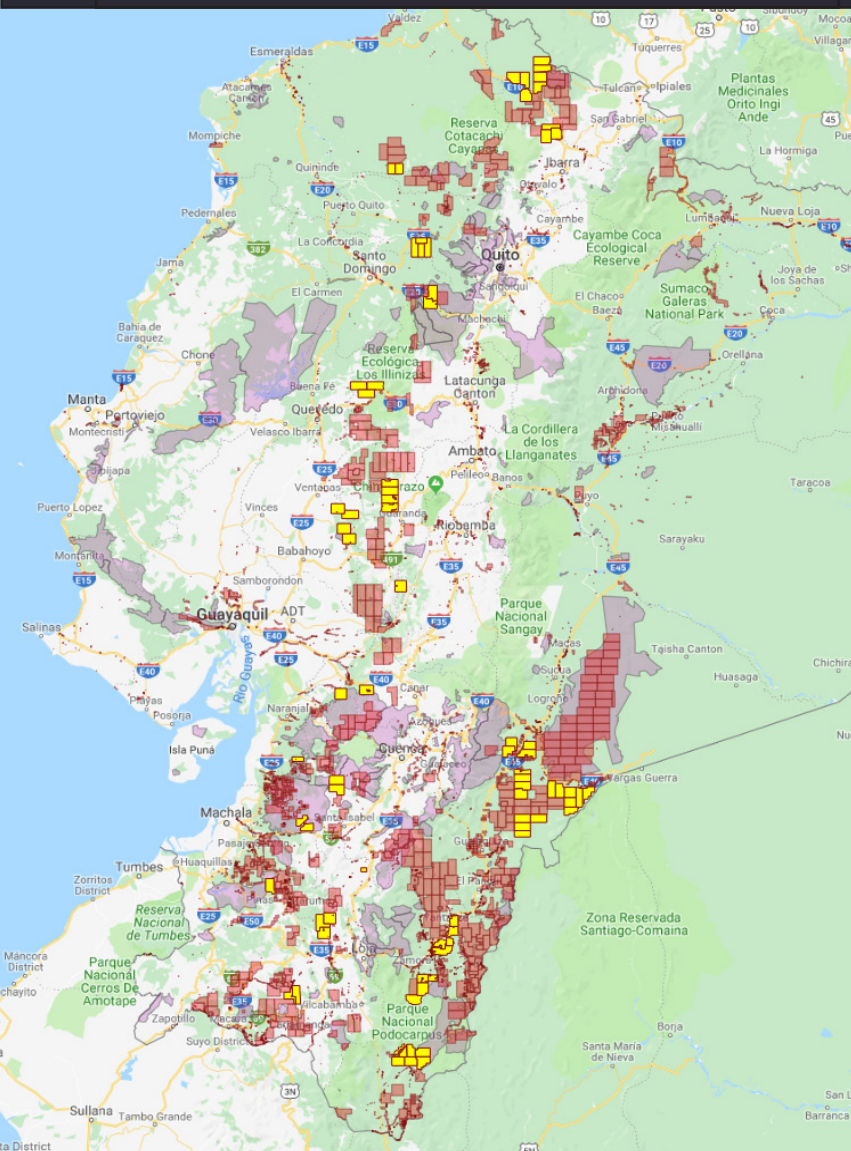
SolGold has positioned itself as the leading Australian investor in mining exploration, with 64% of all concessions held by Australian companies, and 18% of all mining concessions sold in Ecuador (as of January 2018).

SolGold's Cascabel mine in the Imbabura province of northwest Ecuador is estimated to contain an 'indicated' 8.4 million tonnes of copper metal and 19.4 million ounces of gold.

With SolGold's Cascabel mine mooted to be as big as Escondida in Chile, and rumours suggesting Newcrest and BHP are in a tussle to take over SolGold, BHP's involvement in Ecuador is likely to be significant.

BHP also holds several concessions in Protected Forests near Cascabel, which if found to have significant copper reserves may also be mined.

SOLGOLD CONCESSIONS IN ECUADOR





The forests and vegetation of Intag where BHP has its concessions are within two of the most important biological hotspots in the world: the Tropical Andes, and the access points to the Choco/Darien/Western Ecuador (Myers et al., 2000). Here, the concessions border on several biologically significant reserves, including the Cotacachi Cayapas Reserve and the Los Cedros Reserve which is also under threat of mining by ENAMI and Cornerstone Capital Resources.

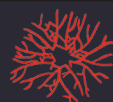
In the case of the primary tropical and subtropical cloud forests, very little remains in the northwest of Ecuador, and they constitute habitats for forest animals in danger of extinction. The BHP Billiton concessions also include ten vital water sources that supply local communities.

BHP Billiton has been active in Ecuador since at least 1999 when it had options to explore properties in the Rio Zamora valley in south east Ecuador. In 2002 BHP transferred a number of properties to the Canadian company, Corriente in two joint-venture agreements, including Mirador. BHP retained a 2% net smelter interest.

BHP Billiton operates in Ecuador under the subsidiary "Cerro Quebrado S.A". As of November 2018, they are undertaking initial exploratory activities in five areas located in the province of Imbabura. Two of these, in the area of Intag, are only five kilometres from the Cotacachi-Cayapas Ecological Reserve and are on top of two native cloud forest reserves.

Their concessions in Intag cover 9, 266 hectares, in the parishes of Cuellaje, Apuela and Plaza Guitiérrez. 4,326 hectares correspond to the concession named Santa Teresa 1, and the other 4,940 to the concession Santa Teresa 2.

BHP is still in exploration phase in Ecuador as of December 2018.



February 2015: Ecuadorian Government creates Ministry of Energy and Mines and begins issuing new mining exploration licences throughout the country.

October 2016: BHP offers Solgold \$305m for its copper and gold discoveries in Ecuador, but instead SolGold approved a financing proposal by Newcrest Mining to help it develop Cascabel mine in Ecuador, after the Solgold board rejected an alternative package offered by BHP.

November 2016: BHP becomes interested in a number of copper projects in Ecuador, including a potential partnership with state-owned miner Enami and Chile's Codelco in their joint Llurimagua copper and molybdenum project.

June 2017: BHP to invest \$41m in Ecuador, Ecuador resumed granting exploration licences in late 2016, the first for 6 years. Raised \$415m for the company in new exploration.

July 2017: BHP sets up an office in Cerro Quebrado, Ecuador and will spend \$82m on exploration, with a base at Quito. BHP concentrating explorations in five areas located in the province of Imbabura around Sabeleta and Santa Rosa.

16 July 2018: Fundación EcoMinga, an Ecuadorian conservation organization, expressed its concerns to the Municipality of Cotacachi regarding BHP employees illegally entering their properties despite formal agreements with company spokesmen that prohibited the entry of employees without consent. The employees entered between July 7 and 9, clearing an area of forest for a camp, which is a sensitive habitat for the Rhaebo Olalai, an extremely rare and endemic Andean frog.

September 2018: BHP acquires options 6.1% in Solgold by buying shares from Guyana Goldfields (for almost \$50m), with rumours suggesting that it wants to own Solgold. BHP has four exploration licences in close proximity to Cascabel and gained those rights by pitching an \$80 million exploration works program to the Government.

September 16, 2018: BHP goes after the owners of the website, www.bhpecuador.com. The site had been bought and paid for legally, and registered legally. They also requested FaceBook pressure name changes for the FaceBook site BHP Ecuador.

October 2018: BHP ups its shares in Solgold as it eyes off Solgold's Cascabel copper-gold project. Solgold will issue 100 million shares to BHP raising their stake to 11.2%, from 6%. Copper is expected to be in demand for use in renewable energy and electric vehicles, but new opportunities are scarce.

October 2018: October 2018: BHP executives visit a community in the Intag area. They said they had consulted the president of the community before; however, they had not done it. In fact, the community had voted by secret ballot on two previous occasions not to allow BHP to conduct any activity in its territory. The commune and its president file a new complaint against BHP, and reiterate by majority vote that BHP is not welcome in this area.

In 2018 BHP Billiton acquired part of the mining project Cascabel, belonging to Australian company Solgold, which has also obtained concessions in the Ecuadorian Amazon. Cascabel is in the province of Imbabura, in zones of hydrological importance and in tropical forests with high biodiversity and endemism.





SAMARCO MINE

Owned by: BHP 50%/Vale 50%

Minerals: Iron Ore

Samarco is a Brazilian Mining Company formed in 1973 by the merger of Samitri and Marcona Corporation. In 1984 BHP took over Utah-Marcona (then 49% owners of Samarco). In May 2000 CVRD bought and incorporated Samarco, and formed a 50/50 joint venture with BHP. CVRD changed its name to Vale in 2007. Samarco is based in the south-eastern Brazilian state of Minas Gerais.

The Fundao dam started operation in 2008. It was designed to contain a total of 80million m³ of fine tailings and 30 million m³ of sandy tailings during its 25-year lifespan. By November 2015 however, 50% of the dam had already been filled with iron ore tailings, after 7 years of operation, due largely to record levels of Brazilian iron ore production between 2013-15.

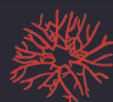
In late 2015 it was confirmed that Vale used the Fundao area to store waste from iron ore production, including waste from treatments plants from the nearby Alegria mine. This was the first time Vale admitted storing waste materials in the dam.

On the 5th of November 2015 the Fundao iron tailings dam, collapsed at the Samarco iron ore mine upstream of the village of Bento Rodrigues. Nineteen people were killed, 50 injured, and 90% of Bento Rodrigues's homes were destroyed. The flood of mud directly impacted in 2000 people. 670 km of the Rio Doce River was devastated from tens of millions of cubic metres of tailings.

IMPACT OF THE SAMARCO DAM COLLAPSE

The amount of tailings and extent of the pollution was the most ever recorded in a mining disaster in the world. The worst impact occurred in the first 80km of the river with 90% of tailings remaining upstream of the Risoleta Neves (hydroelectric) Reservoir, 120 km downstream of the Fundo dam.

Thirty-nine municipalities in two states, Minas Gerais and Espirito Santo were impacted. Nine city water supplies were impacted (arsenic, lead and mercury contamination were detected at levels 20 times higher than Brazilian regulations), including Governador Valadares (population 260,000). 300 families in Bento Rodrigues and Paracuta have had their lives severely impacted, with their communities turned into ghost towns. Communities along the length of the river have lost their livelihoods.



Thirty-five percent of residents from Barra Longa, one of the worst-hit towns 70km downstream of the dam failure, reported that their health had worsened after the disaster, complaining of respiratory problems, skin conditions, mental and behavioural disorders, infectious diseases, eye diseases and gastric and intestinal problems.

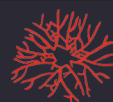
For children up to 13 years of age, respiratory illnesses accounted for 60 percent of all complaints. More than half of those surveyed said they had stopped doing some of their household activities and 49 percent said the disaster had left them bedridden.

State Governments in Minas Gerais and Espirito Santo handed out 68 notices and fines to Samarco after the event. It was estimated that 7000 families immediately impacted by the disaster would receive compensation.



The Doce river basin lies between two biodiversity hotspots (Atlantic Forest and Brazilian Savanna). The diversity of the Rio Doce River was severely impacted. 900ha of Permanent Preserved Areas were hit by the flood and many streams and rivers flowing into the Rio Doce were also impacted. The disaster also led to a fisheries ban again undermining community sustainability.

Numerous species including endemic species were potentially made extinct. The ichthyofauna of the entire Rio Doce catchment (including areas not impacted by the mining disaster) was known to comprise 71 native freshwater fish species, of which 13 were endemic. Contaminated soils could be remobilised during periods of heavy rain and fishing grounds near the Abrolhos National Marine Park near the mouth of the Rio Doce will also be impacted. The mouth of the Rio Doce and Regencia beach is feeding and breeding grounds of several species including the threatened leatherback turtle, dolphins and whales. The impact on the ecosystem could take a century to recover due to changes in flow of nutrients with associated impacts on the food chain.





PRIOR KNOWLEDGE OF DAM INSTABILITY

In 2013 a study was commissioned and experts concluded that weaknesses in the dam could lead to its collapse. Samarco was supposed to write an emergency plan and alert. This was never done. Several people affected from Bento Rodrigues reported that for years the community had been making complaints about the insecurity of the dam. Samarco themselves had apparently been concerned about the stability of the dam since 2014.

In August 2016 it was determined that the collapse was due to design flaws. The dam design was changed in 2011/12 which meant less effective water drainage. Sand in the dam walls became saturated, and abruptly started to behave more like a liquid, in a process known as liquefaction. This weight pushed clay-like silt in one part of the dam outwards like toothpaste from a tube, ultimately causing the dam to collapse. Three small seismic shocks occurred in the area about 90 minutes before the dam failed.

All of the devices at Fundao used to measure water level and liquid pressure were not working, did not have batteries or had been moved to be used elsewhere. A warning siren was also not present, meaning that there was no effective means of communicating the disaster to downstream residents. Samarco said that at the time of the disaster, sirens were not legally required.

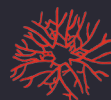
Operations at the mine ceased immediately after the disaster and the mine remains closed. This has facilitated frustration amongst thousands of now unemployed miners who want to mine to reopen as soon as possible. This will not occur apparently until a deal is made with prosecutors.

Since the tailings dam collapse BHP has been mired in legal actions and compensation claims. Extensive litigation and Government sanctions have been applied.

AN INCOMPLETE SUMMARY OF THE LEGAL PROBLEMS

November 16, 2015: Samarco, the Public Prosecution Service of the State of Minas Gerais and of the Federal Government, signed a Preliminary Term of Commitment which provided for the allocation of \$US260m to assure the funding of preventive, emergency, mitigation, remedial or compensatory measures, whether environmental or socio-environmental, related to the accident which occurred.

November 27, 2015: BHP rejects claims by the United Nations that the tailings released from the Samarco Dam were toxic. Earlier in the week, two United Nations experts said that the millions of tonnes of tailings contained "high levels of toxic heavy metals and other toxic chemicals". By late November Samarco faced more than \$US400 million in damages, fines, and frozen funds. Deutsche Bank believed the clean-up could cost more than \$1 billion, with years before Samarco mine would reopen.





AN INCOMPLETE SUMMARY OF THE LEGAL PROBLEMS CONT...

November 28, 2015: The Brazilian Government announced that it would sue the mining companies BHP and Vale for \$US5.2 billion over the dam disaster.

Late 2015: Samarco reach a \$US262m preliminary compensation agreement. BHP and Samarco offered bereaved families a payment of almost \$37,000.

December 2015: The National Humanitarian Society (Sohumana) filed a civil lawsuit before a federal judge in Rio de Janeiro for \$7.8b claiming property and environmental damages. This case was dismissed in June 2016.

February 1, 2016: 150 workers evacuated from the Samarco mine after another spill and landslide occurred after heavy rain. Noone was injured.

February 23, 2016: Brazilian authorities charged the president of mining company Samarco and six others with homicide for the mining disaster that killed 19 people. Police in Minas Gerais State asked for Ricardo Vescovi, along with five other Samarco executives and one contractor to be arrested. BHP also came under fire in the US over the tragedy, with investors accusing the company of fraudulently overstating its ability to manage safety risks at the mine.

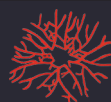
In early 2016 the Jackson County Employees Retirement System in Michigan, filed a complaint in the US District Court of Manhattan that BHP inflated the price of American depository receipts (ADRs) by ignoring safety risks and overstating their commitment to safety prior to the Samarco spill. The value of ADRs fell 20 per cent immediately following the Samarco spill, and investors say they should be compensated for that loss.

March 3, 2016: Samarco agreed to pay \$US6 billion to settle lawsuit by Brazil's attorney general. This was an unpopular decision seen to be too lenient. The Samarco joint venture reached settlement with the Brazilian government for a minimum of \$US1.7 billion over six years for the tailings spill. BHP and Vale agreed to set up The Renova Foundation to run programs for reparation to restore the environment and local communities, and compensation where remediation is not possible. (Renova soon became the biggest employer in the region, but criticism was levelled at it because it began operations without proper consultation with the affected population). The Foundation was later restructured in June 2018, after a legal agreement to allow local communities more say. Six of Renova's seven board members were employees of BHP, Vale and Samarco. The new restructure would see three of four additional members appointed from communities affected by the disaster, with another from the public defence office.

May 4, 2016: BHP and Vale face new US\$43 billion Samarco lawsuit. Brazilian Federal prosecutors begin civil proceedings against BHP and Vale joint venture operation Samarco, seeking compensation for social, environmental, and economic damages.

July 2016: BHP/Vale doubled its provisions for the disaster to \$US3billion.

October 2016: Brazilian authorities filed 21 homicide charges including BHP executives. If convicted, the individuals could face up to 54 years in prison. BHP took writedowns as a result of suspension of the mines activities. In November, the Brazilian court granted a 150-day extension to negotiate the settlement.



December 2016: New finance of \$US181 million (\$235 million) to be spent before the end of the financial year to clean up Samarco.

January 20, 2017: Vale, BHP Billiton Brazil and Samarco enter a preliminary agreement with Brazil's Federal Prosecutors' Office over remediation fees following the Samarco tailings dam failure. The agreement included a process and timeline to negotiate and settle US\$40+ billion) civil claim relating to the dam failure. In addition to the agreement, two previous civil and criminal claims by the federal prosecutors were suspended.

January 24, 2017: Banco Safra SA files a class action suit against BHP Billiton and joint venture partner Vale over \$2.2 billion in notes used to fund Samarco. The action claimed that Samarco Mineracao contravened its disclosure requirements.

May 2017: Proceedings against the companies by Brazilian federal prosecutors begin for the purposes of social, environmental and economic compensation

November 2017: BHP and Vale request approved by the Federal Prosecutors' Office in Brazil to receive an additional 150 days to continue negotiations surrounding the public settlement of the dam disaster.

April 2018: BHP/Vale get an additional 66 days to negotiate a settlement of multi-billion dollar public civil claims over the 2015 mine dam collapse in Brazil. The companies are facing two claims worth \$US47.6 billion and \$US6.1 billion.

May 2018: 3000 BHP shareholders take class action through the Australian Federal Court for shareholder losses and deceived over condition of the dam. Losses cover the time between November 5 2015 and November 30 2015 when BHP's share price dropped significantly.

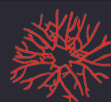
June 2018: BHP/Samarco agreed to settle (compensatory agreement) a \$US5.3 billion lawsuit related to the incident with the Brazilian Government, the states of Espirito Santo and Minas Gerais, and prosecutors to settle an initial \$US7 billion. In addition, the parties arranged a framework agreement to suspend a further \$55 billion settlement by two years, during which time the parties will attempt to renegotiate the larger settlement.

In August 2018 Samarco agreed to pay \$US512.5 million to 19,000 families impacted by the disaster payments from the Renova Foundation set up after the disaster.

Also in August 2018, the Brazilian Govt agreed to drop a \$US7 billion civil lawsuit which bought time to renegotiate details of a larger \$55 billion civil claim. The more expensive claim for social, environmental and economic compensation would be suspended for 2 years whilst parties work out another solution. BHP also settled a US class action for \$US50 million with no admission of liability. The US settlement agreement relates to a class action complaint filed in the US District Court of the Southern District of New York. The US plaintiffs had bought American depository receipts of BHP Billiton Limited, or BHP Billiton Plc between 25 September 2014 and 30 November 2015.

August 31, 2018: Another class action set up by Maurice Blackburn in Melbourne, on behalf of shareholders who suffered losses due to the Fundao mine collapse.

November 2018: \$8.9 billion legal action taken against BHP by SPG Law in a UK Court on behalf of 240,000 individuals, 24 municipal governments, a Roman Catholic Archdiocese and the Krenak indigenous people in one the biggest claims ever made in a British court.





ANTAMINA MINE

Owned by: Swiss commodity trading corporation Glencore Xstrata (33.75%) share in the mining company Compañía Minera Antamina S.A. The other shareholders are BHP Billiton (33.75%), Teck (22.5%) and Mitsubishi Corporation (10%).

Minerals: Copper, lead, zinc, silver and molybdenum.

Antamina is the world's third-largest zinc and eighth-largest copper mine, with construction beginning in 2004.

In 1998 it was decided to build a slurry pipeline (190km in length) to transport concentrated copper to port, instead of road transport. Antamina, at the time was the largest mining project under construction in the world, costing \$2.3billion. Initially owned by Rio Algom, Noranda, Teck Corp and Mitsubishi.

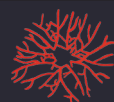
ISSUES WITH THE MINE

The mining industry currently is one of the primary sources of foreign trade in Peru and has doubled the size of the Peruvian economy in 20 years. Peru is the second-largest exporter of copper in the world. Environmental contamination caused by extractive industries continues to be the main cause of social conflict in the country, sometimes exploding into all-out violence.

The conflicts with the Antamina mine (4000m altitude) are predominantly linked to environmental issues. A lake was also drained during construction. A diverse variety of groups from urban to fishing groups have accused the company of avoiding social responsibility, water pollution, heavy metal pollution and undermining of land rights.

People in the rural highlands see little from the mining boom which has contaminated water, air and livestock. Malnutrition and health problems are common. Services remain poor, despite enormous mining royalties. Corruption of local officials was rife.

Wikileaks in 2011 revealed that in 2005 Antamina agitated for the removal of teachers and Catholic bishops to new posts away from "conflictive mining communities". Wikileaks also revealed that the US and Canadian ambassadors encouraged mining companies to provide examples of NGO's or individuals advocating violence against them.



2005: The Antamina conflict started in earnest in the San Marcos region of Ancash. The main concerns at that time included: water contamination, lack of consultation and violence against protesters.

At Juprog (located 2km west of the mine), the countryside is often covered with blood-orange dust, which falls on people, crops and livestock. The dust contains heavy metals making people sick. High levels of lead and cadmium were detected in villagers' blood and urine in tests conducted in 2006 and 2009.

September, 2007: The conflict due to Antamina escalated when cases of water contamination occurred. Heavy metals were detected in the nearby Carash river due to mining activities. Two months earlier the community was also told that the local water supply contained high levels of lead, zinc and copper.

June 2009: Antamina's largest fine was levied after a waste pond leaked unacceptably high levels of copper, zinc and lead into the Juprog river. Three years later, it was fined \$392,000 which Antamina challenged.

September 2009: Protests occurred in the region, with police leaving two people seriously wounded.

January 2010: It was revealed that the mine was "compensating" local officials to facilitate the mines construction.

November 2010: More toxic spills occurred.

During the government of President Ollanta Humala, which started in 2011, 50 people died and 750 were injured throughout Peru in clashes between environmental demonstrators and government authorities.

Police clashed with anti-mining protesters in two Peruvian regions in November 2011. In Ancash, police fired tear gas to clear the Pan-American Highway, which was blocked by protesters from 32 towns of Huarí Province. Protestors were carrying sticks and continuing to block access to the Pativilca-Huaraz road with stones and logs, leaving trucks and buses stranded.

May 2012: Representatives from the town of Chipta (1km from Antamina) were mistreated by a special police unit after protesting against the loss of their two only water sources. Antamina security personnel had hired the special unit to force the Chiptans to resettle elsewhere so that Antamina could proceed to carry out blasting operations.





ISSUES WITH ANTAMINA MINE CONT...

July 2012: A 300 km pipeline carrying zinc and copper slurry from Antamina exploded and sprang a leak in the mountain town of Santa Rosa de Cajacay (80km south west of Antamina). A toxic mist containing lead and arsenic sickened dozens, and 42 people were hospitalized. 350 people were treated for headaches, respiratory tract bleeding, nausea and vomiting. This included 69 children with chemical burns in their lungs. 45 tonnes of copper concentrate slurry spilled out of the pipeline and polluted local forests and rivers.

The Environment Minister called for the maximum fine at the time: \$14 million. A year later, he announced fines totalling just \$77,000.

2012: Security forces shot and killed eight people protesting against two of the country's biggest mining projects. Seven disputes involve Antamina, including a tense standoff with villagers. Mining issues dominated the country's political agenda, prompting the resignation of two prime ministers.

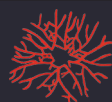
October 2012: A state health study conducted was withheld by the Government and eventually published by the newspaper La Republica after they carried out a filed a freedom-of-information request. The study showed that 25% of residents had unacceptably high levels of copper in their blood.

Three studies carried out by the National Institute of Health found that out of 919 individuals studied in the affected area in Santa Rosa and surroundings 285 had elevated levels of copper, lead and arsenic in their blood.

2013: Enraged villagers dug up a 100-meter section of the pipeline and partially cut the fibre optic cable that controlled its flow. They were also upset that a promised \$10m water supply reservoir had not eventuated.

4 September, 2013: The people of Cajacay called an indefinite strike against Antamina in support of their demand for the families affected by the 2012 pipeline explosion to be compensated. Roads were blocked with barricades which the police subsequently removed.

2017: Several mining projects slowed down or stopped due to the 171 formally registered conflicts that took place throughout Peru, particularly in Northern Peru. In Ancash there were 23 land related conflicts. One catalyst to the protests was the Government removing environmental evaluation for projects in indigenous territories. A nationwide union strike in July opposing the Government's labor reforms also curbed production at mines such as Antamina.





CERREJÓN MINE

Owned by: A Glencore, BHP Billiton and Anglo American consortium.

Minerals: Coal.

Location: The La Guajira region, near the village of Albania.

Cerrejón operations began in 1976 between the state-owned Carbocol and Intercoal (a subsidiary of ExxonMobil SA). In 1999 the Colombian Government agreed to extend Cerrejón mining operations until 2034. In November 2000, the Colombian Government sold Carbocol's 50% share to a subsidiary of BHP, Anglo American and Glencore. In February of 2002, the consortium acquired the remaining 50% from Intercor and merged Intercor with Carbones del Cerrejón S.A to create Carbones del Cerrejón LLC, Cerrejón.

Cerrejón is the biggest open-cut coal mine in the world, exporting 500 million tonnes of coal since opening. The mine comprises four zones: North, Central, Patilla and South. One million tonnes of material are moved every day. 4000 employees work at the mine.

ISSUES WITH CERREJÓN

The region where Cerrejón is located is semi-arid with 40% of the area considered desert. Wayuu villagers were forced to give up land and were not consulted about the construction of the mine. Wayuu people comprise 44% of the population where the mine was built. Land negotiations implemented by Exxon's subsidiary backfired at the beginning of 1983 when protesters paralysed the project by demanding compensation for their land. Relocations have been a constant issue. By 2016, 15 communities had been relocated for the mine.

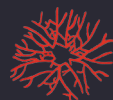
September 1995: Nine workers were fired after a five-day strike called to protest against the quality of the food served by the company's canteen.

1996: Gustavo Palmezano, a unionist who had participated in another Sintracarbón protest against two layoffs, was murdered.

Prior to 2001 five communities were removed from El Cerrejón.

2001: Colombian rural police forces participated in the forced removal of some 420 families that were living in Cerrejón's active concession zone in Tabaco. Police and private security forces used riot gear and tear gas to remove people and their animals from the territory. They bulldozed houses, barns, corrals, and the local school as horrified residents looked on, leaving Tabaco in ruins.

Poor conditions are a frequent concern in resettlement camps. Involuntary resettlements in Colombia have no laws. The main problem with the resettlements is loss of land for agriculture, hunting and gathering, difficulties to sustain livelihoods and massive unemployment.



The coalmine uses 17 million litres of water per day, but an average resident in nearby Alta Guajira consumes just 0.7 litres of water daily, a fraction of the UN's recommended daily usage of 50-100 litres. The community has long complained about the quality of water that is delivered.

Pollution of the Rancheria River from the mine has made it impossible for local people to hunt, fish, or raise livestock, and protesters have been threatened and murdered. The Wayuu people have been severely impacted. High water extraction rates by the mine have led to drops in river levels. Poor work conditions led to the death of 26 people from 2009-2011.

August 2011: \$1.311 billion expansion of mine was announced. This would increase output from 8 million to 40 million tonnes a year. The new works included a port expansion at Puerto Bolivar.

2011: Cerrejón presented a plan to divert 26 kilometres of the Rancheria river away from its natural water course, in order to extract 500 million tons of coal from the river basin.

November 2012: After communities had mobilized in defence of their territories and against the plan to divert the river, the company decided to cancel the project.

2012: The proposed diversion of the Bruno River created great opposition and Wayuu became organised to oppose the diversion. They gained support from the labour union Sintracarbon and the two struggles merged into a social campaign. The slogan became "Minería sí, pero no así" (Mining yes, but not like this). The movement brought the case through all legal instances up to the Constitutional Court of Colombia which rejected the diversion of the river.

February 23, 2013: Indefinite strike by National Union of Coal Industry Workers (Sintracarbon) at Cerrejón. First mine stoppage since 1995.

April 2013: Community representatives protested in London. Protesters claimed that 13,000 people's health was jeopardised by living close to the mine. 12,000ha of dry tropical forest had been destroyed for the mine.

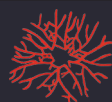
July 2013: A coalition of community organisations, trade unions, protest groups and consumer associations called for a state-wide civic strike in the La Guajira region. Despite Cerrejón exporting 500 million tonnes of coal since 1976, La Guajira remains one of Colombia's poorest states with 67% of people living in poverty.

June 2014: A six-day strike occurred by security guards at Cerrejón, closing its 150km private railway line. The strike meant that Cerrejón almost defaulted on shipments.

The Wayuu indigenous community in Tamaquito was relocated in 2015. El Cerrejón's corporate social responsibility (CSR) policy celebrates the move as a success. Jario Fuentesepiyu, a representative of the community, tells his story.

"We negotiated with Cerrejón for seven years and it was a hard battle. The most difficult part of all was to negotiate about the sacred land and our cultural and spiritual values. No white person could understand this," he says. "The company offered us money, three million pesos per family [around \$900 US], for the loss of spiritual and cultural values, which we found rather offensive".

The discussions were deadlocked. Eventually the company had to hire an intermediary negotiator of indigenous origin to negotiate the deal. As a result, the company promised not to mine the sacred land and arranged for daily visits to the spot to make sure that the promise was kept.



2016: Cerrejón plans to redirect the Bruno River 3.6km to extract 40 million tons of coal reserves under the river bed.

October 26, 2016: Communities suffering as a result of BHP's mining operations protest against the company in London.

2017: Cerrejón mine keeps on growing. 690 square kilometres have been permitted to be mined. 13% (90sqkm) has already been mined.

February 10, 2017: Members of indigenous Wayuu communities blocked a train carrying coal from the Cerrejón mine to the export port on the coast. The protest was violently attacked by police. The protest came in the wake of yet another child death from malnutrition in the area.

Colombian court orders a halt to work on the diversion of the Arroyo River. Drought has been impacting the area and Cerrejón is a heavy user of water.

September 1, 2017: Cerrejón protest by Wayuu leaders in Bogota. They oppose the mines expansion from 32 million tonnes to 40 million tonnes a year.

September 2017: Peace accord with Colombian Government and FARC likely to open more areas up for mining.

July 2018: All of the resettled communities, and several indigenous and Afro-descendant settlements and reservations continue to have problems with the supply of drinking water, lack of productive projects and jobs, poor quality housing and lack of fair compensation for families and people who do not have the right to resettlement. Drinking water quality is also a major problem for communities. Twenty-seven communities that rely on drinking water or live near the Bruno River continue to be concerned about La Puente pit expansion. Threats were also made against community leaders.

August 2018: Summary of issues by the London Mining Network:

- ***The mining company had broken promises and had caused divisions in communities.***

It had broken up some communities completely and paid inadequate compensation for loss of homes and livelihoods.

After negotiation and resettlement, it used the threat of forced eviction to make people accept conditions they found unacceptable.

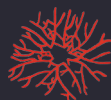
- Cerrejón had removed rural communities where people lived from the land and replaced them with semi-urban communities where people had to seek waged labour as they could no longer support themselves. It had encouraged people to take up new livelihoods that proved impractical. ***People had gone from being producers to consumers.***

The change in La Guajira from an agricultural economy to a mining economy had destroyed the way people lived before, growing food and exchanging it with other growers.

Now people were going hungry, and children dying of malnutrition.

- Houses in the new communities were poorly built. The mine had polluted the air with coal dust, and people were getting ill as a result; it had removed huge numbers of trees and ruined agricultural land.

- ***Cerrejón used far more than its fair share of water, while everyone else lacked water.*** Now it was planning to divert an important stream, the Arroyo Bruno, with almost everyone in the community opposing this.





MINERA ESCONDIDA

Owned by: BHP 57.5%, Rio Tinto 30%, JECO Corporation 10%, JECO 2 Ltd 2.5%

Minerals: Copper, copper cathode, gold and silver

Ownership changed when BHP acquired Utah Mining in 1984 and then Texaco acquired Getty Oil and sold off its mineral interests. BHP bought these and then sold a 30% interest to Rio Tinto and 10% to JECO. It subsequently sold 2.5% to the IFC. Construction of the mine began in 1988 with production starting in December 1990.

Escondida is located on disputed lands between the State and Atacameño communities. Land is recognised by the state as being indigenous, but has not gone through proper process of recognition and property transfer. BHP believes that the land is still fiscal (relating only to Government). Hence the standoff.

There has also been a conflict over water due to Minera Escondida's attempt to intensify the extraction of water in the Indigenous Development Area Atacama La Grande. The Atacameños communities successfully confronted the company and the State, managing to prevent degradation of the area.

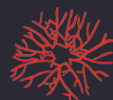
ISSUES WITH ESCONDIDA - TIMELINE

2006: BHP's 525-l/s desalination plant begins operations. Built by Degremont Industries.

Jan 9, 2007: During an Environmental Impact Study process, communities alerted BHP to two fundamental issues: water consumption of 1027 liters per second in an area that already suffers from shortages, and the possession of the lands, generating a water business, to obtain water rights. Aqueducts to supply water to the mine pass through hundreds of archaeological sites and community learnt that BHP plans to build new desalination plants or pipe water in from Argentina.

2007: A decade long drought in the Atacama begins.

2008: DGA estimates that 37.36% of fresh water use in the Antofagasta Region is used for mining.



In the water-scarce Antofagasta Region, where BHP's Escondida and Spence mines are located, mining uses more than 1,000 litres of water a second, and mining companies hold almost 100% of the groundwater rights. The Chilean Copper Corporation admitted in a 2009 sustainability report of Minera Escondida that this region will experience an "extreme deficit" in drinking water by 2025.

TIMELINE CONT...

July/August, 2011: Escondida's union stuns the copper market by staging a two-week work stoppage, sending the mine's output tumbling.

August: 300 miners at Escondida have been out on strike since 22nd July, and were joined by 7,000 contractors on 27th July.

2012: Escondida mine's 2012 earnings totalled approx. \$3.47 billion (AUD), a 14.2% increase on the preceding year.

June, 2012: Of the 195,610m³/day seawater used in the Antofagasta Region by mining companies, Escondida Mine used approximately 23.12%.

2013: Start of construction of a second desalination plant for BHP at Puerto Coloso (the Escondida Water Supply, or EWS Project), with the capacity to produce 2,500 l/s of industrial grade water through seawater pre-treatment, filtration, and processing by means of reverse osmosis.

March, 2013: Union demonstrations at Escondido. 500 contracted workers dismissed following the demonstrations where workers had obstructed roads and blocked the mine's main access route during wage protests that took place between February 28 and March 3.

August, 2013: 2500 workers at Escondido strike to demand better working conditions and pay. The strike began after management refused to pay an annual bonus that is not covered in workers' contracts, which last year totalled approximately \$5,000 per worker.

January, 2015: Chilean lawmakers discuss a bill that would force large mining companies that use over 150 litres of water a second to run all their copper mines using desalinated water from the Pacific Ocean.

April, 2015: BHP impacted by water restrictions for everything from toilets for workers to separating the metals in the ore body from waste rock and tamping down dust that heavy trucks kick up. BHP claims that restrictions will impact on production.

January, 2017: Chilean mines such as Escondido are aging and high-grade ores are dwindling, forcing producers to exploit more water-intensive copper sulphides. However water scarcity is becoming a bigger problem.

Feb/March, 2017: 43-day strike at Escondida costs the company \$US546 million. 14 people were injured by fire that occurred only hours before 300 masked people stormed into a camp where 1500 contractors were based. The strike was the longest at a major Chilean mine in several decades. It caused the Chilean economy to contract for the first time since the global financial crisis. Unions also delayed work on a new desalination plant. The strike stopped 3400 tonnes of copper per day being produced, meaning over 140,000 tonnes in lost production during the strike. The strike reduced production by 39% over the first half of the year costing \$740 million.





TIMELINE CONT...

November, 2017: Twenty-four hour strike by unions where recent layoffs impacted on 3 percent of the workforce at Escondida. The union believed the layoffs were payback for the 43-day strike which occurred early in 2017.

April 2018: Inauguration of new desalination plant at Puerto Coloso, Antofagasta. The plant is a 2,500-l/s operation to meet the mine's needs, and is in addition to the company's 525-l/s plant, which has been in operation since 2006. The plant is part of a policy which will see recovering more water from its mining operations and increased use of desalinated water as a way to reduce withdrawals from already suffering aquifers.

The plant cost US\$3,430 million to build, and included two 42" pipelines to transport water to 3,200 metres above sea level, four high-pressure pumping stations, a reservoir at the mine and high-voltage electricity infrastructure to operate the system.

The desal plant was originally designed to be powered by coal, but was converted to a combined-cycle natural gas plant. It is a key part of the BHP's strategy not to use groundwater at all by 2030. A huge amount of energy is required for the desal plant. The energy will be provided by the Kelar project, a natural gas-fired power plant (517MW) at Mejillones, which started in 2016.

2018 June: Workers settled deals at the mine.

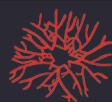
August 2018: Oscar Cristi, the new head of Chile's water authority (the General Directorate of Water) orders a ban on new permits to extract water from an aquifer that supplies water to Escondida, the southernmost sector of the Salar watershed, otherwise known as C2. Overexploited aquifers will mean new water rights will be banned. Chilean governments have for many years granted water rights with little thought of their long-term impact, with miners staking water claims on the small pockets of water available under the salt pans of the Atacama Desert.

A water reservoir for human consumption will start to take precedence. The water beneath the salt pans supplies Escondida, where BHP and another company Antofagasta were pumping 600% more water than the aquifer could sustain. BHP proposed cutting their extraction from C2 well by 50%. BHP also said it plans to use only seawater from its two desalination plants, located in the Chilean coast, to supply Escondida by 2030.

More potential strike problems as unions reject the company's final pay offer.

September 2018: Workers at the Chilean Escondida mine signed a new labour agreement after the government mediated another worker/company conflict. Escondida announced profits of US\$1.086 billion on September 28, 2018.

Production increased by 45% between January and June, recovering lost revenue in 2017 due to strike action.





PAMPA NORTE - SPENCE MINE

Owned by: 100% BHP owned

Minerals: Copper, copper cathode

Pampa Norte consists of two wholly BHP-owned operations in the Atacama Desert in northern Chile – Spence and Cerro Colorado. BHP Billiton's Spence copper cathode project is located 1,700m above sea level in the Atacama Desert in northern Chile, close to the mining town of Sierra Gorda, 50km south west of Calama and 150km north east of Antofagasta, and 300km north of Cerro Colorado.

Exploration and development work by Rio Algom (1996-2002). BHP purchased Rio Algom in 2000. Mine approved in 2004, construction cost \$1bn. First copper production: 2006. 2007: Design capacity reached. Produced 198,600 tonnes of copper cathode in 2017.

TIMELINE OF ISSUES

October/November, 2009: Union strikes at Spence Mine for 2-3 weeks. Workers want the same conditions as workers at Escondida.

2010: In the water-scarce Antofagasta Region where BHP's Escondida and Spence mines are located, mining uses more than 1,000 litres of water a second, and mining companies hold almost 100 per cent of the groundwater rights. The Chilean Copper Corporation itself admits in a report that this region will experience an "extreme deficit" in drinking water by 2025.

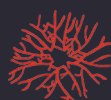
August 2013: 2500 workers at BHP's Escondido, Spence and Cerro Colorado mines strike to demand better working conditions and pay. The strike began after management refused to pay an annual bonus that is not covered in workers' contracts, which in 2012 totalled approximately \$5,000 per worker.

June 2014: BHP sacks 6% of its workers at Pampa Norte division (Spence and Cerro Colorado) citing rising costs and lower ore grades.

December 2015: Unionised workers agreed to a new three-year contract. In addition to a salary increase and other benefits, each of the 848 workers under the new contract will receive a one-time payment of two-million Chilean pesos (\$2 843) for accepting the deal.

May 2016: Union protests and one day strikes.

2017: BHP announce Spence \$2.5 billion mine expansion with an estimated 5000 jobs created during construction. The expansion will add about 185,000 tonnes of copper a year to BHP's output over the first decade, with first production expected in 2021.



July 2017: Chile's Environmental Regulator (SEA) approves BHP's \$2.5 billion expansion of Spence copper mine. It is estimated the Spence project will add 185,000 tonnes of copper a year to BHP's output over the first decade of the expanded operation, with first production expected in 2021. BHP believe that demand in electric cars will see demand significantly increase.

October 2017: Mitsui & Co. announces that it has been selected to build a desalination plant for BHP's Spence copper mine in Chile, as part of a \$2.5 billion mine expansion that will add another 50 years to the operation's productive life. The plant will be built at Mejillones port which is located 60km north of Antofagasta City. The project will be called Caitan SpA and will connect to Spence via a 150km pipeline.

June 2018: Union approve new labour contract.

September 2018: Fire at mine leads to temporary closure of part of the plant.

LEGACIES OF THE PAST



CERRO MATOSO MINE (COLOMBIA)

Minerals: Nickel and ferro nickel smelter

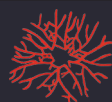
BHP Involvement: 1980 - 2015

BHP operation from 1980-2015 (BHP gained full control in 1997), with a doubling of production between 2001-11. BHP spun off the mine in 2015 into a new company called South32. South 32 was created by a demerger from BHP in May 2015 to include all the underperforming assets of BHP under one new corporate umbrella.

Small-scale mining first started at Cerro Matoso in the 1960s, expanding in 1979 when the Colombian government granted a concession to Conicol, Ifi-Econiquel and Billington Overseas (the precursor of BHP Billiton, from the Royal Dutch Shell group).

The mine was initially powered by a hydroelectric mega-dam which forcibly displaced indigenous Emberá communities, but is now powered by coal mines, which again have displaced local people.

Pollution from the mine over the past 40 years has severely impacted the local Afro-Colombian and Indigenous population. The first public health impact was published in 2015 and stated that people living 15km away commonly had nickel in blood and urine samples, skin lesions and upper tract respiratory problems. In 2018, the Constitutional Court of Colombia ordered the mine to damages to local communities, a decision which was overturned a few months later.



CERRO MATOSO MINE CONT...

Mining waste has included a number of heavy metals, with rain water collected near the mine including mercury, copper, lead, zinc and cadmium.

For decades, local people including local Zenu indigenous people, have complained about abnormal growths, skin problems, breathing issues, reproductive and eye problems. It is likely that people living near the mine have suffered cell mutations and arsenic poisoning.



Israel Aguilar, chieftain of the Zenú communities in the region, says: 'We are slowly being killed by this mine. This is the end of us. We are on our way to extermination.'

TIMELINE

2010: The company was made to repay \$12 million in unpaid royalties for avoiding tax, underpaying royalties, and underinvoicing.

December 2012: Colombian government extended the operating contract for Cerro Matoso until 2029, retroactive to September 30, 2012.

August 2013: Health epidemic and abnormalities reported in town of Flechas, and Senu peoples of Cerro Matoso region suffering various degenerative maladies with high levels of cellular nickel causing altered genetic material, increasing risk of cancer. High amounts of nickel and silica on roofs of houses and crops used to grow straw for vueltaio hats also apparently contaminated.

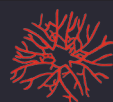
October 2013: 6000 local people blockaded the mine entrance as a protest against the ongoing health issues, relocation problems, environmental damage and intimidation from armed right-wing organisations. The protestors wanted US\$700 million in compensation for health problems caused by the mine. The mine was shut down for two weeks and riot police were sent in. The protests halted 4% of global output of nickel. As part of the resolution process, an "act of understanding" was signed that amongst other things agreed that a health survey be established.

April 2015: BHP helicoptering in workers as laborers block access to the site. Unions block access for 10 days protesting increases of 12 hour shifts from the previous eight hours. Health concerns a factor. Ferronickel production halted.

May 2015: BHP demerger, South32 created to take on underperforming assets of BHP. BHP cuts ties to Cerro Matoso. BHP wanted to concentrate on coal, iron ore, copper and petroleum.

July 2016: Unions organise in Colombia saying BHP is cutting jobs.

November 2016: Processing facilities at the mine, including four enormous furnaces, emit large amounts of toxic materials which are carried on the wind to water sources and fields. Dozens of workers have also become ill. Coal pollution from nearby coalmines, used to also fuel the nickel furnaces also contributes to the problems.





Paramilitaries were used to extort local communities and to allow the company unobstructed operations, with violence regularly occurring against social leaders. In eight years, the community of Et Alto San Jorge (population 17,000), had almost 50 of its leaders killed.

March 2018: Constitutional Court of Colombia ruled that South32 had to pay \$400 million in compensation to 3000 people in eight Indigenous and Afro-Colombian communities who claimed they had suffered a range of health problems as well as damage to agricultural land and stock as a result of the mine.

The court ruled that “as a result of the environmental damage and adverse effects on the inhabitants’ health, the indigenous communities’ fundamental rights had been violated”. While it did not order the mine’s closure, it did rule that Cerro Matoso would have to apply for a new environmental licence to continue operating.

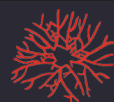
The court also found that waste from the mine had led to community members being diagnosed with problems including lung cancer and high levels of nickel in their blood and urine.

September 2018: South32 wins court appeal in Constitutional Court of Colombia and now does not have to pay \$400 million damages to impacted communities. Court previously ruled that waste emissions from the mine had seriously affected the health of people living near the mine.

The company does however have to reapply for its licence which stipulates environmental guidelines. The licence had not been updated since 1981. BHP off the hook due to 2015 demerger and creation of South32.

“The impacts of contaminated air and waterways on local communities is evident through genetic deformations, illnesses and an epidemic of miscarriages. Children have been born without reproductive organs or anuses. Cows and chickens have birthed offspring with two heads and excess limbs. DANE, the Colombian government bureau of statistics, reported an alarming rise in rates of cancer and respiratory illness in the region. Dermatological defects, such as blemishes, rashes or burst skin are common.”

New Internationalist, 1 November 2016





MRN & ALUMAR (BRAZIL)

Minerals: Bauxite & aluminium

Jointly owned by: South32 (ex BHP), Vale, Rio Tinto, Alcoa, Companhia Brasileira de Alumínio and Hydro

Located in: Porto Trombetas (northern Brazil)

Founded in: 1979

Brazil's largest bauxite open-cut mine Mineracao Rio do Norte (MRN) is located in Porto Trombetas (northern Brazil). BHP held a 14.8% interest in MRN until the 2015 demerger that created South32.

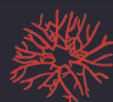
A refinery and a smelter located in Sao Luis, in north-eastern Brazil has been operating since the 1980s. BHP held a 36% interest in the Alumar alumina refinery and a 40 per cent interest in the Alumar smelter at Sao Luis in the Maranhao province of Brazil until the 2015 demerger that created South 32.

MRN is located between the Trometos River and Amazon Rivers and accounts for almost 60% of Brazil's bauxite production (18 million tonnes a year), making the mine one of the four largest producers in the world. MRN has licences for over 100,000ha of land. The whole area of exploitation of MRN is inside the Saracá-Taquera National Forest, a conservation unit.

The mine was developed on land occupied by Quilombolas, communities of descendants of escaped African slaves. The municipality of Oriximina has 35 Quilombolas in 9 ethnic territories. Mining has already forced hundreds of Quilombolas families from their land with deforestation occurring in Oriximina (Quilombo lands). The total population of Quilombolas in region is estimated to be 10,000 people. Conflicts with bauxite exploration and companies has occurred since the 1960's.

The mine was established through extensive stripping of soil as the bauxite was found at a depth of 12 metres. Much of the mine waste ended up contaminating Batata Lake. Over 20 million tons of mine waste was discarded in the lake and surrounds, with sedimentation a big problem. Pressure from the Quilombolas community made the Brazilian Government force the company to clean up the lake in the 1990's. The Quilombolas community was also in conflict in the mid 2000's over deforestation. Until then, the community gathered brazil nuts, an extremely valuable staple of their economy. Many of the streams in Quilombolas ancestral territory have been polluted by mining, causing illnesses among locals.

The rights of Quilombolas to ownership of their lands was recognised in 1988 in the Brazilian Constitution, and is provided by Convention 169 of the International Labour Organization (ILO). The creation of Saracá-Taquera National Forest occurred in December 1989.



November 1995: Boa Vista (a Quilombolos group) was granted a certificate from the Brazilian Government giving them the right to a 1125ha area outside of MRN's licence areas. The area is smaller than those of other communities which can be larger than 50,000 hectares. The Quilombos' traditional areas are defined by where they hunt and fish, and especially where they gather Brazil nuts - their most important source of income.

December 2006: BHP sells its 45.5% stake in Valesul Alumino S.A., an aluminium smelter in the state of Rio De Janeiro for US\$27.5m. Sold to Companhia Vale do Rio Doce (CVRD).

Since 2012, MRN's expansion has reached areas overlapping Quilombolas' territories located in the Saracá-Taquera National Forest. Estimates indicate that MRN's mining concessions cover 8% of the size of the Quilombolas' territory and 27% of Saracá-Taquera National Forest. The extraction of bauxite involves the total forest clearing and excavations that are more than 8 meters deep to reach the area of the ore. What is seen in the region is an unequal territorial dispute, the result of irreconcilable activities.

May 2015: BHP spins off underperforming assets which included its stake in MRN (Brazil). The demerger created the company South32.

April 2016: Around 160 Quilombola men and women travelled two days from their communities in Oriximiná (within the Amazon Rainforest) to the city of Santarém to protest against the delay in titling of their lands, a right provided for in the Brazilian Constitution.

27 April, 2016: In the protest, the Quilombolas reported that the titling proceedings started over 10 years ago are paralysed. This situation makes this population more vulnerable to the advancement of the mining company Mineração Rio do Norte on their lands. The company, which has among its shareholders the South32/Billiton, Rio Tinto, Alcoa and Hydro, is the largest producer of bauxite in Brazil.

PAMPE NORTE - CERRO COLARADO (CHILE)

Minerals: Copper Cathode

Owned by: Wholly owned by BHP

Location: Atacama Desert in northern Chile

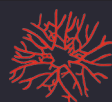
BHP Involvement: 2000-2018

2017 Production: 65,000 tonnes.

BHP's smallest copper mine, expected to stop production in 2023. First developed by Rio Algom with first copper cathode production in 1994. BHP purchased Rio Algom in 2000.

Pampa Norte consisted of two wholly owned BHP operations in the Atacama Desert in northern Chile – Spence and Cerro Colorado. Cerro Colorado Mine is located 300km south of Spence mine and was sold to EMR Property Advisers in June 2018.

Intensive mining entered the Tarapaca region in the 1990s with three large mines in the area. The water to support this boom largely came from underground sources, which added significant pressure on local communities/indigenous Andean communities to derive a living from areas where water was first taken by mining companies such as BHP.





Between 1991 and 2012, groundwater levels in the Pampa Lagunillas aquifer fell from near-surface to ~15 m below ground level (bgl) due to severe overexploitation, largely by mining companies.

TIMELINE

2010: Overexploitation of groundwater by BHP and other mining companies (eg Soquimich) caused wetlands and water wells to be drained, impacting agriculture and grazing, and affecting the local Aymara community of Cancosa.

The Cerro Colorado project obtains its water from underground streams, by way of four adduction wells located in Pampa Lagunilla, a great high Andean wetland. The General Water Directorate fined BHP 1500 monthly tax units for drying out much of the Pampa Lagunilla. This fine came too late for many families from Cancosa who had to migrate to urban areas to find work, after their local economy was undermined by the unsustainable use of groundwater by BHP.

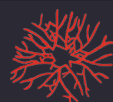
Cerro Colorado has also impacted farmers in the oasis of Pica and Matilla in the desert region of Tarapaca, through unsustainable groundwater extraction from the basin of the Salar del Huasco.

July 2013: Cerro Colorado holds the rights to use up to 150l/s of water from groundwater wells located in Pampa Lagunillas. Water use reached 138.72l/s in 2012, with no plans to expand water use or look for alternative water supplies until the mine shuts down in 2023.

June 2014: BHP sacks 6% of its workers at Pampa Norte division (Spence and Cerro Colorado) citing rising costs and lower ore grades.

May 2017: Workers strike for 24 hours to protest recent layoffs and the company's general attitude toward miners. Workers briefly blocked the access road to the mine. BHP Billiton also announces plans to potentially divest its Cerro Colorado copper mine in Chile.

June 2018: BHP sells Cerro Colorado mine for \$320m to Australian based private equity manager EMR Capital Advisers.





TINTAYA (PERU)

Minerals: Copper

Owned by: 99.9% owned by BHP

BHP Involvement: 1996-2006

During the early 1980s, when Tintaya was being constructed, the Peruvian government forcibly acquired 2368 hectares from local indigenous communities, which received approximately US\$3 per hectare by way of compensation. Hundreds of people were displaced.

The Peruvian Government-owned Tintaya mine commenced production in 1985. In 1994, the mine was sold to US-based Magma Copper. Two years later, BHP acquired Magma Copper and with it a 99.9% interest in the Tintaya mine. Seeking to maximise profit, BHP embarked on a major expansion of mining activity. A further 1509 hectares of land was wrested from local inhabitants in order to construct an acid-leaching copper oxide plant and tailings dam.

For many years, there has been a dispute between the community and the mine over issues including pollution, land rights, and social responsibility. Problems occurred with sulfuric acid and other toxic by-products of copper seeping from Tintaya waste reservoirs into local streams and groundwater. This pollution also caused health problems in the local community including bad rashes, stomach problems and migraines. Pastures were covered in dust and ruined, diminishing local community livelihoods.

TIMELINE

2004: BHP signs agreement with all local stakeholders to maintain the Dialogue Table as a permanent mechanism through which solutions to any conflict or problems will be sought.

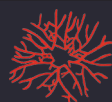
May 25, 2005: 2000 protesters march on the mine, forcing what BHP described as precautionary interruptions to the 120,000 tonne-a-year copper producer. Apparently, protesters smashed windows, looted and started small fires around the edge of the camp. Police reinforcements were called in. One complaint from the protesters was that BHP should spend more infrastructure investment and social spending in the nearby town and province of Espinar.

May 26, 2005: Peru's government sends high-level mission to Tintaya to deal with protests that led BHP Billiton Ltd.'s Peruvian unit (BHP) to shut operations at the Tintaya copper mine. Ongoing demonstrations, sometimes violent, by local communities demanding a greater share of the wealth or, among other things, to ensure that their water supplies are protected.

June 21, 2005: Operations resume after one month shutdown due to protesters.

May 2006: BHP decides to sell Tintaya for US\$750 million to Xstrata.

May 2012: Two people were killed and 50 injured in protests against Xstrata's Peruvian copper mine Tintaya, prompting the government to suspend freedom of assembly in a bid to break roadblocks isolating the mine.





SURINAME

Minerals: Bauxite, Aluminium

BHP Billiton Involvement: 1984-2009

Bauxite and Aluminium Smelting

BHP was a joint owner of Suriname Aluminum Company LLC (Suralco), an Alcoa subsidiary (a producer of bauxite and aluminium). Suralco and BHP Billiton Maatschappij Suriname (BMS) had been active in Suriname in mining and refining joint ventures since 1984. BMS currently had a 45% interest and Suralco a 55% interest in the joint ventures. Prior to the establishment of the joint ventures, BMS had separately conducted mining operations in the country, while Suralco has been active in Suriname for almost 100 years.

Suralco was supplied bauxite from the Moengo mine, which became exhausted around 2010, the same time BHP-Billiton decided to stop mining. The Bakhuis Bauxite Project was proposed by BHP Billiton and Alcoa to solve the supply problem.

The Bakhuis bauxite mine was proposed in a concession area of 2800km² in primary tropical rainforest in West Suriname (Bakhuis Mountains). The mine would have required a rail line to be built to transport the bauxite to Lokono, before it was barged to the Paranam refinery and processed into aluminium.

The project would also have required 100km² of forest to be cleared, 1000 drill lines cut, the building of a hydroelectric plant on the Kabaledo River and the construction of a harbour and smelter at Apoera. Other potential impacts were the Trio settlement of Zandlanding and other communities downstream. The project was abandoned after significant community resistance.

Bakhuis Concession Area



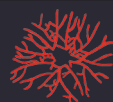
TIMELINE

1916: Alcoa enter Surinam after bauxite is discovered.

1960s: Alcoa builds hydro-electric dam in Surinam to power the smelter and community.

1984: Alcoa's Suralco subsidiary and Billiton form a joint partnership.

February 2001: Two BHP Billiton managers and the district commissioner inform the chiefs of West Suriname that BMS and Suralco have applied for an exploration permit in the Bakhuis mountain range. This is the first time the communities had heard of the Bakhuis bauxite project.





February 2016: Inter-American Commission of Human Rights declared Suriname responsible for multiple violations. The Court also ordered Suriname to rehabilitate the “serious damage” caused by the bauxite mining done by subsidiaries of Alcoa and BHP Billiton, without any participation by the Kaliña and Lokono peoples and without having done any form of impact assessment.

2003: Suralco and BHP-Billiton Maatschappij Suriname start a Mining Joint Venture (MJV) to mine the large Bakhuis bauxite deposits in West Suriname (Bakhuis Mountains). Indigenous communities in West Suriname were not properly consulted about the deal struck between the Government of Suriname and BHP Billiton and Alcoa for bauxite exploration in 2800km² of primary forest on their traditional territories. Chiefs of the affected Indigenous villages of Apoera, Section and Washabo turned for help to the Association of Indigenous Village Leaders in Suriname (Stichting Bureau VIDS).

2007: BHP-Billiton Maatschappij Suriname announces it will not mine bauxite in Nassau Mountains.

October 2008: BHP-Billiton announces it will leave Suriname in 2010 and will not pursue further the \$US727 million Bakhuis Mountains Bauxite Mining project and associated dredging projects in the Corantijn and Suriname rivers. BHP announced it would also will leave its 45% refinery interests when current bauxite stocks are ended. The Bakhuis project was forecast to produce 6.9 million tonnes of bauxite a year.

BHP announced sale of the Surinam assets in April 2009 to rival Alcoa. This included the 2.2 million tonnes-per-annum alumina refinery at Paranam which sourced bauxite from the Moengo mine.

December 2015: Alcoa announces it is leaving Surinam.

May 2018: Alcoa starts demolition of Surinam Suralco smelter.

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