Andrew Elegante
Carole Turley
Team Mindanao
Business on the Frontlines IV

CASE STUDY: TAMPAKAN MINE

It was late on a Friday morning in the Philippines as Nick sat in his office attempting to review the situation. From his office in Makati City, south of Manila, Nick could see evidence of the current economic boom by looking out his window at the buildings springing up around the city. His company, Sagittarius Mines (SMI), had hoped to contribute to this boom through development of their mineral properties in the southern island of Mindanao (refer to the map in Attachment 1). Tampakan, as the project was known, was conceived on a grand scale, spanning 10,000 hectares and promising to contribute 134 billion pesos (over $3.1B) per year to the Philippine economy over the next 20-25 years. As project Manager, Nick had worked through the many phases that had been required over the last 10 years just to get the project to a point where they could start building infrastructure. Like many mining projects, the upfront cost was quite large. Already the company had spent over $360M on Tampakan, including $74M[1] on a feasibility and impact study, and planned to spent up to $5.9B on infrastructure alone[2]. It was long, hard work in a foreign environment but with such a large potential payoff Nick had never regretted it.

However, on the cusp of ramping up the mine to production, Nick was now facing an unforeseen problem. The provincial government in South Cotabato, one of three provinces Tampakan touched, had approved an environmental code banning open-pit mining in June 2010. At the time, SMI had not seen the ban as a concern, since national laws in the Philippines permit open-pit mining, and their lawyers assured them the national laws would supersede local ordinances. SMI continued with its exploration activities in the Tampakan area and worked to complete the Environmental Impact Assessment in connection with their application to being full-scale mining operations. However, it soon became apparent that the actions of the South Cotabato government reflected the feelings of many people and organizations in the local area around Tampakan, including the Catholic Church, a powerful force in the Philippines. In December 2011, just as SMI was submitting its EIA, the Diocese of Marbel sent the Filipino president a letter signed by the bishops of the three dioceses impacted by the Tampakan project and also by over 100,000 residents, urging a presidential directive to stop the Tampakan mine project from proceeding.

Nick turned his attention from the window to the letter on his desk informing SMI that it would not be issued an environmental compliance certificate. Rather than referring to the extensive research that had gone into the EIA, the denial letter simply referred to the ban on open-pit mining in South Cotabato (refer to Attachment 2). Just then, the phone rang. It was Peter Forrestal, President of SMI, requesting a meeting to talk about next steps. As Nick walked down the hall to Peter's office, he began to review how he had ended up in this situation.

[1] SMI Tampakan CSR Report, 2010
[2] http://asiancorrespondent.com/76360/the-tampakan-copper-and-gold-project-mine-for-whom/

HISTORY OF MINDANAO

The island of Mindanao, like much of the Philippines, sits on the mineral rich Pacific Ring of Fire. Frequent volcanic eruptions and other seismic activity have resulted in a rich concentration of mineral resources. Mindanao is believed to hold some of the world's largest untapped deposits of gold, copper, nickel, and chrome. According to the Philippine Chamber of Mines, Mindanao holds approximately 76 percent of the country's total gold deposits and 57 percent of its Nickel deposits.[3]

However Mindanao's history goes beyond the story of their mineral deposits. When the Spanish arrived here in the mid 16th century, they found Mindanao to be a consolidated Muslim Sultanate. Having recently expunged the Arabic Moors from their homeland, the Spanish called these people Moros, a name by which they are still known today. While the Spanish conquered much of the Philippines and consolidated it under the crown of Spain, they were never able to conquer Mindanao. Following the Spanish American war in 1898, the Americans gained control of the Philippines. By 1905, US Captain John Pershing and his US troops had defeated the Moros.

Over the next forty years, the Americans encouraged landless northern Christians to settle in Mindanao, displacing Muslim and Indigenous peoples alike. This policy was continued by the national government following Philippine independence in 1946. Ferdinand Marcos, who rose to power in 1965, further pushed the idea of integrating Mindanao into the Philippines through settlement, resulting in massive displacement. By 1976 the Moros, who had held a 98 percent majority at the turn of the century, had become a minority with only 40 percent of the population. Today, Moros represent between twenty and forty percent of the population of Mindanao. The rest of the population is primarily comprised of Christians, with a small minority of indigenous people know as Lumads.

CONFLICT

This displacement caused massive social unrest, culminating in the establishment by Moro students of the Moro National Liberation Front (MNLF) in 1968, a group which rallied for "the Moro homeland." Marcos responded to the rising tension by declaring martial law in 1973 and the ensuing war between the Philippine Army (AFP) and the MNLF lasted for three years. In 1976 an uneasy cease-fire agreement between the AFP and MNLF was brokered by the Organization of the Islamic Conference and Libya. It took twenty years, the overthrow of Marcos in 1986, and multiple armed conflict incidents for a formalized peace agreement to be signed. This agreement called for the creation of an Autonomous Region of Muslim Mindanao (ARMM), promising to give Muslims some control of their lands again.[4]

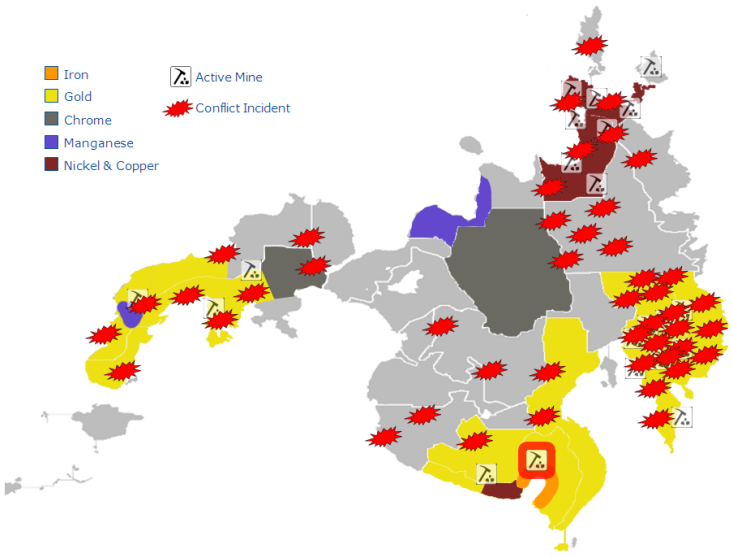
Complicating the situation are other armed conflict groups operating in Mindanao including the Moro Islamic Liberation Front (MILF), Abu Sayyaf, and New People's Army (NPA), each with their own agenda which the MNLF brokered solution does not address. The instability caused by the conflict between these organizations is further exacerbated by clan-based "Rido" violence in which

[3] http://archives.pia.gov.ph/?m=7&r=R11&id=48140&y=2011&mo=08

[4] East, Bob. Moro National Liberation Front: A profile of determination. Centre for Social Change Research, Queensland University of Technology. October 2006. http://www.scribd.com/doc/22691892/Moro-National-Liberation-Front-MNLF-A-Profile-of-Determination

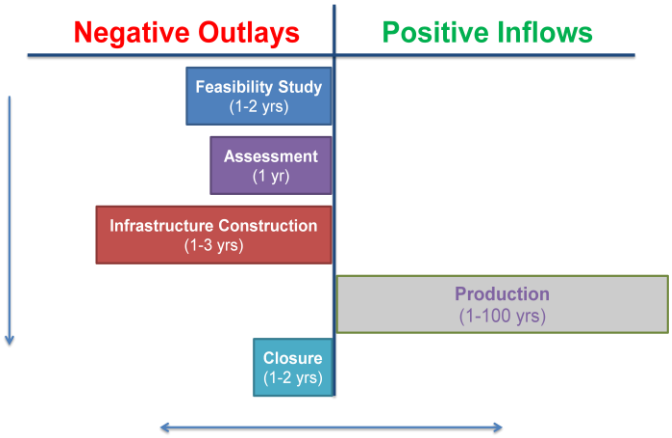
kinship groups and families engage in sporadic outbursts of retaliatory violence. These clashes typically happen where authority is weak and there is a perceived lack of justice and security.[5]

In the context of mining, this violence has claimed the lives of both pro- and anti-mining activists as well as resulting in the destruction of millions of dollars worth of property, plant, and equipment. Mining, especially large-scale, is an easy and highly visible target (see map below[6]).



MINING BUSINESS MODEL

Mining, on a large scale, is a very capital intensive industry as well as a risky endeavor. For this reason, many mining firms follow a venture capital model where several investments are made but only a few ever pay off. The figure below illustrates the typical timing and relative magnitudes of cash flows from a mining operation.



[5] http://en.wikipedia.org/wiki/Rido
[6] W. N. Holden, R. D. Jacobsen/Worldviews 11 (2007)

MINING IN THE PHILIPPINES

Because of its rich mineral potential, mining companies have been operating in the Philippines from at least the early 1900s. President Marcos highly incentivized extractive industries during the mineral commodity boom of the 1970s without consideration for environmental consequences. Following the collapse of the commodities markets in the late 1970s, most mines went bankrupt leaving a legacy of abandoned mines and potential ecological disasters. Most famously, the Marcopper mine on Marinduque, which was abandoned in 1990, suffered a major incident in which the tailings dam failed resulting in a massive toxic flood which has left two rivers completely dead to this day.[7]

Given this context the national legislature enacted a national Mining Act in 1995. This act set up a framework for the federal government to regulate and tax large scale mining operations. Previously, in 1991, the People's Small-Scale Mining Act was enacted which covered a more artisanal, non-mechanized approach to mining and delegated control to the local governmental level. The Indigenous People's Rights Act of 1997 also plays an important role in mining regulation by its requirement that mining companies obtain the Free and Informed Prior Consent (FPIC) of any indigenous peoples that reside in mining areas.

Recent support for mining at the presidential level has been uneven. President Gloria Arroyo, elected in 2001, entered office showing a neutral position towards the mining industry but later began actively promoting mining as one of her top economic priorities. Her successor, Benigno Aquino, has taken a more cautious approach to mining and has convened a four person panel to help him draft an executive order regarding mining. This executive order is rumored to be highly restrictive of mining operations and has resulted in the mining industry's Chamber of Mines group organizing a high profile campaign extolling the virtues of mining to the Philippine economy and its people.

PUBLIC PERCEPTIONS OF MINING

Mindanao has experienced a number of recent, high profile natural disasters on Mindanao, including storm-triggered floods in December 2011 that left over 200 dead and many more homeless. Many local residents perceive a connection between these events and the environmental legacy left by logging and mining operations. Because large-scale, open-pit mining is very visible most people focus on this as a primary environmental concern, while they view small scale as safer and less environmentally hazardous.

However, small-scale mining has its own disaster legacy. In January 2012, massive landslides in the Compostela Valley region caused small-scale mines to collapse with at least 175 workers inside. Additionally, most small-scale miners process their ores with the toxic chemicals mercury and arsenic which are not only hazardous to the people handling them but also to the environment. Although the government has made efforts to educate small scale miners about the dangers of handling these chemicals or releasing them into the local water supply, there is a perception amongst local miners and community members that, since they have not felt ill effects from the chemicals to this point, they must not be as dangerous as they have been told.

[7] Coumans, Catherine. Placer Dome Case Study: Marcopper Mines. MiningWatch Canaga. http://www.miningwatch.ca/sites/www.miningwatch.ca/files/PD_Case_Study_Marcopper_0.pdf

TAMPAKAN DETAILS

Mineralization in the area covered by Tampakan was discovered in the 1980s by the Tampakan Group which was then sold to Xstrata in 2003. With 13.5 million metric tons of copper (CU) and 15.8 million ounces of gold (AU), it's easy to see the economic opportunity is quite large and reports show that development of the mine will provide USD$3.1B to the Philippine GDP per year over 20 years. Compared to 2011's GDP of USD$200B this represents an increase of over 1.5 percent with this project alone.

Alongside the large scope of economic activity is the sheer magnitude of the land area involved. The project encompasses over 10,000 hectares (24,000 acres) and will affect 3 large river systems in the area. This area would be equivalent to approximately 22,250 football fields or about half the area of Washington DC. The mine project would generate 1.65 billion tons of waste rock and 1.1 billion tons of tailings (waste produced when ore is converted to a mineral concentrate), as well as approximately 6.4 million tons of copper and 0.4 million tons of gold

OPPOSITION TO TAMPAKAN

There are three main groups of stakeholders that oppose the mining operations at Tampakan with similar concerns about taxation rates, environmental destruction and ethical business practices.

CIVIL SOCIETY ORGANIZATIONS

Many civil society organizations have come together in a loose coalition mainly focused on the impacts to indigenous peoples as well as the environment. The specific issues include:

- **Illegitimacy of the FPIC Process:** There are numerous anecdotal reports about deceptive ways in which mining companies obtain the consent of indigenous peoples. These include such things as asking who wants lunch and taking a picture of raised hands to prove consent or sending around a "sign-in" sheet which later turns into a "I give my consent" sheet.
- **Impact on Ancestral Domains:** Evidence exists of mining companies giving bribes to indigenous leaders which then give them permission to mine on Ancestral Domain lands that are typically sacred to the indigenous group and are technically not permitted by any mining act. The civil organizations are concerned that the indigenous groups are making short-term decisions about long-term issues.
- **Use of Water Resources:** Water is a major issue in Mindanao as most communities are agricultural. Mines are typically very water intensive and use it in such a way that it becomes unsafe for either agricultural use or drinking. Essentially a community can either engage in mining or agriculture but not necessarily both and civil organizations believe indigenous groups are not being given enough information about long-term impacts.
- **Insufficient Planning for Rehabilitation:** Poorly managed mining has left Mindanao with a legacy of abandoned mines which are both pollutive and potentially dangerous to anyone living in the area that might stumble into them. Civil organizations feel that current regulations are not strict enough and enable companies to say they will maintain mines after closure but abandon their obligations after the mine closes.
- **Sharing of Mining Profits:** Mining companies are currently required to pay a two percent excise royalty on the value of the minerals extracted. Civil organizations not only see this as

a strikingly low amount going to Filipino society for its resources but they have also identified several loopholes for companies to avoid the taxes including under-reporting of value and extracting when they only have permits for exploration. Many other counties that host major mining operations do not require any excise tax.[8]

CATHOLIC CHURCH

Within Filipino society the Catholic Church plays a major role in guiding public opinion as well as directing policy at both local and national levels. The Philippine Conference of Bishops has publicly stated that they support sever restrictions on mining based on these key points:[9]

- **Religious Obligation of Stewardship of Earth**: According to Catholic Social Teachings one guiding religious precept is the obligation to preserve the Earth for future generations. Church leaders view the extraction of all minerals in an area as a direct violation of this obligation because it leaves nothing for future generations. Additionally, environmental destruction and loss of biodiversity is seen as effecting future generations, especially in an area with many endangered flora and fauna. Ironically the Church often supports small-scale mining despite the aforementioned effects this has on the environment. Recently a growing number of Bishops, including Bishop De La Cruz, have softened their position on mining after seeing examples of "responsible mining". This group of Bishops is more moderate but the official position of the Bishop's conference is still against mining.
- **Opposition to Materialism and Corruption**: Because of the big money involved and the overall corrupt environment in the Philippines (ranked 129th out of 182 countries by Transparency International[10]), many see a strong correlation between mining in an area and corruption. Corruption is also seen as example of the materialism that the Church believes is taking hold in the Philippines. This is a major concern for the Church as it also goes against Catholic Social Teaching.

LOCAL GOVERNMENT UNITS

Because the Philippines is defined as a unitary state with the federal government holding nearly all decision making rights, local government units (including territorial, provincial, and village levels) often feel a lack of control. This issue manifests itself in mining in these ways:

- **Insufficient Sharing of Mining Tax Revenues:** Currently local governments are entitled to a 40-percent share of the tax revenues the national government gathers. However, the local governments must request the monies from the national government and since tax revenues are not publicly available the governments often don't know how much to request. Additionally, the length of this process means local governments often don't see these revenues for six to twelve months after the company has paid the national government.

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[8] Otto, James M. Mining Taxation in Developing Countries. United Nations Conference on Trade and Development. November 2000. http://r0.unctad.org/infocomm/Diversification/cape/pdf/otto.pdf

[9] CBCP Seeks Review of Laws on Mining and Logging. GMA News. February 4, 2012. http://www.gmanetwork.com/news/story/246796/news/nation/cbcp-seeks-review-of-laws-on-mining-logging

[10] http://cpi.transparency.org/cpi2011/results/

- **Impact on Small-Scale Mining Investments:** Related to the corruption issues mentioned earlier, local officials often have a stake in small-scale mining that happens in an area. This creates a conflict when large-scale mining companies, which displace small-scale miners, come into an area. Frequently this issue is "resolved" through the payment of bribes.

THE DILEMMA

As Nick mentally prepares for his meeting with Peter, he struggles to see a way out of the current situation. From SMI's perspective they have met the requirements of the tapestry of laws at the local and national levels. However it's clear that simply meeting legal requirements isn't enough, they will have to adequately address the issues of the various stakeholders.

Peter confirms this idea when they sit down to meet together. Peter is resolved to resubmit the application for an ECC, but in order for SMI to be successful, they must find a way to gain the trust of the people in the communities around Tampakan. It's obvious that the two of them have a busy time ahead as they sort through the following questions.

- What are some possibilities for SMI to get the project back on track?
- Which of the stakeholders are you most concerned with and why?
- If you were starting the project now, what steps would you take to ensure its success?
- If you were to meet with Bishop De La Cruz, how would you gain his support?
- How would you approach engagement with community groups of indigenous people? What do you think their concerns will be and how would you assuage them?

ATTACHMENT 1: TAMPAKAN EIA INFO SHEET

TAMPAKAN COPPER-GOLD PROJECT
THE MINE EIA PROCESS

Sagittarius Mines, Inc.'s (SMI) proposed Tampakan Copper-Gold Project involves one of the world's largest undeveloped copper-gold deposits. SMI is a contractor of the Philippine Government under the terms of a Financial and Technical Assistance Agreement (FTAA).

As a Filipino company with a commitment to the highest standards of sustainable development we have completed Environmental Impact Assessment (EIA) studies involving Filipino specialists working in conjunction with international experts.

The mine Environmental Impact Statement (EIS) has been prepared in accordance with the Philippine regulatory requirements and presents the results of the EIA studies. The EIS will support an application to the Philippine Government for the grant of an Environmental Compliance Certificate (ECC) for the Project.

In addition, we have partnered with international experts to develop a world-class Environmental and Social Impact Assessment (ESIA) report to further demonstrate that the assessment of potential environmental and social impacts has been conducted in alignment with relevant international standards.

We have thoroughly investigated ways to mitigate the potential impacts of the Project and used this information in developing our design plans reflected in our Mine Project Feasibility Study (MPFS). These plans are aligned with our major shareholder Xstrata, a global diversified mining group that is internationally recognized as a sector leader in corporate responsibility.

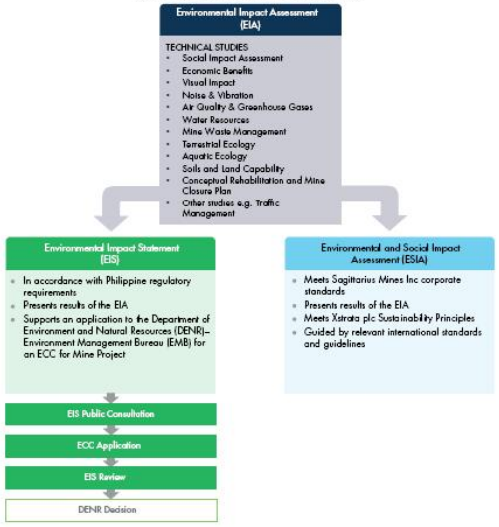
OVERVIEW OF THE MINE'S ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS

We take our environmental responsibilities very seriously. As part of our commitment to sustainable mining practices we consider, at all stages of our Project planning, the potential environmental impacts of our activities and how we can mitigate them.

As part of the specialist environmental studies conducted during the EIA, we looked at the potential environmental impact of the Project as well as its potential impact on the local community.

Both the EIS and the ESIA identify measures to mitigate the potential environmental and social impacts of the Project. These measures have been incorporated into the Project's design and would form part of our final Environmental Management Plan (EMP). The EMP would be used to ensure that the highest standards of environmental management are integrated into the development and operation of the proposed mining operation.

MINE EIA REPORTING STRUCTURE



The EIA was conducted by EIS consultants led by Hansen Bailey (Australia) and AECOM (Philippines). The EIA technical studies involved teams of Filipino specialists working in conjunction with international specialists. The EIS was prepared by AECOM. The ESIA report was prepared by Hansen Bailey.

DESCRIPTION OF STUDIES

Key studies conducted by international specialists, in association with AECOM Philippines, as part of the EIA process were as follows:

Study topic	Description of study
Water resources	An assessment of potential impacts of the proposed mining activities on water resources in the surrounding area.
Visual amenity	An assessment of anticipated changes to the visual landscape at different stages of the proposed mine's life.
Air quality and greenhouse gases	An assessment of potential air quality and greenhouse gas issues associated with the Project.
Noise and vibration	An assessment of potential ground vibration and airblast impacts associated with blasting and other Project activities.
Soil and rehabilitation	An assessment to identify soil types and the land capability and suitability within the proposed mine site as well as strategies for rehabilitation on closure.
Terrestrial ecology	A comprehensive study of the land-based ecology of the proposed mine site and surrounding areas to assess potential ecological impacts from the Project.
Waste management	The development of a mine waste management strategy including design and operating plans for the mine waste storage facilities.
Aquatic ecology	A comprehensive study of the water-based ecology of the proposed mine site and surrounding areas to assess potential ecological impacts from the Project.
Economic benefits	An assessment of the potential economic impacts of the Project on the local, regional and national economies.
Social Impact	An assessment of the potential social impacts of the Project on the local communities.

Stakeholder consultation for these studies was undertaken by AECOM Philippines and SMI.

PROJECT BENEFITS

Through sustainable partnerships, the Project can enable a better future for the people of southern Mindanao. If developed, the Tampakan Project would generate significant economic benefits that would stimulate the local, regional and national economies.

The region would enjoy substantial benefits from the mine which include:

- An annual contribution of on average PhP134 billion[1] to Philippine gross domestic product (GDP) each year over the construction and operation phases – equivalent to an additional annual increase of 1% to Philippine GDP
- Total government revenues (national and local) through a variety of taxes and charges of approximately PhP307 billion[2] (nominal) over the life of the Project
- Royalty payments and direct contributions in excess of PhP39.8billion[3] (nominal) to local communities and local indigenous groups over the Project's life
- Opportunities for approximately 10,000 workers during the peak of the construction phase and direct employment opportunities for approximately 2,000 workers during the operations phase
- Engagement of local contractors and service providers, generating further substantial employment within the Philippines.

External Relations Unit
Sagittarius Mines, Inc. (SMI)
02 8563021 (Makati)
083 5548414 (General Santos)
Email: externalrelations@smi.com.ph | www.smi.com.ph

FREQUENTLY ASKED QUESTIONS

Which Filipino experts were involved in the Environmental Impact Assessment (EIA)?

A specialist consultancy, AECOM – Philippines, has prepared the EIS which would be submitted to the Philippine Government.

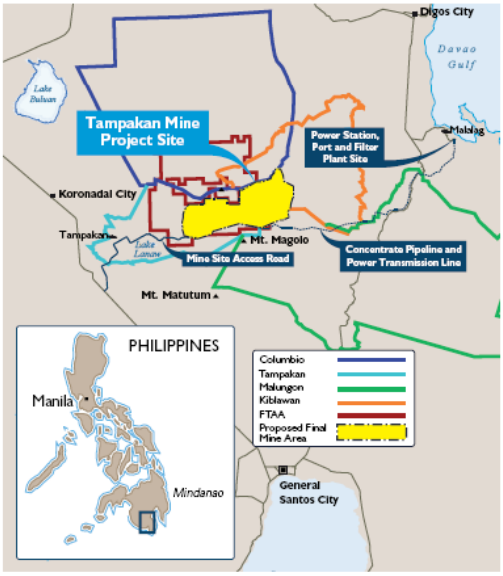
What is the difference between an EIS and an ESIA?

While the EIS is the lead document prepared for the government on which to base its ECC approval decision, SMI has voluntarily developed the ESIA which addressed international standards. Both documents are based on the same technical studies conducted as part of the EIA.

Would the information gained from the EIA process be made available?

The outcomes of these technical studies conducted as part of the EIA that have been used to develop the EIS and the ESIA would be disclosed to the public during 2011 as part of the process of seeking environmental approval from the Philippine Government.

LOCATION OF THE TAMPAKAN COPPER-GOLD PROJECT



NEXT STEPS

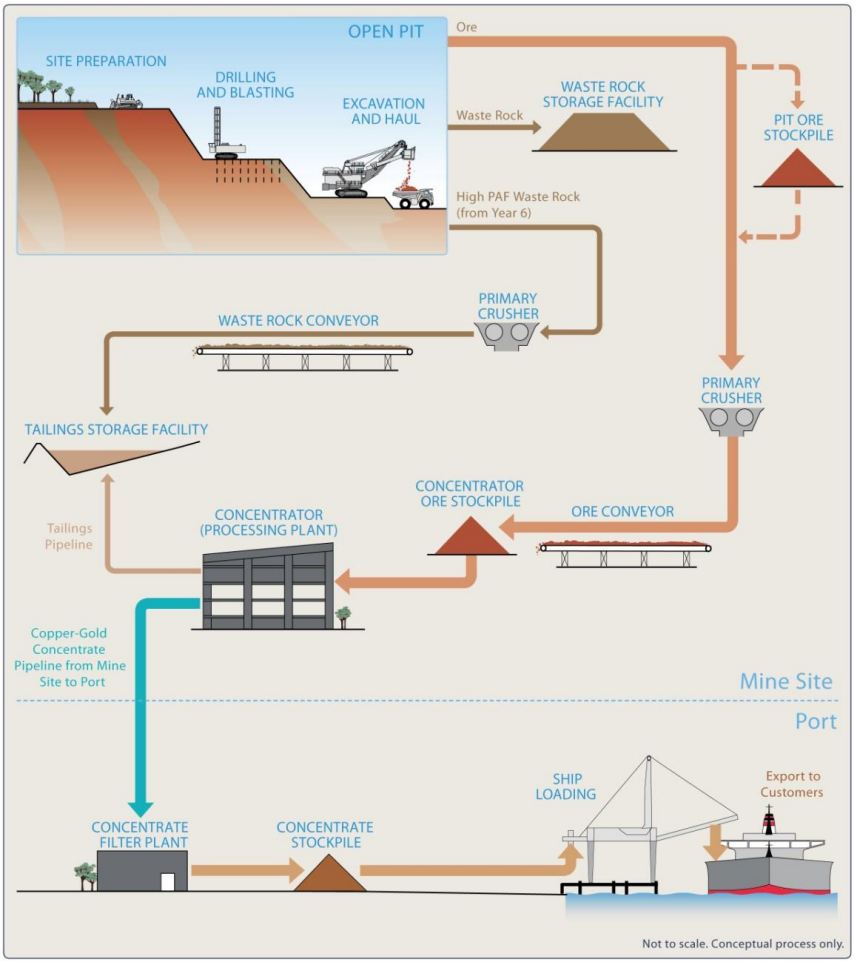
The Project has a number of stages to complete before final construction can commence including approvals from the government, the community and SMI Shareholders.

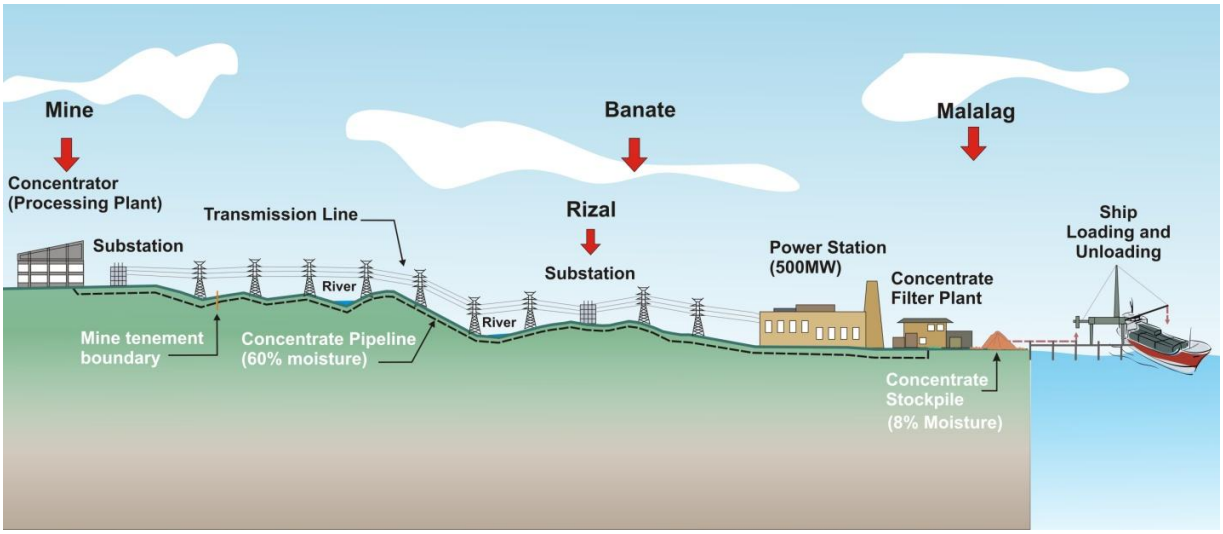
Making this Project a reality requires us to work in partnership with our stakeholders and we would continue to work openly with them, particularly those who have concerns and queries about our proposed Project activities.

Incorporating this feedback into our plans would ensure the Project can become a blueprint for ethical large-scale modern mineral development in the Philippines, including best practice in resettlement programs, indigenous consultation, as well as EIAs.

[1]USD2.8 billion. [2]USD6.4 billion. [3]USD830 million. (Based on exchange rate of USD1 = PhP48)
Disclaimer: The content of this document was accurate, to the best of SMI's knowledge, at the time of publication (May 2011).

ATTACHMENT 2: TAMPAKAN MINING METHOD[11]





[11] Source: Tampakan Gold-Copper Project Environmental Impact Assessment Overview Document

ATTACHMENT 3: DENIAL OF TAMPAKAN APPLICATION

Republic of the Philippines
Department of Environment and Natural Resources
ENVIRONMENTAL MANAGEMENT BUREAU
DENR Compound, Visayas Avenue, Diliman, Quezon City 1116
Telephone Nos.: 927-15-17, 928-37-42
Email : emb@emb.gov.ph
Visit us at http://www.emb.gov.ph

JAN 0 9 2012

MR. PETER FORRESTAL
President
Sagittarius Mines, Inc.
12/F, LKG Tower, 6801 Ayala Avenue
Makati City

SUBJECT: Application for Environmental Compliance Certificate

Dear Mr. Forrestal:

Please be informed that the Department of Environment and Natural Resources has came up with a decision regarding the above subject through a memorandum from the Secretary dated 03 January 2012 addressed to the undersigned. The decision's main context is hereby quoted as follows:

" Reference to the application for Environmental Compliance Certificate (ECC) of Sagittarius Mines, Inc. (SMI) for their proposed Tampakan Copper-Gold Mine Project in the provinces of South Cotabato, Sarangani, Sultan Kudarat and Davao del Sur, we are returning herewith the application documents with instruction to deny the same, without prejudice to resubmission, until the issues and concerns on the use of open pit mining method shall have been clarified and resolved by the Company (SMI) with the Provincial Government of South Cotabato."

In view of the above, you are hereby advised to refrain from undertaking any development activity in areas mentioned in the application for ECC until the same is issued in your favor including permits from concerned government agencies.

Very truly yours,

ATTY. JUAN MIGUEL T. CUNA
OIC-Director

Encl: Memorandum dated 03 January 2012
EIS report for Sagittarius Mines, Inc.
Other related documents

SAGITTARIUS MINES, INC.
RECEIVED
DATE: 12-Jan-12
TIME: CAMILLE MATIAS
BY: REGIE 2:26