To The Ministry of Finance

Recommendation of 15 February 2006

(Unofficial English translation)

1 Introduction

At a meeting held on 4 October 2005, the Council on Ethics for the *Norwegian Government Pension Fund - Global* decided to assess whether the investments in Freeport McMoRan Copper & Gold Inc.[1] may constitute a risk of the Fund contributing to severe environmental damage under the Guidelines, Point 4.4.

As of 31 December 2005 the Government Petroleum Fund, currently the *Norwegian Government Pension Fund – Global*, held shares worth NOK 116.3 million in the aforementioned company, the equivalent to an ownership interest of 0.174 per cent.

This is the Council's first recommendation on exclusion of a company on the grounds of contribution to severe environmental damage. In Chapter 2 of this recommendation, the Council interprets this concept, outlining the factors that will decide whether there is an unacceptable risk that the Fund may contribute to severe environmental damage.

In connection with its mining operations in Indonesia, Freeport has been accused of causing extensive damage to the natural environment. Freeport owns and operates one of the world's biggest copper mines in Papua, Indonesia, where it uses a natural river system for tailings disposal. Acid rock drainage from the company's overburden and waste rock dumps has also been reported. There is ample documentation that the company's activities have caused considerable and lasting damage to the riverine ecosystem, and that the company has taken very few steps to prevent or reduce such damage. These factors are described in further detail in Chapter 3.

In accordance with the Guidelines, Point 4.5, the Council contacted Freeport through Norges Bank, requesting the company to comment on the abovementioned accusations.. Norges Bank received a reply from the company on 20 January 2006. Freeport argues that the Council's presentation of its operations is inaccurate and based on outdated information and tendentious reports from anti-mining or politically motivated organisations. Freeport denies the allegations, but has not provided data or scientific evidence to support its claims that the mining does not cause severe and long-term environmental damage.

In order to establish whether there is a risk of complicity in severe environmental damage, a direct connection between the company's operations and the violations must be found. The

[1] In this paper also referred to as Freeport.

Council assumes that the damage must be significant, emphasizing whether it leads to irreversible or lasting effects and whether it has a negative impact on human life and health. Furthermore, the extent to which the company's actions or neglect have caused the environmental damage must also be assessed, including whether the damage is a result of violations of national laws and international standards, and whether the company has failed to take adequate action in order to prevent or amend the damage. The likelihood of the company continuing its unacceptable practice in the future should also be taken into account. In the present case the Council considers that all these conditions have been met.

The Council concludes that the Ethical Guidelines, Point 4.4, second paragraph, third bullet point provide a basis for determining that the Fund is currently contributing to severe environmental damage through its ownership in Freeport McMoRan Copper & Gold Inc., and does recommend exclusion of the company.

2 The Council's considerations

The Council shall assess whether the *Government Pension Fund – Global* can be said to contribute to unethical actions through its ownership interests in Freeport McMoRan Copper & Gold Inc.

2.1 The Council's mandate regarding severe environmental damage

The Ethical Guidelines, Point 4.4, second clause, third alternative, states: "*The Council shall issue recommendations on the exclusion of one or several companies from the investment universe because of acts or omissions that constitute an unacceptable risk of the Fund contributing to: Severe environmental damage*."

The Council will consider the question of exclusion of Freeport according to this rule.

The remaining alternatives listed in Point 4.4 concerning serious violations of individuals' rights in situations of war and conflict; serious or systematic human rights violations; gross corruption; or violations of other ethical norms may also be considered relevant in light of the serious allegations that have been raised against the company. The Council will briefly describe these accusations, but has chosen not to evaluate them with reference to breaches of the Ethical Guidelines as it deems that the company's contribution to severe environmental damage is sufficient to recommend exclusion.

2.2 On complicity and unacceptable risk

The Ethical Guidelines are based on the presumption that investors can be complicit in violations of ethical norms. Point 4.4 thus infers that the Fund may contribute to unethical acts through its ownership of shares in companies responsible for unethical acts or neglect.

Moreover, the company's acts or omissions must constitute an *unacceptable risk* of the Fund contributing to severe environmental damage (Point 4.4). The preparatory work preceding the Guidelines does not explicitly define the term 'unacceptable risk', but states that: *"Criteria should be established for determining the existence of unacceptable risk. These criteria can be based on the international instruments that also apply to the Fund's exercise of ownership interests. Only the most serious forms of violations of these standards should provide a basis for exclusion."*[2] Hence, the unacceptability of the risk is linked to the seriousness of the act and how severe the environmental damage is.

The term 'risk' is associated with the probability of unethical actions occurring in the future. The basis for withdrawal is that the Fund must avoid placing itself in a position where it may contribute to an ethically unacceptable practice. The wording of Point 4.4 makes it clear that the likelihood of contributing to present and future acts or omissions is the issue in question; hence, the Council assumes that actions or omissions which have taken place in the past will not normally provide a basis for exclusion under this provision. However, previous patterns of behaviour may give some indications as to what will happen in the future, and certain violations of ethical norms which have been initiated in the past could also be regarded as ongoing violations. This is particularly pertinent with regard to certain types of environmental damage where the result of previous acts or omissions continue to inflict serious harm on humans and the natural environment.

2.3 On severe environmental damage

The preparatory work[3] does not present a clear definition of the term 'severe environmental damage', indicating that it is not possible to determine with precision what the term encompasses, and that this must be assessed in each case: "*The Committee finds it reasonable that the exclusion mechanism is considered with regard to acts that cause considerable damage to the natural environment through pollution of air, water and soil; storage and disposal of waste; or interventions which have severe irreversible effects on the natural environment, for example in relation to biodiversity, protected areas or human health*".

Environmental damage can be defined as a measurable adverse change in a natural resource or in the environment caused directly or indirectly by external agents. According to the preparatory work, this change must be considerable, and the damage must be directly linked to the company's acts or omissions. Consequently, the assessment of severe environmental damage must include the damage per se as well as the company's acts or omissions that have caused it.

2.3.1 Extent of damage

In assessing the extent of the damage, the following must be emphasized:

- the kind of environmental impact in question;
- the kind of damage caused by such impact; and
- the consequences of the environmental damage on the natural area's present and future qualities and on human living conditions.

---

[2] NOU 2003: 22, p. 35.
[3] Governmental White Paper on Ethical Guidelines, NOU 2003:22, p. 167.

Environmental impact

The preparatory work contains only limited considerations regarding the kind of environmental damage which qualifies for exclusion, but refers to various factors that may cause damage, such as air, water and soil pollution; waste disposal; and interventions in protected areas.

The Council accepts as a fact that pollution may include pollution associated with both the company's production and its products. The Council also regards waste management as a potential pollution problem, depending on how waste is handled, transported and treated.

Human intervention in natural areas can cause substantial environmental damage. According to NOU 2003:22, intervention in protected areas is a kind of environmental impact that can provide a basis for exclusion. To what extent intervention in protected areas constitutes severe environmental damage may, however, be difficult to assess, particularly if national authorities have revoked or given dispensation from the protection status of the area. Given that the Guidelines only recommend exclusion in cases of severe environmental damage, it is the Council's opinion that intervention in protected areas should not automatically qualify for exclusion, but be evaluated on a case-by-case basis.

A number of international conventions (with additional protocols) aim at protecting the natural environment or at limiting pollution and the dispersion of environmentally hazardous substances and waste from industrial production.[4] Such conventions reflect a global consensus regarding which environmental values should be protected and which pollutants should be limited or phased out due to their grave environmental or health impact. Even though the conventions are aimed at States, it is the Council's opinion that they provide a sound basis for deciding what kind of environmental impact related to companies' activities should be taken into account.

The Council's point of departure is that all types of pollution, intervention or exploitation of natural resources associated with individual companies' operations have the potential to cause severe environmental damage. The impact may occur continuously over time or through accidents. The Council sees the environmental effects mentioned in the NOU 2003: 22 as examples and not as an exhaustive list.

Environmental damage

The environmental damage caused by emissions or interventions will depend on the kind and the extent of the impact or the intervention, as well as the receiving environment's vulnerability and

[4] The Convention on Biological Diversity (5 June 1992); the World Heritage Convention (16 November 1972); the Convention on Long-Range, Transboundary Air Pollution (13 November 1979); the Vienna Convention for the Protection of the Ozone Layer (22 March 1985); the Stockholm Convention on Persistent Organic Pollutants (23 May 2001); the Basel Convention on Control of Transboundary Movements of Hazardous Wastes and their Disposal (22 March 1989); and others.

resilience.[5]. The harmful effects referred to in the preparatory work include damage caused by air, water and soil pollution, as well as severe irreversible impact on the natural environment, which for example afflicts human health and biodiversity.

Irreversible effects include the loss of species and natural areas (biodiversity), climate change, high concentrations of environmentally hazardous substances[6] and radioactive substances. Irreversible changes are serious due to their lasting consequences. The Council finds, however, that also other types of environmental damage can be regarded as severe, even though they are not necessarily irreversible in the strict sense of the word. Certain kinds of environmental damage resulting from extensive and prolonged contamination of water or soil may be gradually recovered if the pollution flow ceases. Nevertheless, the damage will generally persist over a long period of time, and a clean-up will require vast resources. Depending on the consequences, the Council is of the opinion that such damage may also be considered for exclusion.

Many pollutants released from manufacturing processes or product use have been proven harmful to human health. According to the NOU 2003: 22, serious damage to human health may provide grounds for exclusion. However, it is often difficult to *prove* that pollution from a particular company is harmful to public health. In such cases, the Council is of the opinion that it may be sufficient to establish such a correlation with a *high degree of probability*; however, an evaluation needs to be made on a case-by-case basis.

2.3.1.1 Consequences of environmental damage

The severity of environmental damage may be assessed in different ways, depending on the affected area's present or future functions, and whether economic, ecological, social or other values are given primary importance. Interventions in natural areas may often lead to the loss of ecological heritage for present and future generations. The question is whether this might be acceptable if the profits or social gains the intervention yields outweigh the benefits of preserving the area. Such gains must be measured against the actual loss of ecological value, taking into account whether endangered species or their habitats are adversely affected, whether the area contains unique values in terms of biodiversity, or whether it fulfils important ecological functions (water balance, protection against erosion, etc).

This assessment cannot be made on a general basis. However, the Council will emphasise that in order to regard loss of ecological value as severe environmental damage, the damage must be extensive, there must be degradation of special natural heritage features, or the damage must be

---

[5] Vulnerability can be defined as an ecosystem's susceptibility to degradation or damage from adverse factors or influences. Resilience is an expression for the ability for an ecosystem to rebound from a disturbance.

[6] Environmentally hazardous substances are characterised by the fact that they can cause damage even in small concentrations, due to their toxicity, their low degradability and/or accumulative potential in living organisms (bioaccumulation). The toxicity can be acute or cause long-term effects such as cancer, reproductive or genetic damage. Both heavy metals such as lead, cadmium and mercury, and organic substances such as PCB, DDT and dioxins are considered environmental toxins. It is not possible to determine safe levels for these substances in nature. Furthermore, environmental hazardous substances can be spread over long distances, even to other parts of the planet, where they may cause considerable damage to the environment and human health. See examples at Environmental Status in Norway, http://www.environment.no/templates/themepage____2153.aspx#B.

of importance to future generations. The Council does not find it appropriate to establish general criteria for defining special ecological value or which consequences may be acceptable. Also this evaluation must be done on a case by case basis.

The Council considers that in addition to the loss of ecological value in itself, it must also be considered what consequences such a loss has for the people who are affected. In developing countries, for example, the natural areas may form the living areas and basis of existence for many people, representing significant cultural or social values. Often when an area is damaged through physical intervention or pollution, the devastation does not only affect the local people's food and drinking water sources, but also their livelihood, identity, culture and traditions. The Council regards these aspects as pertinent to the evaluation of severe environmental damage.

When assessing severe environmental damage, the Council only includes damage of considerable proportions, and emphasizes, but does not limit its scope to, irreversible changes or significant negative effects on human life and health. Loss of ecological value and human habitat may constitute part of the criteria, and the probability of continued damage in the future must also be taken into account.

2.3.2 The company's acts or omissions

As for the company's practices, exclusion is only in question if the company is directly responsible for unacceptable violations of ethical norms. The NOU 2003:22 states that "*exclusion should be limited to the most serious cases where the company in which the Petroleum Fund has invested is directly responsible for unacceptable breaches of standards, and there are no expectations that the practices will be discontinued*."[7]

In other words, the company's acts or omissions must have caused the damage. Regarding the evaluation of the company's conduct, the preparatory work emphasizes two aspects: in which way the company's actions have produced the harmful effects, and what the company has done to avoid these.

According to NOU 2003:22, importance should be attached to the way in which the company's actions have caused the damage - "*whether the damage is a result of illegal actions, whether it is related to a systematic practice, whether it is planned, or whether it has escalated because of the company's attempts to conceal its actions*".[8]

Illegal actions may be understood as acts contrary to national laws and international treaties and norms. In a national context, illegal actions that cause serious damage to the natural environment

[7] NOU 2003: 22, p. 34.
[8] NOU 2003:22, p. 167.

will be defined as environmental crime[9], and according to the preparatory work, the exclusion mechanism is thus applicable.[10] If so, the Council assumes that only the most serious incidents of environmental crime should be considered, focusing on cases where the company has acted intentionally and it is probable that the practice will continue. If the practice is systematic, the requirements regarding the seriousness of the damage will be lowered.

International law, including international environmental agreements, does not place legal obligations on private companies, and companies can therefore not be accused of violating international law. However, several conventions set international standards for the protection of the natural environment and human life and health. In the environmental field, there are also international guidelines (for example within the EU) indicating best practice or best technology within different sectors with reference to pollution reduction, waste management, energy and resource use. Consequently, the Council regards international law and standards as normative also for companies' activities, especially in States with inadequate environmental legislation or ineffective enforcement, and where companies take advantage of this to avoid investing in environmental measures. The extent to which companies exploit weak environmental regulations in a country must, however, be evaluated on an individual basis. It is not necessarily reasonable to apply Norwegian or Western environmental standards in all situations. At the same time, lenient legislation in a country does not automatically justify a heavy environmental burden if the damage is considerable.

According to NOU 2003:22 it is relevant to consider environmental damage on the grounds of what can reasonably be expected from companies in terms of environmental responsibility – implicitly what companies have done to prevent and/or limit the damage. One such expectation "*is that companies have an environmental policy and management system designed to prevent severe environmental damage, both in the short and long term*"; furthermore, that "*companies do not take advantage of insufficient environmental regulation and lack of enforcement to lower their environmental performance in such a way that it leads to substantial damage.*"[11] The Council takes these observations as its point of departure for the following assessment. However, the evaluation of whether the measures adopted by a company should be regarded as sufficient, must be made on a case-by-case basis.

With regard to a company's acts and omissions, the Council infers that environmental damage must be judged as to whether the company has acted intentionally, whether the actions contradict international treaties and norms, and whether there has been a systematic failure to implement measures aimed at preventing or reducing the damage. This also implies an evaluation of whether it is likely that the practice will continue in the future and whether the damage will persist because the company has made no amends.

---

[9] According to Økokrim (the Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime), environmental crime includes crime against nature, fauna and cultural heritage, as well as illegal pollution, see http://www.okokrim.no/menyen/hva_er_miljokrim.html.

[10] NOU 2003:22, p. 167.

[11] NOU 2003:22, p. 167.

2.4 Summary

Based on the preparatory work for the Guidelines, the Council assumes that the Fund, through its ownership interests in companies, can be said to contribute to companies' complicity in severe environmental damage. The Guidelines are principally concerned with *existing* and *future* violations, although previous transgressions may give an indication of future conduct. At the core of the issue is the existence of an unacceptable risk that breaches will take place in the future.

Based on the preparatory work and the considerations laid out in section 2.3 above, the Council will make an overall assessment of whether there is an unacceptable risk that the Fund may contribute to severe environmental damage, emphasizing whether:

- The damage is significant.
- The damage causes irreversible or long-term effects.
- The damage has considerable negative consequences for human life and health.
- The damage is the result of violations of national law or international norms.
- The company has neglected to act in order to prevent damage.
- The company has not implemented adequate measures to rectify the damage.
- It is probable that the company's unacceptable practice will continue.

3 Freeport McMoRan Copper &Gold Inc

Freeport McMoRan Copper & Gold Inc. is a mining company with headquarters in the USA. Through several subsidiaries it also has interests in energy production and copper refining.

The company is involved in mining operations only in Indonesia, where it owns and runs the Grasberg mine through a subsidiary, PT Freeport Indonesia. Freeport McMoRan has a 90.64 per cent stake in PT Freeport Indonesia, and the Indonesian state holds the remaining 9.36 per cent. In 1995, PT Freeport Indonesia formed a joint venture with Rio Tinto PLC, giving the latter a share of the profits from the Grasberg mine.

3.1 The allegations against the company

In relation to the mining activities in Indonesia, a number of environmental and human rights organisations, including Friends of the Earth Indonesia (Walhi), Jatam (Indonesia), the Mineral Policy Institute and Global Witness, have accused the company of extensive environmental devastation, abuses against the local population, complicity in human rights violations and corruption.[12]

The allegations concerning environmental devastation focus mainly on the company's use of natural river systems for tailings disposal, a practice internationally regarded as unacceptable due to its extensive and harmful effects on the environment. In December 2005 and January 2006 the company was accused of lacking a Government permission for riverine disposal. Moreover, the

[12] The NGOs' websites are the following: http://www.eng.walhi.or.id/; http://www.jatam.org/english/index.html; http://www.mpi.org.au/; http://www.globalwitness.org/.

enormous waste rock and overburden stockpiles have been shown to generate acid rock drainage, and the company is criticized for not managing this satisfactorily. Allegedly, the environmental damage has also destroyed indigenous peoples' livelihood through the pollution of drinking water and a substantial reduction in hunting and fishing resources. Freeport is accused of not having compensated the local population sufficiently for the damage inflicted.

It is the company's complicity in severe environmental damage that forms the basis of the Council's recommendation.

The allegations concerning human rights violations are primarily connected to Freeport's cooperation with the Indonesian military, which have been hired as security forces for the company and have protected the mining area since the 1970s. For many years human rights organisations have reported on atrocities committed by the security forces against the local population, including killings, torture and abductions in and around Freeport's concession area.[13] Having been aware of the abuses, but doing little to prevent them, the company is accused of contributing to human rights violations that have taken place within its contract area. During the last year, several institutional investors have asked Freeport to account for its links to the Indonesian army, including payments made to the security forces.[14]

With regard to corruption claims, Freeport is said to have transferred substantial sums to named military officials. The paramilitary police forces, Brimob, have also been reported to receive large payments.[15] If this is the case, such practice is contrary to Indonesian law.[16] According to the company, US authorities have started making inquiries into the case since institutional investors requested the United States Securities and Exchange Commission[17] to investigate the accusations.[18] Freeport claims to have been open about its payments to the security forces.[19]

---

[13] Bryce, Robert 1996: *Spinning Gold*, can be found at www.motherjones.com; Project Underground 1998: *Risky Business. The Grasberg Gold Mine. An Independent Annual Report on P.T. Freeport Indonesia*, see http://www.moles.org/ProjectUnderground/downloads/riskybusiness.pdf; Global Witness 2005: *Paying for Protection. The Freeport mine and Indonesian security forces*, available at http://www.globalwitness.org/.

[14] Global Witness 2005: *Paying for Protection*, p. 12.

[15] Global Witness 2005: *Paying for Protection*; Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste*, New York Times 27 December 2005, can be accessed at http://select.nytimes.com/gst/abstract.html?res=FB0C15F839540C748EDDAB0994DD404482.

[16] Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste*, New York Times, 27 December 2005; Siboro, Tiarma: *Companies urged to stop paying soldiers*, Jakarta Post, 30 December 2005.

[17] Abbreviation SEC.

[18] Perlez, Jane and Bonner, Raymond: *New York Urges U.S. Inquiry in Mining Company's Indonesia Payment*, New York Times, 28 January 2006.

[19] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, pp. 6-7.

The Council has not examined in any further detail the allegations regarding complicity in human rights violations and corruption, but bases its recommendation on the environmental damage caused by the company's activities, which will be analysed below.

3.2 Background

The Grasberg mine is a huge mining complex located in the Indonesian province of Papua (earlier known as Irian Java) on the island of New Guinea.[20] Freeport's mining operation in Indonesia has been controversial ever since the contract was signed with the Indonesian Government in 1967. This is due to the fact that the activities have taken place in an area characterized by serious conflicts between the authorities and the local population, in which the company has been perceived to enjoy close ties with the Indonesian Government (especially the Suharto regime) and the military, while its relationship with the local population has been marred by conflict.[21]

The prevailing view, particularly among Papua's indigenous population, is that the Government and the military[22] have taken resources and land from the people of Papua in an unlawful manner. Papua's natural resources (ore, forest and oil) are of great value to the Indonesian Government, the military and the business community.[23] The Indonesian state has given national and foreign companies concessions on land the Papuans regard as their own. Freeport is one example in this respect.[24] The extensive damage caused by the exploitation of natural resources that form the basis of existence for the majority of Papua's population reinforces the feeling of injustice. Moreover, the profits made by mining and the exploration of other natural resources have not benefited the society as a whole in any significant way. Weak environmental legislation and the Government's lack of enforcement have contributed to major environmental damage. Emissions from industry, and particularly mining, are among the main sources of water pollution on the island.[25]

3.2.1.1 The Grasberg mine

Freeport signed its first contract (a so-called Contract of Work) with the Indonesian government in 1967, acquiring exclusive mining rights within an area of 10 sq km in Ertsberg, which is part of the Grasberg complex. In 1988, the Grasberg copper and gold reserve was discovered, and production began in 1990. The contract was renewed for another 30 years in 1991, with the possibility of a 10-year extension. Grasberg has the world's largest gold reserve and the second

---

[20] New Guinea is the world's second biggest island. One half of it, Papua, is Indonesian territory, whereas the other half belongs to Papua New Guinea.

[21] International Crisis Group 2002: *Indonesia: Resources and Conflict in Papua.* ICG Asia report no 39, Chapter V, can be accessed at www.crisisweb.org.

[22] The armed forces are also involved in large-scale economic activity, including security assignments for private companies, but also illegal activities such as gambling, blackmailing, prostitution and illegal logging and fishing. Estimates indicate that around 70% of the military's activities are still financed outside the Government budget even if a law from 2004 obliges the military to withdraw from all economic activity within 5 years. (Economist Intelligence Unit: *Country Profile Indonesia 2005*, p. 10).

[23] Indonesia ruled Papua, which until then had been a Dutch colony, under a UN mandate from 1962 to 1969. In 1969 Papua was annexed by Indonesia. The present Government has expressed support for a special form of self-rule in Papua. (Economist Intelligence Unit: *Country Profile Indonesia 2005*).

[24] Economist Intelligence Unit: *Country Profile Indonesia 2005*

[25] See footnote 24; World Bank Group Indonesia 2003: *Indonesia Environment Monitor 2003*, p. 31, available at http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000012009_20030716161307.

biggest copper deposit. It is expected that the complex will be profitable until 2041, provided that additional mines are brought into production, among these a new opencast mine.[26]

The Grasberg mine is situated 4,000 m above sea level and borders on the Lorentz National Park, a UNESCO World Heritage site. Stretching from the mountains through the lowlands and down to the Arafura Sea, the area where the mining operations take place cover a distance of approximately 130 km in a region with extremely high precipitation (8,000-11,000 mm per year) and earthquake vulnerability.

The main extraction method is opencast mining, but there are also some underground mining zones. In 2004 about 640,000 tons of rock were mined daily, yielding approximately 185,000 tons of ore per day. The company expects to mine between 600,000 and 750,000 tons of rock per day until 2015,[27] generating a daily output of 240,000 tons of ore.[28] Overburden and waste rock will consequently amount to 360,000-510,000 tons each day. According to the licence, the company is allowed to process 300,000 tons of ore per day.[29]

The ore that contains gold, silver and copper is transported by conveyor belt to a flotation plant situated 1,000 meters lower than the mine. Here the ore is processed at a daily production rate of approximately 9,000 tons of copper concentrate.[30] The remainder, i.e. approximately 230,000 tons are tailings, which are disposed of. The concentrate is transported by pipeline to the port facility near Amamapare where it is dewatered and stored before being shipped.[31]

At the Grasberg mine Freeport has chosen to use a natural river system for tailings disposal, while overburden and waste rock are deposited in separate facilities. Until the scheduled closure of the opencast mine in 2015, Freeport estimates that a total of 3 billion tons of waste rock and

---

[26] Freeport-McMoRan Copper&Gold Inc. *Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004*, p. 8, see http://www.sec.gov/Archives/edgar/data/831259/000083125905000021/fcx200410-k.htm.

[27] See footnote 26, p.11; Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 2. In its reply to the Council, Freeport states that the company after 2015 expects the production of ore to be reduced to 200,000 tons per day and the opencast mining to cease. Underground mining does not produce overburden.

[28] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 2.

[29] Freeport-McMoRan Copper&Gold Inc. *Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004*, p 23.

[30] See footnote 28.

[31] See footnote 69, p. 17.

overburden will be generated.[32] The cumulative production of tailings is estimated at 3.25 billion tons from start-up to 2041.[33]

Mining and the environment[34]

One of the main environmental challenges related to mining in general is the handling of large quantities of waste material. This also includes the Grasberg mine. Opencast mining starts with the opening of bedrock by removing vegetation and exploding rock mass to uncover the veins of ore. The so-called overburden is removed and stored for possible use once the mine has been closed. Gradually, the rock mass is dynamited and dug out into terrace-like structures. Generated waste consists of waste rock from the extraction and residues from the milling of the ore, so-called tailings. The tailings are a viscous mixture (slurry) made up of finely ground ore, process chemicals and water.

Because the ore metal content is relatively low, almost all extracted rock is deposited. The ore from the Grasberg mine has a copper content of 12 kg per ton, i.e. approximately 1%.[35] This means that the amount of overburden, waste rock and tailings adds up to nearly 700,000 tons a day.

Riverine disposal

The disposal of tailings, overburden and/or waste rock in natural river systems is known as riverine disposal. Once the mine waste has been discharged into the water, the river transports it downstream to the flood plains where it is deposited (sedimented). The need for infrastructure is minimal, and if one disregards the environmental costs and possible reclamation, this is a very cheap method of waste disposal.

However, the practice causes major environmental damage as the riverine ecosystems are extremely vulnerable to the influx of large quantities of sediment. The sedimentation increases the danger of flooding, which

[32] Information on file with the Council. The source refers to Freeport's own documents: AMDAL 300K (1997), an environmental impact assessment, and the Environmental Risk Assessment (2002) commissioned by Freeport and Rio Tinto.

[33] Information on file with the Council. The source refers to Freeport's own documents: AMDAL 300K (1997), fig. 5.6 a:"*Cumulative production from beginning of PTFI operations*".

[34] Main sources: International Institute for Environment and Development (IIED) 2002: *Mining for the Future*. Appendix A *Large Volume Waste Working Paper*, Mining, Minerals and Sustainable Developmental Project, can be found at http://www.iied.org/mmsd/, US Environmental Protection Agency 1997: *Potential Environmental Impact of Hard Rock Mining*, see http://cfpub.epa.gov/npdes/indepermitting/mining.cfm; www.miljostatus.no, *Drainage from Mines*.

[35] See footnote 28, p. 8.

contributes to raise the water level in the alluvial plains. As a result, the forests and vegetation along rivers and natural flood plains may die because the sediment reduces oxygen availability to the plants. In turn, this eradicates flora and fauna that cannot move to other areas, consequently influencing the availability of food to other species. As a rule, the water pollution increases considerably, not only due to sediment aggradation, but also because the tailings contain heavy metals and chemicals which are dissolved in the water. Besides being toxic to many aquatic organisms, these metals can also bioaccumulate. Depending on how polluted the water is, all aquatic life may die , the species composition may change, and the spawning areas for fish may be destroyed. In the sediments, the accumulation of metals can constitute a long-term pollution problem as the metals are released over time and thus become more accessible to living organisms.

To the population living from and along the river systems the effect is that the water is no longer fit for consumption. The hunting and fishing possibilities may be substantially reduced, influencing diets, nutrition and the traditional lifestyle. Flooding and changes in the river course can destroy crossings and make it difficult to use the rivers as transport routes.

Due to the severe environmental impact, riverine tailings disposal is prohibited in most countries, but Indonesia and Papua New Guinea still allow this practice.

Acid rock drainage

Acid rock drainage is a major issue associated with the disposal of waste rock and tailings. Worldwide, acid rock drainage is considered one of the most serious environmental problems related to mining.

Copper, gold, silver and other precious metals are often found in sulphurous rock. Acid rock drainage occurs when sulphide minerals come into contact with water and air (oxygen), producing sulphuric acid. In this process, heavy metals, which are found naturally in the ore, can be mobilised. The result is acid water containing heavy metals, which may cause considerable pollution of groundwater and river systems. Once initiated the process is irreversible and can continue for hundreds of years.

Ore characteristics, temperature and rainfall, among others, will influence acid rock drainage. The duration of the process is crucial in terms of environmental damage, as it may imply a more or less continuous release of heavy metals over a great number of years and with devastating effects on river systems and groundwater. In practice, this could eradicate all life in a river system for a very long time, making reclamation a difficult and extremely expensive process.

Measures aimed at mitigating acid rock drainage depend on whether the mine is in operation or has been closed down. Mixing or adding minerals that can neutralise the acid, covering rock mass and deposit sites with geomembrane and/or compacted clay soil are among such

procedures. The results will vary according to the containment method and the natural conditions of the site.

3.3 Environmental damage

3.3.1 Tailings disposal

Freeport uses a natural river system to transport the tailings from the mountains to the so-called *Modified Ajkwa Deposition Area*. Every day nearly 230,000 tons of tailings are tipped directly into the Aghawagon River, an affluent to the Otomona River. The Otomona runs through a plain covered by rain forest before flowing into the Ajkwa Estuary[36] (see figure 1). The greater part of the tailings is deposited on the flood plain, while the remainder reaches the estuary where it is poured into the Arafura Sea, being carried up and down the coast by tidal waters and ocean currents.

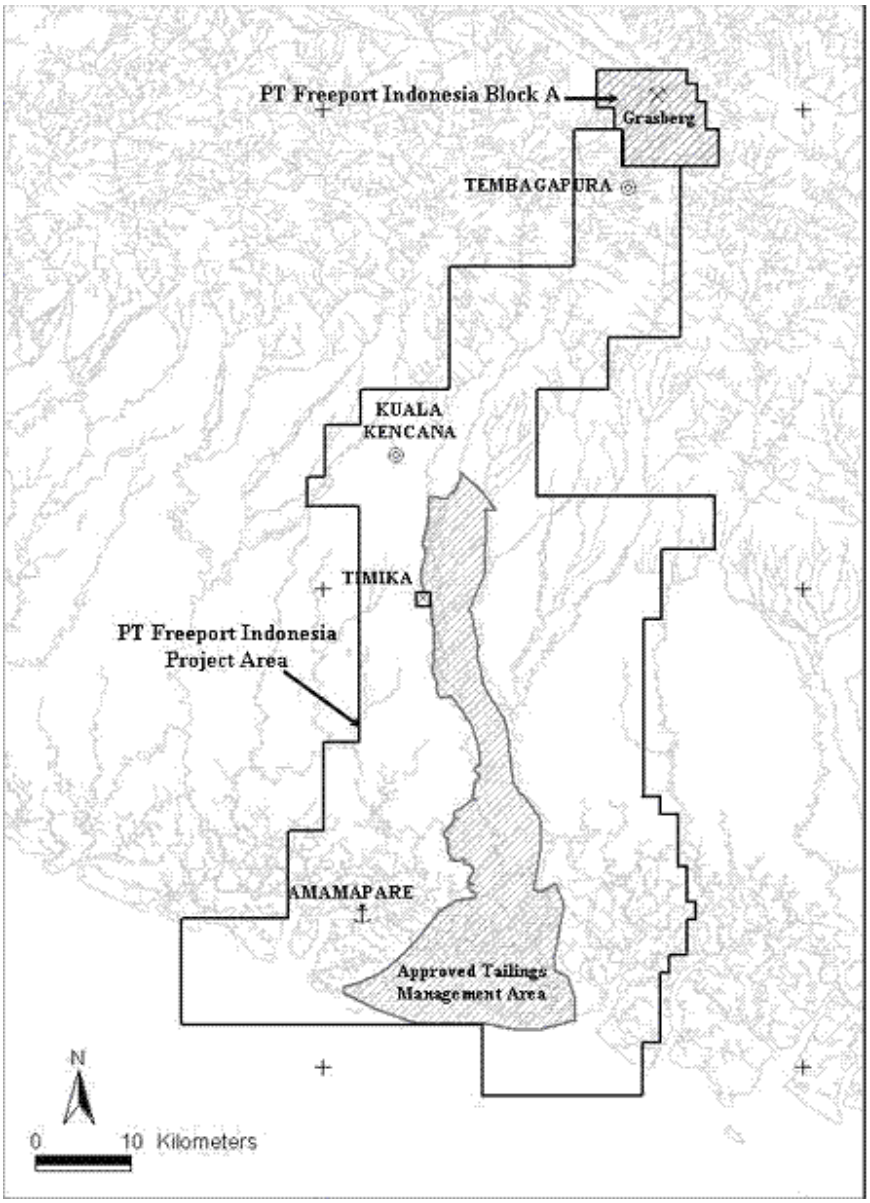
The choice of riverine disposal as a waste management method was based on a daily output of 7,500 tons of ore. Today the production and, consequently, the discharges are more than 30 times bigger.[37] The environmental impact is associated with the large amount of sediment and hazardous substances that are being fed into the river system.

[36] An estuary is a transition zone between the river mouth and the sea where freshwater from the river is mixed with more saline seawater. Low flow contributes to the deposition of finer sediments that often form a delta. Estuaries are valuable habitats for marine life, birds and other fauna.

[37] IIED 2002: *Mining for the Future*. Appendix J *Grasberg Riverine Disposal case study*. Mining, Minerals and Sustainable Development Project.

Figure 1: The Grasberg area[38]

[38] The map on the left is from Freeport's SEC Filings 2004, p. 4. The one on the right has been taken from Mining for the Future 2002: *Grasberg Riverine Disposal*, p. J-4.



3.3.1.1 Sediment input

Tailings discharge produce large sediment loads on the riverbed. According to information obtained by the Council, Freeport's own reports for the second quarter of 2005 show a suspended solids[39] concentration of 732,000 mg/l at the point of discharge upstream of the deposition area and 1,300 mg/l downstream of the area.[40] Tests performed by the environmental

[39] Suspended solids are particles floating ("in suspension") in the water.

[40] Information on file with the Council. The reference here is to Freeport's own monitoring reports to Indonesian authorities for the second quarter of 2005.

authorities in 2004 show a concentration of 37,500 mg/l at the point where the river reaches the lowlands, and 7,500 mg/l where it flows into the Arafura Sea.[41] Indonesian standards establish a maximum limit of 400 mg/l.[42] The input constitutes a considerable transgression of these standards.

The Modified Ajkwa Deposition Area occupies 235 square km[43] and is enclosed by levees to the east and the west, but is open both downstream and upstream. Located on each side of the river, the levees are 3 km apart and 40 km long.[44] The layers of tailings deposited between the levees are expected to attain a thickness of 10-15 m.[45]

As the deposit site is being filled with sediment, an increasing amount of tailings will also reach the coast. Freeport's 1997 environmental impact assessment estimates that 37 per cent of the tailings have flowed into the ocean and that this portion may rise to 50 per cent. [46] New York Times reports that around one third of the waste has reached the estuary.[47] Other sources estimate that the emissions to the river delta and the sea will escalate to 76,000 tons per day as the deposition area fills up.[48] In its reply to the Council, Freeport states that only 14 per cent of tailings seep out of the deposition area, and that a part of this runs through the mouth of the Ajkwa River into the Arafura Sea.[49] Freeport also informs that the company has adopted measures in the deposition area that it believes will contain a larger part of the tailings.[50] Even if the estimates vary significantly, there is no doubt that the estuary and the coastal zone are affected by the discharges. Freeport argues that Indonesian authorities know and have accepted that a part of the tailings escapes the deposition area.

---

[41] Quoted in Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste*, New York Times 27 December 2005.

[42] *Government Regulation 82/2001 Regarding Water Quality Management Water Pollution Control* establishes four different maximum limits for water pollution depending on the water's use. Class 1 is the most rigorous and is applicable to drinking water, whereas Class 4 is the least restrictive, destined for "*gardens and other uses.*" Maximum suspended solids content is set at 50 mg/l for drinking water and 400 mg/l in Class 4, see also footnote 41.

[43] PT Freeport Indonesia 2005: *Riverine Tailings Transport*, p. 4, see www.fcx.com.

[44] IIED 2002: *Mining for the Future*. Appendix J *Grasberg Riverine Disposal Case Study*, p. J-6. In the mid- 1990s the aggradation of rock mass and sediment blocked the river, forcing it to seek a new course and spreading the discharges to an adjacent river system (the Minajerwi River). As a result and in order to contain the deposition area, Freeport initiated the construction of levees in 1997.

[45] See footnote 44. Freeport, referred to in the New York Times 27 December 2005 (see footnote 41), declares that the levees designed to contain the tailings are expected to reach a height of more than 20 m in certain places in the lowland.

[46] Information on file with the Council. Reference is made to Indonesian ministerial memorandums citing AMDAL 300K:"Estimates of materials balance suggest that a large portion of tailings (37%) have flowed into the Arafura Sea and it is estimated that this portion may increase to 50%."

[47] Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste*, New York Times 27 December 2005, quoted from one of Freeport's former employees who worked with waste management until 2004.

[48] See footnote 44, p. J-9.

[49] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 9.

[50] See footnote 49.

According to Freeport's own environmental risk assessment, model estimates indicate that the ocean currents will disperse tailings along the coast to the estuaries on the eastern and western sides of the Ajkwa River mouth, something which visual observations can confirm.[51] Nevertheless, in its response to the Council, Freeport claims that its monitoring programmes do not show any sign of long-term adverse environmental effects in the Arafura Sea.[52]

3.3.1.2 Hazardous substances in the tailings

In addition to the physical effects of the enormous quantities of waste that are dumped daily into the river, the content of environmentally hazardous substances also has a bearing on the damage. The tailings discharge contains heavy metals and processing chemicals.[53]

According to the company itself, the tailings include heavy metals such as copper, arsenic, cadmium and mercury.[54] Among these, copper is the substance found in the largest quantities. Copper is acutely toxic to aquatic organisms, including invertebrates, fish and amphibians.[55] It can also cause long-term adverse effects on the environment. The copper concentration seriously affects aquatic organisms' reproduction and chances of survival. In this context it is highly probable that copper is the most crucial metal with regard to water quality.[56]

Freeport argues that the water quality in the river is good and that the company meets Indonesian drinking water standards for dissolved copper.[57] In its reply to the Council the company points out that its surveys show dissolved copper concentrations well below the official requirements and that the copper content in tailings does not pose any health or environmental risks.[58] Yet, these claims are not substantiated with any concrete data.

---

[51] Freeport and joint-venture partner RioTinto commissioned the American consultancy firm Parametrix to conduct a study on the environmental and health risks associated with tailings deposition. The report was concluded in 2002. The dispersion of emissions to the sea is described in Vol.1, Aquatic Ecological Risk Assessment (August 2002), on file with the Council.

[52] See footnote 49.

[53] EnviroSearch International 1994: *Environmental Review of PT Freeport Indonesia Copper and Precious Metals Mine Irian Jaya, Indonesia*, submitted to the Overseas Private Investment Corporation (OPIC), p. 13.

[54] Mining for the Future, Appendix J: Grasberg Riverine Disposal Case Study, Table J2.The table is based on Freeport's own measurements.

[55] In Norway copper is classified as an environmental toxin due to properties such as bioaccumulation and toxicity at low concentrations. The poisonous effect of copper on aquatic organisms is relatively well documented; see for example http://www.epa.gov/waterscience/criteria/copper/pdf/master.pdf and http://www.miljostatus.no/templates/pagewide 2828.aspx.

[56] http://www.miljostatus.no/templates/themepage 2912.aspx,

[57] *Government Regulation 82/2001 Regarding Water Quality Management Water Pollution Control* establishes a maximum limit of 0.02 mg/l copper in drinking water. Humans normally have a higher tolerance to copper than aquatic organisms. The drinking water standards also take into account that water is commonly transported through pipes which may release copper. Drinking water standards are thus no guarantee that aquatic organisms will not be affected. Limits established to prevent damage to water organisms are usually lower; see also footnote 667.

[58] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 13. Freeport declares: *"Our monitoring of surface and groundwater shows dissolved copper levels well below the standard. Our monitoring of locally caught seafood and of plants grown on soils containing tailings show they are safe to consume. Extensive*

Furthermore, the company declares that analyses carried out inside the Contract of Work area do not register significant levels of mercury in tailings, water or sediments; nor have any appreciable residues of processing chemicals been detected.[59] However, these statements are not documented any further.

Environmental organisations have raised considerable doubts concerning Freeport's assertions and monitoring results. In 1994, the US government agency *Overseas Private Investment Corporation* (OPIC) [60] performed a detailed review of the mining operation. [61] The study refers to Freeport's environmental risk assessment of 1994, which states that copper discharge in tailings amounts to approximately 0.15 per cent (the equivalent of 1,500 mg/l). These figures indicate a massive copper load entering the riverine and marine ecosystem, something which according to OPIC's assessment most probably will cause severe irreversible effects.[62]

Freeport's own reports to the Indonesian Ministry of the Environment for the second quarter of 2005 show copper levels of 0.022 mg/l downstream of the deposition area[63]. At the same time, other samples taken by the Indonesian Ministry of the Environment just outside the deposit site reveal that copper levels often exceed 0.03 mg/l.[64] In the areas around the river mouth, high copper concentrations in water and sediments were also confirmed through Freeport's risk assessment, reaching levels that may be acutely toxic to aquatic organisms.[65] In its reply to the Council, Freeport claims that its tests do not indicate high pollution levels in the water, but no further evidence is provided to support the assertion.[66]

The Council has refrained from any detailed analysis as to why the test results differ. Irrespective of the method used, the sampling indicates a considerable supply of copper into the environment.

---

studies performed in our Environmental Risk Assessment show that copper in tailings poses negligible risk to aquatic organisms and terrestrial plants and animals. In addition, the same studies showed copper in our tailings poses no risk to human health."

[59] See footnote 58.

[60] *The Overseas Private Investment Corporation (OPIC) was established in 1971 as a self-sustaining U.S. government development agency whose mission is to mobilize and facilitate the participation of United States private capital and skills in the economic and social development of less developed countries and areas, and countries in transition from nonmarket to market economies.* Among other things, the agency offers companies insurance against political risk, see http://www/opic.gov/.

[61] EnviroSearch International 1994: *Environmental Review of P.T.Freeport Indonesia Copper and Precious Metals Mine Irian Jaya, Indonesia*; submitted to the Overseas Private Investment Corporation.

[62] See footnote 61, p. 9.

[63] Information on file with the Council. These results are on a level with Indonesian drinking water standards, see footnote 57.

[64] Refers to test point S260 just outside the deposition area. According to a report from the Indonesian Ministry of the Environment from November 1994, more than 25 per cent of the samples showed a copper concentration higher than 0.03 mg/l. Information on file with the Council.

[65] Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste,* New York Times, 27 December 2005.

[66] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund,* p. 13.

Compared to both Australian and American water quality standards, the copper concentration exceeds the limits for what is considered toxic to aquatic organisms.[67] Copper also has a bioaccumulation potential in sediments and organisms.[68] As early as 1994, OPIC's evaluation strongly criticized the fact that the effects and consequences of high copper discharge levels had not been examined.[69] The criticism has since been repeated several times by environmental organisations. In its reply to the Council, Freeport refers to the environmental risk assessment, claiming that copper content in tailings does not pose any form of environmental or health threat.[70]

3.3.1.3 Environmental damage

The OPIC review concluded that Freeport's tailings management had caused substantial adverse environmental impact on the Ajkwa and Minajerwi Rivers, and that the mining operation continued to represent unreasonable or major environmental, health or safety hazards with respect to the river systems affected by tailings, the surrounding terrestrial ecosystems and the local inhabitants.[71] As a result, OPIC revoked the insurance policy for the Grasberg mine in October 1995, but after intense lobbying from American politicians who supported Freeport, it was temporarily reinstated from April 1996 until the end of that year.[72] Later in 1996, Freeport itself chose to terminate the contract.[73] Based on the investigations the Council has undertaken, there is little to suggest that the company's environmental record has improved since OPIC conducted its review.

---

[67] Rather than to compare copper levels with drinking water standards, the Council considers it more relevant to look at water quality standards for freshwater which focus on various parameters with an impact on aquatic organisms. Australian water quality standards (*ANZECC Water Quality Guidelines*) use 0.001 and 0.0025 mg/l copper as tolerance limits for aquatic life, while American water quality standards (*USEPA Aquatic Life Copper Criteria (Nov 2003)*) establish a maximum of 0.0042 mg/l copper. According to the Norwegian Pollution Control Authority's (SFT) water quality criteria, freshwater with a copper content above 0.006 mg/l is classified as severely polluted. In Norway the goal is to reach a copper concentration of 0.01 mg/l in river systems polluted by acid rock drainage from mining. This goal is meant to ensure that biological life is preserved despite the run-off from mines. See http://deh.gov.au/water/quality/nwqms/volume1.html, http://www.epa.gov/waterscience/criteria/copper/pdf/master.pdf and http://www.miljostatus.no/templates/themepage____2912.aspx#A

[68] The bioaccessibility of metals will vary according to the pH, the content of organic and particulate material, the water's hardness and other factors.

[69] EnviroSearch International 1994: *Environmental Review of P.T.Freeport Indonesia Copper and Precious Metals Mine Irian Jaya, Indonesia*, pp. 12-13; submitted to the Overseas Private Investment Corporation.

[70] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 13.

[71] OPIC letter to Freeport McMoRan 1995. OPIC discovered that Freeport had doubled its production volume without informing the agency and draws the following conclusion in its letter: "*If OPIC had, prior to the issuance of the Contract, understood that the Project's ore and tailings production rates would be at such high levels, (and that such unreasonable or major environmental, health or safety hazards would result), the agency clearly would not have issued the subject policy.*" Available at http://www.foe.org/international/shareholder/OPICletter.htm

[72] Gedicks, Al 2005: *West Papua: The Freeport/Rio Tinto Campaign*, in Moody, Roger 2005: The Risks We Run International Books; Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste*, New York Times, 27 December 2005.

[73] See footnote 70, p. 14, see also footnote 72.

According to an internal memorandum from the Indonesian Ministry of the Environment in 2000, the riverine disposal has destroyed all life in the river systems.[74] The environmental risk assessment commissioned by Freeport and Rio Tinto in 2002 also makes it clear that the river systems between the point of discharge and the deposition area, as well as the areas inundated by tailings, are unfit for aquatic life.[75] The rivers running through the lowlands that constitute the deposition area have been described as one of the most biodiverse habitats in the world.[76] This ecosystem is now completely destroyed.

In its reply to the Council, Freeport refutes the accusation without providing any further details. Instead Freeport points out that riverine disposal is the best alternative, given the extreme topography of the area, the heavy rainfalls and the danger of earthquakes, which increase the risk of landslides if the waste material should be deposited on land. The company claims to be cooperating with national and international experts "*to ensure that the tailings management practices represent the best possible alternative.*"[77] Freeport regards its mining operation as environmentally responsible, maintaining that the water quality in the river satisfies Indonesian and American drinking water standards for dissolved metals.[78]

The tailings disposal also causes extensive flooding, a phenomenon that has destroyed large parts of the nearby riverine rainforest. Around 2000, it was reported that in an area covering 30 sq km, the riverine rainforest and other vegetation (including sago, which is an important food crop for the local population) had died.[79] This was confirmed in a study from 2001, conducted by the Indonesian environmental organisation, Walhi, in cooperation with the *National Space and Aeronautic Institute* (LAPAN). Satellite pictures showed that more than 35 sq km of lowland forest and 84 km^2 of the Arafura Sea were adversely affected by the discharges.[80] The vegetation is smothered by oxygen starvation because the sediment load reduces oxygen availability. According to information obtained by the Council, the area of devastation has expanded further during the past 5 years as a result of Freeport's production increase and failure to adopt measures to reduce the discharges.[81] By the time the mine is closed down, it is expected that the dead vegetation zone will include all 230 sq km of the deposition area.[82] According to Freeport, another 220 sq km will be affected by the tailings outside the deposition area.[83] The implications of this are not explained. When forests and other vegetation die back in such a huge area, there will be significant consequences for the whole terrestrial ecosystem, including animal life.

---

[74] Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste,* New York Times, 27 December 2005.
[75] See footnote 74 with reference to the environmental risk assessment drawn up by Freeport and RioTinto. See also footnote 51.
[76] See footnote 74.
[77] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund,* p. 8.
[78] See footnote 77.
[79] IIED 2002: *Mining for the Future*, Appendix J: *Grasberg Riverine Disposal Case Study*, p. J-9.
[80] Walhi/Friends of the Earth Indonesia 2003: *Undermining Indonesia, Adverse Social and Environmental Impacts of Rio Tinto's Mining Operations in Indonesia*, p. 20, can be accessed at http://www.eng.walhi.or.id/kampanye/tambang/050228_undermining_rep/
[81] Information on file with the Council.
[82] See footnote 77.
[83] See footnote 77, p. 11

Freeport does not deny that this damage has occurred, but refers to the Government permit for the deposition site. In its reply to the Council, Freeport states that the authorities are aware of the observed environmental damage and that the authorisations the company has received to increase production are tantamount to the Government's acceptance of this damage.[84] The company denies that the damage is severe or irreversible, alleging that it plans to reclaim the whole deposition area once the mining operation is concluded.[85] According to Freeport, extensive research and successful trials have been conducted to cultivate the affected areas, both in the mountains and in the wetlands. As soon as the mining operation has come to an end, the company's goal is to convert the whole deposition area into productive farmland or natural areas with native vegetation.[86] Freeport also claims that tests show how native species regenerate naturally in soil containing tailings.

In 2004, slightly more than 0.06 sq km of the deposition area's 230 sq km was reclaimed.[87] Freeport has not given any concrete details regarding its yearly goals for the rehabilitation of these areas. Even if Freeport does not offer any detailed information, the demonstration trials seem to largely have taken place on the very outskirts of the deposit site (outside the levees) where tailings form a relatively thin layer and the soil has been enriched with considerable quantities of compost. To the Council's knowledge, Freeport has not mentioned anything about the likely success rate of reclamation with sediments deeper than 10 metres.[88] On the basis of information provided by Freeport and given the actual dimensions of the deposition area, the Council regards it as rather improbable that the environmental damage caused by the operation will be significantly reduced through the reclamation plans presented by the company.

The estuary where the Ajkwa River runs out into the Arafura Sea has also been affected since parts of the discharge seep out of the deposition area. According to Freeport's environmental risk assessment, the species composition and the supply of fish and invertebrates have changed significantly, meaning that for example organisms which depend on clear waters do no longer exist in the affected areas of the estuary, and that the biodiversity has been substantially reduced.[89] In other words, the estuary has lost ecologically important species and these have been substituted by organisms adaptable to polluted water.

In its reply to the Council, Freeport claims that the estuary (situated below the actual deposition area) is a functioning ecosystem.[90] In light of the abovementioned factors, the assertion might be correct, but in this context it may nevertheless be perceived as misleading. Freeport does not provide any information as to the fact that the estuarine ecology has changed significantly over time; neither does the company mention anything about the long-term impact of the continuing sediment input. With regard to the Arafura Sea, Freeport claims its tests show that the water quality meets relevant standards, but does not specify this any further. As a matter of fact, the

---

[84] See footnote 77.
[85] See footnote 77, pp. 11-12.
[86] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 12.
[87] Freeport 2004: *Making the Commitment. Working towards Sustainable Development*, p. 33; see footnote 86, p. 22.
[88] Information on file with the Council.
[89] See footnote 88 with reference to Freeport's environmental risk assessment.
[90] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, pp. 9, 11, 12 and 16.

company informs that there has been a slight reduction in the species composition among organisms which live on the seabed adjoining the river outlet,[91] but it does not elaborate on the consequences.

3.3.1.4 Social impact

There are 71 villages in the mining area (Mimika district), of which 29 are strongly influenced by the operation.[92] The Amungme (mountain people) and the Kamoro (lowland people) are indigenous peoples who live in the areas affected by the mining. Their livelihood used to be based on subsistence farming, hunting, fishing, and gathering of sago and other forest produce. The river was their main source of drinking water and was also used for washing, bathing, etc. Their culture and identity are entwined with and based on the surrounding landscape. Riverine disposal has had the biggest impact on the inhabitants of the lowlands, whereas the mountain people have been more affected by the actual mining.

Frequently there have been reports on conflicts with and violations against local inhabitants. Freeport is accused of lacking respect for the indigenous people's culture and traditions, destroying the livelihood of people in the area, and not compensating them for their losses.[93] Through the Contract of Work, Freeport was given powers to take land, timber and other natural resources, and to forcefully relocate the inhabitants to new areas.[94] This dislocation has occurred with help from the Government and the use of security forces.[95] A number of reports show how the mining and the adverse effects of riverine disposal (see above) have destroyed the livelihoods and the cultural values of the area's inhabitants.[96] Similarly, the OPIC evaluation has pointed out the major and unreasonable damage inflicted on humans and the natural environment as a result of Freeport's tailings management.[97]

Freeport has paid compensation, but the local population claims that this does not cover the loss of natural heritage features such as clean water, farmland, hunting and fishing grounds, and other losses of natural and cultural values.[98] Freeport refutes such allegations, arguing that the company through its social and economic development programmes cares for the local communities' interests and that it has contributed to improving their living standards.[99] In 2000, after five years of negotiations, the company signed a "*memorandum of understanding*" with Amungme and Kamoro organisations as well as local authorities, focusing on socio-economic

---

[91] See footnote 90, p. 8.
[92] IIED 2002: *Mining for the Future*. Appendix J *Grasberg Riverine Disposal case study*, p. J-11.
[93] See for example Moody, Roger 2005: *Freeloading Freeport* in The Risks We Run. Mining, Communities and Political Insurance. International Books.
[94] Abigail Abrash 2004: *Mining a Sacred Land*. Carnegie Council on Ethics and International Affairs, available at http://www.cceia.org/viewMedia.php/prmTemplateID/8/prmID/4459; see also footnote p.112.
[95] Gedicks, Al 2005: *West Papua: The Freeport/Rio/Tinto Campaign*, p. 112. In Moody, Roger 2005: The Risks We Run. Mining, Communities and Political Insurance. International Books.
[96] See footnotes 94 and 95; Amnesty International USA: *Business and Human Rights – The Environment/ Freeport McMoRan in Papua*, available at http://www.amnestyusa.org/business/environment/indonesia.html
[97] OPIC letter to Freeport McMoRan 1995, see http://www.moles.org/ProjectUnderground/motherlode/freeport/opicletter.html
[98] See footnote 94.
[99] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, pp. 3-7

resources, land rights and environmental issues.[100] The company has created a separate fund for the Amungme and Kamoro. In 2004, USD 6.5 million was allocated to the fund, and the company has scheduled yearly transfers of USD 1 million. This fund is an addition to the so-called *Freeport Partnership Fund for Community Development*, which was established in 1996 and currently stands at USD152 million. The money is spent on school projects, education, hospitals, health services, social and business development for the local population, etc. [101] According to information received by the Council, the management and distribution of the fund have been subject to criticism for creating serious internal conflicts between local communities.[102]

3.3.2 Disposal of overburden and waste rock

Overburden and waste rock are being disposed of in two valleys that border on the mine and contain four stockpiles - *West Grasberg*, *Wanagon*, *Lower Wanagon* and *Carstenz*. The waste volume amounts to 360,000-510,000 tons per day.[103] As mentioned earlier, according to current plans the deposits of waste rock will total some 3 billion tons during the mine's lifespan.[104] Being up to 300 m deep in certain places, the stockpiles now cover an area of approximately 8 sq km.[105]

In 1993, acid rock drainage from the stockpiles was observed for the first time.[106] There have also been reports of ongoing seepage into the groundwater[107] which, among other things, has resulted in the contamination of springs in the Lorentz National Park.[108]

Freeport acknowledges that acid rock drainage has occurred and that there is a risk of continued run-off from the stockpiles.[109] The company asserts that it has implemented measures expected to reduce future acid rock drainage and that the necessary steps will be taken in this regard.[110] In its reply to the Council Freeport states:[111]

---

[100] See footnote 99, pp. 3-4.
[101] See footnote 99, pp. 3-4.
[102] Information on file with the Council.
[103] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 2; Freeport-McMoRan Copper&Gold Inc. *Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004*, p. 11, based on Freeport's records of rock output and ore production.
[104] See p. 11, based on information on file with the Council. The source refers to Freeport's own documents: AMDAL 300K (1997), and Freeport and Rio Tinto's Environmental Risk Assessment (2002).
[105] Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste*, New York Times, 27 December 2005.
[106] See footnote 105.
[107] Bryce, Robert: *Printed in Stone*. The Austin Chronicle, 23 September 2005, available at http://www.austinchronicle.com/issues/dispatch/2005-09-23/pols_feature.html; IIED 2002: *Mining for the Future*. Appendix J *Grasberg Riverine Disposal case study*, p. J-7; see also footnote 105.
[108] See footnote 105.
[109] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 17.
[110] Freeport 2004: *Making the Commitment. Working towards Sustainable Development*, p. 38.
[111] The quotations are taken from Freeport's reply to the Council, see footnote 109, pp. 17-18.

- *"Freeport has extensively studied the potential for production of ARD[112] and is managing its overburden stockpile plan to take these potentials into account."*

- *"[Freeport] has designed an ARD collection and treatment facility and continues to monitor and upgrade modelling of groundwater flows in the area to assist in addressing ARD issues."*

- *"A major aspect of the studies' focus has been to determine best procedures for overburden stockpile closure. These procedures both prevent and, where required, mitigate any ARD generation."*

- *"Acid rock drainage mitigation plans provide for capture and treatment of the existing acid rock drainage, in conjunction with limestone blending and limestone capping of existing overburden placement areas to minimize future acid rock drainage generation."*

- *"In addition, PT-FI[113] has an established response plan [*to acid-generating tailings*] that includes, among other things, the application of lime or limestone to neutralize any indication of acid-producing potential within the tailings deposition area."*

However, Freeport does not give any further details as to when and how the plans will be carried out, or what this actually implies; for example, which tests are being conducted, which parameters are being monitored, and how acid rock drainage is expected to develop in the future. The Council considers the information presented by the company to be general and observes that the company chooses not to support its assertions with concrete data and scientific evidence.

3.3.3 Violation of national law

In an article about Freeport published in the New York Times on 27 December 2005, allegations were made that Freeport does not possess any permission for riverine disposal and that the pollution levels in the discharges do not meet Indonesian standards. The article also revealed that since 1997 the Indonesian Ministry of the Environment has repeatedly warned the company of its violations of the law and recommended it to stop the riverine disposal.

In 1999 the Government revised the legislation regarding hazardous waste, classifying tailings as environmentally harmful. Based on testing of the tailings, the authorities may deviate from this. However, the Government does not consider Freeport as exempt from the rule, stating that the necessary discharge permit has not been issued.[114] In January 2006 the Minister of the

---

[112] ARD is short for *Acid Rock Drainage*.
[113] PT-FI is short for PT Freeport Indonesia, i.e. Freeport.
[114] Tempo Interactive: *Freeport Not Licensed to Dispose of Tailing Waste.* Tempo Interactive, Jakarta, 6 January 2006. The newspaper quotes Rasio Ridho Sani, Assistant to the Minister for Poisonous and

Environment appointed an investigative commission to evaluate the extent of the environmental damage.[115]

In its reply to the Council, Freeport claims to operate in accordance with the requirements and orders issued by Indonesian authorities, denying any irregularity: "*The new regulations stated that mine tailings can be classed as "non-hazardous" if certain tests are conducted and standards are met. Over the years, PT-FI has submitted the results of extensive test work showing that tailings are non-toxic based on United States, Australian and international protocols*". [116] The company points out that it has received other licences, for example through the Government approval of its risk assessment (300K AMDAL) and the permission from Papua's Governor to use the rivers for waste disposal. Freeport does not inform whether it explicitly has applied for a new discharge permit under the revised law.

The local Governor, however, does not have the authority to issue such permissions. This is confirmed through a letter from the Indonesian Minister of the Environment to the Governor of Papua and other officials written in 2001. The letter states that the licence is invalid and the Governor is asked to revoke the permission given to the company.[117]

The Council believes that Freeport has been aware of the Ministry's opinion in this case. At the same time, it seems as if the authorities' failure to enforce environmental regulations has, in part, made the company consider it unnecessary to clarify which requirements should be complied with.

4 The Council's assessment

4.1 Freeport's reply to the Council

The Council, through Norges Bank, sent its report to Freeport on 22 December 2005, requesting a reply within 3 weeks of receipt. On 20 January 2006, Norges Bank received the company's reply.

In its response, Freeport states that *"the portrayal of FCX [Freeport] is utterly false and bears no resemblance to our company and its operations. This is perhaps because the report appears to be based largely on outdated information or biased reports issued by non-governmental*

Dangerous Materials (B3) Waste Management Affairs: "*There has not yet been any licence issued by the state Ministry for the Environment for this"*, see http://www.tempointeractive.com/.

[115] Antara News: *Damage Caused by Freeport to Environment is Serious: Minister Says.* Antara News, 26 January 2006, available at http://www.antara.co.id/en/seenws/?id=8484.

[116] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 10.

[117] Perlez, Jane and Bonner, Raymond: *Below a Mountain of Wealth, a River of Waste,* New York Times , 27 December 2005; information on file with the Council.

organizations who are anti-mining or have a political agenda."[118] The company's comments regarding each item are discussed above and also in the present and following sections.

Even though Freeport's reply is comprehensive, the Council does not see it as providing much new information. Freeport denies the accusations made against the company, but chooses not to present data, test results or other concrete information or scientific evidence which might substantiate its claims that the mining operation does not cause severe and lasting environmental damage. The Council observes that Freeport's response to many issues raised in the report is vague and hardly to the point with regard to the problems at hand.

The Council would like to emphasize that Freeport has been given the opportunity to present any information it may wish and thus substantiate its assertions. Nevertheless, Freeport has not provided any concrete data. In its letter to the Council, the company refers to a series of environmental studies it has conducted, claiming that these are available from the Indonesian authorities. However, Freeport decides not to present them to the Council. This is also the case with the test results from the environmental monitoring programmes. In the Council's view, this lack of transparency and concrete information renders it impossible to verify the company's assertions, thus making them lose credibility.

4.2 The Council's assessment regarding risk of contribution to severe environmental damage

The Council's task is to assess whether there is an unacceptable risk that the Fund through its ownership in Freeport may contribute to severe environmental damage, as stated in the Guidelines Point 4.4, second paragraph, third bullet point, and in accordance with the interpretation presented in Chapter 2 above.

It is a fact that the mining operation owned and run by Freeport has caused the environmental damage described in Chapter 3 of this recommendation. On the basis of the abovementioned documentation, the Council will evaluate whether the environmental damage provoked by the company is serious enough to constitute a violation of the Guidelines. This assessment is linked to the summary in section 2.4.

The first aspect to be assessed is the *scope of the damage and to which extent it leads to irreversible effects.* There is no doubt that riverine tailings disposal represents the overriding environmental problem of Freeport's operations today. In the Council's view, the daily disposal of 230,000 tons of tailings generates severe and long-term environmental damage, as described in section 3.3.1. Furthermore, the Council deems it probable that acid rock drainage from the stockpiles will constitute an increasing and considerable environmental problem with potentially far-reaching harmful effects in the future, as shown in section 3.3.2. Consequently, the Council assumes that the damage is severe and that there is an unacceptable risk that the environmental impact caused by the mining operation is lasting and irreversible.

---

[118] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund,* p. 24.

The Council also regards as unacceptable the risk that the environmental damage may have adversely affected *human life and health*, as described in subsection 3.3.1 (Social Impact), even if this issue has not been treated as thoroughly as the physical impact.

The next question is whether the company's conduct is contrary to *national law and international norms.* Freeport claims, for example in its reply to the Council,[119] that the company complies with all national environmental regulations. However, the Council has found that Indonesian authorities question whether the company has a valid permission for riverine disposal at all and whether the water quality standards are met, see subsection 3.3.3. In this context it may be relevant to point out that the environmental standards required by Indonesian authorities fall significantly short of current rules in the company's country of origin, the USA, where riverine disposal is prohibited.

The Government has not enforced its environmental regulations to much effect. This means that the consequences of not meeting the standards are of little significance to the company. Weak environmental legislation and lenient enforcement indicate that there is no system in place to reduce the damage caused by mining, something which contributes to further aggravating the risk of severe environmental damage.

There are no international conventions or guidelines regarding best practices for waste disposal in the mining industry,.Currently, the EU is preparing a directive on waste management from extractive industries which will lay down comprehensive European requirements.[120] To the Council's knowledge, Indonesia and Papua New Guinea are the only countries that still allow riverine disposal.

The World Bank no longer finances projects which make use of riverine disposal, and the International Finance Corporation does not accept the procedure unless specific discharge limits are complied with. In practice these limits mean that the discharge must be treated before it is released into river system.[121]

"*The Extractive Industries Review*" (EIR) from 2003[122] and the international project "*Mining, Minerals and Sustainable Development*" (MMSD)[123] also advise against riverine disposal owing to

---

[119] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, p. 1.

[120] http://www.europa.eu.int/comm/environment/waste/mining/index.htm.

[121] IFC 2004: *Environmental, Health and Safety Guidelines for Precious Minerals Mining.* Draft available at www.ifc.org.

[122] *The Extractive Industries Review was launched by the World Bank Group to discuss its future role in the extractive industries with concerned stakeholders. The aim of this independent review was to produce a set of recommendations that will guide involvement of the World Bank Group in the oil, gas and mining sectors.* Information and reports available at www.worldbank.org.

[123] *Mining, Minerals and Sustainable Development (MMSD) was an independent two-year process of consultation and research with the objective of understanding how to maximise the contribution of the*

the environmental damage involved. EIR states: "*Scientific evidence clearly demonstrates that this method of waste disposal causes severe damage to water bodies and surrounding environments... In practice, this technology is being phased out due to recognition of its negative consequences: today only three mines in the world, all on the island of New Guinea, still use this method to dispose of mine wastes. The EIR agrees with the call for a ban on riverine tailings disposal.*"[124] In its recommendations regarding best practices for the mining industry, MMSD calls for "*a clear commitment by industry and governments to avoid this [riverine tailings disposal] practice in any future projects*" as this "*would set a standard that would begin to penetrate to the smaller companies and remoter regions where this is still accepted practice.*"[125] The world's largest mining company, BHP Billiton, has also declared that it will not make use of riverine disposal in its new projects.[126]

The Council places great importance on the fact that key international players and the authorities in many countries consider riverine tailings disposal to be an unacceptable waste management method due to its harmful environmental effects. On these grounds, the Council judges Freeport's practice as clearly in breach of international norms. The Council also believes that Freeport through this conduct is taking advantage of the low environmental standards and the lenient law enforcement in the country where it operates.

Moreover, the Council must reach a conclusion as to whether the *company has failed to take action aimed at preventing damage, including whether the omission was planned.*

Riverine disposal has been a conscious choice on Freeport's part, and repeatedly, also in its reply to the Council, the company has claimed that this is the best solution, given the difficult terrain, the earthquake threat and the rainfall (see section 3.3.1).[127] Low infrastructure and maintenance costs are the main advantage attributed to riverine disposal. It is reasonable to assume that this has been a decisive factor for Freeport, an assumption supported by the

---

mining and minerals sector to sustainable development at the global, national, regional and local levels. MMSD was a project of the International Institute for Environment and Development (IIED) commissioned by the World Business Council for Sustainable Development (WBCSD). For information and reports, see http://www.iied.org/mmsd/.

[124] EIR 2004: *Striking a Better Balance - The World Bank Group and Extractive Industries: The Final Report of the Extractive Industries Review*, p. 33; available at http://siteresources.worldbank.org/INTOGMC/Resources/finaleirmanagementresponse.pdf.

[125] IIED 2002; *Mining, Minerals and the Environment*, chapter 10, p. 250, in Breaking New Ground: Mining, Minerals, and Sustainable Development, Mining, Minerals and Sustainable Development Project; can be found at http://www.iied.org/mmsd/finalreport/index.html.

[126] At the root of this decision lies the environmental devastation caused by riverine tailings disposal at the OK Tedi mine in Papua New Guinea, which BHP co-owned with the Papua New Guinean state until 2002. Because of the environmental damage BHP wanted to close the mine down earlier, but this was unacceptable to the authorities in Papua New Guinea, who took over the mine in 2002; see www.bhpbilliton.com.

[127] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, pp. 8 and 16. According to OPIC's review, other alternatives were presented in connection with the concession application, but were dismissed without sufficient and consistent analysis. See EnviroSearch International 1994: *Environmental Review of P.T.Freeport Indonesia Copper and Precious Metals Mine Irian Jaya, Indonesia*, submitted to the Overseas Private Investment Corporation, p. 14.

company's marketing of itself as "*the world's lowest-cost copper producer*".[128] The Council infers that the description is correct as long as neither the current nor the future environmental costs are part of the calculation. This means, though, that it is the local community and future generations who must carry such costs related to Freeport's operations.

In 1991, at the time of Freeport's contract renewal, it was internationally known what kind of environmental damage riverine disposal may lead to.[129] The OPIC review refers to Freeport's own documents, which predict that the emissions will cause increased sedimentation and change the shape of the whole river system.[130] According to statements made by CEO Bob Moffett, Freeport was aware that the tailings discharge also contained high copper levels, thus representing economic loss to the company.[131]

The Council regards riverine disposal as a conscious and planned choice on the part of Freeport. Moreover, the Council is of the opinion that Freeport knew riverine disposal could cause severe damage to the natural environment, but that the company and the Government attached little importance to environmental concerns.

The Council will also assess to which extent the company has implemented *adequate measures to rectify the damage*.

In the Council's opinion, it does not seem as if Freeport has taken appreciable measures to significantly reduce the damage to the environment. On the contrary, the company has substantially increased its production as compared with the conditions in the initial environmental approval, without adjusting the waste management accordingly (see sections 3.2 and 3.3.1). Given the scope of the devastation, the company does not inform how much the reclamation attempts in the deposition area (see section 3.3.1) actually will contribute to mitigate the damage.

Freeport calls attention to its comprehensive monitoring and control programme of the water quality in river systems and groundwater. The company also states that it performs other tests, for

---

[128] See Freeport's home page: http://www.fcx.com/aboutus/co-overvw.htm

[129] In the article *Unearthing Controversy at the OK Tedi Mine* from 2003 Polly Ghazi states: "*In 1992, a group of indigenous landowners presented their grievances against Ok Tedi Mining to the International Water Tribunal in The Hague. The tribunal's judgments lack legal force. But its 1992 ruling, that the Papua New Guinea government should either prevent further damage or close the mine, brought Ok Tedi into the international spotlight.*" The article is published in World Resources Institute Features, July 2003, Vol.1, No.6, see http://newsroom.wri.org/wrifeatures_text.cfm?ContentID=1895&NewsletterID=39.

[130] EnviroSearch International 1994: *Environmental Review of P.T.Freeport Indonesia Copper and Precious Metals Mine Irian Jaya, Indonesia*, submitted to the Overseas Private Investment Corporation, Appendix 016.2.

[131] Project Underground 1998: *Risky Business. The Grasberg Gold Mine. An independent Annual Report on P.T.Freeport Indonesia*, p. 15. In 1997, Mr Moffett claimed that the company's discharges equalled 200 tons of copper a day.

instance regarding metal content in sediments, plants and aquatic organisms. The test results are submitted to the Indonesian Ministry of the Environment on a quarterly basis. Allegedly, the results prove that contamination levels are within the official limits and that the mining does not cause severe irreversible environmental damage.[132] Still, the company chooses not to substantiate its claims, and the Council notes that the tests, as shown in section 3.3.1, indicate possible flaws in the company's arguments.[133]

In cooperation with its joint-venture partner, Rio Tinto, Freeport has conducted an extensive environmental risk assessment of its tailings management. The study was completed in 2002, and Freeport describes it as the result of comprehensive and thorough investigations, including more than 90 scientific surveys. According to Freeport, no new risks were identified in this process, and the diagnosed risks conformed to the impact anticipated in the environmental approval documents.[134] The company chooses not to inform which environmental effects were predicted in the Government concession or the risks that were identified through the investigations, nor does it provide any concrete information that may contribute to identify or evaluate the long-term environmental consequences associated with the mining operation, including the potential accumulation and release of heavy metals.

In the Council's view, the company is trying to create the impression that the environmental effects of its operation are negligible and do not leave any permanent impact. As there is no transparency in the company's environmental information, this is practically unverifiable. Since the company does not support its statements with data or scientific evidence, the assertions that emissions do not have any long-term adverse effects lack credibility.

The Council is of the opinion that Freeport has not focused on implementing measures to reduce the adverse effects of its mining operations, nor has the company wished to document its claims that the mining does not cause any severe environmental damage in the short or long run. This lack of environmental precaution and transparency increases the risk of the Fund's complicity in severe environmental damage.

Finally, the Council will evaluate whether *the company's unacceptable practice can be expected to continue in the future*.

The Grasberg mine is expected to operate until 2041, and Freeport has been given a licence to run the mine for another 30-40 years. The concession grants an annual extraction of 300,000 tons of ore. In its reports to the US Stock and Exchange Commission, Freeport informs that it

---

[132] Freeport 2006: *Response of FCX to the Draft Report by the Advisory Council on Ethics for the Norwegian Government Petroleum Fund*, pp. 12-13.

[133] The company claims that its environmental analyses are accessible to the public. Nevertheless, they are available neither on the company's nor the Ministry's web sites. Freeport has informed the Council that one can gain access to these through the Ministry of the Environment's archives in Jakarta.

[134] See footnote 132, p. 24.

plans to keep up the production volume in the years to come.[135] The company maintains that riverine disposal is the best waste management alternative, and it does not give any indication of intending to change this practice in the future or of implementing measures designed to significantly reduce the damage to the natural environment.

Hence, the Council deems it probable that the company's unacceptable practice will continue.

4.3 Conclusion

Based on the documents made accessible to the Council and Freeport's reply to the Council, the Council finds that Freeport's mining activities involve an unacceptable risk of complicity in severe and irreversible damage to the natural environment. In the Council's view, the company's practice of riverine disposal is in breach of international standards, and one may also question whether the company violates national environmental regulations. The company's assertions that its operations do not cause long-term irreversible environmental damage are hardly considered credible by the Council. The lack of openness and transparency in the company's environmental reporting reinforces this impression. Considering the plans presented by the company with regard to production increase and new prospecting there is reason to believe that the company's unacceptable practice will continue in the future.

5 Recommendation

After this assessment of the allegations against Freeport McMoRan Copper and Gold Inc., and in light of Point 4.4 in the Ethical Guidelines, the Council recommends the company's exclusion from the *Government Pension Fund – Global*'s investment portfolio, owing to an unacceptable risk of complicity in present and future severe environmental damage.

Gro Nystuen Chair	Andreas Føllesdal	Anne Lill Gade	Ola Mestad	Bjørn Østbø

[135] Freeport-McMoRan Copper&Gold Inc. *Form 10-K Filings to the Stock and Exchange Commission (SEC) 2004*, p. 16.