Anglo American's Track Record:

RHETORIC OR REALITY?

Community, worker safety, public health, and environmental problems at Anglo American mining operations.

By Philip Mattera

For more information on Anglo American's track record or the proposed Pebble mine, go to www.eyeonpebblemine.org.

RENEWABLE RESOURCES COALITION

Nunamta Aulukestai
Caretakers of Our Land

Cover photo: Iduapriem Mine
Courtesy of Jamie Keen, Mining Watch Canada

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COMMUNITY, WORKER SAFETY, PUBLIC HEALTH, AND ENVIRONMENTAL PROBLEMS AT ANGLO AMERICAN MINING OPERATIONS

By Philip Mattera
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The following organizations - representing Alaska Native corporations, commercial fishing companies, sportsmen, conservation interests, and businesses - are committed to the protection of the Bristol Bay watershed and the tremendous salmon fishery that it sustains. This report was commissioned by these organizations to gain a better understanding of Anglo American's corporate history and track record. While the organizations commissioned this research, they are not responsible for its content, which is the sole responsibility of the author.

Nunamta Aulukestai (Caretakers of Our Land)

Renewable Resources Coalition

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Executive Summary

The London-based mining giant Anglo American PLC, which is involved in the proposed Pebble copper and gold mine in Alaska, professes to uphold high standards of corporate social responsibility, but a review of its track record in other parts of the world finds a series of problems with regard to environmental protection, worker safety, community impacts and human rights. We limited our review to mining operations most similar to those being proposed for Alaska. Among the problems found in these operations are the following:

- Anglo American's platinum operations in South Africa are a major cause of sulfur dioxide emissions and have experienced numerous spills and accidental discharges.
- Acid runoff from a mine in Zimbabwe owned by Anglo American until 2003 contaminated groundwater, polluted the neighboring Yellow Jacket River, and is believed to have harmed the river's fish. A 2001 study of 34 mines around the world found that the Anglo operation had by far the highest level of arsenic in its surface water.
- A mining operation in Nevada was the single largest source of mercury air pollution in the United States during Anglo's ownership. Recommendations to limit fish consumption have been issued for downwind fisheries.
- A mine in Ghana operated by AngloGold Ashanti—an Anglo American subsidiary until 2006 and an associated company for a year after that—has repeatedly spilled waste water and tailings into neighboring communities in recent years. Scientists have found that streams in the vicinity of the mine are "significantly polluted" by metals.
- A scientific study has found that school children living near an Anglo American zinc, lead and copper mine in South Africa have elevated levels of lead in their blood and perform less well in school.
- Numerous leaks and spills have occurred at South African mines operated by AngloGold. At one mine, chronic overflows of mine tailings water have degraded surface and groundwater of the Vaal River, and the overtopping of a containment structure near a processing plant caused slurry to flow into the backyards of four houses.
- Anglo has been in bitter conflict with subsistence communities and farmers in Ghana, South Africa and Mali, where villagers have been displaced from their traditional lands to make way for mining operations.
- An Anglo American zinc mine in Ireland has polluted river sediments with lead and zinc. Sections of the river were closed to anglers and public warning notices regarding heavy metal contamination were posted.
- Copper emissions from the Palabora mining operation, owned by Rio Tinto and Anglo American, have contaminated soil, trees and wildlife in neighboring Kruger National Park.
- Over 220 mine workers have died at Anglo American mining operations in the last five years. Mine workers have repeatedly protested against unsafe working conditions.

Anglo American tries very hard to portray itself as a company dedicated to good corporate citizenship, constantly emphasizing its commitment to environmental protection, worker safety and respect for the communities in which it operates. Yet in the ten examples discussed in this report, the reality of Anglo American's record falls far short of its rhetoric.

The degradation of rivers and streams and impacts to subsistence communities, in particular, will undoubtedly be of special concern to communities in Alaska that could be impacted by the Pebble mine. In addition to the problems seen elsewhere, there is the risk inherent in the fact that Anglo American has never operated a large sulfide mine in a sensitive salmon ecosystem or in harsh Arctic conditions comparable to those of the Bristol Bay watershed.

Whether it is the poor safety record of its platinum and formerly owned gold mines, the failure to control acid mine drainage in Zimbabwe, the repeated spills of mine waste into communities in Ghana and South Africa, the mercury air pollution in the U.S., degraded rivers in Ireland, or the unfair treatment of subsistence villagers displaced from their land in places such as South Africa, Anglo American can hardly be considered a model of good corporate citizenship.

Introduction

In August 2007 Anglo American PLC announced that it had agreed to partner with Northern Dynasty Partnership in the development of the controversial Pebble copper and gold mine project in southwest Alaska. In making the announcement, Anglo American chief executive Cynthia Carroll declared that her company "is committed to the highest international standards for community relations, environmental protection and health and safety."[1] This report will review the company's track record to determine whether it is consistent with that statement.

Anglo American, a natural resources conglomerate with about $30 billion in annual revenue, was established in South Africa in the early 20th Century but for the past decade has been headquartered in London. (Despite its name, it is not American to any significant extent.) The company is best known for its involvement in mining. It grew rich from extraction of gold in South Africa, and its associated company De Beers long dominated the mining, distribution and marketing of diamonds. (Anglo American describes associated companies as ones in which it has a minority investment and exercises "significant influence, but not control.")

After the Second World War, Anglo moved into a host of additional industries in South Africa and became a dominant force in that country's economy. A 1990 *Los Angeles Times* article on the company said: "In South Africa, one can scarcely buy a book, a car, a beer, a bottle of wine, an egg, a pair of shoes or a sofa, take out an insurance policy or open a bank account, heat the home, read a local newspaper, rent an office or erect a skyscraper without in some way enriching this secretive conglomerate of 600 companies."[2]

Anglo American grew rich under apartheid, but once that system was in decline the company situated itself to continue operating under black majority rule. Yet it also extensively restructured its operations, moving some assets abroad so they would be immune from nationalization.[3] Recently, it has been complying with South African government requirements that it transfer partial ownership of its businesses to black entrepreneurs.

Today, Anglo American is a significantly different company from the one described by the *Los Angeles Times*. It has spun off nearly all of its non-mining operations and recently it has drastically reduced its holdings in gold mining, which are now run by a company called AngloGold Ashanti. AngloGold was created in 1998 to consolidate Anglo American's gold holdings. Until 2006, it was treated as a subsidiary; and in 2007 it was downgraded to an "associate." Anglo American's share in AngloGold, now below 20 percent, is treated simply as a financial investment and is no longer included in the company's consolidated financial statements. Anglo American has been putting more emphasis on platinum, copper and zinc mining and has expanded its mining operations outside South Africa, especially in other parts of Africa and in South America.

In recent years, Anglo American and its subsidiaries and associates have claimed they are putting greater emphasis on corporate social responsibility. Anglo American's statement of business principles includes the following:

> As a good corporate citizen, Anglo American respects the dignity and the human rights of individuals and the communities that host our operations. We are also committed to making a lasting contribution to the economic, social and educational well-being of these communities.
>
> A good corporate citizen is, by definition, a good employer as well. Which is why we universally support fair labour practices and promote workplace safety and equality wherever we operate.
>
> As citizens of the world as well as the host communities in which we work, Anglo American recognises the need for careful environmental stewardship. To that end we are fully committed to minimising the impact of our operations and ensuring that they produce a legacy that will be welcomed by generations to come.[4]

This report can be seen as an evaluation of those claims. It begins with a review of Anglo American's complicated history, setting the stage for an examination of Anglo American's record on environmental protection, worker safety, community impacts and respect for human rights at its hardrock mining operations around the world. While not a comprehensive study of these mines, it represents a careful review of information contained in company filings, news reports, scientific journal articles and other public sources. Much of the report focuses on operations in Africa, given Anglo American's long history in that region and the extent of its African operations.

A Short History of Anglo American

Anglo American's origins go back to South Africa in the 1860s, when a diamond deposit was discovered near Hopetown. Soon the area known as Kimberley was the leading diamond-mining location in the world. By the mid-1880s the industry was dominated by large operators, particularly De Beers Diamond Mining Co. In 1888 De Beers, led by Cecil Rhodes, took over a major rival, Kimberley Co., and changed the name of the combined firm to De Beers Consolidated Mines Ltd., which by the beginning of the new century had total control over the Kimberley mines.

Meanwhile, gold mining was also on the rise, thanks to the discovery of large deposits in the Witwatersrand ridge near Johannesburg. Several leading diamond magnates, including Rhodes, moved into gold. In 1887 they registered in London a firm called Gold Fields of South Africa Ltd., which assumed the kind of control over gold production that De Beers had over diamonds. By the mid-1910s, however, the fastest growing part of the gold business was found not in the main Witwatersrand area but in a newly developed peripheral section known as the Far East Rand. The major company in the area was Consolidated Mines Selection Co., which was founded in 1897 and had come under the control of diamond trading firm A. Dunkelsbuhler & Co. in 1905.

The key figure in the Dunkelsbuhler firm was Ernest Oppenheimer, a cousin of the company's founder (Anton Dunkelsbuhler) who had gone to South Africa in 1902 to run the firm's Kimberley office. In 1917 Oppenheimer decided to establish a new company to exploit the gold potential of the Far East Rand. The plan was to base the firm in Johannesburg and raise capital in New York (from the likes of J.P. Morgan & Co.) rather than London. Oppenheimer, apparently trying to disguise his German origins, wanted to call the firm African American Corporation, but his backers persuaded him to change it to Anglo American Corporation of South Africa. In both cases, the use of the term American was misleading.

With Oppenheimer as chairman, Anglo American began taking over various gold operations and then moved into diamond mining in Namibia, merging 11 mining companies into Consolidated Diamond Mines of South West Africa. In 1922 Anglo formally took over Consolidated Mines Selection Co. and moved into diamond production in Angola and the Congo. From that position Anglo challenged De Beers for leadership of the diamond industry and in 1927 made a hostile takeover offer for that company. Despite the resistance of De Beers, Anglo finally achieved that goal in 1929.

The diamond market plunged during the Depression, but the gold side of Anglo's business charged ahead, spurred by rising prices for the metal and by rapidly improving productivity in the mines. As the Second World War ended, Anglo was in a commanding position in both gold and diamond mining. It had also become a major producer of uranium, coal and copper.

Anglo's influence was not limited to mining. Through its takeovers and investments it gradually developed a portfolio of interests in various industrial sectors, including steel, explosives, fertilizers, chemicals and banking.

During the 1960s, amid a general economic boom in the country, there was a dramatic acceleration of Anglo's industrial diversification. The group, then headed by Ernest Oppenheimer's son Harry, formed Highveld Steel and Vanadium Corp. Other major investments were made in paper production, newspaper publishing, construction and textiles. In addition, Rand Mines, which had come under Anglo's control in the early 1960s, merged with Thos. Barlow and Sons in 1971 to form the huge Barlow Rand mining-industrial group. Barlow was the third largest industrial company in South Africa, with activities ranging from the manufacture of electrical equipment and railway cars to the marketing of heavy equipment, steel, timber and motor vehicles.

Anglo's intricate web of holdings was not limited to southern Africa. During the 1970s Anglo used companies such as Minerals & Resources Corp. (later known as Minorco) to spread its tentacles to Europe, North America, South America and Australasia. Avoiding the Anglo American name helped downplay the connection to apartheid South Africa, whose companies were increasingly being ostracized.

Minorco, which focused on the Americas, had by the beginning of the 1980s become one of the largest foreign investors in the United States. Through its holdings in the commodities trading company Phibro Corp. it ended up with a close tie to one of the leading American investment banking firms, Salomon Brothers, which Phibro acquired in 1981. Minorco also had significant holdings in the U.S. mining company Engelhard Corp. and in the British firm Consolidated Gold Fields, which in turn was the largest shareholder in Newmont Mining, a leading U.S. gold producer.

During the late 1980s, as the pressure for divestment prompted many foreign companies to sell their South African subsidiaries, Anglo bought a number of these operations. The Oppenheimers had resisted the worst features of apartheid, and company head Gavin Relly met with the African National Congress while it was still in exile. This helped the company avoid a government takeover and retain its dominant economic position after the establishment of black majority rule.

Anglo had not depended entirely on good relations with the ANC. In 1990, Anglo's De Beers diamond cartel split itself in two and based all its non-South African operations in Switzerland under the name De Beers Centenary. In a $1.4 billion stock and asset swap in 1993, Minorco took over all the non-diamond operations of both Anglo and De Beers outside South Africa. Anglo also spun off some of its South African financial holdings to black investors.

Then, in 1998, Anglo American merged completely with Minorco and announced that it would move its headquarters to London, switch its primary listing to the London stock exchange, and change its name to Anglo American PLC. To make itself more comprehensible to investors, the company simplified its structure by selling, combining or dissolving many of its subsidiaries. In 2001 the Oppenheimers announced plans to end De Beers' status as a publicly traded company, turning it into a private firm in which the Oppenheimers and Anglo American would each own 45 percent. The remaining 10 percent would be in the hands of Debswana, a mining venture co-owned by De Beers and the government a Botswana, a major source of diamonds. As a result of the deal, the Oppenheimers' holdings in Anglo American fell to less than five percent. In a 2006 move illustrating the dramatic changes at Anglo American, the company chose an American woman, Cynthia Carroll, to be its chief executive.

Key Financials *Figures are in U.S. dollars; all except per share amounts are in millions*

	2003	2004	2005	2006	2007*
Turnover (revenue)	24,909	31,398	34,472	38,637	30,559
EBITDA**	4,785	7,031	8,959	12,197	12,132
Operating profit	2,892	4,697	6,376	9,832	9,590
Underlying earnings**	1,694	2,684	3,736	5,471	5,761
Underlying earnings per share***	1.20	1.87	2.58	3.73	4.40
Dividend per share	0.54	0.70	1.23	1.75	1.24
Operating margin (%)	11.6	14.7	18.5	25.4	28.4

*Reflects spinoff of paper and packaging business as well as removal of investment in AngloGold Ashanti from the consolidated financial statements.

**Operating profit before special items, remeasurements, depreciation and amortization in subsidiaries and joint ventures and share of associates' interest, tax, depreciation, amortization and minority interests.

***Net profit attributable to equity shareholders, adjusted for the effect of special items and remeasurements, and any related tax and minority interests.

Anglo American's Record on Environmental Protection, Worker Safety, Community Impacts and Human Rights at Its Various Hardrock Mining Operations

1. Anglo American's platinum operations in South Africa are a major cause of sulfur dioxide emissions and have experienced numerous spills and accidental discharges.

Anglo Platinum, which was formed in 1995 (originally under the name Anglo American Platinum, or Amplats), represents one of the key areas of increased emphasis for Anglo American as it has gradually withdrawn from direct involvement in the gold mining business. Anglo Platinum is the world's leading producer of platinum, most of which is used in automobile catalytic converters and as jewelry.

The origins of Anglo Platinum go back to 1960, when Anglo American gained a controlling stake in Johannesburg Consolidated Investments. JCI, in turn, controlled Rustenburg Platinum, the larger of South Africa's two dominant producers. In 1994 Anglo announced plans to unbundle JCI's assets, with the platinum holdings kept under Anglo's control. This led to the creation of Amplats. In 1997 Anglo American consolidated Amplats, Rustenburg Platinum and two other platinum companies: Potgietersrust and Lebowa Platinum. The latter, known as Leplats, was set up as a joint venture with the government of the black "homeland" of Lebowa during the apartheid era. The overall platinum operation, three-quarters owned by Anglo American, is now known as Anglo Platinum, or Angloplat for short.

Angloplat has grown into a $7 billion business, but this has not come without costs to the environment. The company, for instance, has long had a problem with the volume of sulfur dioxide its smelters emit into the air. At a 2003 public meeting in Rustenburg, company officials admitted that emissions levels had been on the rise and the result was "not a pretty picture of what is being done to the environment." Angloplat was putting about 150 tons of sulfur dioxide into the atmosphere each day, while its competitor Impala Platinum had cut its emissions to a much lower level.[5] Angloplat brought its emissions down in 2004 and 2005, but they jumped 8 percent in 2006 and 13 percent in 2007.[6]

A 2004 thesis written by Sunette Steyn at the University of Pretoria concluded that, despite some improvements made by the platinum industry in Rustenburg to control particulate pollution, problems remained. Among the reasons cited were slow commissioning of new technology and the fact that smelter management "does not take environmental management seriously enough and often the policies set by top management (head office) and not enforced at ground level."[7]

Angloplat has also had frequent problems with spills and accidental discharges due to the overflow of tailings return-water dams and pollution-control dams, as well as pipeline breaks (see table for details, which come from the company's own reports).

Mineweb
UNCOMPROMISING INDEPENDENCE

AngloPlat faces pollution nightmare

Environmentalists lose patience with polluter after sick children, bungled technology suggests plant is pumping out poisonous gases.

Geraldine Bennett
23 May 2003

RUSTENBURG -- In its latest audited figures, Anglo Platinum discloses that it pumped 12% more chemical emissions into the Rustenburg bowl last year, releasing 68 700 tons of sulphur dioxide into the atmosphere. The world's largest platinum producer is also accused of causing pollution so severe that it is making children sick.

ANGLOPLAT LEAKS AND SPILLS IN RECENT YEARS ("SPRUIT" MEANS "STREAM")

Rustenberg Mine Section and Polokwane Smelter

2007: Raw sewage overflowed at the Tumela pump station from the emergency containment dam into a tributary of the Bierspruit.[8]

2006: Sewage seeped through containment dams at the Tumela pump station and flowed into a tributary of the Bierspruit.[9]

2006: Release of tailings together with storm water from the plant remining section and from the Hoedspruit tailings return-water dam to the immediate environment, resulting in sedimentary accumulation that could impact the environment…The secondary compartment overflowed at the spillway into veld and eventually into the Brakspruit.[10]

2005: An overflow from the pollution-control dams to the Klipfontein Spruit.[11]

2005: The dirty-water dam at the Turffontein refrigeration plant overflowed into the Paardekraal Spruit. The water was contaminated due to elevated levels of ammonia and total dissolved solids, but was not considered to be hazardous to livestock or humans if consumed.[12]

2005: The pollution-control dam [at the Polokwone Smelter] overflowed into the Sterkloop vlei and stream for nine days at end-February 2005.[13]

2004: Partial failing of the Klipfontein Tailings dam wall during quarter three.[14]

2004: Overflowing of pollution control dams, especially Klipgat return water dam, during the first quarter owing to excessive rainfall at that time.[15]

2004: A pipeline from a storage dam [at the Precious Metals Refinery] pulled out on a joint and caused effluent liquor to spill into the Klipfontein Spruit.[16]

Lebowa Mine (Leplats)

2007: Continuous discharge of mine water from settling dams, treated effluent discharge from UM2 sewage plant from Atokia sewage plant maturation ponds.[17]

2007: Drying-up of community boreholes in the vicinity of the new Brakfontein shaft.[18]

2006: Significant hydrocarbon-related spills continue to occur at the Middelpunt Hill mining area at Lebowa.[19]

2003: Excess water discharge to the veld at Merensky dams and Middelpunt earth dams. Noncompliance with the National Water Act, 1998.[20]

2003: Discharge of water to the Rapholo Spruit does not meet domestic water consumption guidelines for certain parameters. Non-compliance with the National Water Act, 1998.[21]

2003: Dewatering of well field. Possibly drawing more water from the Olifants well field than the permit authorizes. Noncompliance with the National Water Act, 1998.[22]

Note: These incidents are taken from Anglo Platinum's own environmental reports, which also include descriptions of the steps taken by the company in response to the problems.

2. Acid runoff from a mine in Zimbabwe owned by an Anglo American subsidiary until 2003 has contaminated groundwater, polluted parts of the neighboring Yellow Jacket River and is believed to have harmed the river's fish. A 2001 study of 34 mines around the world found that the Anglo operation had by far the highest level of arsenic in its surface water.

A prime example of how an Anglo American operation caused serious water pollution is the Iron Duke mine in Zimbabwe, located in the Iron Mask Mountain Range near the Yellow Jacket River. Anglo American purchased Iron Duke in 1933, and its subsidiary in Zimbabwe (previously Rhodesia) operated it until it was sold to local interests in 2003.[23] By that time, much damage had been done.

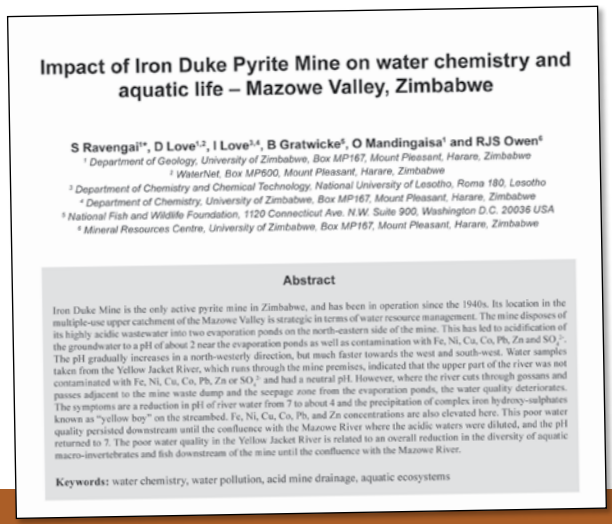
The Iron Duke site has been the subject of a several scientific studies published both during and after Anglo American's period of ownership. For example, a 2000 study in the journal *Environmental Geology* found a very high level of acidity in mine drainage from Iron Duke, including pH readings of 0.52 (roughly equivalent to that of battery acid).[24] A study in the same journal the following year compared the concentration of arsenic in surface water at 34 mines around the world. Iron Duke had by far the highest level.[25]

For many years, Iron Duke's operators were allowed to discharge acidic waste water directly into the Yellow Jacket River. That permit expired in 1990, after which the waste began to be pumped into evaporation ponds. But that caused problems as well. A 2004 study by scientists at the University of Zimbabwe found that about 160 cubic meters (approximately 42,000 gallons) of acidic waste water was seeping from the ponds into groundwater *each day*.[26]

This problem was confirmed in a 2005 study also led by scientists at the University of Zimbabwe. They found that the pH level of groundwater near the mine was about 2.0 (equivalent to that of vinegar).[27] This caused the authors to raise questions about the advisability of using unlined evaporation ponds for the disposal of acidic mine waste, "since this practice has transferred the problem of acid mine drainage to surface water to the much longer-term problem of seepage resulting in serious groundwater contamination."

The scientists found a deterioration of water quality in parts of the Yellow Jacket River, especially a 3 km stretch between the mine and the confluence with the Mazowe River that was found to have heavy concentrations of iron hydroxide sediments known as "yellow boy." They say "it is suspected that a fish kill in July 1998 in the Mazowe River that involved over 1,000 fish and five different species…was related to mine effluent." The authors note that the mine operator had made an effort to rehabilitate its waste dumps, resulting in slight improvement, but serious impacts remained. A portion of the river, they reported, had become "virtually fish-less" because of the yellow boy sediments that coated the river bed.[28]

Subsequent research has confirmed the persistence of the problem (even when clay lining was used), including one study that warns that "potential public health hazards from consumption of the groundwater and river water were high."[29] Whatever shortcomings may be attributable to the current owners of Iron Duke, major harm to the environment occurred during Anglo American's decades of ownership.



Impact of Iron Duke Pyrite Mine on water chemistry and aquatic life – Mazowe Valley, Zimbabwe

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Abstract

Iron Duke Mine is the only active pyrite mine in Zimbabwe, and has been in operation since the 1940s. Its location in the multiple-use upper catchment of the Mazowe Valley is strategic in terms of water resource management. The mine disposes of its highly acidic wastewater into two evaporation ponds on the north-eastern side of the mine. This has led to acidification of the groundwater to a pH of about 2 near the evaporation ponds as well as contamination with Fe, Ni, Cu, Co, Pb, Zn and SO_4^{2-}. The pH gradually increases in a north-westerly direction, but much faster towards the west and south-west. Water samples taken from the Yellow Jacket River, which runs through the mine premises, indicated that the upper part of the river was not contaminated with Fe, Ni, Cu, Co, Pb, Zn or SO_4^{2-} and had a neutral pH. However, where the river cuts through gossans and passes adjacent to the mine waste dump and the seepage zone from the evaporation ponds, the water quality deteriorates. The symptoms are a reduction in pH of river water from 7 to about 4 and the precipitation of complex iron hydroxy-sulphates known as "yellow boy" on the streambed. Fe, Ni, Cu, Co, Pb, and Zn concentrations are also elevated here. This poor water quality persisted downstream until the confluence with the Mazowe River where the acidic waters were diluted, and the pH returned to 7. The poor water quality in the Yellow Jacket River is related to an overall reduction in the diversity of aquatic macro-invertebrates and fish downstream of the mine until the confluence with the Mazowe River.

Keywords: water chemistry, water pollution, acid mine drainage, aquatic ecosystems

IRON DUKE MINE – ACID MINE DRAINAGE

"The 'yellow boy' sediments that characterise the stream bed of the Yellow Jacket River…make it virtually fish-less by coating the river bed with precipitating iron hydroxides." —"Impact of Iron Duke Pyrite Mine on Water Chemistry and Aquatic Life – Mazowe Valley, Zimbabwe," *Water SA*

3. A mining operation in Nevada was the single largest source of mercury air pollution in the United States during Anglo's ownership. Recommendations to limit fish consumption have been issued for downwind fisheries.

A gold mine that was owned by an Anglo American subsidiary once had the dubious distinction of being the largest single source of airborne mercury emissions in the United States.

The mine is called Jerritt Canyon, located near Elko, Nevada. In 1990 Anglo American affiliate Minorco acquired a 70 percent stake in the property. It was among the gold assets that Minorco agreed in 1998 to transfer to the newly formed AngloGold. AngloGold, then a subsidiary of Anglo American, continued to operate the mine until it sold its interest to Queenstake Resources in 2003.

In 2000—when AngloGold was still involved—the U.S. Environmental Protection Agency issued its Toxics Release Inventory covering 1998, the first year mining companies were required to report mercury discharges. The EPA database showed that Jerritt Canyon was releasing 9,400 pounds of mercury into the air—the largest single source in the nation and several times the amount released by the next largest single source. One article noted that the mercury emissions at Jerritt Canyon were greater than those at 21 coal-burning power plants in Pennsylvania combined.[30]

Serious concerns have been raised about the potential impact of these mercury air emissions—which have continued after the end of AngloGold's involvement—on water bodies and fisheries downwind of Jerritt Canyon and other neighboring mines. State agencies have issued public notices for popular fisheries in the area that identify the recommended fish consumption limits for mercury set by the EPA. The Nevada Department of Wildlife has issued a notice for Wild Horse Reservoir, which recommends just one meal per month of bass and catfish.[31] Just over the border in Idaho, a fish consumption advisory has been issued for Salmon Falls Creek Reservoir recommending that children eat no more than one meal per month of walleye, smallmouth bass or perch.[32]

Even though some mercury control devices were installed before AngloGold sold the property, those controls did little to solve the problem.[33] In March 2008, Nevada officials ordered the current owners of Jerritt Canyon to shut down its ore roasters until new emissions controls are installed.[34]

Apart from mercury emissions, deteriorating water quality in five neighboring streams was an issue at Jerritt Canyon during the period AngloGold operated the mine. A 2006 study that made use of state monitoring data found:

> surface monitoring points in drainages below waste rock dumps on Burns Creek, Mill Creek, Jerritt Creek, Snow Creek and Sheep Creek showed exceedences of secondary federal drinking water standards for TDS [total dissolved solids] and sulfate. One surface monitoring site showed a steady increase in TDS and sulfate concentrations

reviewjournal.com

Report: Nevada gold mines pollute air

Associated Press
Friday, March 03, 2000

RENO -- Nevada gold mines are among the nation's major sources of mercury air pollution, according to a U.S. Environmental Protection Agency report expected to be released in mid-March, the Reno Gazette-Journal reported Thursday.

In July, for the first time, the state's mines were required to submit toxic release inventory reports to the federal agency. Until they saw the mines' reports, EPA officials said they had no idea the sites emit thousands of pounds of mercury every year from their smokestacks.

The Salt Lake Tribune

A poison wind:
Toxic mercury blows into Utah from Nevada

By Patty Henetz
Article Last Updated: 05/02/2005

Poison is blowing eastward from Nevada, and Utah is in its path.

Mercury is floating out of smokestacks into the atmosphere from a cluster of gold mines near Elko that account for as much as 11 percent of the nation's total mercury emissions. Utah's mountain high country, its urban heart and the irreplaceable ecology of the Great Salt Lake are directly downwind.

JERRITT CANYON MINE – MERCURY POLLUTION

The EPA database showed that Jerritt Canyon was releasing 9,400 pounds of mercury into the air, the largest single source in the nation and several times the amount released by the next largest single source. —"Mines Major Mercury Polluters," *Reno Gazette-Journal*, March 2, 2000

from 2001–2004, with exceedences of over 10 times standards for both by early 2004. The exceedences were most likely related to the waste rock disposal pile.[35]

Groundwater monitoring wells below the tailings impoundment showed levels for chloride and total dissolved solids that were more than 10 times federal drinking water standards between 1993 and 2004. Excessive levels of arsenic and sulfate were also occasionally noted. The report noted that the "tailings impoundment was lined and had seepage control features, but these were not adequate to prevent groundwater contamination.[36]

A 2006 study documented contaminated groundwater below the Jerritt Canyon mine tailings impoundment. Image provided by SkyTruth.

A 2006 study found that streams below the Jerritt Canyon mine waste rock dumps exceeded secondary federal drinking water standards (see text). Image provided by SkyTruth.

4. A mine in Ghana operated by AngloGold Ashanti—an Anglo American subsidiary until 2006 and an associated company for a year after that—has repeatedly spilled waste water and tailings into neighboring communities in recent years. Scientists have found that streams in the vicinity of the mine are "significantly polluted" by metals.

Water pollution has been a major issue at the Obuasi mine operated by AngloGold in Ghana, which is one of the world's leading sources of gold. Ashanti Goldfields Corp., which AngloGold acquired in 2004, first produced gold at Obuasi in the late 19th Century, when Ghana was known as Gold Coast.

While some of the environmental problems are attributed by the company to careless behavior on the part of the "illegal" individual miners known as *galamseys*, who extract small amounts of gold from the waste generated by the mine, AngloGold's operations themselves are also to blame.

In October 2006, the human rights group ActionAid International published a critical report on the Obuasi mine that included information on pollution issues. The report describes conditions in a 2,500-person village where runoff from a nearby waste rock pile repeatedly floods the community during heavy rain storms. ActionAid quotes farmer Thomas Antwi as saying: "Whenever it rains heavily the rainstorm washes most of the debris [from the waste dump] downstream, and then those who are at the furthest end of town get affected and they cannot stay there until the water subsides." Residents call the village "Ahansonyewodea" (which the reports says roughly translates as "This place is not your territory") as a form of protest against the mines.[37]

Scientific studies confirm the existence of water quality problems in the area. A study published in the *West African Journal of Applied Ecology* in 2007 finds that stream waters in the catchment area of the Obuasi mine are "significantly polluted" by arsenic, mercury, iron, and, to some extent, copper, nickel and zinc.[38] According to the study, arsenic concentrations as high as 18.9 mg/l were measured downstream from the mine and processing facilities—levels significantly higher than the World Health Organization's permissible maximum guidelines of 0.01 mg/l. While mentioning that the long history of mining in the area and the activities of *galamseys* have contributed to the pollution problem, the study also puts responsibility on "present large scale...mining activities"—in other words, AngloGold.

A March 2007 thesis submitted by Kumi-Boateng Bernard to Holland's International Institute for Geo-Information Science and Earth Observation confirmed the arsenic problem around Obuasi. The author reports on soil samples showing arsenic

General News of Saturday, 12 November 2005

Cyanide waste spillage in three communities

AngloGold Ashanti to compensate victims

Over 3000 inhabitants living in about three communities within the Obuasi municipality have experienced the most disastrous effect ever associated with spillage of cyanide waste materials.

West African Journal of Applied Ecology

Impact of Mining Activities on Water Resources in the Vicinity of the Obuasi mine

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OBUASI MINE – WATER POLLUTION, COMMUNITY IMPACTS AND REPEATED SPILLS

"You wake up one day and you realize your farm is destroyed," said Assemblyman Benjamin Anna, a local politician. "They say they will compensate but it takes one or two years. So people are compelled to go to illegal mining, the way our ancestors did." —"Behind Gold's Glitter: Torn Lands and Pointed Questions" *New York Times*, October 24, 2005

Company reports also document numerous spills from 2004-2006 in which mine waste water and tailings were spilled, flooding homes and affecting neighboring communities and the Nyam River.

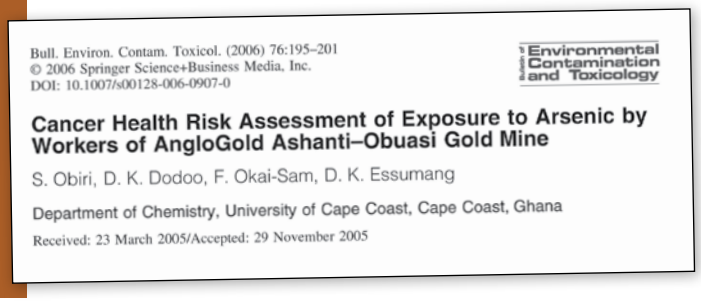
concentrations up to 69.72 parts per million, while samples of stream sediment collected within 1 km of the mine sites were found to contain concentrations as high as 34,253 parts per million.[39] The thesis goes on to say:

> The extremely high levels of arsenic in the stream sediment of the Nyam stem from the fact that the river is the direct recipient of the discharges from the treatment retention sump and the tailings dam. The high levels of arsenic have rendered the river without life and the community has been barred from drinking the water. The mining company has provided the community with a borehole as their source of drinking water.[40]

In its environmental reports, AngloGold has acknowledged numerous spills at Obuasi, including an incident in 2006 in which rock dump material eroded as a result of heavy rain, resulting in flooding of the community of Ahansonyewodea, and another that year in which slurry spillage occurred at Aboagyekrom, a suburb of Obuasi. [41]

OBUASI MINE – HEALTH EFFECTS

A scientific study of arsenic exposure at six treatment plants in AngloGold's Obuasi complex in Ghana found very high levels in some cases, including as much as 898 mg/kg of arsenic in soil samples and 558 mg/liter in water samples. Using standard measures of cancer risk for exposure to arsenic, the study found that, at one facility, 17 percent of workers were likely to develop cancer from oral exposure and 56 percent from contact through the skin. The study concluded that, "… the mining activities of AngloGold Ashanti (Obuasi mine) are having serious health problems on the workers of the company." Source: S. Obiri et al., "Cancer Health Risk Assessment of Exposure to Arsenic by Workers of AngloGold Ashanti-Obuasi Gold Mine," *Bulletin of Environmental Contamination and Toxicology* (2006) 76:195-201.


Bull. Environ. Contam. Toxicol. (2006) 76:195–201
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DOI: 10.1007/s00128-006-0907-0

Environmental Contamination and Toxicology

Cancer Health Risk Assessment of Exposure to Arsenic by Workers of AngloGold Ashanti–Obuasi Gold Mine

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5. A scientific study has found that school children living near an Anglo American zinc, lead and copper mine in South Africa have elevated levels of lead in their blood and perform less well in school.

As part of its move into base metals, Anglo American announced in 1998 that it was purchasing a 55.4 percent interest in South Africa's Black Mountain zinc/lead mine from Phelps Dodge and Gold Fields of South Africa. The mine was close to another zinc mine called Gamsberg that Anglo American had first bought into during the 1970s. At the same time Anglo purchased its share in Black Mountain, it increased its holding in Gamsberg.

In 2000 Anglo announced a $110 million expansion program at Black Mountain. This exposed a new ore body that extended the life of the mine, which otherwise was reaching the end of its useful life. In 2007 Anglo sold a 26 percent stake in the mine to the Exxaro black empowerment investment group.

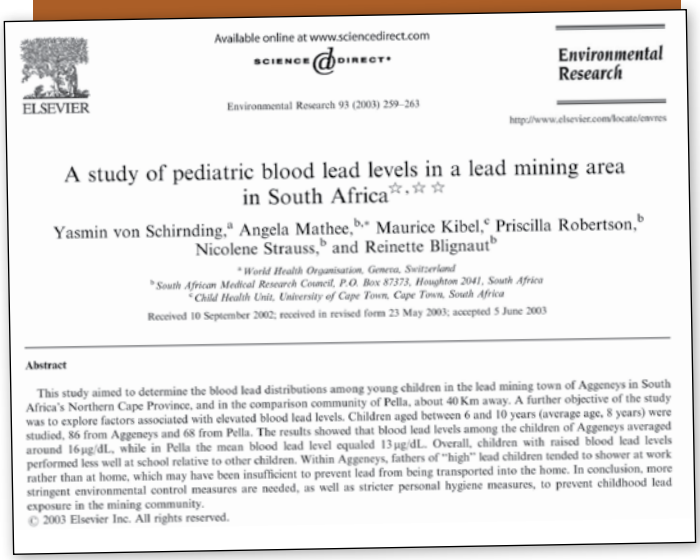
While Anglo has done well for itself with Black Mountain, the same cannot be said for nearby residents. A 2003 scientific study published in the journal *Environmental Research* found that school children living in the town of Aggeneys near the mine had elevated levels of lead in their blood compared to children in a comparison town about 40 km away and compared to what would be expected in a rural setting.[42]

The study found that blood lead levels averaged around to 16 micrograms per deciliter (µg/dL), with 98 percent of the sample having lead levels equal to or greater than 10 µg/dL, the threshold level for adverse health effects established by the U.S. Centers for Disease Control. The study also reported: "Overall, children with raised blood lead levels performed less well at school relative to other children." The authors suggest that the elevated levels are the result of lead dust brought home by mineworkers on their clothes or in their hair.

Another 2003 report found that the operations at Black Mountain and a nearby copper mine had an adverse impact on water quality in the area.[43]

THE BLACK MOUNTAIN MINE – CHILDREN'S HEALTH

A 2003 scientific study found that children living near the mine had elevated levels of lead in their blood compared to children in a comparison town about 25 miles away and compared to what would be expected in a rural setting. The study also reported: "Overall children with raised blood levels performed less well at school relative to other children".
—A Study of Pediatric Blood Lead Levels in a Lead Mining Area in South Africa, *Environmental Research*, 2003.



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A study of pediatric blood lead levels in a lead mining area in South Africa☆,☆☆

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Abstract

This study aimed to determine the blood lead distributions among young children in the lead mining town of Aggeneys in South Africa's Northern Cape Province, and in the comparison community of Pella, about 40 Km away. A further objective of the study was to explore factors associated with elevated blood lead levels. Children aged between 6 and 10 years (average age, 8 years) were studied, 86 from Aggeneys and 68 from Pella. The results showed that blood lead levels among the children of Aggeneys averaged around 16 µg/dL, while in Pella the mean blood lead level equaled 13 µg/dL. Overall, children with raised blood lead levels performed less well at school relative to other children. Within Aggeneys, fathers of "high" lead children tended to shower at work rather than at home, which may have been insufficient to prevent lead from being transported into the home. In conclusion, more stringent environmental control measures are needed, as well as stricter personal hygiene measures, to prevent childhood lead exposure in the mining community.

6. Numerous leaks and spills have occurred at South African mines operated by AngloGold. At one mine, chronic overflows of mine tailings water have degraded surface and groundwater of the Vaal River, and at another mine the overtopping of a containment structure caused slurry to flow into the backyards of four houses.

Along with diamonds, gold mining was the foundation of the Oppenheimer empire and was the business that made Anglo American both famous and infamous during the apartheid era of South Africa. Starting in the 1930s, Anglo dominated gold extraction in the country and grew wealthy from exploitation of the underpaid and overworked black workforce in the mines. The original deposits in the Witwatersrand ridge near Johannesburg that Anglo American and other companies began mining in the late 19th Century were supplemented by large new finds after the Second World War, including the Vaal Reefs mines and the Western Deep Levels mines, the latter involving the deepest shafts ever dug.

These areas became the heart of AngloGold's South African operations when the company was created in 1998 to consolidate Anglo American's gold holdings. The Vaal Reefs mines include the mines known as Great Noligwa, Kopanang, Moab Khotsong and Tau Lekoa. The Western Deep Levels mines are now called the West Wits operations and consist of the Mponeng, Savuka and TauTona mines. Anglo American continued to have a controlling interest in Anglo Gold until 2006, when it reduced its 51% interest to 41.7%. In October 2007 it reduced its interest to 17.3%. Although Anglo American no longer treats AngloGold as a subsidiary, its long involvement in running the mines operated by AngloGold mean that the environmental problems of those properties are part of Anglo American's legacy.

Anglo's South African gold operations have been linked to a variety of water pollution problems.

At AngloGold's Vaal River operations, the company has reported surface and groundwater impacts. Significant overflows from the mine's Bokkamp water system were happening annually, mainly owing to high quantities of rain water captured on the tailings impoundment during storm events. According to company's 2006 country report, the excess tailings water, stored in the Bokkamp dam, was spilling into the Vaal River, about 1,500m from the dam, contributing to the degradation of the quality of ground and surface water. The spills were in breach of the mine's exemption granted by the Department of Water Affairs and Forestry in terms of not allowing water discharges from the facility. Although the spills were limited to the Vaal River lease area, the company admitted that they could have affected other land and water users downstream. In 2006 the company finally initiated corrective action, with plans to complete a larger storage dam in 2009.[45]

Along with the Vaal River spills, AngloGold has experienced incidents at other South African mines such as West Wits and the Ergo processing plant (which AngloGold sold in 2007). These include spills at the Ergo plant that affected nearby residential areas, including one incident in which slurry flowed into the backyards of four homes due to an overflowing containment structure, and another where slurry from a tailings pipeline spilled into an urban area. (see list on page 17)

At the West Wits mines, chronic overflows of mine waste water have also been a problem. A 2005 report produced by Malebabo Sakoane at the University of the Witwatersrand found that surface water quality in AngloGold's West Wits operations "is poor and this water has negative impacts on the environment following accidental discharges and has potential negative impacts from seepage through the unlined dams."[46]

WATER QUALITY IMPACTS AT EXPLORATION SITE

One incident occurred back in 1989 at Anglo's Bien Venue exploration site near the Barberton area of Mpumalanga. Waste rock from the exploration was placed on a steep hill leading down to a tributary of the Kaap River. Oxidation of the sulfide minerals in the waste rock led to the drainage of acidic water (containing metals such as arsenic and cadmium) into the tributary during a severe storm. This resulted in fish kills in the reservoir of a farmer, who brought a successful damage claim against Anglo.[44]

ENVIRONMENTAL INCIDENTS AT ANGLOGOLD'S SOUTH AFRICAN OPERATIONS:

2004: Oil and waste spillage into a stream just off the boundary of TauTona.

2004: Tailings spillage due to a pipeline failure at the Vaal River operation.

2004: Three pipeline bursts at Ergo result in slurry spillage totaling over 2,100 cubic meters (approximately 550,000 gallons).

2005: At Ergo, some 1,000 tons of slurry flow down a dirt road after a hole developed in a slurry pipeline. About 500 tons of the material flowed into the storm water system and was discharged into the Natal Spruit (stream)

2005: Also at Ergo, a pipeline failure results in about 3,500 cubic meters (approximately 925,000 gallons) of slurry flowing into the municipal storm water system.

2005: Also at Ergo, some slurry flows into the backyards of four houses following the overtopping of a containment structure.

2005: Also at Ergo, a slime spillage from slurry pipeline occurs in an urban area.

2005: At Vaal River, heavy rains overwhelm a catchment area, leading to discharges totaling about 90,000 cubic meters (approximately 24 million gallons) of waste water and 270 tons of salts, which affect land below the dam. Also, the final water pollution control dam overflows.

2005: Contaminated storm water from the West Complex tailings dam at Vaal River entered the Schoonspruit stream.

2005: Also at Vaal River, high concentrations of sulfur dioxide are recorded.

2005: At West Wits an unauthorized discharge of some 10,000 cubic meters (approximately 2.6 million gallons) process water occurred from the North boundary dam into the Wonderboom Spruit (stream).

2005: Also at West Wits, overflow of dirty water at the North Boundary dam due to insufficient capacity.

2006: Three incidents at TauTona in which a total of about 12,300 kg (approximately 27,000 pounds) of refrigerant R134a (a greenhouse gas) are released due to the failure of condenser tubes.

2006: At West Wits there are two incidents in which the North Boundary Dam overflows after heavy rainfall, leading to discharges into the Wonderfonteinspruit waterway.

2006: Also at West Wits, excessive readings of sulfur dioxide are found during air quality monitoring.

2006: Strong winds blow dust from the Brakpan Tailings Storage Facility into the neighboring community.

2006: On five occasions, the Bokkamp Dam, a process water storage and return water dam, overflowed towards the Vaal River after heavy rainfall.

Note: These incidents are taken from AngloGold's own environmental reports, which also include descriptions of the steps taken by the company in response to the problems.[52]

The report describes significant spills into the Wonderfontein Spruit (stream) and its tributary due to overflows from the mine's North Boundary dam, which stores mine process water, tailings seepage and storm water runoff.[47] These spills included 62,000 cubic meters in 2001, 80,000 cubic meters in 2002, and additional releases in 2003. The company's reports also acknowledge spills in 2005 and 2006, including one spill in which more than 112,000 cubic meters—approximately 30 million gallons—of wastewater were reportedly released. The company reports that, "Water released from the North Boundary Dam towards the Wonderfonteinspruit may be of some risk to the sensitive aquatic biota of the system. [48]

AngloGold also admits there has been a problem with uranium and other heavy-metal contamination of sediment in the Wonderfontein. The company's most recent *Report to Society* includes a section on this issue in which Harry Rex, its manager for environmental issues in South Africa, is quoted as saying:

> Our West Wits operations currently operate essentially a water negative or zero discharge system, but we acknowledge we may have contributed in the past to the sediment that now exists in the river…The challenge is determining the extent of the pollution and proportionality of responsibility, bearing in mind that this problem dates back 100 years…[49]

That may be the case, but AngloGold and before it Anglo American were involved in mining in the area for many decades. It is thus appropriate that the company is involved in efforts to clean up the problem. Scientific studies of the Mooi River near the West Wits operations have shown elevated levels of copper in the river's sediment and in the tissue of mudfish and largemouth bass.[50]

In its most recent annual filing with the Securities and Exchange Commission in the United States, AngloGold also admits that it has made little progress in addressing groundwater pollution problems in South Africa:

> The Company has identified a number of groundwater pollution sites at its current operations in South Africa and has investigated a number of different technologies and methodologies that could possibly be used to remediate the pollution plumes. The viability of the suggested remediation techniques in the local geologic formation in South Africa is however unknown. No sites have been remediated and present research and development work is focused on several pilot projects to find a solution that will in fact yield satisfactory results in South African conditions. Subject to the technology being developed as a remediation technique, no reliable estimate can be made for the obligation.[51]

VAAL RIVER – WATER QUALITY DEGRADATION

According to company reports, significant overflows from the Bokkamp water system were happening annually, mainly owing to high quantities of rainwater captured on the tailings impoundment during storm events. The excess tailings water was spilling into the Vaal River, about 0.9 miles from the dam, contributing to the degradation of the quality of ground and surface water. See list of chronic spills in table on p. 17.

7. Anglo has been in bitter conflict with subsistence communities and farmers in Ghana, South Africa, and Mali where villagers have been displaced from their traditional lands to make way for mining operations.

Conflicts are common between giant mining corporations and residents of areas that the companies decide they want to exploit—and Anglo American and its related companies are no exception.

In Ghana, Anglo has complained that the environmental problems experienced at mines such as Obuasi are the fault of reckless behavior by illegal *galamsey* miners. Yet many of these galamseys are former farmers who were forced off their land by expanding mining activity. An October 2006 ActionAid International report on conditions at Obuasi estimated that 60-70 percent of galamseys were in that category.[53] A 2005 *New York Times* article on the land use conflict around the Obuasi mine quotes a local assemblyman:

> "You wake up one day and you realize your farm is destroyed," said Assemblyman Benjamin Annan, a local politician. "They say they will compensate but it takes one or two years. So people are compelled to go to illegal mining, the way our ancestors did."[54]

Critics have accused AngloGold of human rights violations against the *galamseys*, but the company has vigorously denied the charges.[55] Yet there is no doubt that tensions between AngloGold and the *galamseys* have continued to escalate. Earlier this year, a company executive told a reporter that the company might arrange for military intervention to deal with the problem.[56]

A controversy over displacement also exists at another major Ghanaian gold mine, Iduapriem, which was developed in the 1990s by Australia's Golden Shamrock Mines with financing help from the World Bank's International Finance Corporation. In 1996 Ashanti took over Golden Shamrock and thus its interest in Iduapriem. Anglo obtained a controlling interest in 2004 when it purchased Ashanti.

An April 2007 article in the Ghanaian publication *Public Agenda* reported on interviews with farmers cultivating land near the Iduapriem mine who said they had been prevented by AngloGold security guards from accessing their land, with "almost all the footpaths and other routes…farmers…had been using since time immemorial to get to their farms…rendered impassable by mounting heaps of waste rock dumped all over their community over the years by the AngloGold Ashanti mine."[57]

Other farmers have lost their land entirely. Despite receiving modest cash compensation, they are angry that they have not been given new land to cultivate, as was promised in the 2003 Resettlement Action Plan agreed to by Ashanti. Five years later, with AngloGold now in charge, that commitment has still


Mail&Guardian online

BUSINESS

Limpopo villagers protest against relocation

Johannesburg, South Africa
24 August 2007 01:17

Limpopo residents were on Tuesday protesting against their relocation to make way for mining operations.

About 300 residents of Mohlohlo village, outside Mokopane, barricaded the road into the village with rocks early on Tuesday morning, said Limpopo police spokesperson Captain Sebotsaro Motadi.

They were blocking the entry of the vehicles being sent to move them to homes built for them in Armoede by Anglo Platinum.

COMMUNITY DISPLACEMENT

"Speaker after speaker lambasted Angloplat for destroying the grazing and crop land, for not paying adequate compensation and for failing to consult them about the location of its mining operations." —Community members venting their anger at officials from the Department of Minerals and Energy and other government agencies *Business Report*, March 25, 2007.

"We got… compensation enough to cover one year's worth of cultivation. But what are we going to do for the rest of our lives? We have no farmlands." —Tamaki Dembele, chief, village of Sadiola, which was displaced by the Sadiola Hill Mine. From Oxfam America, *Hidden Treasure? In Search of Mali's Gold-Mining Revenues* (2007)

REUTERS AlertNet Foundation

SOUTH AFRICA: Rights body to probe mines over alleged abuse

March 31, 2008

Johannesburg - Alleged human rights abuses by Anglo Platinum, the worlds leading producer of platinum, could spark investigations throughout South Africa's mining industry.

CNBC AFRICA

March 31, 2008

Rural Community Takes on Anglo Platinum

by Malose Manama

ANGLO PLATINUM is facing a tough time with a poor North West community planning to lobby world auto makers in a campaign to stop the resources giant from contaminating water resources and destroying farming lands of rural South Africans. The Baphalane ba Mantserre community took to the premises of ANGLOPLATS' Amandebult platinum mine. Community leader Modise Mokgatle said the company needs to know that the platinum it uses for inputs is mined without care for the needs of those living near the deposits.

BBC NEWS

Tuesday, 25 March 2008

Mining forces out thousands in South Africa

Nearly 20,000 South Africans have been displaced by mining giant Anglo American in its search for platinum, a BBC File on 4 investigation has found.

It was also shown evidence the UK-based firm had polluted water sources and scores of miners had been killed.

The rising price of platinum has seen a new wave of open-cast mines in South Africa, the world's largest producer.

Thousands have had to leave their homes due to open-cast mines

not been fulfilled. The company does not deny the failure. In its most recent annual report on Iduapriem, AngloGold says vaguely that "the mine has, as yet, been unsuccessful in securing alternative farming land."[58] That is of little consolation to local residents, one of whom told a reporter for *Public Agenda*: "By driving people off their land with no replacement land, AngloGold Ashanti has exacerbated our poverty."[59]

In South Africa, Anglo Platinum has been embroiled in a controversy over its relocation of 10,000 people from the Ga-Puka and Ga-Sekhaolelo villages in Limpopo province to allow for an expansion of the company's Potgietersrust Platinum operation. Although the company promised to pay for new homes for the villagers, it faced lawsuits and protests over the plan, including one in which a group of women faced down company bulldozers.[60] At a June 2006 protest over the arrival of Angloplat drilling teams, police opened fire with rubber bullets as well as some conventional ammunition, causing more than two dozen injuries.[61]

Critics charge that villagers in Limpopo were not being adequately compensated for being uprooted from their land and placed in an alien environment.[62] Chief among those critics has been lawyer Richard Spoor, who brought suit against Potgietersrust Platinum and government officials over the relocations. In 2006 Angloplat tried to silence Spoor by asking a court to issue a gag order stopping him from making what the company considered defamatory statements (such as calling it a "racist" and a "corporate thug").[63]

Papers filed in the case (not yet resolved) suggest that Angloplat had bribed villagers to withdraw their support from Spoor's actions against the company, including one involving an effort to prevent Angloplat from moving gravesites.[64] A 2007 news article reported community members venting their anger at officials from the Department of Minerals and Energy and other government agencies: "Speaker after speaker lambasted Angloplat for destroying the grazing and crop land, for not paying adequate compensation and for failing to consult them about the location of its mining operations."[65]

The Limpopo controversy flared up again in March 2008 when a BBC Radio feature and a new ActionAid report both provided more details on the dislocations.[66] For example, ActionAid quoted residents of the village of Ga-Pila who refused to relocate but soon found themselves without water, electricity and other basic services. The report quotes one villager as saying that a mine official "told us they were cutting the electricity to force us out. He very clearly told us that" (p.17). The company put the blame on local officials. Residents also told ActionAid that the homes of those who gave in to the pressure to relocate were quickly demolished by heavy equipment that appeared to have come from the Angloplat mine (p.19). The South African Human Rights Commissions has announced it is looking into the allegations in the ActionAid report.[67]

Anglo American put out a press release and a 44-page document denying that residents had been forced off the land, defending the level of compensation provided and insisting that it in no way directed police to use force against demonstrators.[68]

Recently, there have been complaints from another South African community about Angloplat's practices. In late March, more than 1,000 people from Ba Mantserre community held a protest at the Amandelbult mine to complain about displacement as well as contamination of water resources.[69]

James Sarpong, a member of the Concerned Farmers' Association of Teberebie, shows visitors his farm, most of which has now been covered up with waste rock from Anglogold operations. Photo: Jane Hahn/Oxfam America

AngloGold's operations in Mali have also been accused of creating negative social impacts. Anglo American first got involved in Mali in the early 1990s, when it joined with the small Canadian company IAM Gold to develop the remote Sadiola mine. The two firms each took a 38% stake in the venture, while the government of Mali held 18% and the World Bank's International Finance Corporation the remaining 6%. In 1998, Sadiola was incorporated into AngloGold when it was created to consolidate Anglo American's gold holdings. In 2000, AngloGold purchased a 40% interest in another gold mine – Morila, which had been developed by Randgold Resources Ltd. Anglo was designated the operator of the project.

A 2006 report by Norway's Chr. Michelsen Institute (commissioned by the World Bank) on the Sadiola and Morila operations found that the gold boom had created divisions within Malian society and that the mining companies had spent very limited amounts of money on community development.[70] A February 2007 report by Oxfam America reached the same conclusion about social investment and found that a substantial portion of the limited funds being expended were going to pay for local police.[71] The report also quotes two village leaders expressing criticism over the level of compensation provided to displaced farmers and the social effects of the mine:

> "We got…compensation enough to cover one year's worth of cultivation. But what are we going to do for the rest of our lives? We have no farmlands."—Tamaki Dembele, chief, village of Sadiola, which was displaced by the Sadiola Hill Mine.

> "We have serious concerns about the social aspects of mining, like the massive migration to the area with negative consequences, such as increases in crime,… loss of parental authority, and widespread HIV increase."—Balla Sissoko, mayor of Sadiola, Mali.

The Chr. Michelsen Institute report also found that mining activities restricted the ability of people to work the land:

> Restrictions resulted directly from the expropriation of land and displacement of villages. These processes reduced the amount of land available for use by local people. Some of the best land was taken by the mines, and to the extent that new land was provided to replace it the new sites were often located far from the villages. In Sadiola, as a result of the establishment of the mine, agricultural and pastoral activities in the surrounding areas were reduced considerably. Residents of Farbacouta village, for instance, had to go all the way around the big mine site to get to their fields. Another village was displaced to another area of the municipality where the soil was less fertile.[72]

A September 2007 report by the International Federation for Human Rights found that gold mining in Mali had "practically no stimulating effect on the rest of the economy" and thus had done little to improve living standards. The report called on the Malian government to "make certain that social and environmental obligations" are integrated into the deals made with mining companies and incorporated in the country's Mining Code.[73]

8. An Anglo American mine in Ireland has polluted river sediments with lead and zinc. Sections of the river were closed to anglers and public warning notices regarding heavy metal contamination were posted.

Anglo American's Lisheen mine, located amid an agricultural region in northern County Tipperary, originated in 1990 when the zinc/lead deposit was discovered by the Irish exploration company Ivernia West and CMCI, an affiliate of Chevron. In 1993 Anglo American affiliate Minorco SA acquired CMCI's share, which was later taken over by Anglo American when it merged with Minorco. In 2003 Anglo American bought out Ivernia West and became sole owner of the operation, one of the largest zinc mines in the world.

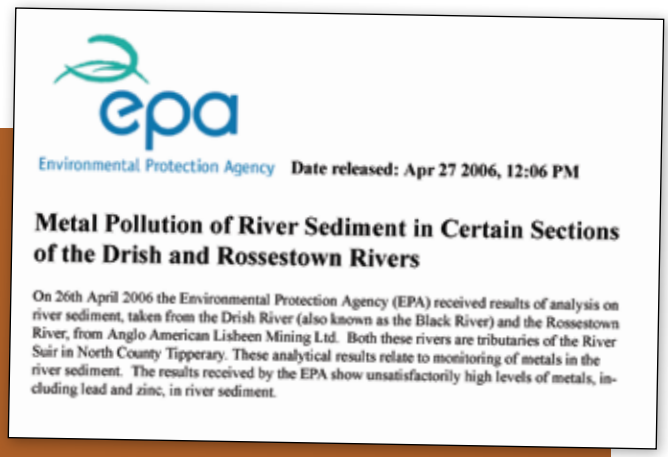
Local objections to the development of the mine resulted in what was supposed to be strict regulatory oversight, including the issuance of the country's first Integrated Pollution Control license, which set standards for the entire range of potential impacts—from air and water to noise and vibrations.[74] The mine's official website says it is "designed and operates to the highest international environmental standards."[75]

Yet, even before the mine began full production, there were environmental problems. At the time of the official opening in 2000, the *Irish Times* noted that "Ivernia and Anglo American had a difficult task in overcoming the negative perceptions of mining following the contamination caused by a tailings pond."[76] The company promised to address those problems, but by 2006 there were indications that the mine was having a negative impact on two local waterways—the Drish River (also known as the Black River) and the Rossestown River, both tributaries of the River Suir. The annual river water quality report published by Environmental Protection Agency Ireland wrote about the Drish: "Overall deterioration since previous survey with none of the five [sampling] locations reaching a satisfactory condition in 2005. The large volume of groundwater, from mining activities, led to heavy siltation and a suspected toxic effect on the macroinvertebrate fauna in the Casteltown area."

Warning signs regarding industrial pollution on the River Drish River near Thurles. Photo from: National Parks and Wildlife Service Report

As for the Rossestown River, the report said: "Again mostly unsatisfactory, due to widespread moderate pollution, except for the final location (0300). The uppermost location (0020) is downstream of mechanical peat extraction operations while the next location (0040) is downstream of Lisheen Mine where heavy siltation was recorded."[77]

In April 2006 EPA Ireland issued a press release saying that an analysis of sediment in the Drish and Rossestown Rivers found "unsatisfactorily high levels of metals, including lead and zinc."


epa
Environmental Protection Agency **Date released: Apr 27 2006, 12:06 PM**

Metal Pollution of River Sediment in Certain Sections of the Drish and Rossestown Rivers

On 26th April 2006 the Environmental Protection Agency (EPA) received results of analysis on river sediment, taken from the Drish River (also known as the Black River) and the Rossestown River, from Anglo American Lisheen Mining Ltd. Both these rivers are tributaries of the River Suir in North County Tipperary. These analytical results relate to monitoring of metals in the river sediment. The results received by the EPA show unsatisfactorily high levels of metals, including lead and zinc, in river sediment.

LISHEEN MINE – METALS POLLUTION

"Ongoing pollution originating from the mine has caused sections of this river to be closed to anglers and public warning notices regarding heavy metal contamination have been posted." —National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland, 2007

The agency advised farmers to prevent farm animals from having direct access to the affected stretches of the river and called for a suspension of any dredging activities.[78] The Southern Regional Fisheries Board proposed a ban on fishing in the affected portions of the rivers and urged EPA Ireland to review Lisheen's pollution control license.[79] A National Parks and Wildlife Service report stated that "ongoing pollution originating from the mine has caused sections of this river to be closed to anglers and public warning notices regarding heavy metal contamination have been posted."[80]

In October 2006, after additional analysis over the course of the summer, EPA Ireland put out another press release lifting the restrictions on animal access and announcing that the company would begin removing affected sediments in the coming months.[81]

Anglo American also proposed to construct about two dozen wind turbines on mine property. That move was opposed by groups such as Moyne-Templetuohy Community Action Group, which warned the installation would harm ground water supplies.[82] The plan was nonetheless approved in August 2007, with a set of restrictions attached.[83]

Concerns have been raised abut the large quantity of trucks filled with zinc ore that crowd the highways leading from Lisheen. In June 2007 the driver of one of those trucks apparently lost control of his vehicle and caused a multiple-vehicle accident in which he lost his life and three other drivers were injured.[84]

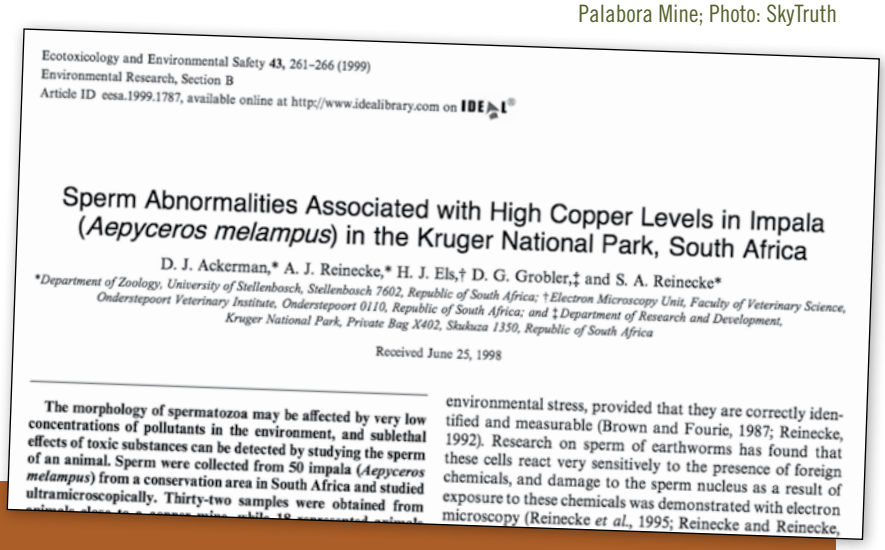
9. Copper emissions from the Palabora mining operation, owned by Rio Tinto and Anglo American, have contaminated soil, trees and wildlife in neighboring Kruger National Park.

Palabora Mine; Photo: SkyTruth

Palabora, situated adjacent to Kruger National Park in the Ba-Phalaborwa area of Limpopo, is South Africa's largest copper mine. It operated for 40 years as a large, open-pit mine but in recent years the ore has been extracted in an underground operation located immediately below the pit.

Anglo American has been a minority owner of Palabora since 1988, when it and its affiliate De Beers purchased a combined interest of about 29 percent from Newmont Mining. Anglo's holding is now down to 17 percent, and the mine is operated by Rio Tinto, but the mine's track record is relevant to the Pebble project for two reasons. First, Rio Tinto is also an investor in the proposed Pebble Mine. Second, Paul Henry, the senior executive sent by Anglo American to Alaska to work on the Pebble project, used to be an alternate director at Palabora Mining Company.[85]

Palabora's operations have had a negative environmental impact on flora and fauna in Kruger National Park. A 2004 scientific study notes that, in parts of the park, copper dust from the mine can be found in the topsoil and on the bark and leaves of trees.[86] An earlier study found that exposure to copper contamination was responsible for abnormalities in the sperm of impala (antelope) in the park.[87] Sulfur dioxide emissions from the smelter have also been an issue, but Palabora Mining reports that emissions were reduced from 21 parts per billion in 2000 to 11 parts per billion in 2005.[88]



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Sperm Abnormalities Associated with High Copper Levels in Impala (*Aepyceros melampus*) in the Kruger National Park, South Africa

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The morphology of spermatozoa may be affected by very low concentrations of pollutants in the environment, and sublethal effects of toxic substances can be detected by studying the sperm of an animal. Sperm were collected from 50 impala (*Aepyceros melampus*) from a conservation area in South Africa and studied ultramicroscopically. Thirty-two samples were obtained from

environmental stress, provided that they are correctly identified and measurable (Brown and Fourie, 1987; Reinecke, 1992). Research on sperm of earthworms has found that these cells react very sensitively to the presence of foreign chemicals, and damage to the sperm nucleus as a result of exposure to these chemicals was demonstrated with electron microscopy (Reinecke *et al.*, 1995; Reinecke and Reinecke,

PALBORA MINE – METALS POLLUTION

"The conclusion is that the increasing concentration of copper in the topsoil and on the surface of leaves from mopane trees is caused by copper deposition with dust from the Phalaborwa copper mine and smelter." —"The application of bio-indicators for the assessment of air pollution," *Journal of Environmental Monitoring*, 2004.

"… the copper smelter of a nearby copper mine is the most likely source of copper pollution responsible for chronic copper poisoning in impala and the occurrence of high copper concentrations in buffalo in the Phalaborwa area of the KNP." —"Copper poisoning in the Kruger National Park: field investigation in wild ruminants," *Onderstepoort Journal of Vet. Res.*, 1999

10. Over 220 mine workers have died at Anglo American mining operations in the last five years. Mine workers have repeatedly protested against unsafe working conditions.

During the decades that Anglo American dominated gold mining in apartheid South Africa, the company's relations with its largely black workforce were often contentious. In 1983 Anglo and other gold mining companies agreed for the first time to negotiate a contract with the National Union of Mineworkers (NUM, representing black miners), but four years later Anglo crushed an NUM strike by firing 40,000 workers.[89]

The NUM frequently criticized Anglo's record on health and safety. In 1988 the union estimated that 46,000 workers had been killed in South Africa's gold mines since the beginning of the century.[90] That same year, seven workers died from lethal fumes caused by the burning of polyurethane foam during a fire at an Anglo American mine. An industry committee had recommended the removal of the foam from all mines after a similar fire in 1986 caused the deaths of 177 workers at a mine owned by another company.[91]

In 1995, 104 workers at an Anglo American gold mine were killed when the cable controlling an underground train snapped and the train plunged down a shaft onto an elevator transporting miners. At a memorial service for the victims, an NUM official blamed racism for the disaster: "If a black man's life was not considered cheap this could not have happened."[92]

In July 1999, 19 miners perished in a methane gas explosion at the Mponeng mine. In November 1999 a worker doing maintenance at AngloGold's Ergo processing facility died after inhaling cyanide gas. In the following years the deaths kept happening—often several at a time. Sometimes they were due to mechanical problems, other times they were linked to earth tremors, especially at the Savuka and TauTona mines near Carletonville.

Anglo's platinum operations have also had contentious labor relations—both before and after the end of white rule. Legal and illegal strikes have taken place virtually every year, and management has often responded aggressively. Anglo's Leplats subsidiary, for instance, fired 1,200 workers after a wildcat strike in 1990.[93] The remaining miners engaged in a six-day underground sit-in.[94] Anglo sacked its entire workforce of 28,000 after a wildcat work stoppage in 1996 and then began evicting the workers from their hostels. At least five workers were later killed in violent clashes with police.[95]

BUSINESS REPORT

Unions demand action on mine carnage

June 11, 2007
By Justin Brown

Johannesburg - Mine deaths at Gold Fields and Anglo Platinum (Angloplat) continued to mount last week, leading to calls from industry trade unions for action to halt the carnage.

Solidarity safety representative Chris Pienaar said there had been 10 fatalities at Gold Fields' Driefontein mine in the past six weeks. The deaths would be the subject of an inquiry. "Normally, there are not so many fatalities in such a short time."

Creamer Media's MINING WEEKLY ONLINE

MINE ACCIDENT

Anglo Platinum reports fourth fatality this week

By: Mariaan Olivier
Published: 8 Jun 07

A mineworker at Anglo Platinum's (Angloplat's) Jabula shaft, near Rustenburg, has died, spokesperson Simon Tebele said on Friday.

The National Union of Mineworkers (NUM) said in a statement that the accident the miner had been fatally wounded in a scraper accident at Jabula shaft at midnight.

Mail&Guardian online

Mining giants put 'profit before people'

27 July 2007
Matuma Letsoalo

The National Union of Mineworkers (NUM) has accused South African mining companies of putting profit ahead of the lives of ordinary workers.

Speaking to the Mail & Guardian this week after the deaths of two mineworkers at AngloGold Ashanti's Moab Khotsong mine near Orkney, NUM general secretary Frans Baleni blamed the increasing number of mining deaths on the company's management.

According to unconfirmed reports, since the beginning of this year there have been more than 110 deaths on South African mines. Last year alone, according to NUM, the industry recorded 199 deaths compared with 202 in 2005. Last week's incident at AngloGold Ashanti has brought to four the number of deaths at the mine since the beginning of this year. At Gold Fields 10 miners were killed, while 12 deaths were recorded at Anglo Platinum in the past few months.

SOUTH AFRICAN GOLD MINES – WORKER FATALITIES

"The bosses are concerned only about huge bonuses while poor workers are getting killed in the process," said National Union of Mineworkers general secretary Frans Beleni. "These accidents are reaching alarming proportions." —"Mining Giants Put Profit Before People," Mail & Guardian Online, July 27, 2007.

While wages were most often at the center of the labor disputes, a 2002 walkout at Rustenburg's base metal refinery was prompted by workers' dissatisfaction with changes in their medical coverage.[96] A 2007 strike was a response to the increasing use of casual and contract labor.[97]

Labor-management tensions have also been intensified by what unions argue is an unacceptably high rate of accidents and fatalities at Angloplat's mines, including 18 deaths in 2006 and 24 deaths in each of the previous two years.[98] The issue boiled over in 2007 after five workers were killed in accidents at the company's platinum mines over a period of two weeks. Responding to public pressure, the company suspended those operations for seven days, though it was unclear whether the shutdown did anything to improve safety conditions. The furor over workplace deaths also appeared to be a key reason for the unexpected resignation last year of Angloplat chief executive Ralph Havenstein.[99]

By late 2007, the NUM was fed up with the number of workplace accidents and deaths at Angloplat, AngloGold and other mining companies. In December the union staged a one-day national strike to protest unsafe working conditions. "The bosses are concerned only about huge bonuses while poor workers are getting killed in the process," said NUM general secretary Frans Baleni. "These accidents are reaching alarming proportions."[100]

Annual deaths at Anglo American facilities have ranged between 40 and 50 in each of the past five years, with a total of 223 for the entire period.[101] Separately, AngloGold Ashanti has reported annual fatalities between 25 and 37 in each of the four years since AngloGold acquired Ashanti.[102]

The New York Times

Over 100 Gold Miners Killed in South African Accident

By HOWARD W. FRENCH
Published: May 12, 1995

More than 100 miners were believed to have died Wednesday night in one of South Africa's largest gold mines when the cables controlling an underground train snapped, sending the cars hurtling down a 7,000-foot vertical shaft onto an elevator, industry officials said today.

The victims were in the two-story elevator, which was crushed by the falling train as it rose to bring workers to the surface at the end of their shift. Mining officials said they believed that 106 workers had been in the elevator and that they had little hope of finding survivors.

In a country with a history of mining disasters, the accident at the Anglo-American Corporation's Vaal Reefs Mine near Orkney, 95 miles southwest of Johannesburg, ranks as one of the worst.

BUSINESS REPORT

Four dead, one missing in TauTona rockburst

April 2, 2003
By Nicky Smith

Johannesburg - Rescue workers at AngloGold's TauTona mine were searching for a miner last night who was missing after a rockburst killed four people yesterday morning.

A seismic event measuring 2.8 on the Richter scale rocked the world's deepest operating gold mine at 8.50am. The miners were working at a depth of 3 410m below the surface.

BUSINESS REPORT

Deaths force shutdowns at AngloPlat

June 19, 2007
By Justin Brown

Johannesburg - Anglo Platinum (Angloplat) will suspend underground mining at its largest mine in Rustenburg after the mine's safety record worsened, resulting in the death of 12 workers since the beginning of the year.

This pushed the number of deaths at the world's biggest producer of platinum group metals to 17 so far this year, compared with 19 for the whole of last year.

Conclusion

Anglo American tries very hard to portray itself as a company dedicated to good corporate citizenship, constantly emphasizing its commitment to environmental protection, worker safety and respect for the communities in which it operates. Yet in each of these areas we have found examples in which the reality of Anglo American's record falls far short of its rhetoric.

The environmental problems, in particular, will undoubtedly be of special concern to communities in Alaska that could be impacted by the Pebble mine. In addition to the problems seen elsewhere, there is the risk inherent in the fact that Anglo American has never operated a large sulfide mine in harsh Arctic conditions comparable to those of the Bristol Bay watershed.

Whether it is the poor safety record of its South African platinum and formerly owned gold mines, the repeated spills of mine waste into communities in Ghana and South Africa, failure to control acid mine drainage in Zimbabwe, mercury air pollution in Nevada, degraded rivers in Ireland, or the unfair treatment of villagers displaced from their land in places such as South Africa, Anglo American can hardly be considered a model of good corporate citizenship.

For more information on Anglo American's track record or the proposed Pebble mine, go to www.eyeonpebblemine.org.

Appendix: Corporate Structure

As of the end of 2007, Anglo American operated in six main businesses:

- Platinum
- Base Metals
- Diamonds
- Ferrous Metals and Industries
- Coal
- Industrial Minerals

This report looks at the company's track record in the areas of base metals and platinum. It also looks at the gold mining operations of its former subsidiary AngloGold Ashanti.

The following are short profiles of each of those businesses.

BASE METALS

2007 revenue: $7.1 billion (23.3% of company total)

2007 operating profit: $4.3 billion (45.2% of company total)

This segment primarily involves copper, nickel, zinc and mineral sands. Anglo Base Metals has interests in 18 operations in six countries, nearly all in southern Africa and South America. Anglo Base Metals key operations are as follows.

One operation in Ireland:

- Lisheen zinc/lead mine (100%)

Four operations in South Africa:

- Palabora copper mine (17%)
- Black Mountain zinc mine (74%)
- Gamsberg zinc mine (74%)
- Namakwa mineral sands (100%)

One operation in Namibia:

- Skorpion zinc mine (100%)

Six copper operations in Chile:

- Minera Sura Andes (100% owned), consisting of the Los Bronces and El Soldado mines and the Chagres smelter
- Mantos Blancos (100%)
- Mantoverde (100%)
- Collahuasi (44%)

Three operations in Brazil:

- Codemin nickel mine (100%)
- Barro Alto nickel mine (100%)
- Catalão niobium mines (100%)

One operation in Venezuela:

- Loma de Níquel nickel mine (91%)

Two operations in Peru:

- Quellaveco copper mine (81%)
- Michiquillay copper mine (100%)

PLATINUM

2007 revenue: $6.8 billion (22.2% of company total)

2007 operating profit: $2.7 billion (28.1% of company total)

The company's 76.5 percent-owned subsidiary Anglo Platinum Limited (located in South Africa) is described as "the world's largest primary producer of platinum, accounting for around 40% of the world's newly mined platinum output." Anglo has five platinum mining operations that are wholly or majority owned as well as three smelters, a base metals refinery and a precious metals refinery, all of which are located in the Limpopo and North West provinces of South Africa. The mining and smelting operations are:

- Rustenburg Platinum Mines' Rustenburg Section (100% owned)
- Rustenburg Platinum Mines' Amandelbult Section (100% owned)
- Potgietersrust Section Platinums Limited (100% owned)
- Lebowa Platinum Mines Limited (Leplats) (100% owned but see below)
- Anglo Platinum's Union Section (85% owned, with the remainder held by a black economic empowerment consortium)

- Polokwane smelter (100% owned)
- Waterval smelter (100% owned)
- Mortimer smelter (100% owned)

In addition, Anglo has a 50-50 joint venture with a historically disadvantaged South African (HDSA) consortium, led by African Rainbow Minerals, for the Modikwa platinum mine; a joint venture with Royal Bafokeng Resources (a HDSA partner) for the combined Bafokeng-Rasimone platinum mine and Styldrift properties; and a joint venture with Xstrata for the Mototolo mine. In September 2007, Anglo Platinum announced transactions that would result in the transfer of 51 percent of Lebowa Platinum to HDSA interests.

ANGLOGOLD ASHANTI

2007 revenues: $3.5 billion

AngloGold was formed in 1998 to consolidate the gold interests of Anglo American. The following year it purchased Minorco's gold interests in the United States, Brazil and Argentina. In 2004 AngloGold acquired Ashanti Goldfields Company Limited to form AngloGold Ashanti, which has 21 operations in ten countries. In 2006 Anglo American reduced its 51 percent ownership of AngloGold Ashanti to 41.7 percent, and in October 2007 it announced it was cutting its stake again, reducing it to 17.3 percent. At this point, Anglo American treated AngloGold as an "associate," but after the holding was reduced further, Anglo American started treating its interest in AngloGold as simply a financial investment.

AngloGold holds 100 percent of seven mines in South Africa, divided into two regions:

Vaal River operations:

- Great Noligwa
- Kopanang
- Moab Khotsong
- Tau Lekoa

West Wits operations:

- Mponeng
- Savuka
- TauTona

Other mines in Africa include:

- Geita (Tanzania, 100% owned)
- Iduapriem (Ghana, 85%)
- Morila (Mali, 40%)
- Navachab (Namibia, 100%)
- Obuasi (Ghana, 100%)
- Sadiola (Mali, 38%)
- Siguiri (Guinea, 85%)
- Yatela (Mali, 40%)

Mines on other continents include:

- Boddington (Australia, 33%)
- Cerro Vanguardia (Argentina, 92.5%)
- Cripple Creek and Victor (United States, 67%)
- Mineraçäo (Brazil, 100%)
- Serra Grande (Brazil, 50%)
- Sunrise Dam (Australia, 100%)

AngloGold Ashanti is engaged in exploration activities in countries such as the Democratic Republic of the Congo and Colombia.

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