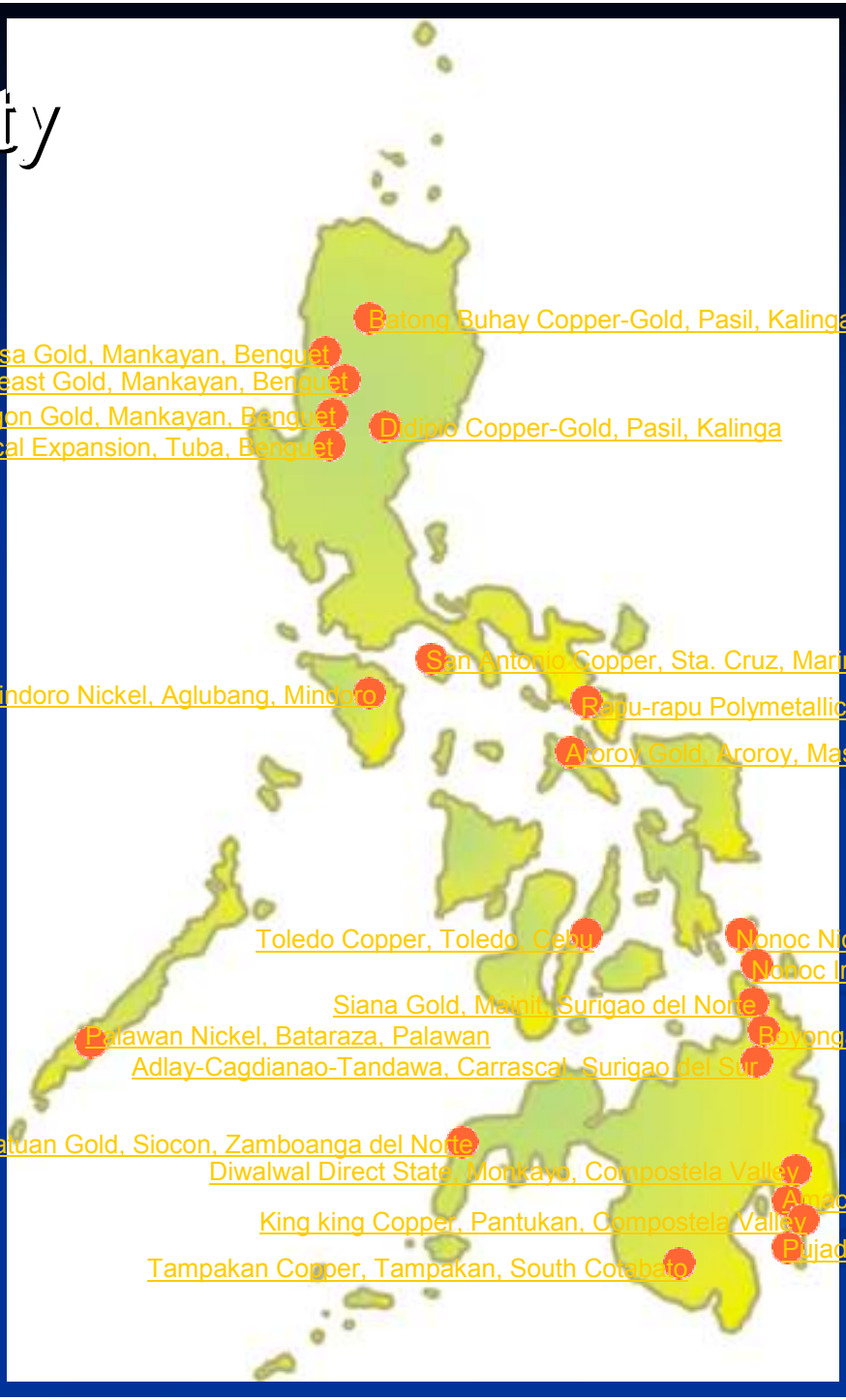
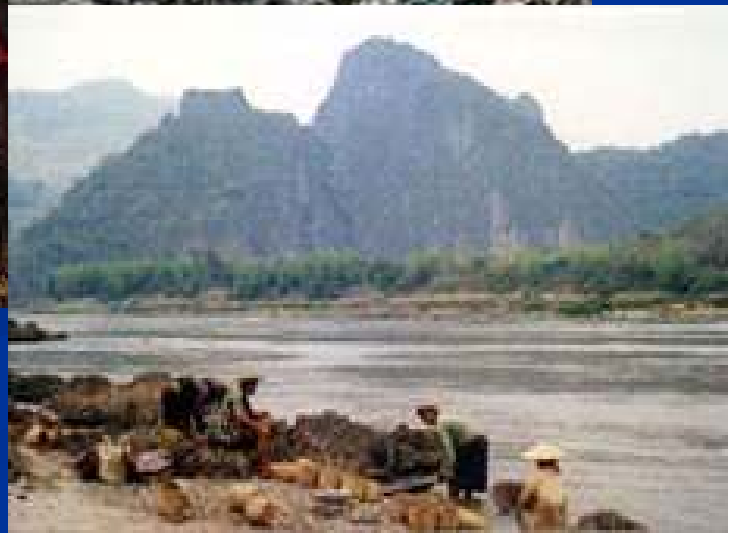
23 Priority Projects



Mining in the Philippines

- Underground (usually in old, large-scale mines): Benguet, Lepanto, Philex
- Placer (artisanal): Cordilleras
- Placer (small scale): Diwalwal



Part of Barangay Didipio in Kasibu, Nueva Vizcaya: where Dinkidi ("pure gold") is located

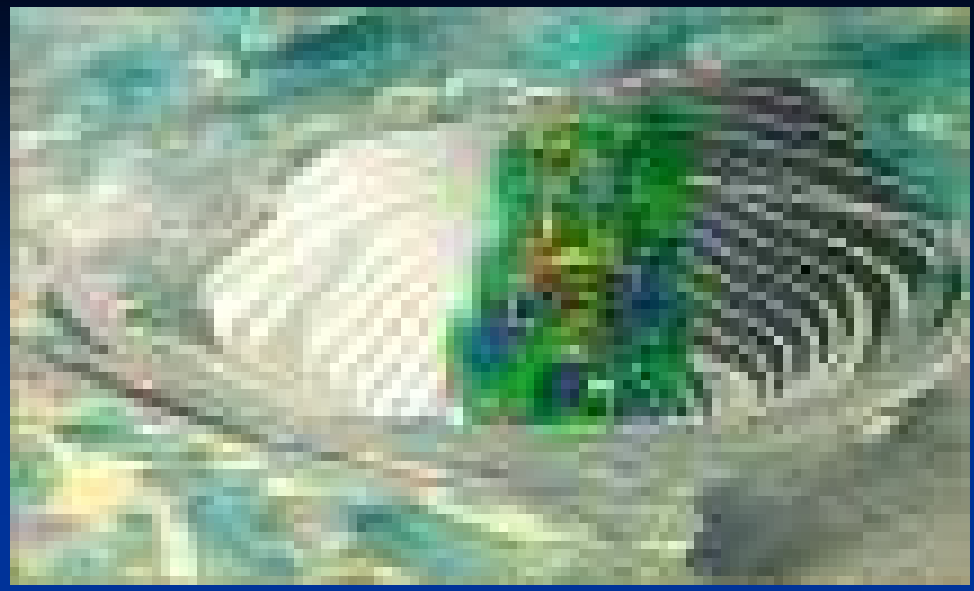
Dinkidi Hill: where Climax Arimco will mine

How Dinkidi will look during Phase 1 of the mining operation

Mine waste: the case of Climax Arimco in Nueva Vizcaya

Climax Arimco plans to produce 205,000 ounces of gold and 30 million pounds of copper from Dinkidi Hill every year for the first 8 years of operation.

Open-Pit Mining in the Philippines



Proposed Dinkidi Open Pit, Didipio, Kasibu, N.V. In July 2005, the Kasibu municipal council voted against mining. In August 2005, the provincial board overturned their decision.

Lafayette in Rapu-Rapu Albay. A cyanide spill occurred here on Oct. 11 & 31, 2005.

Canatuan Gold Siocon, Zamboanga del Norte

Canatuan Gold, Zamboanga del Norte. The mining company has successfully divided the indigenous Subanon over mining in the IP sacred Mt. Canatuan.

Open-Pit Mining in the Philippines

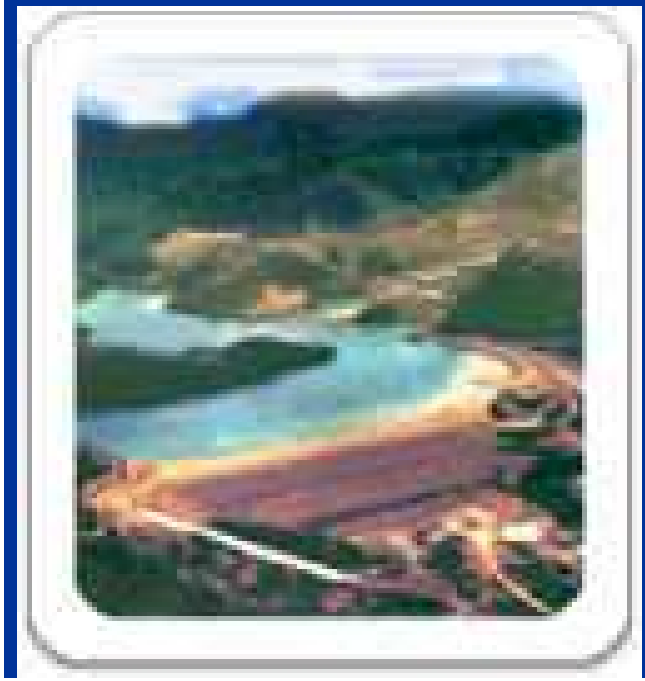
Marcopper, Marinduque. A major tailings dam failure occurred here in 1996.

Tailings dams

- CANATUAN in Zamboanga (gold)
- KASHIPUR LAKE in India (aluminum)
- ANTAMINA in Peru (copper)

Major tailings dam disasters in the Philippines

2002: DIZON COPPER SILVER MINES, SAN MARCELINO, ZAMBALES – overflow and spillway failure of 2 abandoned tailings dams after heavy rains: (Aug 27) tailings spilled into Mapanuepe Lake then into Sto. Tomas River; (Sept 11) low-lying villages flooded with mine waste; 250 families evacuated



April 26, 1999: MANILA MINING CORP., PLACER, SURIGAO DEL NORTE (gold) – 700,000 m^3 cyanide tailings spilled from damaged concrete pipe of tailings pond "due to excessive rains;" 17 homes buried, 51 has of rice land swamped

Major tailings dam disasters in the Philippines

March 24, 1996: PLACER DOME INC., MARCOPPER, MARINDUQUE (copper) – 3 million m^3 of tailings released from storage pit through old drainage tunnel; 1,200 residents evacuated, 18 km of river filled with tailings

August 9, 1999: ATLAS. TOLEDO, CEBU (copper) – pressure in clogged drainage in an open pit loosened accumulated silt, releasing approx. 5.7 million m^3 of acidic water into the nearby river (Sapang Daku) and into the open sea.

Major tailings dam disasters in the Philippines

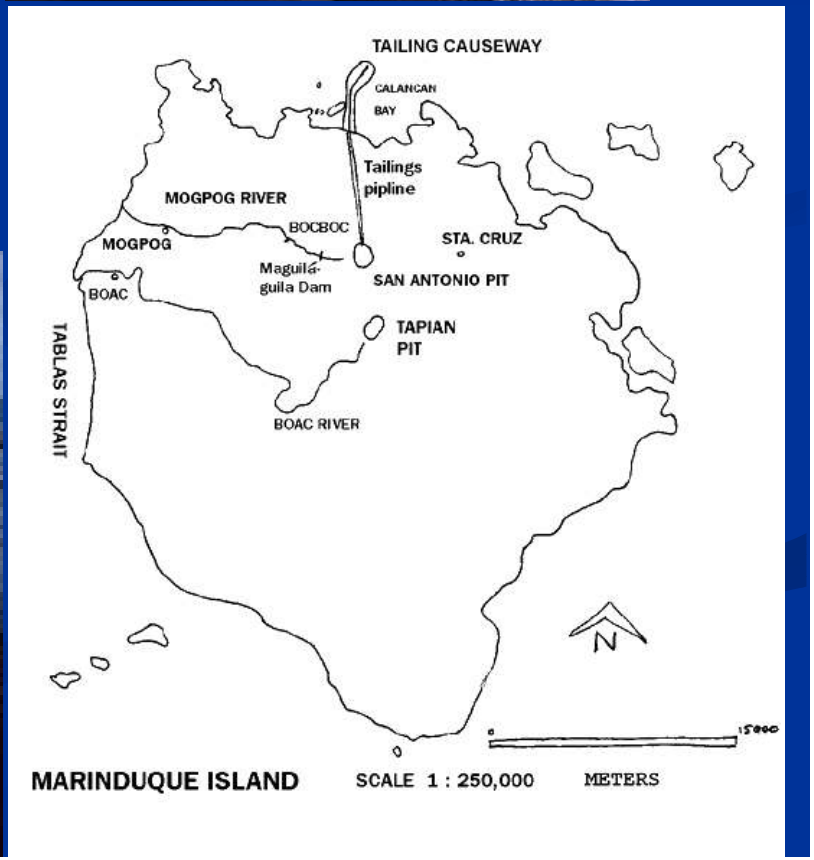
- December 8, 1995: PHILEX MINING CORP. (BULAWAN PROJECT), NEGROS OCCIDENTAL (gold) – failure of decant tower of pond exerted by impounded tailings
- September 2, 1995: MANILA MINING CORP., PLACER, SURIGAO DEL NORTE (gold) – tailings pond #5 collapsed "due to heavier than normal rainfall, wave action and tectonic movement," releasing 50,000 m^3 of tailings; 12 people killed, coastal pollution
- June 26, 1993: ITOGON-SUYOC MINES – overtopping at the height of a typhoon that clogged the dam's penstock and diversion tunnel

Major tailings dam disasters in the Philippines

- January 1992: PHILEX MINING CORP., PADCAL, BENGUET (copper) – wall of tailings pond collapsed due to "weakened dam structure caused by 1990 earthquake," 80 M metric tons of tailings released
- October 17, 1986: LEPANTO CONSOLIDATED (gold) – tailings pond collapsed due to weakened dam embankment caused by additional loading
- November 8, 1982; MARINDUQUE MINING AND INDUSTRIAL CORP., SIPALAY, NEGROS OCCIDENTAL – dam failure due to slippage of foundation on clayey soil; 28 million metric tons of tailings released; resulted in widespread inundation of agricultural land up to 1.5 m high

Tailings dumped into the sea Marcopper-style

1971-1986: PLACER DOME AND MARCOPPER MINING – shallow marine disposal of 200 million metric tons into Calancan Bay, resulting in an area deposition of 80 has.



ACID MINE DRAINAGE:
Pollution on a Millennial Scale

The Mogpog River, Marinduque Island. The red/orange color and Oxfam's scientific studies indicate acid mine drainage and contamination by heavy metals (Oxfam)

Acid mine drainage (AMD), or acid rock drainage, is the acidic water that drains out of above-ground or under-ground coal and metal mines. It may form inside the mine or several kilometers downstream.

ACID MINE DRAINAGE:
Pollution on a Millennial Scale

AMD can occur during mining operations or LONG AFTER A MINE HAS BEEN ABANDONED.

AMD impacts stream and river ecosystems by increasing acidity, depleting oxygen, and releasing heavy metals, such as aluminum, iron, manganese, and zinc.

Bags of mine waste tailings decomposing in the Boac River in March 2004 (Oxfam)

ACID MINE DRAINAGE

Acid mine drainage is one of the best-kept secrets of the mining industry.

Why? Because it is the MOST DIFFICULT PROBLEM to solve. In fact, the industry has not yet found an effective solution to this problem which persists well into the future.

Impacts of ACID MINE DRAINAGE

AMD harms aquatic life by increasing turbidity. The suspended solids in AMD reduce the amount of light that can penetrate the water, thus affecting photosynthesis by aquatic plants and visibility for aquatic animals.

Turquoise indicates copper leaching;

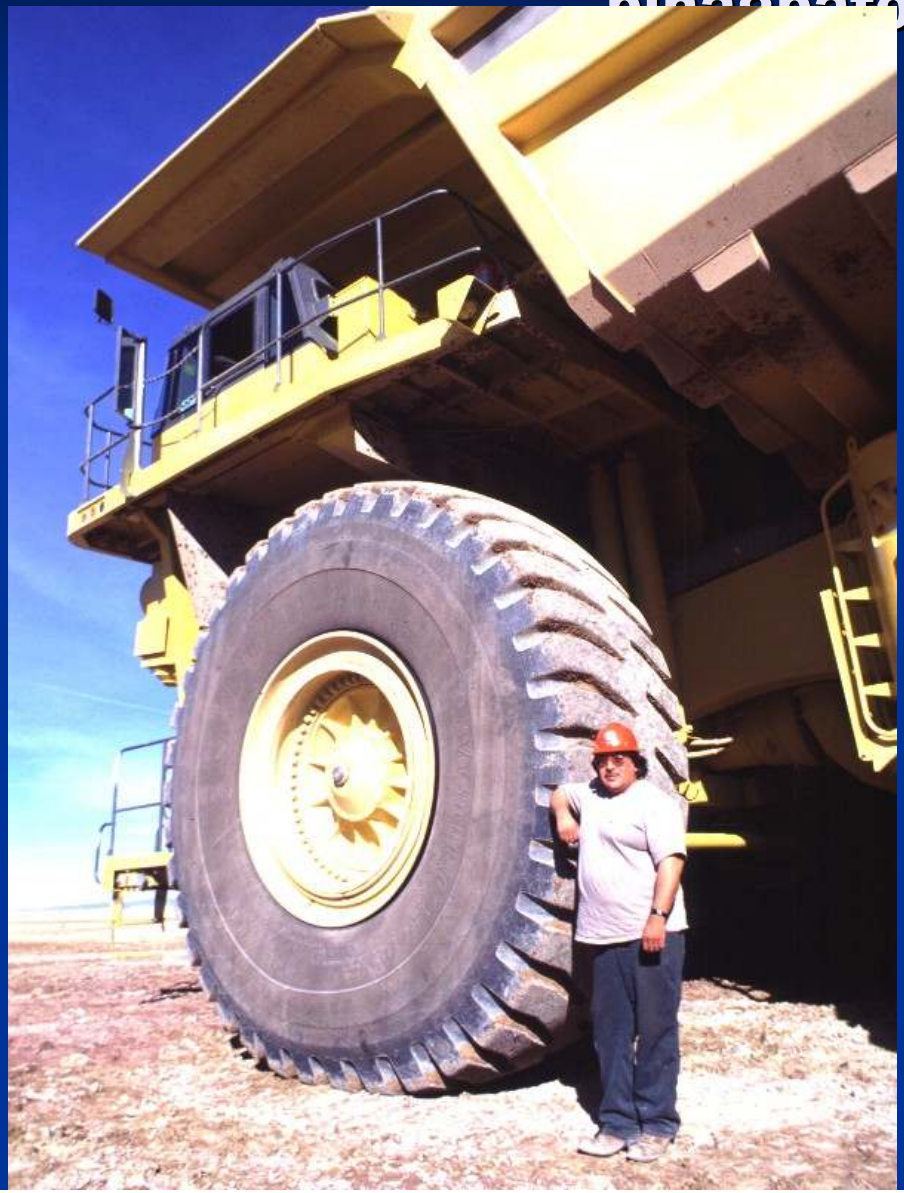
red and yellow indicate iron sulfide

Cyanide and Gold

	Measurement place:	Date:	Max. concentration:
1.	Szamos at Csenger	02.01.	32.6 mg/l cyanide
2.	Tisza at Lónya	02.03.	13.5 mg/l cyanide
3.	Tisza at Tiszalök	02.05.	3.7 mg/l cyanide
4.	Tisza at Kisköre	02.08.	3.8 mg/l cyanide
5.	Tisza at Szolnok	02.09.	3.2 mg/l cyanide
6.	Tisza at Tápé	02.11.	2.2 mg/l cyanide
7.	Tisza at Tiszasziget	02.11.	1.49 mg/l cyanide

Ang pinakamaliking haul truck sa buong mundo sa tabi ng isang kotse.
Kaya nitong maghakot ng 350 toneladang bato at lupa.

Ka kaliwa, driver sa tabi ng hauler truck. Sa kanan, isang electric shovel na kasintaas ng 4 na giraffe na pinagpatong patong



Ganito kalaki ang bucket ng electric shovel. Ilang tao ang kasya rito?

Ilang segundo matapos ang pagpaputok ng dinamita sa gilid ng bundok.

The mining companies say that people like mining. True or false?