



Controlled Riverine Tailings Management at PT Freeport Indonesia

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On the cover – The Tailings Transport, Succession And Reclamation Progression



- Upper left: An area of the tailings deposition zone where upland trees have been impacted from flooding and sediment covering their roots.*
- Upper right: An aerial view of the tailings deposition area in the lowlands portion of the project area where levees and other engineered programs contain and control the deposition.*
- Middle left: Pioneering grass species naturally take root on tailings sediment in the deposition zone, an important early stage of natural succession.*
- Middle right: Early stage reclamation activities in the deposition area include the establishment of native coniferous forests, adding nitrogen to the sediment.*
- Lower left: Agricultural crops, fruit trees and other plants are successfully grown at a scientific research center, providing important input for future reclamation considerations.*
- Lower right: Hundreds of thousands of mangroves have been planted in the estuarine portion of the deposition area as part of an assisted colonization program.*

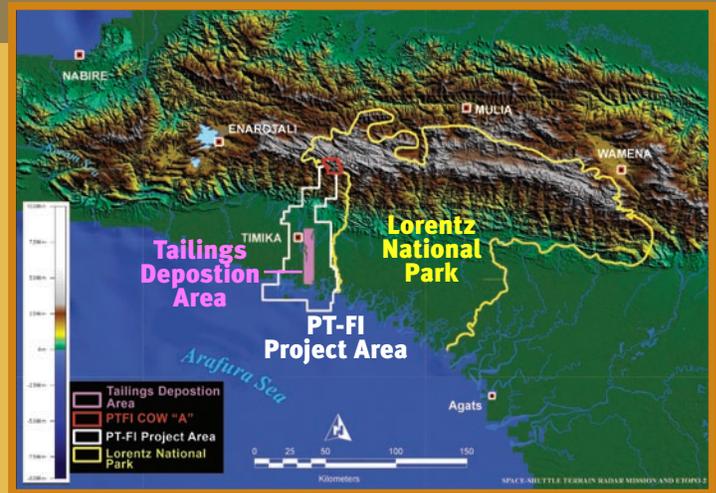
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The second largest volume of mining-related material currently generated at the PT Freeport Indonesia mine operation in Papua, Indonesia are tailings – particles of rock remaining after the economically valuable minerals are removed from the ore. Our tailings management involves the use of a river to transport the tailings and natural sediments to a large deposition area in the lowlands portion of our project area. The physical impact of the tailings in the deposition area is visible in the lowlands. Riverine tailings management at our facility results in many inquiries as to the environmental and social impact of this practice. The purpose of this publication is to provide details on how PT Freeport Indonesia is managing tailings transport and deposition in a controlled, engineered manner that is consistent with international best practices:

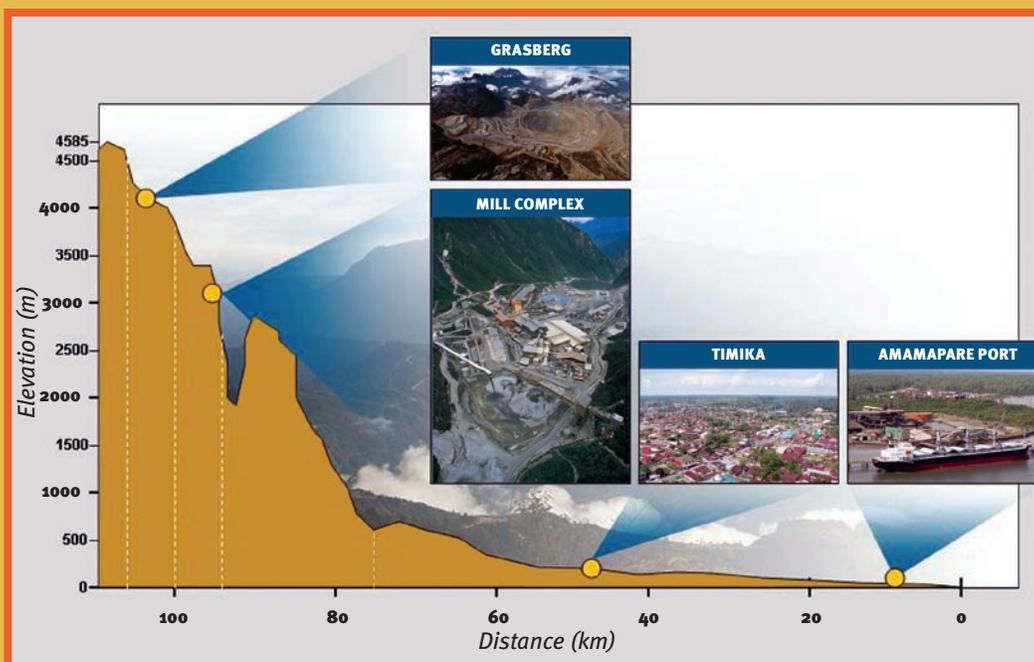
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Physical Setting for Operations

The high-mountain Grasberg mine site lies at the collision point of two tectonic plates – the Indo-Australian plate to the south and the Pacific plate to the north. Our Contract of Work area includes the highest point on the island, amid a central mountain chain along the plate collision zone. Mineralization in the area is the result of the earth’s dynamic forces through geologic time. The Grasberg open-pit mine is at an elevation of more than 4,000 meters above sea level. Ore containing copper, gold and silver is sent to a mill/concentrator facility in a valley two miles southward and approximately 1,000 meters lower in elevation, where the mineral-bearing material is separated from non-economic rock material through a physical separation process by physical grinding and flotation methods. The material containing the metals is called “concentrate.” It is sent to our port facility near the Arafura Sea, approximately 120 kilometers to the south, for shipment to our customers.



The 23,000 hectare tailings deposition area lies within the lowlands portion of the Project Area (outlined in white on the map), which encompasses approximately 293,000 hectares. The adjacent Lorentz National Park/World Heritage Site (outlined in yellow), was established in 1999 as a conservation area encompassing some 2.5 million hectares. PT Freeport Indonesia has no operations in the Lorentz National Park.



The PT Freeport Indonesia Project Area stretches from the Grasberg mining complex at an elevation of more than 4,000 meters in the central highlands to a port facility on the coast of the Arafura Sea. This north-south corridor of operations known as the Project Area traverses a mangrove coastal zone, sago forest, tropical rain forest, cloud forest, and sub-alpine regions in a relatively short distance of 130 kilometers. Tailings originate at the mill facility, located in a narrow valley at an elevation of approximately 2,700 meters. Studies have shown there is not adequate space available for storage of tailings in the highlands portion of the project area.

Tailings Management

The material called “tailings” is what’s left after the concentrate has been removed from the ore at the mill. Tailings are finely ground natural rock. PT-FI’s milling/ concentrating process is a physical process where the ore is finely crushed and the copper and gold-bearing minerals are separated from the rock particles that do

not have economic value. Flotation reagents used in trace amounts to facilitate separation of minerals from the ground ore degrade quickly. PT-FI uses a controlled river tailings management system which transports the tailings to a designated area in the lowlands and coastal zone, called the Modified Deposition Area. The deposition area is a portion of the floodplain of the river, which is an engineered, managed system for the deposition and control of tailings.

An aerial view of the tailings deposition area in the lowlands portion of the PT Freeport Indonesia project area. Levees and other engineering programs control the deposition of tailings sediment.

The tailings deposition system is operated under PT-FI's comprehensive tailings management plan, which was approved by the Government of Indonesia following numerous technical studies and a multi-year review process. This system involved construction of lateral containment structures, or levees, for the deposition area. These levees were later extended and work is continually conducted on various enhancements to the system, including inspections, monitoring and physical works. We continually evaluate and update the tailings management plan to minimize risks. When mining is completed, the deposition area will be reclaimed with natural vegetation or used for agriculture, forestry or aquaculture.

PTFI commissioned a series of comprehensive interdisciplinary studies of 14 alternative tailings transport and disposal options including:

- Highland, midland and lowland storage areas
- River transport and run-of-river deposition
- River transport with sand re-handling
- Pipeline with off-channel deposition in lowlands area
- Pipeline to north side of Papua with subaqueous disposal
- Pipeline south with subaqueous discharge in Arafura Sea

Conventional storage areas were rejected due to lack of needed space. The necessity of building an extremely high dam(s) in a seismically active area with high amounts of precipitation would create unacceptable risks. The pipeline options were also rejected because of construction and installation in the harsh terrain, and the distance to the deposition area from the mill would result in significant environmental impacts to the canyon systems. Additionally, the integrity of the pipeline would be jeopardized by extreme natural events such as landslides, floods and earthquakes. Deep water (subaqueous) discharge in the Arafura Sea was not feasible due to the presence of a wide shelf and shallow water for many miles offshore. The current system utilizing the river channel to transport tailings from the high mountains to the lowlands deposition site enables naturally high-alkaline runoff to mix with the tailings in the river channel, thus adding additional buffering capacity and reducing its acid generating potential, another significant environmental consideration.



Independent environmental audits of PT-FI's Environmental Management System – by Dames & Moore in 1996, Montgomery Watson in 1999, 2002 and Montgomery Watson Harza in 2005 – specifically concluded that the company's tailings management plan represents the best alternative, considering the applicable geotechnical, topographic, climatological, seismic and water quality conditions. These firms are internationally recognized experts in environmental management issues.

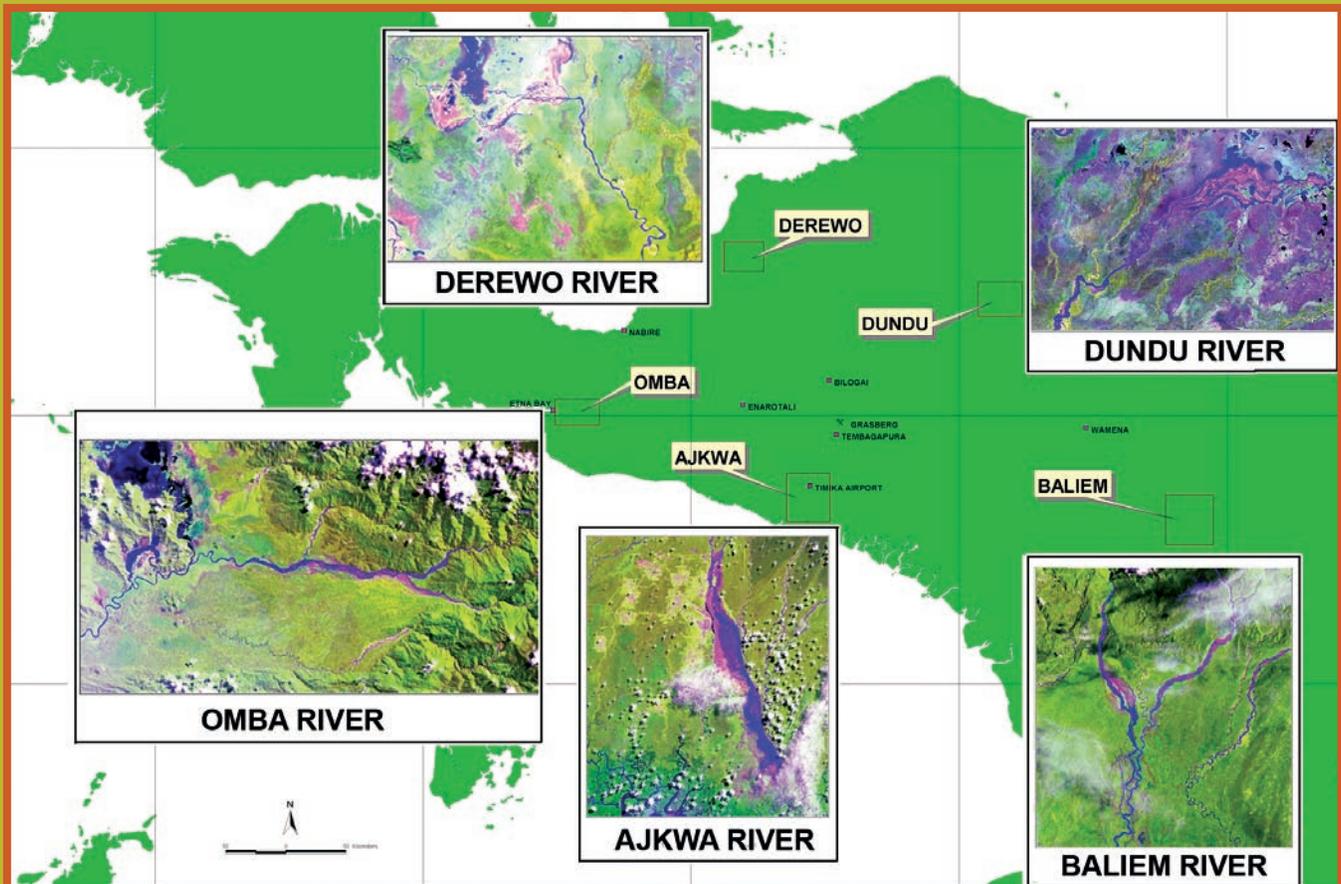
A technical group – consisting of international experts and representatives of the Institute of Technology at Bandung, PT Puri and PT-FI – reviewed our tailings management practice and developed recommendations to enhance the effectiveness of tailings retention program techniques. The tailings retention plan divides the deposition area into three sections or zones based on the elevation, sediment grain size and type of flow, and details specific techniques that may be effective in each section. These retention techniques include the use of bio-filters, permeable groins, flow deflection structures and other engineering applications. PT-FI is committed to maintaining a proactive management team dedicated to ensuring the implementation of tailings management strategy, including retention and reclamation. Much of the work implementing these plans is handled by local contractors, putting money into the local community and developing local business skills. The average cost to implement the tailings management program over the past three years was approximately \$15.5 million per year.

Tailings Deposition Using Geological Patterns and Processes

The tailings management system includes the use of a fast-moving river (Otomona) originating near the mill/processing area in a steep valley at approximately 3,000 meter elevation to transport the crushed rock material out of the mountains to a government approved, engineered and controlled tailings deposition area in the lowlands portion of the PT Freeport Indonesia Project Area.

The Otomona and the adjacent Ajkwa River, prior to mining activities, created one of the largest natural sedimentary deposition centers (“depocenters”) on the Island of New Guinea because of erosion caused by high rainfall in the highlands, energy scour as the river drops several thousand meters in elevation over a short distance, and the fact that it drains the highest terrain in Indonesia. The environmental engineering and auditing firm Montgomery Watson, in their 1999 External Environmental Audit of PT Freeport Indonesia, stated the following: “The highland rivers of (Papua) carry large natural sediment loads from the mountains to the lowlands, estuary and the Arafura Sea. Over recent and geologic time, glaciers, seismic activity, high rainfall and natural erosion processes have generated tremendous sediment loads that have settled in the alluvial floodplain and that were carried out into the estuary and the Arafura Sea, creating a massive natural area of deposited sediment.”

The deposition areas of the Ajkwa and Otomona Rivers is similar to that of other rivers in Papua as can be seen in the picture below showing the rivers and their locations in Papua. The satellite images of each river provide more details to compare the aerial extent of each river system. The important issue is that the Ajkwa/Otomona is the only river system that has both natural talus and mine tailings. The other rivers are impacted by natural sediment (talus) only as there are no other mines operating in those areas and Freeport’s tailings do not impact the other depo centers in Papua. All of the depo centers in Papua have a natural footprint from erosion due to years of heavy rains that drain the highest terrain in Indonesia. Freeport uses the natural footprint of the Ajkwa depo center for its tailings management system.



Major Deposition Centers of Irian Jaya

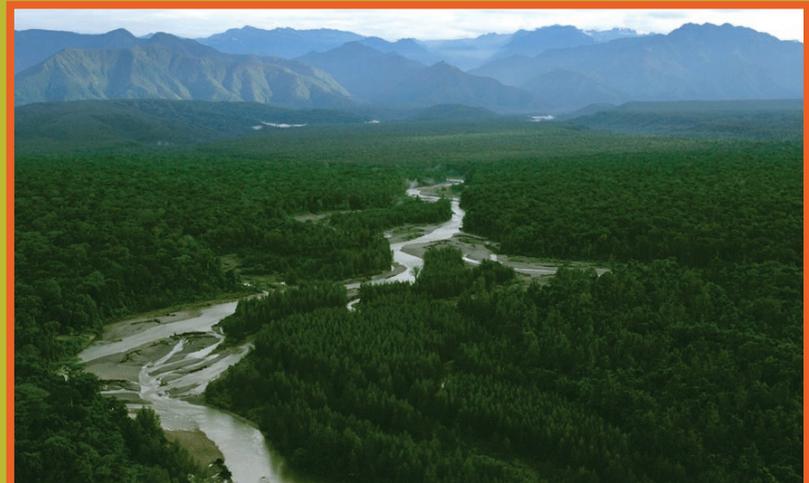


A satellite image of the southern coast of the Indonesian province of Papua shows the many rivers carrying heavy sediment loads from the central mountains to the sea. The Ajkwa deposition center (highlighted) is one of the largest sedimentary deposition centers in Papua because the associated rivers drain the highest terrain on the island. This is the area where the tailings from PT Freeport Indonesia are stored in a controlled management program. The visible sediment in the Arafura Sea across the southern coast originates from dozens of rivers which drain the island, part of a continuous land-building process.

Carstenz Peak (Puncak Jaya) and the surrounding glaciers form the highest point on the island of New Guinea and the nation of Indonesia. Glacial retreat through geologic time created one of the largest sedimentary deposition centers in the lowlands.



The Ajkwa River, like the Otomona, originates in the mountains and carries a significant sediment load to the lowlands as a result of erosion and extremely high rainfall.



Tens of thousands of analyses on aquatic biology, aquatic tissue, plant tissue, mine water, surface water, ground water, sanitary wastewater, river sediments and tailings are conducted at on-site laboratories as part of the Long-Term Environmental Monitoring Program.



Tailings Management Impacts

PT-FI has completed and submitted to the Government of Indonesia a thorough Environmental Risk Assessment of the tailings management system. This assessment found that the environmental impacts of PT-FI's expanded operations were consistent with those anticipated by the company's comprehensive environmental and social impact statement, the AMDAL, which was completed in 1997 and approved by the Government of Indonesia. The results of the ERA guide future tailings management decisions.

PT-FI's long-term environmental monitoring plan evaluates potential impacts of our operations by constantly measuring water quality, biology, hydrology, sediments, air quality and meteorology. The program ensures that we have the scientific information necessary to make management decisions about our operations to minimize and mitigate environmental impacts. In a typical year, the overall monitoring program includes the collection of more than 7,000 environmental samples and the conduct of over 50,000 separate analyses on these samples, which included aquatic biology, aquatic tissue, plant tissue, mine water, surface water, ground water, sanitary wastewater, river sediments and tailings.

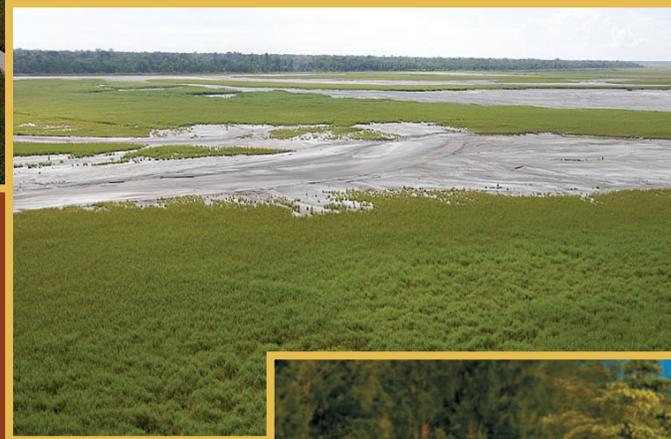
Our biological program monitors more than 200 sampling locations for nekton, benthos and plankton. In the last 5 years, more than 2,000 samples of aquatic fauna were analyzed for trace elements with the total number of analyses exceeding 15,000. Results of current monitoring have shown that fish and shrimp flesh samples from tailings areas are suitable for consumption as regulated by Indonesian food standards.

Tailings have an alkaline pH when released from the mill and comprehensive monitoring data show that the pH in the tailings river is also alkaline, meaning that the tailings are not producing acid. When necessary, PT-FI adds limestone to the mill feed to insure that there is sufficient alkaline material to neutralize at least 50 percent more acid than the maximum amount potentially generated by the tailings. Comprehensive water quality sampling of the tailings management system shows that the water in the tailings river and the deposition area meets the Indonesian and U.S. Environmental Protection Agency drinking water standards for dissolved metals. Data from biological sampling continue to demonstrate that the estuaries downstream of the tailings deposition area are functioning ecosystems, based on both the number of species and the number of specimens collected of nektonic, or free-swimming, organisms such as fish and shrimp.

Natural Succession in the Tailings Deposition Area

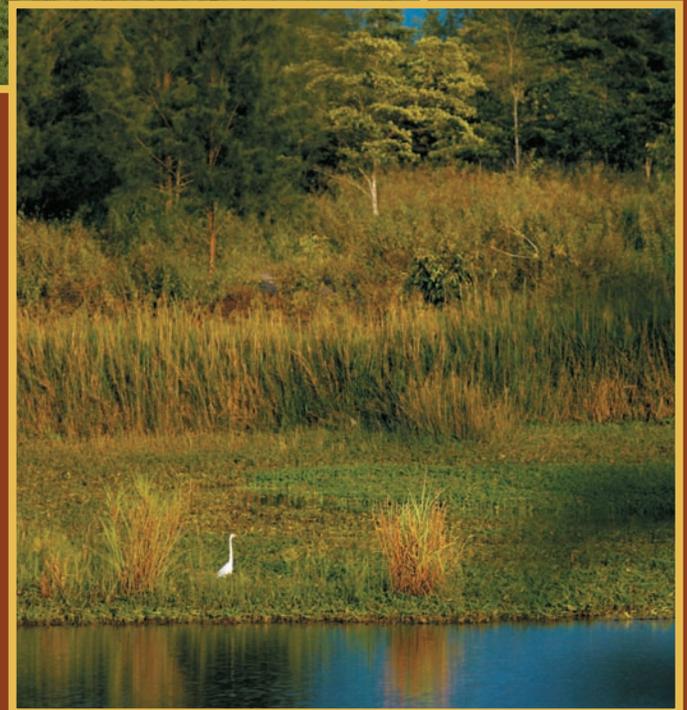


An area of the deposition zone that has been recently covered by sediment, causing upland trees to die from physical burial of their roots.



Pioneer grass species, including the dominant *Phragmites karka*, naturally take root on the tailings sediment. Once the grass is established, larger pioneer plants, including ferns and shrubs, produce abundant biomass that adds nutrients to the soil.

The final stage of succession is a stable plant community which has a dominant plant population suited to the environment. Waterfowl and other wildlife are abundant. More than 500 species of plants have naturally re-colonized in portions of the deposition area.



PT Freeport Indonesia opened a public nature observatory inside the tailings deposition area. The Natural Succession Discovery Park offers opportunities for employees and the local community to study the flora and fauna, including birds, butterflies and hundreds of plant species. The park demonstrates how deposited tailings can support a diverse, healthy ecosystem.



An overhead look at a native pine forest established in the tailings deposition area in the lowlands portion of the PT Freeport Indonesia project area.



A ground level view of the same reclamation project showing legumes (nitrogen fixers) planted to add organic matter and nutrients to accelerate the formation of soils for future productive agriculture.

Reclamation and Revegetation

PT-FI is committed to reclaiming or revegetating disturbed land when it is no longer used for operations. We have conducted comprehensive reclamation studies and programs for many years in both the highlands and the lowlands areas to provide sound, scientific data to guide our management decisions as to the best techniques and plant species to maximize success of these programs.

In the lowlands tailings deposition area, reclamation research has demonstrated that native species successfully colonize and grow on tailings. The tailings area is also suitable for growing various agricultural crops when tailings are enhanced with a small percentage of organic carbon. The objective of PT-FI's reclamation and revegetation program in the lowlands is to demonstrate sustainable ways to transform the tailings deposits in the deposition area into agricultural or other productive land use, or to return them to native vegetation after mining is completed.

Cumulatively through the end of 2007, more than 160 plant species have been successfully cultivated on soils containing tailings. Some plant species that have been successfully tested to date include legume cover crops for fodder; local trees such as Casuarina and matoa; cash crops plants such as pineapple, melon, and banana; and vegetables and grains such as chili peppers, cucumbers, tomatoes, rice, string beans and pumpkins.

There are regular harvests of edible plants and fruit from many of these species and these are continually monitored. Rigorous testing performed on these edible plants and fruits continues to demonstrate that metals uptake from the minerals naturally contained in the tailings remains safely below the levels stipulated in national and international standards for these plants.

An animal husbandry program has been developed in the lowlands to demonstrate that cattle can thrive on deposited tailings. This project was established in cooperation with the local government to monitor cattle health. Legumes have been planted along with king grass. The legumes are nitrogen-fixers that add nutrients to the tailings soil. They are harvested as feed for the cattle and the cattle's manure provides further soil enrichment and seed dispersal.

Rock melon (cantaloupe) is one of the numerous plants flourishing on tailings sediment at an agricultural research and demonstration facility.



In addition to the production of commercial crops, another strategy of tailings reclamation is to allow natural ecological succession (the natural regrowth of native species) in designated areas. Natural succession occurs quickly in many areas of the deposition area, led by *Phragmites karka* grass. The *Phragmites* grass produces detrital biomass which enriches soils containing tailings. This process improves water retention capacity of the soils so that other species can propagate. An independent research project on natural succession of vegetation on tailings in the deposition area found that, in a period of only a few years, more than 500 plant species had naturally colonized and are growing well. This aspect of tailings reclamation has been observed and studied by PT-FI for years and the formal confirmation and documentation of this process by independent scientists has been significant.

The Minister of Environment in July 2008 passed a decree specifically addressing conditions at the PT-FI project area for managing the deposition of tailings. This regulation limits the quantity of the tailings and natural sediments that can pass through the tailings deposition area into the estuary or sea. PT-FI has been addressing this issue over the past decade through engineering and biological programs. Some of the new land formed in the estuary from tailings and natural sediments have been colonized by mangroves without assistance. Within the past several years, dozens of mangrove species, crabs, shrimps, snails, clams, fish and marine polychaetes (worms) were identified in the mangrove colonization areas. To accelerate the primary succession process in these newly formed lands, PT-FI planted over 200,000 mangroves in the area through 2007, utilizing contractors from the Kamoro people, the traditional lowlands inhabitants. Monitoring of the survival rate of mangrove seedlings that were planted showed that the growth and survival rates of the planted seedlings are similar to rates reported for other assisted colonization programs from around the world as described in scientific literature.



Hundreds of thousands of mangroves have been planted as part of an assisted mangrove colonization initiative in the estuary as part of the tailings management program.

A bridge in the Mimika Regency community of Paumako was constructed using tailings as a primary component of the concrete.



Tailings and Regional Development

During the past several years PT Freeport Indonesia has been collaborating with scientists from Indonesia's leading technological research university, Institute Teknologi Bandung (ITB) and its Industrial Affiliation Institute, on tailings' use as a raw material for the construction and manufacturing of concrete, bricks, pipes and other infrastructure products. The joint Freeport/ITB team has completed several construction projects using tailings as a primary component of concrete. Projects include roads, public buildings and bridges in the Mimika Regency, and roads, buildings, process equipment, and drainage improvements in the Freeport project area. Additionally, we have successfully demonstrated the use of tailings as a backfill material at the new Timika Airport departure terminal.

Development-minded regional government leaders are expressing optimism over these projects. Papua Governor Barnabas Suebu, upon signing a 2006 Memorandum of Understanding (MOU) with PT Freeport Indonesia on a landmark project to use tailings in construction projects throughout the province, referred to tailings as a vital part of his infrastructure development plan. As a result of that agreement, infrastructure projects are now underway in the Regency of Merauke.



A drainage system at the Mozes Kilangin International Airport in Timika is one of numerous public works projects in the Mimika Regency using concrete containing tailings.



Freeport Indonesia President-Director Armando Mahler (left) and Papuan Governor Barnabas Suebu sign the Memorandum of Understanding on a project to use tailings in construction projects throughout the province.



Work was completed to divert the Ajkwa River out of the tailings deposition area (above right) and into its historic channel (above left). Re-directing the Ajkwa in this manner decreases the amount of water entering the tailings management area. The tailings in the foreground of the picture were deposited before the diversion and are being reclaimed.



Reclamation activities along the Ajkwa diversion channel include the establishment of a native pine forest. As visible in this image and in the center of the upper photo, numerous plant species are flourishing in this area.

Ajkwa River Channel

Beginning in 1998, a new levee was constructed to the east of the existing west levee which provided the western boundary for the tailings deposition area in the lowlands. Construction of the new levee created a channel between it and the old levee. As authorized by the Government of Indonesia, PT-FI completed work in 2005 on the diversion of the Ajkwa River out of the tailings management area and into the Ajkwa River's historic course. The Ajkwa diversion is performing as expected with rapid stabilization of the channel and meandering pattern development.

There are a number of environmental advantages to diverting the Ajkwa River from the tailings deposition area and returning it to its original channel. Now only the Otomona River carries the mine tailings to the deposition area. There are no mining operations in the watershed of the Ajkwa River. Previously the Ajkwa joined the Otomona at the northern edge of the deposition area,

thus contributing to the transportation of tailings through the land-based portion of the deposition area. Directing the Ajkwa River to the channel between the two levees prevents its contact with the tailings deposition area. The reduced flow through the tailings deposition area also improves the ability to manage the tailings.

Directing the Ajkwa River flow to the new channel also allowed large-scale reclamation demonstration projects to be carried out on previously deposited tailings in the area between the two western levees. This area is now the site of successful reforestation and agriculture projects begun as the new levee was being built.



Small business development programs sponsored by PT Freeport Indonesia in partnership with the Catholic Diocese of Timika help traditional Kamoro fishermen bring their catch to a growing local population.

Compensating Traditional Users of Tailings Area

PT-FI – which in 1974 pioneered the first recognition in Indonesia of the land rights of traditional people – negotiated and concluded land rights agreements with the Kamoro, the indigenous tribe that has traditionally used the land in the deposition area for hunting, fishing and gathering. The agreements involved the payment of “recognition” in the form of community benefits and involved the construction of housing, places of worship, community centers and infrastructure as well as providing employment opportunities. (Similar agreements were negotiated for PT-FI’s operations in the highlands with the Amungme, the traditional indigenous tribe living there.)

The Kamoro Village Recognition Program compensated five Kamoro villages for the release of land to the Government, some of which was used for the tailings deposition area, cargo dock facilities, the port and electrical transmission line corridor. The program initially focused on physical infrastructure, including housing and community facilities, but now targets ongoing needs such as economic development and income generation, health education

and access to health facilities and preservation of the Kamoro culture. Recent activities included providing upgraded plumbing and electrical power systems to homes in lowland villages; facilitating road improvement and maintenance to more than 25 kilometers of roads in and around remote villages; implementing women’s health programs in community health clinics, including the training of 20 midwives; sponsoring cooking contests focusing on healthy choices; increasing the scope of a fisheries project, where 46 fishermen from six villages participated in catching more than 62 tons of fish (a four-fold increase over the previous year); providing bus and light vehicle transportation to Kamoro villages, providing mobility and access to markets; enhancing the company’s partnership with the local Catholic Diocese, including coordination with the church on several village-based social projects such as the opening of markets, developing sago plantations and the purchase of fish and agricultural products from the company-assisted entrepreneurs. PT-FI has also facilitated the development of Kamoro-led small business enterprises involved in construction and reclamation activities in the tailings deposition area.

Yosep Operawiri (center) directs a small business involved in establishing new growth on deposited tailings.



In addition, land rights trust funds for the Amungme and Kamoro tribes were created in 2001 to provide voluntary special recognition for the holders of the traditional land rights in the mining area and for the expanded scope and continuing success of the mining operations. PT-FI has contributed \$26 million to these funds through 2007 and, in conformance with the applicable land rights agreement, will continue to make contributions of \$1 million annually.

The traditional people in PT-FI's operations area also benefit from the Freeport Partnership Fund for Community Development, which is managed by a board composed of leaders from the local people, churches and the local government. This fund has helped build schools, hospitals, health clinics, places of worship, housing and community facilities in our area of operations in Papua. The fund also supports a comprehensive series of health and educational programs and training and small business development initiatives so that Papuans benefit from the economic development taking place in the area. Contributions to the partnership fund attributable to 2007 were \$53 million and total contributions committed to the fund since inception are nearly \$300 million.

Freeport-McMoRan Copper & Gold Global Tailings Management Strategy

In addition to the Grasberg project in Indonesia, Freeport-McMoRan Copper & Gold Inc. operates mines in North and South America, and a new mine development project is under way in the Democratic Republic of Congo. Tailings at all of our operations worldwide are managed by the best site-specific technology available. At the majority of the locations this involves impounding the tailings within engineered and monitored dams, known as Tailings Storage Facilities (TSFs). Company-wide, we manage 72 TSFs, 15 of which are active and 57 of which are inactive or have been fully reclaimed. TSFs are regulated under governmental authority and regulations that vary by locality and site-specific conditions of each operation.

The exception to the use of TSFs is the PT-FI operation in Papua, where site-specific topography, seismic activity and annual rainfall in excess of 30 feet require the riverine transport of material from the concentrating complex in the mountains to the designated engineered and managed deposition zone in the lowlands.

PT Freeport Indonesia and Freeport-McMoRan Copper & Gold Inc. continue to work with various national and international experts to ensure that the tailings management system represents best practice, considering the applicable geotechnical, geochemical, topographical, climatological, seismic and hydrological conditions.

Company-wide Environmental Commitments

- PT Freeport Indonesia has adopted and abides by the ethical, social and environmental policies of Freeport-McMoRan Copper & Gold Inc. (FCX).
- FCX has adopted the principles of the Sustainable Development Framework of the International Council on Mining and Metals (ICMM), of which we are a member.
- We report our company-wide performance related to these principles according to the Global Reporting Initiative (GRI).
- We have achieved certification of our Environmental Management System to ISO (International Standardization Organization) 14,001 standards. PT-FI was one of the first mining operations in Indonesia to achieve this recognition in 2001 and our operations have been recertified in annual follow-up reviews.



A PT Freeport Indonesia environmental monitoring team surveys the water quality in the estuary along the south coast of Papua.

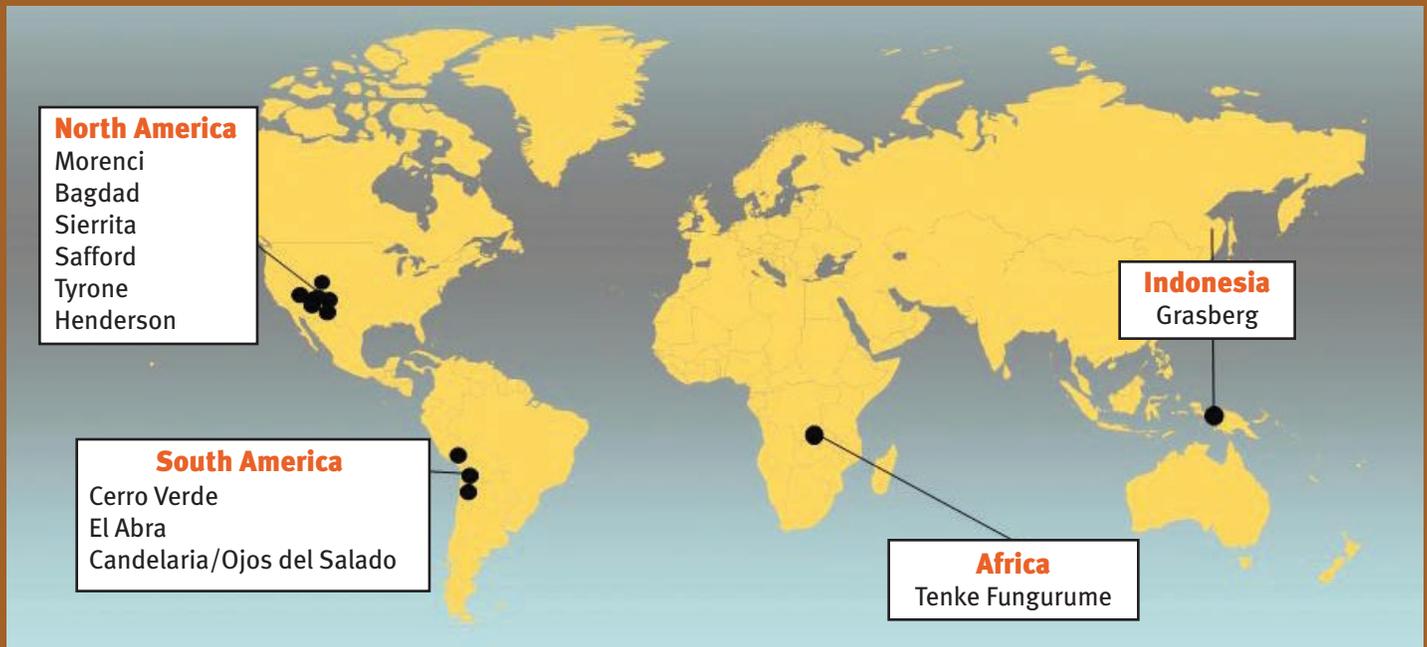
Our mining operations impact the environment and nearby communities. In order to work toward sustainability in our operations, therefore, we are committed to minimizing, mitigating and rehabilitating environmental impacts and to maximizing positive economic and social development results, now and for the future. This is a continuous effort which seeks constant improvement, conducted in partnership with governments and local communities where we operate.

We are committed to minimizing the impact of our operations on the surrounding environment and to reclaiming and revegetating affected land. We commit through our Environmental Policy to sound environmental management and practices, to providing adequate resources to fulfill that responsibility and to continuous improvement of our environmental performance at every operational site. We are also strongly committed to supporting scientific research to understand the environments in which we operate, including extensive work with world experts and local communities to enhance efforts to preserve biodiversity. We are committed to comprehensive monitoring to ensure that our management practices are effective.

In our Environmental Policy, we commit our company to a variety of internal and external environmental audits to assess our environmental compliance, management systems and practices. PT-FI's environmental audits provide our managers with information on current environmental performance and help identify opportunities for improvement. PT-FI conducts internal environmental audits annually and has conducted independent external audits of our environmental management systems in 1996, 1999, 2002, 2005, and 2008. Actions have been taken to implement recommendations for improvements.

In its 2005 External Environmental Audit Report on PT-FI, Montgomery Watson Harza stated that FCX and PT-FI "are among leaders in the international mining industry in terms of the level of commitment to sustainable development and in endorsement of the most current international Best Management Practices (BMPs). In many respects, FCX/PT-FI may be setting industry-wide precedents."

Freeport-McMoRan Copper & Gold Inc. Mine Locations



Freeport-McMoRan Copper & Gold Inc.

Freeport-McMoRan Copper & Gold Inc. (FCX) is the world's largest publicly traded copper company, with long-lived, geographically diverse proven and probable reserves of copper, gold and molybdenum. In Indonesia, FCX conducts its mining operations through its affiliate, PT Freeport Indonesia (PT-FI).

Facts about Grasberg and PT Freeport Indonesia

- The Grasberg deposit was discovered in 1988. The Grasberg Minerals District contains the world's largest copper and gold reserve.
- The Grasberg Minerals District has already yielded approximately 24 billion pounds of copper and 36 million ounces of gold through 2007. It still contains recoverable reserves of 52.7 billion pounds of copper and 52.5 million ounces of gold (as of 12/31/07) – resources that will be mined decades into the future.
- The Grasberg project provides direct employment to more than 20,000 people.
- PT-FI's payments to the Government of Indonesia for taxes, royalties, dividends and fees attributable to 2007 were \$1.8 billion. Since our current contract began in 1992, direct benefits to Indonesia have totaled approximately \$7 billion.



- According to University of Indonesia's Institute for Economics and Social Research, PT-FI's total contribution to Indonesia's national gross domestic product has been \$54 billion since 1992. Our operations accounted for 2.4 percent, 45 percent and 96 percent of the GDP for the nation, the province and the regency, respectively, in 2007.

Summary

In summary, PT-FI's mining operations are essential to the economies of Indonesia and the Province of Papua and the copper produced is needed for world economic development. PT-FI's tailings management program involving the use of controlled riverine transport of tailings from the highlands to the lowlands deposition area is the only feasible alternative given the physical conditions in the project area. PT-FI has comprehensive environmental management programs to minimize and mitigate its impacts and is committed to reclaiming and revegetating tailings land for the future benefit of the local population. PT-FI performs comprehensive long-term monitoring and audits to ensure that its tailings management plan is working. The traditional users of the land in the tailings deposition area are important partners in the tailings management program, including long-term planning.

Australian pelicans (Pelecanus conspicillatus) are often seen basking and feeding in the waters in the southern portion of the Modified Ajkwa Deposition Area. The regular appearance of these fish-preying birds signals the presence of abundant aquatic life in the tailings deposition zone. The migratory birds breed only in Australia, but ordinarily fly to Eastern Indonesia, the Solomon Islands and New Zealand.







PT FREEPORT INDONESIA
Affiliate of Freeport-McMoRan Copper & Gold