PROJECT DESCRIPTION

Agata Limestone Project

Agusan del Norte, Philippines

AGATA
Processing, Inc.

JUNE 2020

1 Basic Project Information

1.1 Project Information

Name of Project:	Agata Limestone Project
Project Location:	Sitio Payong-payong, Brgy. Tinigbasan, Tubay, Agusan del Norte
Project Size:	2,000,000 MT annual production rate

1.2 Proponent Profile

Proponent Name:	Agata Processing Inc.
Proponent's Address:	22F BDO Equitable Tower 8751 Paseo de Roxas, Makati City 1226
Authorized Representative:	Ms. Cynthia Marie S. Delfin (President)
Contact Details:	(02) 728-84-91

2 Project Description

2.1 Project Location and Area

The proposed Agata Limestone Project (ALP) site is within the 4,995-hectare tenement of Agata Processing Inc. with Mineral Production Sharing Agreement No. (MPSA) MPSA-134-99-XIII which also hosts the Agata Nickel Laterite Project (ANLP). It is situated in the northern part of Agusan del Norte Province in Northeastern Mindanao Island, Philippines, and is approximately 47 km northwest of Butuan City and 73 km southwest of Surigao City.

The Project site is accessible by any land vehicle either from Surigao City or Butuan City via the Pan-Philippine Highway to Barangay Bangonay intersection in Jabonga, Agusan del Norte, thence, via almost four kilometers concrete municipal road towards the west followed by about six kilometers farm-to-market all-weather road southwards to the project site. Butuan City is being serviced by Philippine Airlines and Cebu Pacific with daily flights coming from Manila. **Figure 1** and **Figure 2** show the MPSA location and the project area location, respectively.

The limestone resources are inside the MPSA. The Payong-payong resource area encompasses a total area of 50 ha, including the quarry, processing plant and stockyards. The directly affected community is Sitio Payong-payong, Barangay Tinigbasan, Tubay, Agusan del Norte.

The ALP area is located south of the nickel laterite mine area, near the causeway at Payong-payong. It is accessible via the established mine haul roads from the causeway or from the exploration camp. The existing causeway used for ANLP was constructed using Payong-payong limestone slabs as foundation.

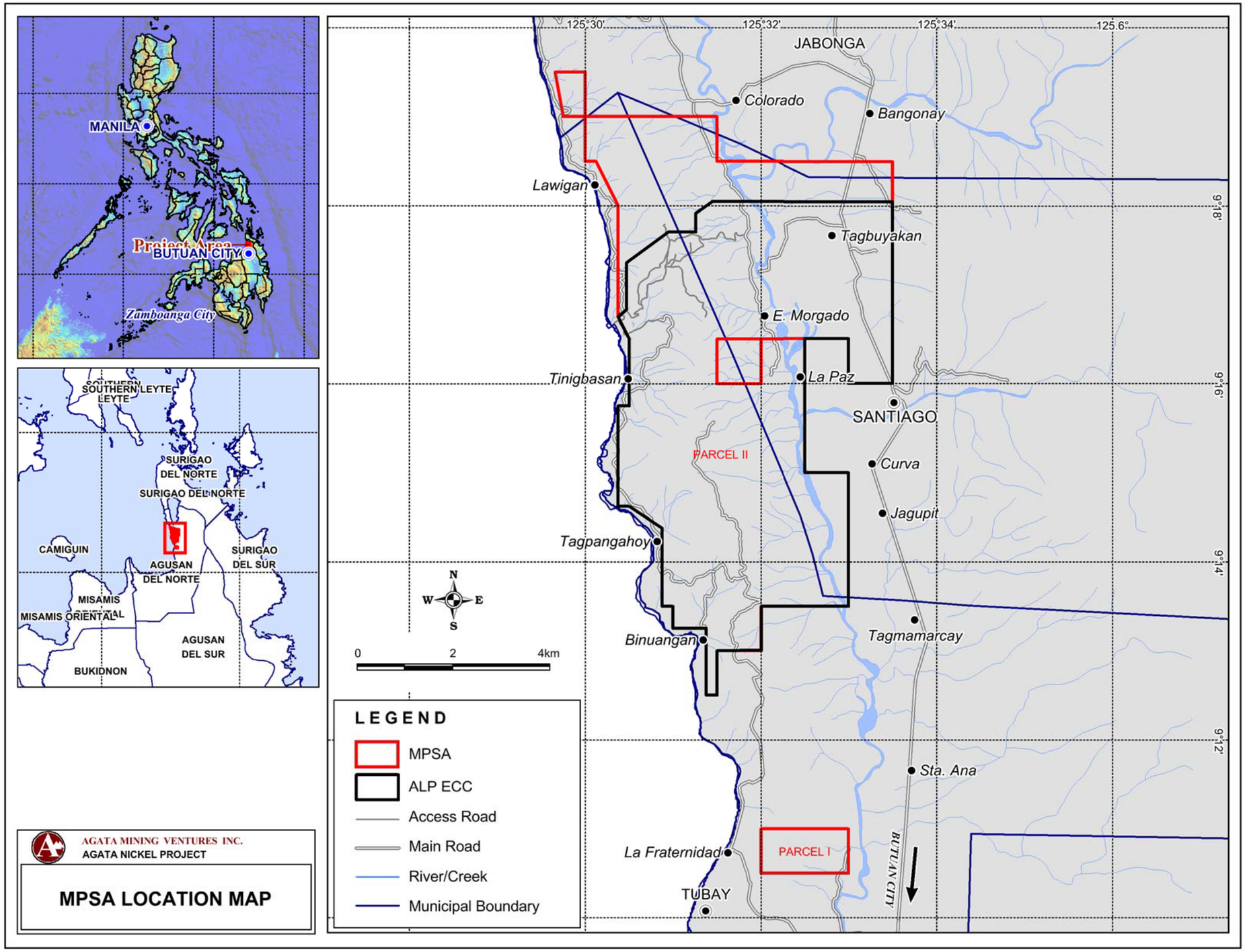


Figure 1 – MPSA Location map

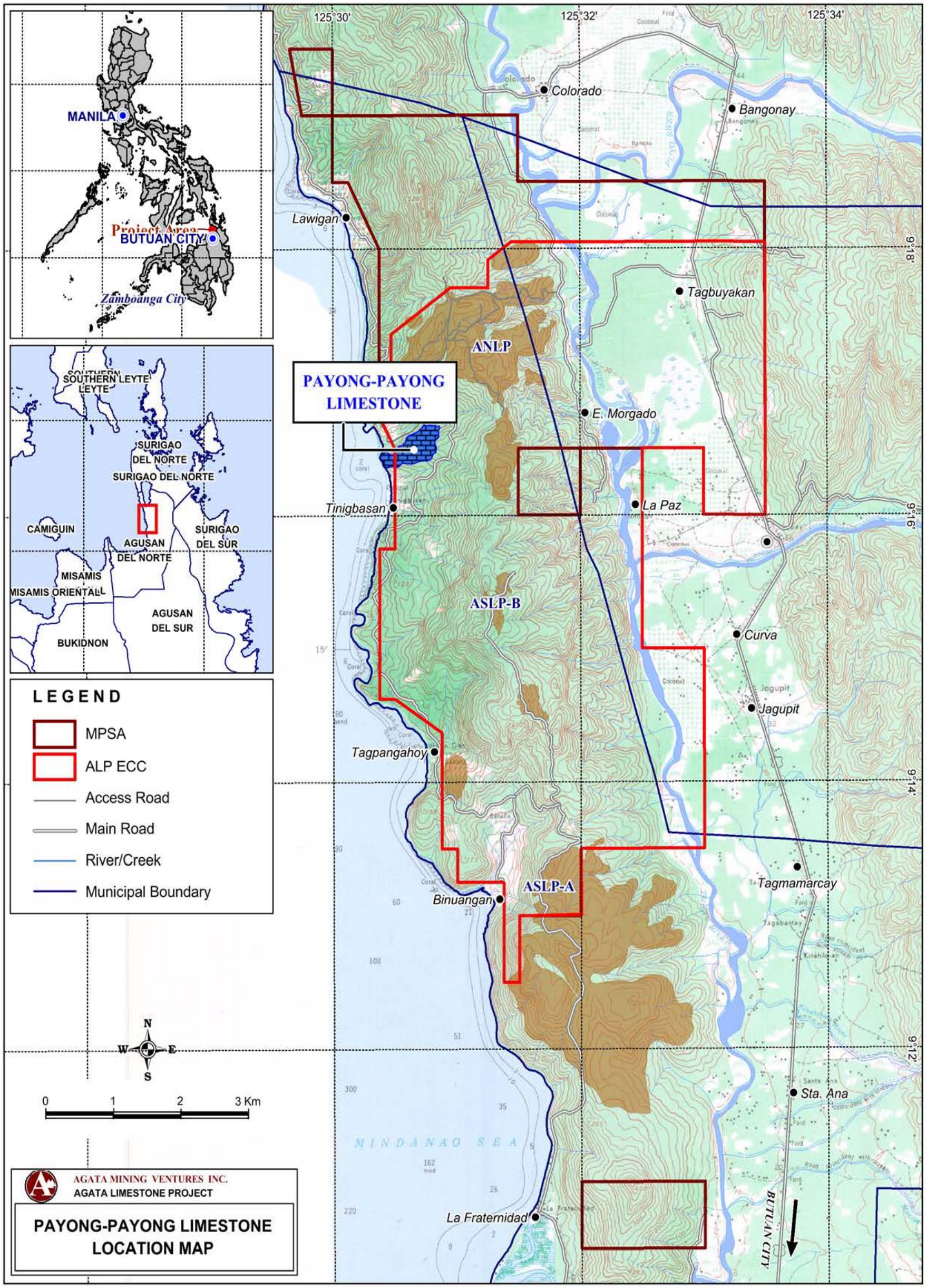


Figure 2 – Agata Limestone Project Location

2.2 Project Rationale

Limestone applications extend to various industries including glass, paper, fertilizer, food and medical goods, as well as steel, cement and construction aggregates. Limestone is an essential material that plays a key role in our daily lives.

The Agata Limestone Project aims to initially serve the construction and steel industry, as well as the environmental and agricultural sectors, although very high purity limestone can eventually be processed for the paper and paints industry. The Project will provide employment opportunities to the residents of Tubay, Agusan del Norte.

Global demand for steel continues to rise to meet the demands of the construction and automobile sectors. Likewise, the demand for limestone is expected to increase as it is a key raw material for steelmaking. The main consumers of the Philippine limestone lumps are the steelmakers based in Taiwan and Japan. The Limestone Project could contribute to the country's foreign exchange earnings through exports and will provide additional revenue to the government through taxes for as long as 15 years.

Among the top priorities of the current administration is the acceleration of infrastructure projects in the country, especially in Mindanao. There are on-going and already approved future construction projects in the region especially highways and roads connecting various provinces. The Project could help sustain the demand for construction aggregates and cement for the infrastructure projects in Mindanao and nearby regions.

Coal-fired powerplants need to comply with environmental standards with regards to their acidic gas emissions. Similarly, mining industries need to treat their acid wastes according to stringent environment standards. Limestone is the most common and affordable reagent that is utilized for flue gas desulfurization and mine acid waste neutralization. The Project could supply the limestone requirements of both the powerplants and metallurgical plants in Mindanao.

The agriculture sector in Agusan del Norte could also benefit from the Project. Limestone fines may be used as fertilizer material and soil conditioner.

2.3 Project Alternative

2.3.1 Site Location

The processing facility was strategically chosen to be situated near the mineralized area such that the hauling distance from quarry to plant facility is minimized. Moreover, the chosen site is also near the causeway. There are no alternatives for the project site location. The adjacent flat area north of the quarry is currently being utilized as pier yards for AMVI's direct shipping operations of nickel ore while the area south of the quarry is built with public infrastructures. Area on the east side was not considered since it is already far from the causeway.

2.3.2 Project Size

Target annual production rate throughout the life of mine of is 2M metric tons. Any changes in the production capacity during operation will be dictated mainly by the demand conditions in the market.

2.3.3 Technology Selection

Quarrying method, which is the widely accepted and practiced method especially on limestone deposit for cement manufacture, will be used to extract the material. There will be clearing, drilling, blasting, loading, hauling, benching, and road and dump maintenance. Mining will be simultaneous with processing. Crushing and screening will be carried out to economically produce the desired limestone products. Lime slaking system is added in the process, it is the process of converting CaO to Ca (OH)2 by adding the CaO into water. The reaction is: CaO+H2O ---> Ca (OH)2. This reaction is highly exothermic and releases large amount of heat. The final application is calcium hydroxide or also known as hydrated lime.

2.3.4 Resources Utilization

An alternative to tapping the power source coming from the local grid is using diesel-powered generator sets. The primary source of fresh raw water supply will be Payong-payong creek. The water will be used in the processing and for domestic uses during the construction stage.

2.3.5 No Project Alternative

Under the 'No Project' scenario, the residents of Tubay will no longer benefit from the anticipated work opportunities to be brought by the development of the Payong-payong limestone deposit which has a projected mine life of at least 15 years. In addition, it will go against the government's drive to boost the domestic production of cement and construction aggregates to support the various infrastructure projects nationwide. Moreover, a 'No Project' alternative could make the local limestone price to escalate since there will be a decline in supply while the demand for it will continue to rise as limestone is a staple commodity for construction, steelmaking and waste treatment.

On the environmental preservation perspective, since 'No Project' alternative means no development of the limestone area, the existing environmental setting is maintained and there will be less impact on the flora and fauna.

2.4 Project Development Plan

2.4.1 Ore Resources/Reserves

The estimated Mineral Resource for the Project using a cut-off grade of 45% CaO stands at 35.6 million tons of limestone at 55.1% CaO. The limestone deposit is considered high purity with an average $CaCO_3$ content of 97.3%. It is relatively clean with minimal to negligible impurities of iron and other base metals.

The resource model was developed in-house by a Resource Geologist. Evaluation of the corresponding Mineral Resource Report indicates that the block model of the resource is sufficient and consistent. Statistical validation shows that the model can be upgraded into a reserve applying certain mining parameters.

The resource was exported to Geovia Surpac (ver 6.8) mine planning software by the in-house Mining Engineer. The mining plan or Mine design was also developed using Geovia Surpac. The cut-off grade applied in the ore reserve estimation is 54% CaO. The Ore Reserve was estimated to be 26.4 million tons at 55.07% CaO and 97.01% $CaCO_3$ and minimal impurities.

The total project area is about 32 ha. Shown in **Figure 3** is the net mine operating area.

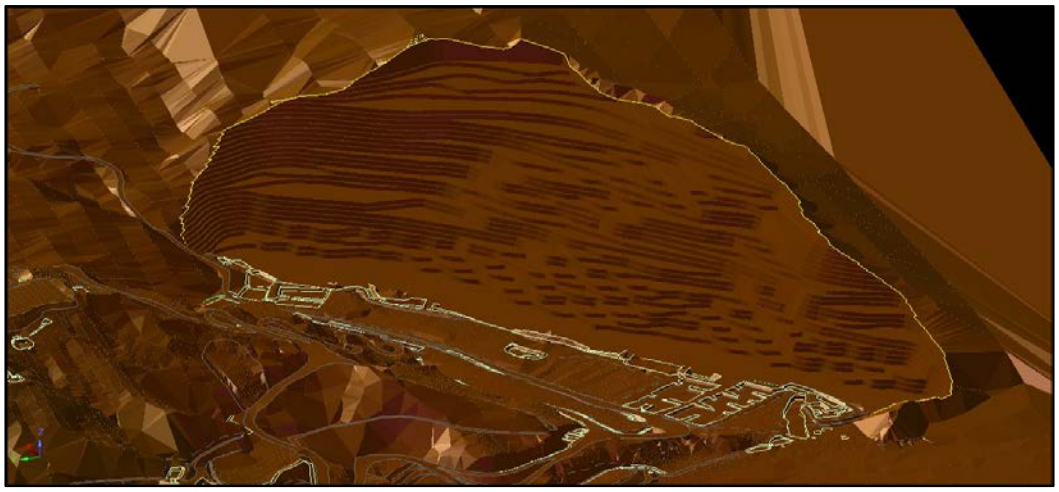


Figure 3 – Limestone net mine operating area (bounded by yellow line)

2.4.2 Mining Method and Capacity

The limestone deposit will be mined safely by quarrying. This will involve drilling and blasting, loading, and hauling, benching and drainage management, and road and dump maintenance.

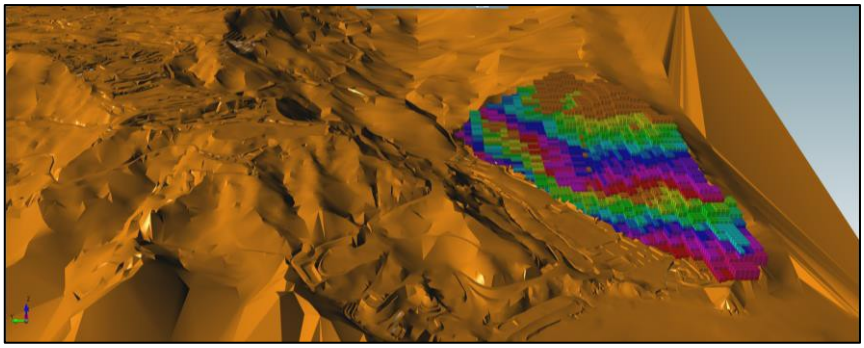
Mining activities will progress from the top to bottom of the mine. Grade control samples will be obtained simultaneously with production blast hole drilling. Assays will be assessed for suitability to processing and blending plan. Areas suitable for processing will be segregated by ribbons, flags, stakes and/or ropes. Haul roads will be developed simultaneously with mine development. The mine development plan is shown in **Figure 4** .

Road development will be complemented by dozer, excavator, grader and compactor. Base course/surfacing will be simultaneously sheeted with rocks of proper size. Vibratory compactor will need to level/shape the road to 90% compaction or higher. Whenever possible, roads will be crowned to prevent water ponding, and will be super elevated to drain water towards the toe line.

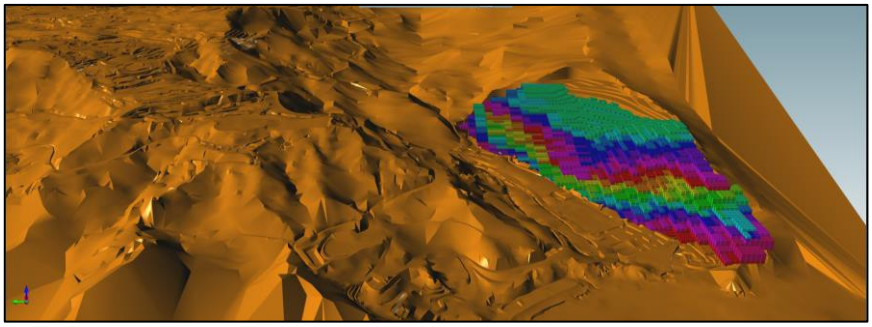
Limestone may display karstic characteristics, hence, levelling of pinnacles prior to production stage proper is necessary. Drilling and blasting of snake holes may be needed to develop the top benches. Topsoil and broken rocks will need to be segregated and piled differently for loading, hauling, and dumping to specific dumps. Overburden topsoil will go to the topsoil dump for later recovery as part of rehabilitation activities for the mined-out areas. Blasted rocks will be delivered to the crusher pad and will then be fed by loaders to the feeder/hopper. Roads will be developed from the existing limestone quarry where causeway boulders came from.

Upon reaching a levelled working bench, regular drilling pattern will commence to enable normal charge to be applied to blasting. Non-electric initiation system will be used. Blasting will be done by a licensed drilling and blasting contractor and monitored and supervised by AMVI licensed mining engineer/blast foreman. A separate loading unit of hydraulic excavator will be used to excavate limestone and waste material from the quarry. Limestone crushing plant feed will be hauled to the crusher stockpile. It is conceived that equipment for quarrying operations supplied by qualified subcontractor but managed by API. Allowances have been made for ancillary and support fleet to operate in the quarry to maintain benches, roads, drainage, dumps and stockpiles.

Start of Periods



After End of Period 2



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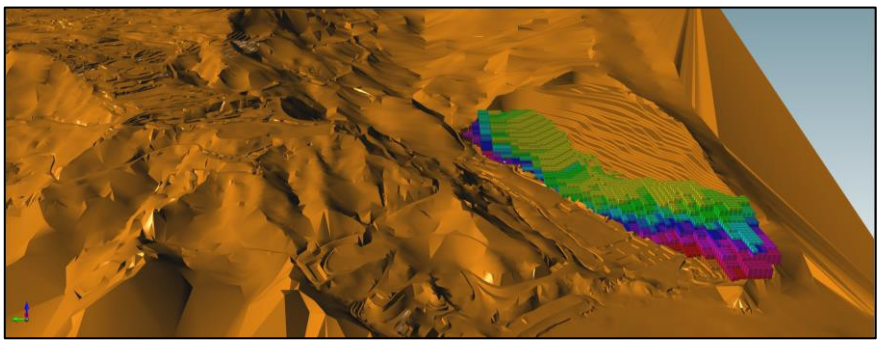

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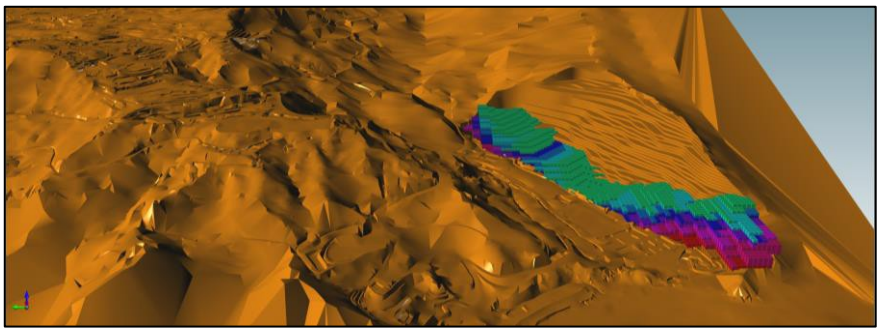

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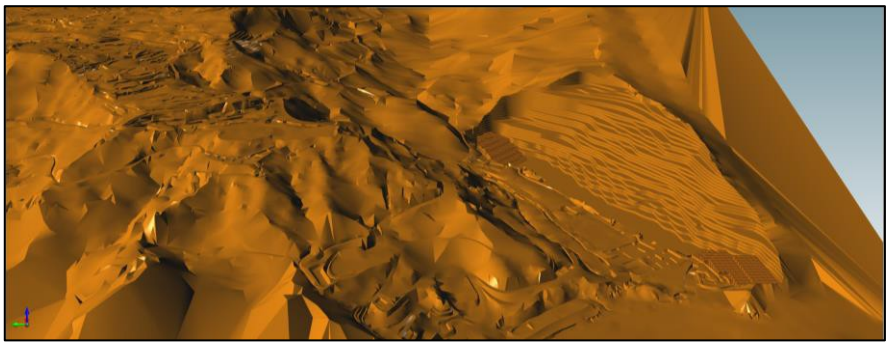


Figure 4 – Mine development plan from start of Year 1 to end of Year 15

Mining recovery is assumed to be high with values ranging from 95% - 100%. Dilution is projected to be minimal since the nature of the deposit is inherently homogeneous and the mining process is well-established and practiced in quarries of the same or related industry such as cement. All oversize will be recovered and will undergo comminution. Waste to ore ratio (bcm waste: tonnes ore) is estimated to be 36%.

At the proposed annual mine production rate of two million tons, the mine life is about 15 years. Presented in **Figure 5** – Mine production schedule from start until end of mine life below is the schedule of materials movement, developed using *MineSched.*

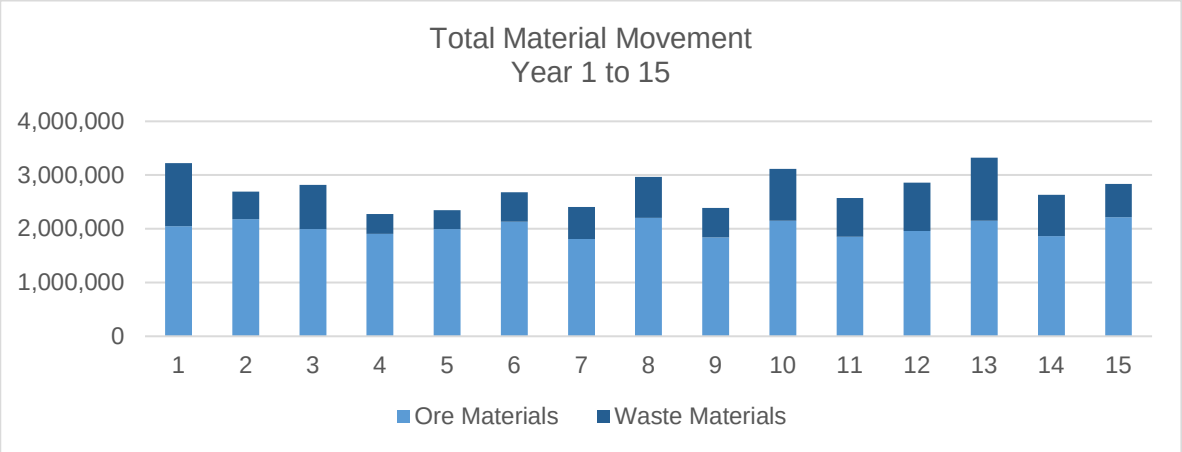


Figure 5 – Mine production schedule from start until end of mine life

2.4.3 Processing Method and Capacity

The processing method to be employed is by crushing, screening and hydrated lime system. Daily production rate will be about 3,200 t/d from Year 1 to Year 15. A crushing and screening module having a capacity of 350 t/h will be installed. **Figure 6** shows a simplified process diagram of the processing circuit. A typical plant layout indicating the essential components of the processing plant are shown in **Figure 7 and 8**.

Mined limestone from the site will be hauled to the crushing facility via dump trucks or articulated trucks. The crusher will be located near the mine site for easy transport of big limestone rocks. Maximum crusher feed size is set at 600 mm. At the crushing plant, limestone rocks are fed to a vibrating grizzly. Oversize of the grizzly goes to the horizontal shaft impact crusher then crushed limestone will be conveyed to a stockpile. The other way around is the Ca (OH)2 production line. from the vibrating feeder to high efficiency fine crusher to bucket elevator and drop to lime slaker. A raw to fine product is produce. Processing plant operating hours will be 10 hours per day for six days. A weekly preventive maintenance will be conducted to ensure crusher operation efficiency.

From the crushing plant, crushed limestone will be hauled to the screening facility which will be strategically situated behind the current nickel laterite pier yards. Crushed limestone will pass through primary and secondary vibrating screens and will be segregated into different stockpiles or else burning CO_2 to produce Quicklime (CaO), slaking by adding H_2O in the process creating hydrated lime and be sold to different potential clients. The annual production outputs are shown in **Figure 10** below.

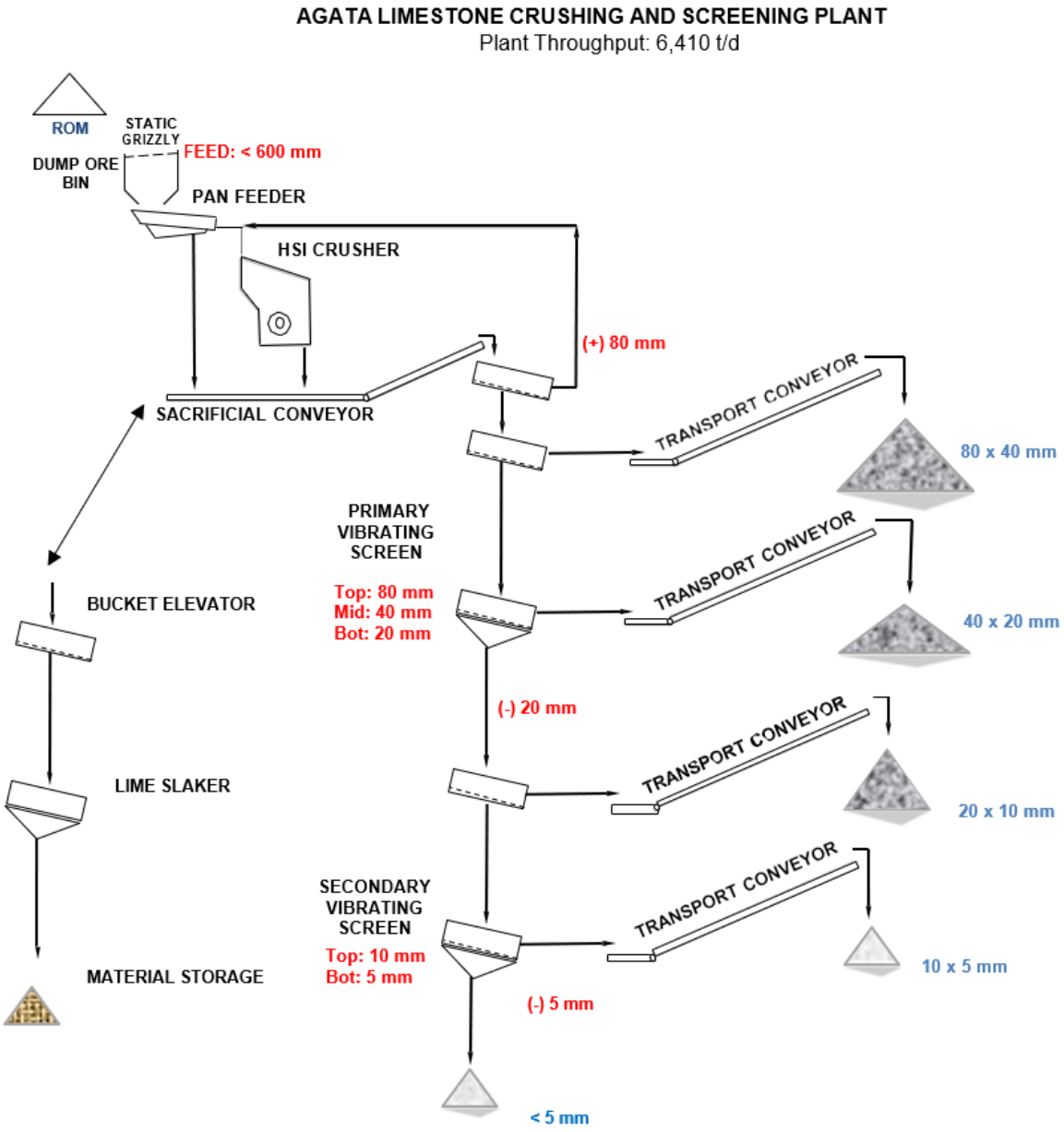


Figure 6 - Payong-payong Limestone processing plant simplified flowsheet

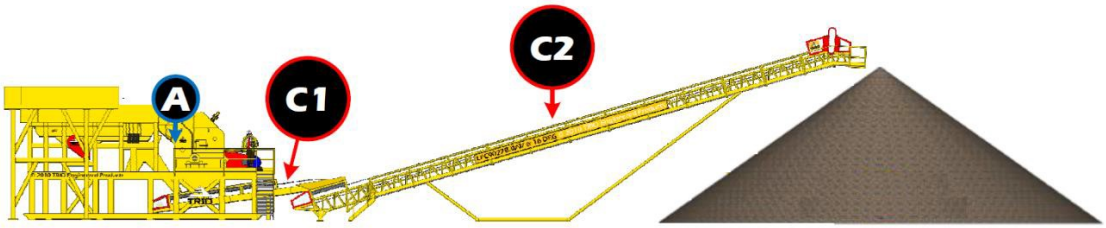


Figure 7 – Limestone crushing plant: A – Impact crusher; C1-2 – Conveyors

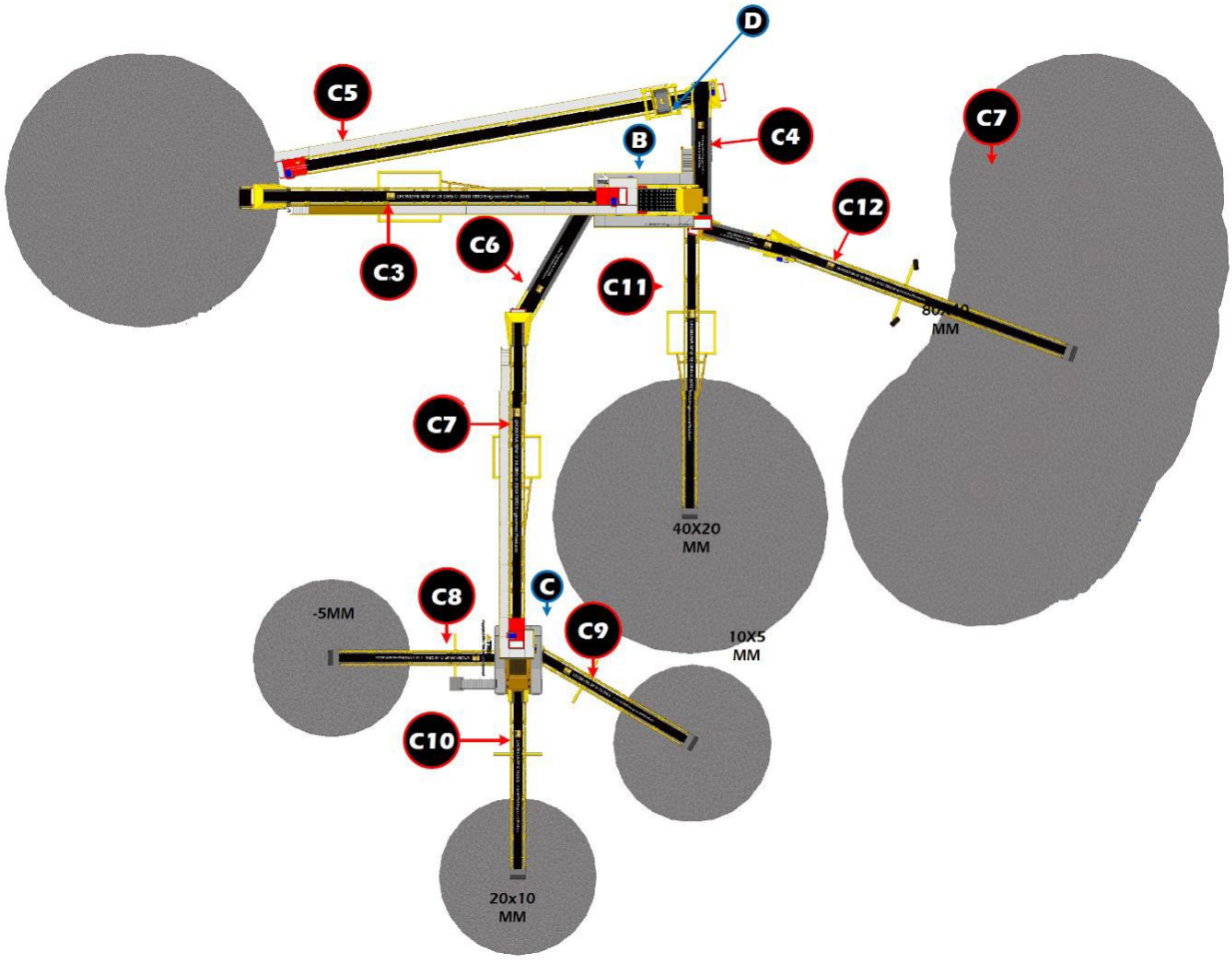


Figure 8 - Typical screening plant lay-out: B – Primary screen; C –Secondary screen; D – Magnet; C3-12 - Conveyors

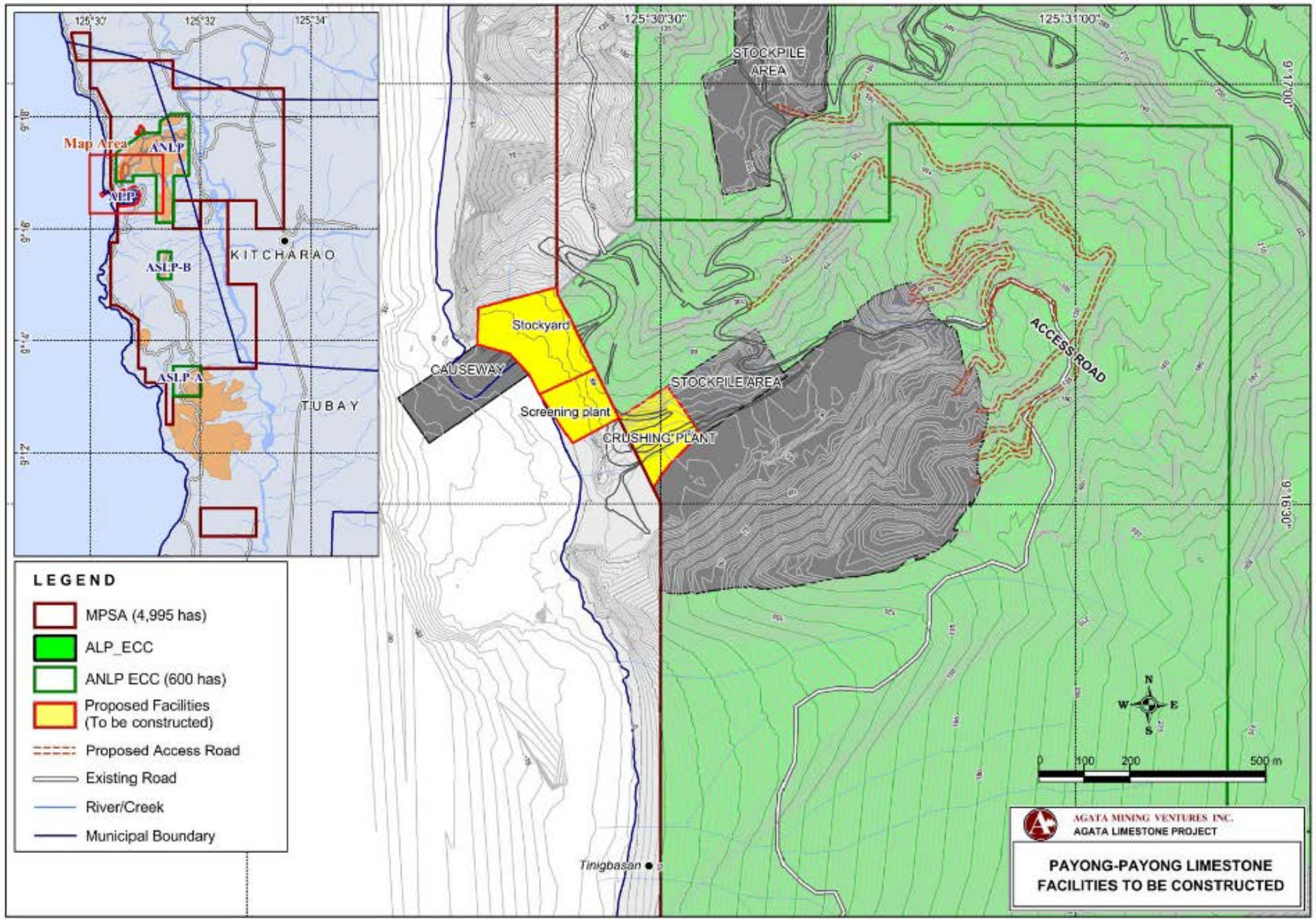


Figure 9 – Site development map

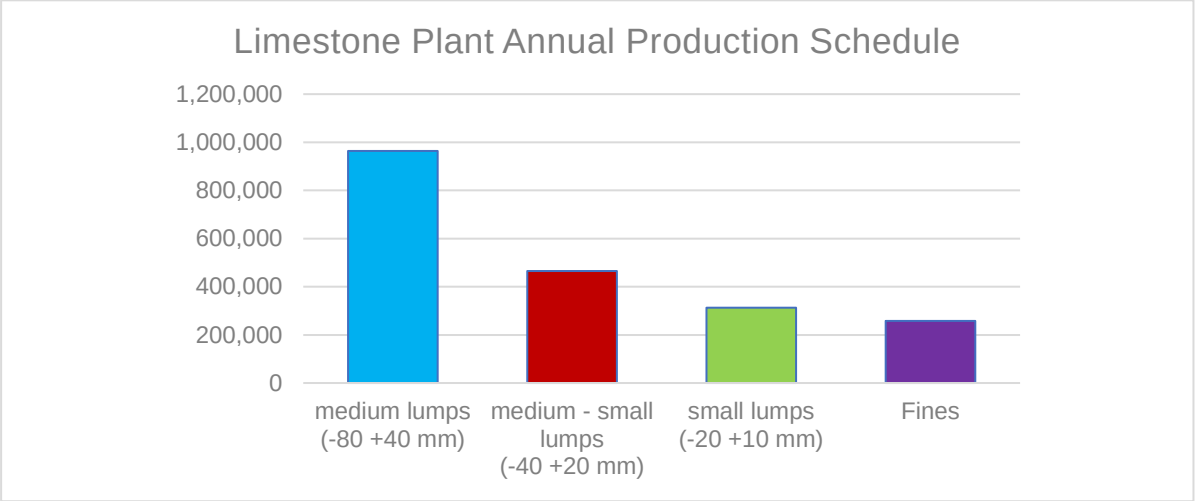


Figure 10 – Limestone plant annual production schedule

Table 1 - Limestone products and potential markets

Crushed Products	Potential Market
Medium lumps	international iron and steel producers
Medium-small lumps	international steel producers/local aggregates industry
Small lumps	local cement producers/aggregates/powerplants
Fines	agriculture industry

There will be no tailings storage facility or dam necessary for the Project since there will be no tailings that will be produced. The waste dump of suitable capacity will be benched in lifts. Drainage from rainfall that gets into the dumps will be collected from the bottom of the dumps through ponds for sediment removal prior to discharge.

Topsoil will be temporarily stocked since it will be utilized for land rehabilitation activities after mining out a portion of the quarry for environmental enhancement or progressive rehabilitation.

Power source coming from the local grid for the ANLP is currently being set-up. Eventually, the ALP will also tap this power source. Meanwhile, initial power requirements, as well as standby power, for the plant will be provided by two 1 MW generator sets. The gensets are diesel-powered and will need to be provided with a secured shed inside the plant premises.

Fresh raw water supply will come from Payong-payong creek. The water will be used in the processing and for domestic uses during the construction stage. A system will be established relative to the setting-up of water ponds, pumping and/or recycling.

2.5 Project Components

2.5.1 Mine Site

For the mining operations, the mining contractor will provide all the mining equipment on a lease arrangement with AMVI. **Table 2** lists the recommended mine equipment complement for the Limestone Project. It is further recommended that spare units should be provided to prevent downtimes or delays due to equipment breakdowns.

Table 2 – Mine Equipment List

Equipment type	Model
Dozer	CAT D8R
Drill	FD HCR900 (76/89 mm)
Hydraulic excavator	Komatsu PC850-8R1
Wheel loader	CAT 950 GC
10/12W Truck	Isuzu CYH, Howo, Chenglong
Offroad dump truck	Komatsu HD405-8
Grader	GD705-5
Rock breaker	
Compactor	10.0 tons
Water truck	10,000 liter capacity

2.5.2 Processing Facility

The crushing facility will initially be installed near the mine site then eventually move closer to the screening and stockpile area as mining progresses. The 2-ha screening and stockpile facility will be located behind the current nickel laterite pier yards. Limestone products will be transferred to the port via a 1.5 km conveyor belt. Figure 9 illustrates the proposed site development plan and the location of the new process plant infrastructures. The required process plant machineries and equipment are listed in **Table 3**.

2.5.3 Waste Dump

There will be no tailings storage facility necessary for the Project, but a proper waste dump will be built, complete with sedimentation control facilities.

2.5.4 Causeway

The existing causeway for the nickel laterite operations in Payong-payong will be used as causeway for the limestone project. It is expected that the limestone project will only commence after the nickel project depletes its reserves.

2.5.5 Motorpool/ Workshop

The existing motor pool used in ANLP will still be utilized for the limestone project. The workshop is already equipped with welding machines, cutting outfits, monorail and chain blocks/hoist/OHC, air compressor, hydraulic jacks, engine and machinery repair tables, oil pans tool parts store. Safety and environmental controls such as machine guardings and oil- water separators are already in place.

Table 3 – Process plant machineries and equipment list

Equipment Type	Size	Design Duty	Unit
CRUSHING CIRCUIT			
Vibrating Grizzly			1
Dump Ore Bin			1
Primary Feeder			1
Horizontal Shaft Impactor	51" x 59"	Max. feed size 24", 360 t/h max capacity	1
Sacrificial Conveyor			1
Transport Conveyor			1
Primary Vibrating Screen	5' x 14'	Triple deck (80 mm, 40 mm and 20 mm aperture)	1
Transport Conveyor			2
Transport Conveyor			2
Transport Conveyor			2
Transport Conveyor			2
Secondary Vibrating Screen	4' x 10'	Double deck (10 mm and 5 mm aperture)	1
Transport Conveyor			1
Transport Conveyor			1
Transport Conveyor			1
WATER SERVICES			
Service Water Tank	100 m3		1
Service Water Pump 1			1
Service Water Pump 2			1
Fire Water Tank	100 m3		1
Fire Water Pump 1			1
Fire Water Pump 2			1
ELECTRICAL SERVICES			
Generator set 1	1 MW		1
Generator set 2	1 MW		1
PRODUCT HANDLING			
Covered conveyor belt	1.5 km		1

2.5.6 Support Facilities

The current assay laboratory being used by the nickel operations will be utilized in assaying the grade control samples from the limestone quarry. The existing housing facilities will be studied for possible expansion since the additional manpower is only few. Existing administrative buildings, clinic, and recreation and wellness areas will be shared by AMVI employees from the nickel operation and the Limestone Project.

2.5.7 Sewerage System

The existing administration building and staff houses already have established sewage treatment facility. The limestone project will have lesser manpower (226) than the existing nickel project (350+). It is expected that the existing sewerage system will suffice the requirement of this project.

2.5.8 Drainage System

Peripheral drains around the mines, stockpiles, and waste dumps will be built to divert water run-off from hills away from the sedimentation area, active mining areas and dumps. Silt traps will be constructed at various locations along the drains to capture sediments before discharging the clear water into the sea. All the drains are v-drains with 1H:1V batters.

2.5.9 Project Phases

The four major phases of the Agata Limestone Project are (1) Pre-construction (2) Construction (3) Operation and (4) Decommissioning and Rehabilitation. The major activities involved for every phase of the project are described in the following subsections.

2.5.9.1 Pre-Construction

The initial phase prior to project development and operation is the pre-construction phase. At this stage, the Project was deemed feasible and economically viable. The necessary and relevant government permits, and clearances will be acquired. Consultation with the concerned local communities will be initiated to seek endorsement of the Local Government Units (LGU). Mine planning activities will continue as well as the planning of environmental impact mitigating measures.

2.5.9.2 Construction

Once the Project has acquired all the required permits, clearances and financial approval, the construction phase will begin. Procurement of materials as well as bidding for contractors will be initiated. Additional mine haul and access roads will be established. Construction of plant infrastructures and a new causeway will commence. Pre-development of the quarry area will also begin - clearing, grubbing, and pre-stripping activities will be carried out to prepare the quarry site. Plant equipment will be installed.

2.5.9.3 Operation

Mining will be conducted according to the prepared mine plan. Blasting of regular drilled patterns will be conducted to prepare the limestone to its objective/target size. Backhoes and dump trucks will haul the blasted rocks to the process plant where they will be crushed and screened. Products will be conveyed to separate product stockpiles. Established standard operating procedures will be followed to ensure safety in the workplace. Moreover, personal protective equipment will be provided to operators and will be required from contractors working in the mining area. Dusts generated will be mitigated by water sprays and wastewater will be collected in silt ponds prior to sea disposal. A Mine Safety and Health Program will be provided prior to and during operational stage.

2.5.10 Decommissioning and Rehabilitation

Where applicable, progressive rehabilitation will be implemented. Rehabilitation of remaining mined-out-areas will commence as soon as operations stop or after the expected mine life of
15 years. Waste rocks and overburden topsoil that were previously excavated will be recovered from the corresponding dumps to fill the mined-out areas and to start re-vegetation,
re-forestation and other rehabilitation activities.

2.6 Environmental Impacts and Mitigating Measures

The proposed Agata Limestone Project has a 50-ha area including the quarry, plant, and stockyards. The directly affected community is Sitio Payong-payong, Barangay Tinigbasan, Tubay, Agusan del Norte.

Mining and support activities will result in changes to the local topography through the removal of soil and rock material. Mining will result in a terraced topography made up of benches and uniform slopes. Topsoil and overburden waste materials will be segregated and placed in separate stockpiles within the natural valleys. Impacts and management control measures will primarily focus on landform stability, soil erosion and transport and sedimentation of the streams and rivers.

There will be no tailings that will be produced in the process; hence, a tailings storage facility or dam is not necessary. This will be the main difference relative to other hard rock mines. Land is conserved in the process and the impact or risk of tailings is not applicable.

The increased soil erosion potential and exposure of the soils will impact both the groundwater and surface water regimes within and outside the Project area. This includes both the hydrologic regime and water quality. Water management programs will be one of the singular most important impact management control activities to be implemented throughout the Project activities. These activities will include the upgrade of the existing surface water control and a substantial number of sedimentation/water treatments ponds for flood control and water quality treatment purposes.

Air quality and noise impacts will be less critical primarily due to the more rural nature of the project area and limited mining area. Fugitive dust will be the primary air quality impact. This will be coming from the quarry and the crushing and screening plant. Control strategies will rely to some extent on the high rainfall within the area to minimize the dust. Noise impacts will not likely be significant due to the distances to the local municipalities and residential areas. Also, drilling and blasting activities will contribute to the impacts on air and noise although minimal, due to the presence of trees surrounding the area that serves as buffer and filter.

Conservation values include terrestrial flora and fauna conditions, freshwater and coastal marine aquatic resources, and oceanographic conditions along the Project area coastline. The terrestrial flora and fauna conditions can be expected to be significantly impacted through the removal of forests and vegetation and the attendant decrease in the area biodiversity. Changes in the topography and landforms and the increased soil erosion will result in physical impacts to the freshwater aquatic resources. Impact control measures will focus on a rapid progressive rehabilitation program to restore the vegetation and soil cover and stream and creek restoration programs to replace the lost aquatic habitat conditions.

Water management will be in the form of construction and maintenance of silt traps, collectors, and canals, although the impact is lesser as compared with nickel laterite operations. The coastal marine resources are generally rich in diversity and importance to the local economy. The potential for water quality degradation is high which also translates into a significant potential for negative biodiversity impacts. Impact control strategies include similar water control management facilities, restrictions in the operations areas and strict operations controls during ore handling and shipping activities.

Dust generated by crushing and screening will be mitigated by water sprays. From an operations planning standpoint, dust generation can be controlled by minimizing the areas to be cleared and exposed. Progressive rehabilitation activities will be implemented as soon as possible to reduce the area of bare soil and minimize dust generation. Dust from the crushing plant will be addressed by ensuring the plant is running in optimum, negative pressure is active and bins and storages are properly designed. Proper blasting technique will be employed to reduce dust emissions, as well as gases, during blasting.

The noise generated from the quarry and crusher will be mitigated by working only during the day. Disturbed areas will be limited to ensure remaining vegetation and trees will serve as filter and buffer zone.

The overall mitigating measure to address aesthetics of the quarry and the processing area is the progressive rehabilitation and continuous housekeeping.

Mine rehabilitation and closure activities will be initiated immediately after the mining operations stop. The mining plan as currently developed will allow for progressive rehabilitation to be initiated within the first year of operation and provide for continuous

rehabilitation activities throughout the mine life. The focus of the activities will be revegetation and reforestation, stream restoration and inclusion of agro-forestry programs to enhance post mine life livelihood/community programs.

2.6.1 Environmental Infrastructure

Environmental infrastructures will include (1) the development of proper benching to address the water drainage and minimize erosion; (2) peripheral drains around the mines, stockpiles, and waste dumps to divert water run-off from hills away from the sedimentation area, active mining areas and dumps; (3) waste dumps for low quality limestones and fines raised at 10- meter lifts; (4) silt ponds for sediment removal prior to discharge of the clear water to the sea.

For the processing side, dust will be suppressed by spray water. Fumes from hydrated lime shall keep process fume generation under control. These include: (1) Local exhaust- a high velocity airflow stream captures fumes/vapors at the point they are generated and carries them away; (2) Fume separation/removal – necessitates the incorporation of chemical scrubbers or activated carbon filters in the exhaust stream. Plant design and specifications will be thorough prior to actual construction and commissioning. All machineries will be properly submitted for approval of the DENR prior to operation.

A continuous progressive rehabilitation program is a key component to the overall environmental control and mitigation programs related to land resources as well as water resources and conservation values.

Progressive rehabilitation will focus on staged treatment of disturbed areas during the construction, development, and mining operations. This will minimize the extent of disturbance, and thereby the area of land requiring significant post mining rehabilitation. Rehabilitation will be initiated in areas that are considered mined out. As part of the environmental work program, progressive rehabilitation and re-vegetation will be implemented on a programmed schedule depending on the quarterly mining schedule and progress. A four-stage approach will be implemented which includes ground preparation, species selection, establishment of a nursery for onsite seedling propagation and a planting scheme to maximize the survival rate and increase the species diversity.

2.7 Community Development Plans

Generally, the regulations are grounded on the principle that the rights of the affected communities are protected. Mechanisms are in place whereby all community and social sectors participate during each of the mining phases with the objective that benefits from mining operations are cascaded to all affected sectors.

During the exploration stage, preparation, and implementation of a Community Development Program (CDP) is required. The CDP is developed in consultation and in partnership with the host communities and appropriate neighboring communities. Planned programs and activities are supported by a fund equivalent to a minimum of 10% of the budget of the Exploration Work Program (EWP). The programs are focused on a set of limited social and economic programs designed to aid the host communities in the areas of poverty alleviation, better health, and better education. The framework for this program is identified in DENR Administrative Order (DAO) 13 issued in Year 2010. Should an exploration project move to an operating project, the Philippine Mining Act requires the preparation and implementation of a Social Development and Management Plan (SDMP). At a minimum, 1.5% of the annual operating costs shall be allocated to the SDMP each year. This amount shall be apportioned for implementation of the Development of Host and Neighboring Communities (DHNC) a Program for the Development of Mining Technology (DMTG) and Geosciences and an Information, Education and Communication (IEC) Program. Other details of the SDMP are provided in Administrative Order 2000-99.

Like the CDP, the SDMP shall be developed in consultation and in partnership with the host and neighboring communities. The SDMP shall cover 5-year incremental periods and shall include programs, projects, and activities (PPAs) focused towards enhancing the development of the immediate stakeholders. The SDMP shall also be developed such that the PPA's are in alignment with the programs of the Local Government Unit (LGU) responsible for the Project area.

The Project is anticipated to provide positive impacts to the community in terms of revenue, job opportunities, increased income, and improvement of basic services such as infrastructure, health, education and communication services. These will be particularly focused within the host barangays.

Positive impacts are also anticipated relative to IEC and overall implementation of the SDMP. Access to communication facilities within the Project area will also be provided to the community for emergency cases. Priority for job opportunities and employment will be given to the host community.

Health personnel will be hired to monitor and treat common illnesses of the workers. Medical and dental missions will be conducted on a regular basis within the nearby communities to address and manage any negative health impacts of the Project.

Social issues are focused on the need for continuous community interaction and the continuous implementation of responsible mining practices. The communities and local government units are also anticipating visible economic benefits as well as improvements to the basic services of the area. Meeting and discussions with the National Commission on Indigenous Peoples to date have indicated there are no cultural or heritage issues.

2.8 Manpower Requirement

All employees will be Filipino citizens; preference will be given to residents. **Table 4** shows the proposed job items. All labor will be sourced from the local region. Skilled workers to be hired will not be a problem for the mining operation. This is because the Project site is in the countryside where technical and skilled local workers for quarrying and mining are readily available. Technical men who shall be hired to foresee the technical aspect of the mining operations are also readily available in the locality.

Since the mining contractor will provide all the mining equipment on a lease arrangement for the conduct of mining operations, all equipment operators and the associated equipment maintenance crew will also be on his account.

Most staff will work a rotational roster system, while labor personnel will work an 8-hour day for 6 days per week. There will be provided housing for the management, as well as, technical staff for the project. Local employees will be staying in their residences in the community.

Key personnel will hold critical positions in the management and technical staff. Qualifications for these are the following:

1. General Manager – must be a licensed engineer and holder of a valid PRC ID with significant experience in limestone mining and processing operations. He/she will be the over-all manager of the project that will be involved in all aspects of the project.

2. Admin Manager – must have at experience in Human Resource works and relevant experience in managing administrative functions.

3. Accounting Manager – must be licensed CPA with experience in general accounting within the mining or related industry. He or she must have proven integrity.

4. Tenement Manager – must be knowledgeable in the pertinent documents and permits required for the compliance with LGU, MGB and DENR requirements. He/she should have relevant experience in performing such duties for a period not less than three years.

5. MEPEO – must be a licensed forester or mining engineer with at least five-year work experience in environment works in mining operations

6. Mine Engineering Superintendent – must be a licensed engineer and holder of a valid PRC ID with at least 5-year work experience in mine planning and engineering works.

7. Grade control geologist – must be a licensed geologist and holder of a valid PRC license and has significant work experience in mining operations.

8. Port and Quarry Manager – must be a licensed engineer preferably in mining with a valid PRC license and has at least 10-year combined experience quarrying, mining and port operations.

9. Plant Manager – preferably a licensed metallurgist or chemist and holder of a valid PRC ID and has at least 10-year combined experience in handling laboratory and plant works.

10. SHES Manager – preferably a licensed engineer and holder of a valid PRC ID with at least 80 hours safety training and relevant experience in handling safety works.

11. Marketing Manager – must have a wide experience in marketing mining commodity and knowledgeable in the current trends and pricing of the limestone commodity.

Table 4 – Proposed Manpower List

	Allocated cost	No.	Rate	PhP/month		Allocated cost	No.	Rate	PhP/month
	General Manager	1	50,000	50,000	Grade Control	Grade Control Geologist	2	18,000	36,000
	Technical Assistant	1	15,000	15,000		Mapper	2	12,000	24,000
	Subtotal	2		65,000		Grade Control Foremen	2	15,000	30,000
Human Resource and Administration	Admin Manager	1	25,000	25,000		Sampler	8	9,000	72,000
	HR Supervisor	2	18,000	36,000		Subtotal	14		162,000
	Timekeeper	1	9,000	9,000	Quarry and Port Operations	Port and Quarry Manager	1	40,000	40,000
	Encoder	4	9,000	36,000		Mine Supervisor	2	25,000	50,000
	Driver	4	15,000	60,000		Mine Foremen	2	15,000	30,000
	Cook	2	12,000	24,000		Drilling Supervisor	2	25,000	50,000
	Dishwasher	2	9,000	18,000		Drill Foremen	2	15,000	30,000
	Laundry helper	4	9,000	36,000		Checker	4	9,000	36,000
	Utility	4	9,000	36,000		Spotter	8	9,000	72,000
	Warehouse supervisor	1	15,000	15,000		Drilling crew	8	12,000	96,000
	Purchaser	1	12,000	12,000		Port Supervisor	2	25000	50,000
	Helper	2	9,000	18,000		Barging crew	8	9000	72,000
	Subtotal	28		325,000		Subtotal	39		526,000
Accounting	Accounting Manager	1	25,000	25,000	Plant Management	Plant Manager	1	35,000	35,000
	Accountant	2	18,000	36,000		Laboratory Supervisor	2	18,000	36,000
	Cashier	1	12,000	12,000		Laboratory Foremen	2	15,000	30,000
	Accounting Clerk	4	9,000	36,000		Laboratory Aide	8	12,000	96,000
	Subtotal	8		109,000		Plant Supervisors	2	18,000	36,000
Tenements & Permits	Tenement Manager	1	25,000	25,000		Foreman	2	15,000	30,000
	MEPEO	1	18,000	18,000		Pay loader operator	4	15,000	60,000
	Compliance Officer	2	15,000	30,000		Crusher operator	4	15,000	60,000
	Liaison Officer	2	15,000	30,000		Crusher helper	4	9,000	36,000
	DCC	1	12,000	12,000		Screening operators	4	12,000	48,000
	Clerk	3	9,000	27,000		Utilitymen	4	9,000	36,000
	Subtotal	10		142,000		Sub-total	37		503,000
Camp Facility Management	Camp facility Manager	1	25,000	25,000	SHES Department	SHES Manager	1	25,000	25,000
	Electrician	2	15,000	30,000		Safety Engineer	2	18,000	36,000
	Helper	4	9,000	36,000		Safety Inspector	4	15,000	60,000
	Plant Equipment mechanic	2	18,000	36,000		Doctor	2	25,000	50,000
	PMS mechanic	2	18,000	36,000		Nurse	2	18,000	36,000
	Heavy equipment mechanic	2	18,000	36,000		PCO	1	18,000	18,000
	Lubemen	2	12,000	24,000		Forester	3	18,000	54,000
	Fuel Tender	2	9,000	18,000		Nursery Aide	8	9,000	72,000
	Civil Engineer	1	18,000	18,000		Comrel Supervisor	3	18,000	54,000
	Carpenter	2	15,000	30,000		Comrel Aide	8	12,000	96,000
	Welder	1	12,000	12,000		Subtotal	34		501,000
	Labor	4	9,000	36,000	Shipping and Marketing	Marketing Manager	1	25,000	25,000
	Subtotal	25		337,000		Marketing Officer	1	12,000	12,000
Planning & Engg	Mine Engineering Supt	1	35,000	35,000		Market research analyst	2	12,000	24,000
	Cost Control Engineer	1	18,000	18,000		Communications Officer	1	12,000	12,000
	Encoder	4	9,000	36,000		Shipping Agent	1	18,000	18,000
	Mine Planning Engineer	2	18,000	36,000		Logistics Officer	2	9,000	18,000
	CAD Operator	2	15,000	30,000		Clerk	2	9,000	18,000
	Geodetic Engineer	1	18,000	18,000		Subtotal	10		127,000
	Survey Aide	8	12,000	96,000					
	Subtotal	19		269,000		**Grand Total**	**226**		**3,066,000**

2.9 Project Cost and Schedule

For the limestone quarry, items to be capitalized will be quarry development and equipment mobilization/demobilization. Equipment ownership, operations and maintenance were assumed to be coming from a reliable subcontractor. Plant design/engineering, purchasing, construction and management might be an option to award to a contractor.

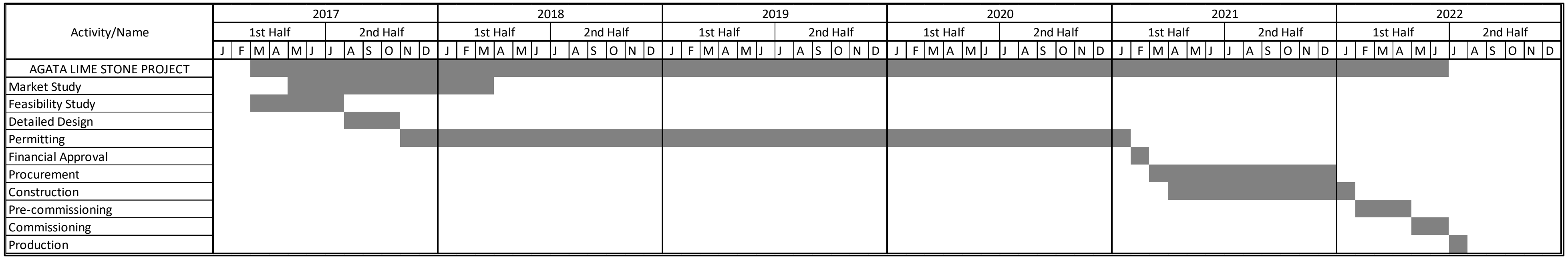
Summarized on **Table 5** – Estimated capital cost for the project below is the detailed breakdown of the fixed investments and working capital in peso and dollar components for the Agata Limestone Project. The total capital expenditure (CAPEX) for the Project is ₱ 780,000,000. This will be more on plant equipment, machineries and infrastructures. Capital expenditure for the processing plant will be derived from bank loan.

Table 5 – Estimated capital cost for the project

CAPEX ITEM		Million	
Mill Plant		**PhP**	**USD**
1	Crushing and Screening	137.48	2.75
2	Power (Genset)	110.00	2.20
3	Conveyor system from stockyard to existing causeway (1.5km)	14.03	0.28
4	Equipment Installation Cost	39.23	0.78
5	Engineering, construction, supervision, project management and plant commissioning	11.77	0.24
	Subtotal	312.50	6.25
	Limestone Quarry		
1	Quarry Development	8.75	0.18
Others			
1	Covered stockyard, fuel tanks, water tanks, lighting, perimeter fencing, sewage, field office, bodega, control room, maintenance shed, guardhouse, bunkhouse	20.00	0.40
2	Causeway (Concrete and improve existing)	10.00	0.20
3	Waste dump and sedimentation control facilities	25.00	0.50
4	Access road construction, plantsite preparation, grading, surfacing	0.30	0.01
5	Maintenance Tools and Equipment	0.25	0.01
6	Plant Site Rental and Right of way	5.00	0.10
7	Govt permits, quarry license, ECC and LGU Endorsement	5.00	0.10
	Subtotal	65.55	1.31
	Subtotal	386.80	7.74
	Contingency, 10%	38.68	0.77
	Total	425.48	8.51

Engineering, procurement, and construction management will be done in-house. Construction will proceed after all the necessary items are identified, planned and prepared. Given that necessary government and environmental permits are granted, and project financing is settled, production of limestone will commence on the first quarter of 2022. The overall Project schedule is shown on **Table 6**.

Table 6 – Overall project schedule



3.0 Annexes: Aerial Photographs of the Proposed ALP site.

Figure 11 - Panoramic view of the Agata Limestone area, facing SSW

Figure 12 – Limestone quarry site. Payong-payong limestone was used for the construction of the existing causeway for nickel laterite operation.