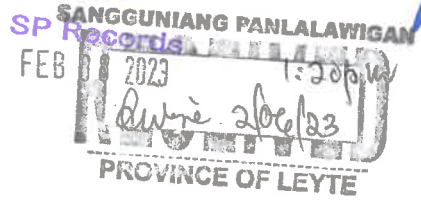


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Pls include in our agenda. Thanks!

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February 6, 2023

**SANGGUNIANG PANLALAWIGAN NG LEYTE**  
 Leyte Provincial Capitol  
 Tacloban City  
 Province of Leyte

Sir/Madam:

This refers to the letter from the MGB Central Office, regarding the third (3<sup>rd</sup>) renewal of the Exploration Permit under Mineral Production Sharing Agreement (MPSA) No. 066-97-VIII granted to COSCO Capital, Inc. on June 2, 1997, covering 1,784.4754 - hectares contract area situated in Merida and Isabel Leyte.

Relative thereto, we are re-submitting the following documents for posting on your bulletin board, to wit:

1. Approved Environmental Work Program
2. Interim Environmental Work Program

Thank you.

Sincerely yours,

*[Handwritten signature]*  
**CHARRISH G. OBESO**  
 Community Relation Officer



BARANGKANTONG PANGKALBAGIAN NO. LEYIT

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Republic of the Philippines  
Department of Environment and Natural resources  
**MINES AND GEOSCIENCES BUREAU**  
North Avenue, Diliman, Quezon City

**ENVIRONMENTAL WORK PROGRAM FOR EXPLORATION**

- 1.0 **Cosco Capital Incorporated**  
2/F, Tabacalera Bldg. No. 2  
900 Romualdez Sr. St., Paco, Manila  
Tel. No. (632) 8527-0851  
Fax. No. (632) 8524-7452

Contact Person

**Mr. Leonardo B. Dayao**  
President  
2/F, Tabacalera Bldg. No. 2  
900 Romualdez Sr. St., Paco, Manila  
Tel. No. (632) 8527-0851  
Fax. No. (632) 8524-7452



2.0 **Type and Nature of Project**

The project is a non-metallic mineral resource extraction project covered by a Mineral Production Sharing Agreement denominated as MPSA No. 066-97-VIII.

2.1 **Project Description**

The main objective of the proposed exploration program is to explore in detail and delineate limestone deposit at the mining tenement area covered by MPSA No.066-97-VIII and to assess the limestone deposit existing therein, if it can economically support a cement plant with annual production capacity of 1.2 million metric tons. This document will provide details of the environmental work program in conjunction with the proposed two-year exploration work program of the project. The estimated exploration work program will be approximately **Fourteen Million Six Hundred Ninety-Nine Thousand Three Hundred Pesos (Php 14,699,300.00)** with an additional of **One Million Four Hundred Sixty-Nine Thousand Nine Hundred Thirty Pesos (Php 1,469,930.00)** for the environmental work program.

2.2 **Type and Nature of Mineral Deposit to be Explored and Minerals to be Derived**

The project aims to explore and develop limestone resources as raw materials for cement manufacturing. The main target of the exploration is the limestone deposit in the project area. Moreover, the proponent is also interested with the possibility of exploring other raw materials needed in the production of cement.

3.0 **General Location of the Area to be Covered by the Proposed Permit/ Contract Area**

The contract area is situated within the municipalities of Isabel and Merida province of Leyte and more specifically defined by the following geographic coordinates:

Table 1. Geographic Coordinates of MPSA No.066-97-VII

POINT	LONGITUDE	LATITUDE
1	124° 28' 30"	10° 53' 30"
2	124° 28' 30"	10° 54' 30"
3	124° 31' 30"	10° 54' 30"
4	124° 31' 30"	10° 53' 30"
5	124° 31' 15"	10° 53' 00"
6	124° 31' 00"	10° 53' 00"
7	124° 31' 00"	10° 52' 30"
8	124° 30' 30"	10° 52' 30"
9	124° 30' 00"	10° 52' 00"
10	124° 30' 00"	10° 52' 30"
11	124° 29' 00"	10° 52' 30"
12	124° 29' 00"	10° 53' 30"

### 3.1 Location and Accessibility

The contract area is situated in the northwestern portion of Leyte Island, west of Ormoc City and is next to the Leyte Industrial Development State (LIDE) where in the Plants of Philippine Associated Smelting and Refining (PASAR) and Philippine Phosphate Fertilizer Corporation (Philphos) are located. The claim area is lies within the political jurisdiction of Isabel and Merida towns.

The area is accessible from Ormoc City, through 49-km. stretch of well-maintained concrete coastal road or in newly open diversion road up to Isabel town proper. These concrete road passes along the southern and southwestern periphery of the claim area. A 110 kilometers highway connects Ormoc City to Tacloban City, where provincial and vans are regularly ply the route. Access from Cebu City is provided by a 10-hour ride in an upgraded ferry boats of prominently inter-island shipping companies and or a fast-craft boat with ply time of 3 hours and 30 minutes. Other smaller boat companies that serves the other parts of Cebu Island provide additional ferry services.

### 3.2 Total Area Covered by the Application

The Mining Tenement MPSA 066-97-VIII is situated in the municipalities of Isabel and Merida, province of Leyte. The aggregate of the mining tenement is 1,784.4754 hectares.

## 4.0 Description of the Existing Environment where work is proposed to be undertaken

Presented below is a brief description of the existing environment of the project site. All other baseline information or data required which are not mentioned here shall be obtain during the proposed two years' exploration period and shall form part of the final report at the end of exploration period.

### 4.1 Land Environment

#### 4.1.1 Topography / Physiography

Moderate to rolling topography with gentle slopes near the coastline characterizes the contract area. Steep slopes and rugged topography characterizes the structurally deformed areas at the central eastern portion of the claims. Elevations range from 5 to 10 meters above sea level along the Ormoc - Isabel road. Elevation gradually rises to an altitude of 300

meters above sea level at the limestone exposure in the north-central portion of the contract area. The slope abruptly climbs to elevations reaching a minimum of 500 meters on the peak of Mt. Lundag to the north of the mineral claim.

The overburden or soil cover varies in thickness from less than a meter to about 2 meters depending on the gradient of the slope. Erosion may be particularly active in the open and steep slopes and is less pronounced in areas with thicker vegetative cover.

#### 4.1.2 Land Use / Capability

The contract area covers eleven (11) barangays. The barangay situated along the Ormoc – Isabel road are the ones observed to have the densest population. The mountain barangays, on the other hand, are generally sparsely populated.

Generally, the mountain villages are composed of only a few households ( $\leq 10$ ) with 4-5 members each at the village center while the rest are scattered along the slopes where the members work in the fields. Predominantly all arable areas located at the base of the slopes are planted with corn, seasonal crops and root crops. Arable slopes are planted with coconut trees and different tropical fruits.

The area, as a whole, is sparsely vegetated with most of the elevated terrain covered by shrubs. Secondary growth vegetation is confined along steep slopes and gullies. Coconut, corn, rice, root crops and occasional fruit-bearing trees are planted along gentle slopes and flat areas, and these constitute the main agricultural crops planted in the area. It would seem, however, that coconut is the dominant agricultural crop in the contract area.

#### 4.1.3 Pedology

Based on preliminary visual survey, the soil in the project area was assessed to be very variable, depending principally on the surface rock exposures and their position in the landscape. In both eastern and western portions, the soil is principally made of detrital deposits with silt loam and clayey textures. Considering that the area is dominantly covered by karstic topographic features, it is common for calcareous sediments to be observed and thin coverings, leached to some degree, overlie low relief areas.

Since in the last approved exploration permit will not commence in the project area, no available data was produced. However, during this proposed detailed exploration activities, the soil profiling and location of sampling points will be undertaken within the exploration period. To minimize environmental damages, existing road cuts and tracks on already disturbed slopes shall be used in profiling exercises. For those absolutely necessary to disturb new areas, efforts will be made to expose the smallest practical area of land for the shortest possible time and to rehabilitate the area as soon as practicable.

## 4.2 Water Environment

### 4.2.1 Water Quality

The numerous drainage networks that transect the contract area. Only a few streams are of the perennial type. These include the Calunungan and Apale

creeks, and the Matlang Rivers within the claim area. The absence of water in most of the creeks in the area is attributed to ground seepage especially in the limestone covered area. Most of the perennial creeks were observed to have slowed its erosion process upon reaching the calcareous clastic beneath the younger limestone. All streams discharge their effluents to Ormoc bay.

Numerous springs and potable water sources are found within the project area. Most of the local residents rely on the springs for their daily water needs. Shallow water wells near the coast are already affected by infiltration of saline waters particularly during dry months, due to, too much withdrawal of ground water.

Water sampling activities will be commencing simultaneously during river traverse and a new baseline water quality monitoring studies will be done in the study area. Particularly for the following parameters such as PH, TTS, DO, and BOD. It will cover during wet and dry season will be undertaking to provide information necessary for project design parameters to ensure existing environmental conditions are adequately planned for and appropriate safeguards to be incorporated in the study.

#### 4.2.2 Hydrology

Generally, the amount of rainfall during the wet season from June to October allows water to flow through some tributaries towards the above-mentioned creeks in the project area. Due to the presence of faults, fractures and joins including solution cavities and/or sinkholes in the rugged rock formation renderer the project area to be incapable retaining surface and rain waters.

Gathering of data about stream flows measurement, flood peaks and storm water flow will be simultaneously commencing during the incoming detailed mapping activities in the area.

#### 4.3 Climatology/Meteorology

Except for the occasionally strong typhoons that visit in the country, the climate in the area belong to type 4 classification of Philippine Climate wherein there is no pronounced dry seasons (Figure 1). There is an approximately even distribution of rainfall throughout the year with no pronounced rain period. The annual normal regional mean rainfall is 1,348 mm with annual normal regional main rainy days of 204, based on the 5 years' record from 1990-1994 from PAGASA. The regional mean annual normal relative humidity is 81 % with the annual normal regional mean cloudiness of the percentage observed cloud cover is rated of 5 during the clearest months (source: PAGASA).



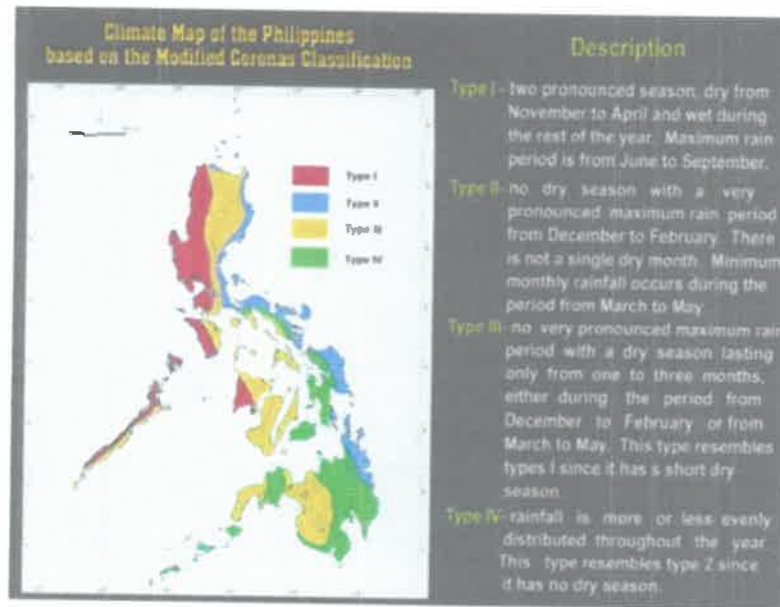


Figure 1.

Climate Map of the Philippines

Air quality is generally good in the project area, except in some places near the highway where dust and vehicle emission are present. In the elevated portions of the project area, the air remains fresh and pleasant. Likewise, because of its close proximity to the sea cool sea breezes are quite common during certain periods of the year.

Gathering data for ambient air quality and noise monitoring will be program to be implement before and after the schedule of drilling activities in the project area probably on the first quarter on the second year of the proposed Exploration Work Program.

#### 4.4 Geological/ Geomorphological Environment

From the youngest to the oldest, the rock formations occurring within the contract area and how their erosional remnants manifest are as follows:

**HUBAY FORMATION:** Late Pliocene to Early Pleistocene age. This is described as reefal limestone commonly rich in micro and microfossils of mostly corals and foraminifera with marly interbeds. This limestone is commonly friable and soft but is relatively hard at its lower sections where it is massive. The limestone exhibits widely variable characteristic, from a porous and poorly bedded rubbly limestone to crystalline and dense with calcite-filled vugs in some portions. Its bottom section contains calcarenite interbeds with a lateral gradation from fine to medium-grain beds. This commonly occurs as low, isolated hills that form a capping over the Bata Formation.

**BATA FORMATION:** Upper Miocene to Lower Pliocene age. This consist of a thick sequence of very fine to medium- grained, calcareous, porous elastics beneath the uncomfortably overlying Hubay Formation. This unit is composed mainly of cream to buff colored, tuffaceous, calcareous or marly shales and siltstone with gray argillaceous sandstone



interbeds. Outcrop of this unit occur extensively throughout the claims. This formation is, generally thinly bedded with some thick to massive sections.

**CALUBIAN LIMESTONE:** Upper Middle Miocene age. This is basically a reef limestone and is commonly massive and moderately fossiliferous, commonly containing microfossils with some coralline portions. Calubian Limestone when weathered is typically porous, especially at its lower sections. The Calubian limestone due to its hardness, conspicuously form steep cliffs and escarpments.

#### 4.4.1 Geologic hazards

##### a. Seismic Hazard

The degree and extent by which the area is affected by these seismic hazards will depend on the magnitude of the earthquake, proximity to the earthquake source and the site of geological conditions. They are no major fault present near the project site for at least 30 km from the project area.

##### b. Landslide

Considering the earthquake induce shallow – landslide the project site is moderately at risk. Since the project site is dominantly covered by limestone, the weathering of underlying rock is much faster than compared to volcanic rocks. Considering that limestone is also a brittle rock, the risk to earthquake –induced landslide can be common.

##### c. Volcanic hazard

Leyte being host to a huge geothermal area in the Philippines, it is also host to few active and potential active volcano. Mt Biliran is a stratovolcano that is basaltic to andesitic in nature. It can erupt both lava and ash. However, the project site is far from Mt. Biliran to be directed affected by lava flow or pyroclastic flow. Tephra or ash fall may reach the project site especially during large volcanic eruption. The size of the material expected to reach the site will not exceed a few millimeter in diameter. The worst treat to the project site is the ash fall which can be readily mobilized by the subsequent rainfall.

#### 4.5 Biological Environment

##### 4.5.1 Terrestrial Plants and Animals

###### i. Plants

Vegetation cover in the area may be classified under two main types namely: Natural vegetation consisting of wild grass/shrubs formation; and cultivated vegetation. Plants species belong to natural vegetation category of various wild shrubs, vines and bamboo with lesser plants species. In the open grassland on the other hand, mainly cogon and other grass species and shrubs like amorseco, cadena de amor, etc. Bamboo is mainly found along drainage channels where they commonly form impenetrable dumps.

Cultivated vegetation includes the plant species that are utilized for food and or ornamental purposes. This includes mango, star apple, jack fruits, cassava and other fruit and ornamental trees and plants. These species are commonly found in clear-cut and cultivated areas.





The endemic plants very likely met the same fate. Clearing of the original forest cover by excessive logging activities in the past and its conversion to subsistence farms has introduced new plant species into the area that slowly replaced the endogenous plant species through the time. Once the lands are cultivated, it becomes difficult for the native species to recover effectively and most probably, they die out ultimately.

ii. **Animals**

The contract area is not home to any form of exotic, rare or endangered animal or plant species that require protection. Its proximity to human habitation and develop areas has rendered it susceptible to human incursion and interventions. Much of the former wildlife had either move to more remote areas and elevated forested region or have already been decimated by human activities like hunting, trapping and forest product gathering.

The introduction of domesticated animals, like pigs, cows, carabao, dogs, etc., has placed undue pressure and competition on the local fauna. The ecological niche occupied by the native fauna is almost totally take over by the domesticated animal species. Animals like deer, monkey, wild boar, monitor lizard (bayawak), wild bat (bayakan) are very rarely encountered in the area even in the more remote and inaccessible portions.

Invertebrates, such as several species of insects, arachides, mollusks, crustaceans, and chenopod's have suffered a similar fate. Human incursion and clear-cutting of the forest have seriously damaged or destroyed their habitats leading to their migration or retreat to less affected portions of the hinterlands.

**4.5.2 Marine Plants and Animals**

Coral reef colonies are still encountered along coastal sections but these are very minor and generally isolated occurrences. Most coral colonies are on the decline due to heavy siltation, over-fishing and basic lack of concern among the coastal residents. The intense harbor activities at the port in LIDE could have introduced adverse effect that contributed to the decline of coral colonies in the coastal area.

Narrow stretches of mangrove swamps are found along the lower section of major systems but these have also been decimated due to the conversion of some areas into fishponds. Land reclamation further reduced the remaining swampy coastal areas. Consequently, the plants in animal lives there is have declined.

**4.6 Socioeconomic Environment**

The 22 mineral claim blocks comprising the project area cover eleven (11) barangays. Of these barangay, the barangays situated along the Ormoc-Merida-Isabel road are once observed to have the densest population. The mountain barangays, on the other hand, are generally sparsely populated. Generally, the mountain villages are composed of only of only a few households ( $\leq 20$ ) with 5-6 members each at the village centers while the rest are scattered along the slopes where the member work the fields.



Off-hand, a rough estimate would be a figure of 0.5-1.0 household for every 5 hectares. However, at the proposed plant and quarry sites, 70-80 families are projected to be affected by the plants operation and construction. Of this, the highest concentration is to be found at Barangay Tolingon near the main road where a minimum of sixty houses are located at the proposed plant and port sites. Generally, 40-50% of the population are employed at the PASAR and Philphos processing plants while the rest are either working at Ormoc City or are farmers and fishermen.

There are no major infrastructures or man-made facility located within the project area except for the house and dwelling of the local habitats. The house and temporary shelters are mainly made of concrete, lumber, bamboo, nipa and other light materials sourced locally. Only those houses constructed near the main highway are built of concrete and galvanized iron sheets. Coastal Villages are typically of fishing villages in other parts of the country, with most of the building materials light and inexpensive.

Electricity exist only near the main highway and along the peripheral of the barangay road in the contract area. Telephone service can be availed as designated public calling booths located in town. There are no big commercial and trading establishment within the contract area except for the small retail sari-sari store along the highway. Most of the bigger commercial establishment are situated within the market centers of Isabel and Merida near the coast.

Local government provides regular but periodic and dental services to the residents, although extreme medical cases are referred to the larger hospitals in Ormoc City. Several elementary schools are located in some barangays within the contract area but students have to go to schools in Isabela and Merida for high school education. College education can be availed at the municipality of Isabel, Ormoc City and Cebu City.

## **5.0 Description of Exploration Work**

### **5.1 Description of Exploration Method**

#### **5.1.1 Detailed Geological Mapping**

Brunton compass and tape survey method will be employed to conduct the detailed mapping and sampling along the creeks and streams that traverse the contract area. Stream configurations will be measured using plastic measuring tapes and the directions will be determined using a Brunton pocket compass or equivalent. Moreover, surveying instruments may also be employed such as GPS and total stations. The proponent will be expecting a satisfactory result of the geological survey in a 1:2,000 map or lower scale showing all the possible data that would describe the limestone deposit.

This phase of the exploration program is expected not to cause any adverse effect on the contract area and immediate locality. Under normal working conditions the sound and noise generated by this activity can be considered as normal without any long-term effects both on the workers and the environment.

#### **5.1.2 Geophysical Methods**

No geophysical method of mineral exploration will be employed in the contract area.

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### 5.1.3 Geochemical Methods

No geochemical method of mineral exploration will be employed in the contract area. However, chemical analyses of the rock samples will be done only in a nominated laboratory in Manila.

### 5.1.4 Diamond Core Drilling

Rotary diamond/core drilling will be the type of subsurface investigation that will be utilized for this particular project. Eight (8) drill holes with an aggregate total meterage of 400 meters are programmed for drilling. Drilling array may deviate from the submitted program depending on the outcome of completed holes.

Briefly, core drilling is essentially designed to collect sample from deep below the surface. A string of rotating steel pipes, tipped with a diamond-impregnated coring bit, is slowly lowered into the ground by a drilling machine. The rotating action of the core bit cuts the rocks below and core samples enter the inner tube inside the core barrel for retrieval using a wire line attachment on the drilling rig. Water and biodegradable polymers are used to flush out the drill cuttings and sludge during the coring process.

Recovered core are then placed in appropriate core boxes for logging sampling and safe storage. The drilling fluid system is a closed circulation system, meaning the drilling fluid do not go out into the environment but remained in a closed circulation loop. A string of sumps and canals are excavated all around any particular drill pad to contain any accidental spillage and blowouts.

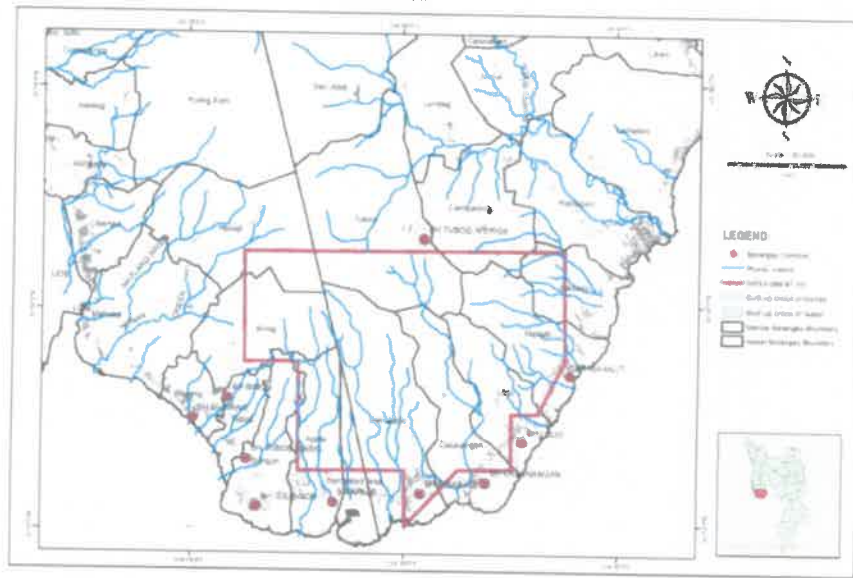
The size of drill pad to be used is about 2 by 3 meters, a very minimal surface disturbance will be inflicted to the ground during the preparation of the drill pads. Drill pad preparation will be limited to clearing of the top soil to level the ground. Replacing the soil and replanting the excavated area after drilling is completed can easily restore drill sites.

### 5.2 Primary Processing of Samples

No preliminary sample processing will be conducted within the contract area. Outcrop chip samples and selected core samples will be securely put in the cloth bagged, properly tagged, crated and sent to Manila for final geochemical analyses.

### 5.3 Map Showing the Location of the Proposed Work Area (Figure 2)

**LOCATION MAP**



**5.4 Estimated Exploration Cost**

Table 2. Summary of Estimated Exploration Cost

<b>Activities</b>	<b>Year 1 (Php)</b>	<b>Year 2 (Php)</b>
Project Promotion	200,000	200,000
Detailed Geological Survey (out-source)	1,843,000	
Laboratory and Petrographic Analysis	400,000	800,000
Topographic Survey	3,400,000	
Mobilization/demobilization		1,000,000
Turn-key Core Drilling (Php 8,000/ meter)		3,200,000
Professional Fee (core logging)		600,000
Head Office	360,000	360,000
Ore Reserved Calculation & declaring Feasibility Studies (Out-source contract)		1,000,000
Contingency Funds	620,300	716,000
<b>TOTAL</b>	<b>6,823,300</b>	<b>7,876,000</b>

Year 1 Php 6,823,300.00

Year 2 Php 7,876,000.00

**Total Php 14,699,300.00**

**6.0 Identification of Potential Environmental Effects**

This section details the identification of potential environmental effects of the proposed project in terms of land, hydrology and water quality, ecology and socioeconomic effects.



### 6.1 On Land

Surface disturbance due to the implementation of the exploration program would be very minimal, if not negligible. Surface mapping would entail no more than the measuring of the drainage systems, which in no way would disturb the environment in a large-scale and in a long term. Any surface disturbance this activity would pose on the environment would be temporary in nature and limited to the stirring of the fluvial silt and mud on the stream beds as the geological mappers pass by.

The exploration program does not envision the construction of new access road and foot trails within the project area and vicinity. Hence, the program will have no adverse effects on the ground and the environment as far as large-scale earth moving and excavation of roads are concerned. The area, as it is, already contains enough feeder roads and foot trails to suffice the terrain mobility required by the exploration program.

As far as facilities are concerned and to forego of camp construction and ground excavations, rental of existing houses within the contract area is calculated to suffice the need to temporary encampments. Should a pressing need for more permanent base camp arise, a house near the main highway would be prepared to be rent.

Outcrop sampling would insignificantly have disturbed the environment. Taking of samples weighing 1 kilogram would not damage the rock outcrops much. The noise of pounding the rock to chip off some portions would probably be considered noise pollution, but again it is very temporary and under normal working condition may be considered as normal.

Minimal, if not negligible damage could be inflicted on the environment during the preparation of drill pads. Topsoil, scraped off to level the ground before the drilling machine move in, can be stockpiled for later use. After borehole completion, the drill sites can be replanted again after restoring the stockpiled topsoil.

Mobilization of the drilling rigs may also inflict some surface damage but most of this would be limited to a very narrow track that could be restored immediately after the passage of the machine.

### 6.2 On Hydrology and Water Quality

Core drilling operation would be probably having a more direct bearing on possible adverse effects in the whole exploration program may inflict on the environment. However, it is expected that any adverse effect on water quality would be temporary and short-lived, if any.

Considering that the drilling system is closed circulation system, it is expected that no drilling fluid will spill on the ground to contaminate neither the surface water nor the water table. In a most unlikely event that the accidental spillage occurs, a series of sumps and peripheral canals would the spillage. After drill holes' completion, the excavated sumps and canal would be filled up with earth materials and collected drill cuttings. The whole drill pad would be restored to its pristine condition as much as possible.

All drill sites will be located quite a distance from any existing waterways, it is calculated that the drilling operation would not in any way impede, obstruct nor constrict the normal water flow along natural channel ways. Only one water supply pump would be situated near any water bodies to provide all the water requirements of the drilling operations. Furthermore, Generation of acid mine drainage is not



expected during the entire exploration work due to the kind and nature of the deposit.

### 6.3 On the Ecology

Perhaps the noise generated by the drilling operation would create minor disturbance in the contract area. The company will see to it that the drill sites are located as far away as possible from population centers. The noise would not be too disturbing if the drill pads are located far from the residential areas. Nevertheless, noise suppressants would be employed if it cannot be help.

The drill pad needed by drilling machine is quite small, <15 square meters. Accordingly, the time and effort to restore the drill pads and its adverse effects on the ecosystem would be negligible, if any. Topsoil would be collected and stockpiled for later use after the completion of each borehole.

There would be no infringement on natural water channel since the drill pads would be located quite far from them. One supply pump would be situated closed to a nominated water body to provide for all water requirements of the drilling operations. Water will be pumped through a strong piping system to arrest any water damages to surrounding crops, if any.

### 6.4 Socioeconomics Effects

There are no indigenous people and ethnic communities living with the contract area. Any socioeconomic impact that the implementation of the work program would have on the local residents would be on the benefits, like employment and temporary source of non-agricultural income. The exploration program, when implemented, is expected to have a net positive effect on the affected residents and their families

The exploration project is not anticipated to result in any changes in the tradition, culture and lifestyle of the local people but instead the company will help in promoting it.

## 7.0 Environmental Management Measures Including Total Cost

At the onset, it should be noted that the proposed exploration program is generally harmless and benign. The adverse disturbance that the exploration activities may cause to the environment, under normal conditions would be minimal if not negligible. To immediately address the environmental issues at hand, the company will strive to implement the following counter measures to protect the environment during the implementation of the work program.

- 7.1 Progressive rehabilitation/restoration of areas subject of exploration and related activities by restoration or by undertaking civil structure program such as riprap, retaining walls, etc., to prevent erosion and siltation.

The proponent will construct settling ponds, sediment traps or impoundments along some of the drainage channel ways to minimized siltation if necessary. This will particularly useful in reducing the sediment load of stream draining areas of excavation, road rehabilitation or construction. The stockpile of loose soil material from excavations if there's ever will be provided with the most efficient drainage ways possible to retard if not totally eliminate the introduction of massive amount of sediments in to the water systems. This can be done by digging small diversionary canals around the stockpile that will channel surface run-off away





from these or by setting up barriers like wooden planks or plastic sheets around the stockpiles to keep the material in place. In areas where the slope is more favorable or nearly flat, the excavated material will be spread out evenly or thinly. This will allow re-growth of grasses or shrubs over the area and consequently stabilize the surface.

Stabilization of slopes to reduce erosion will be carried out in areas of unstable slope to prevent landslides that might cut-off the access routes or otherwise jeopardize the work areas. This could be done by re-rapping or terracing the exposed and unstable portion of slope. Reduction of steep slopes could be resulted to especially critical road cuts or an area immediately up slope of the excavation. Planting of cover foliage along slopes with barren vegetative cover will also be done to stabilize the surface. This can be easily being done using fast-growing shrubs and other plants as cover.

- 7.2 Management of stockpile of excavated and removed earth, if any to prevent dust and siltation problems.

As discussed, subsurface investigation through core drilling will produce a very minimal amount of excavated materials as the principle of this particular method is to recover a core samples. The core samples produce from the drilling will be temporarily stored at the site through the use of core boxes and will be covered by tarpaulin. However, as mitigating measures if ever there is a small earthwork excavation the proponent will use the same to cover up he excavated area.

- 7.3 Maintenance of roads to minimized dust

Existing roads that will be used by the contractor for the drilling program will be sprayed with water regularly during summer months where excessive dust is expected to be generated. The contractor who will conduct drilling will also be advice to follow the speed limit regulation so as not to add the accumulation of airborne dust in the project area. In addition, vehicular movement shall be restricted in wet weather to prevent damage to roads and limit the frequent rehabilitation the same.

- 7.4 Handling of toxic and hazardous materials, if any, including an Emergency Response Program

The exploration program would not make use of any highly toxic or dangerous materials or chemical during the conduct of exploration in the area. Solid and liquid wastes generated during the conduct of the exploration program shall be disposed properly. Organic solid wastes like paper products, wood chips, food residues, etc. will be buried in compost pits or other appropriate sites.

Other solid waste like plastics products, glassware and metallic material will be taken out of the area for final disposal. Liquid waste like use oils, excess fuel, kerosene and similar products will also be properly contained and disposed properly in accordance with DENR rules and regulation to prevent any possible contamination of surface and groundwater. The proponent shall see to it that proper storage of these materials is practiced to reduce chances of accidental spills or leakages.

- 7.5 Accommodation of other economic activities in the area.

The proponent shall not interfere with other economic activities being carried out in the surrounding of the MPSA area. It shall see to it that the activities to be carried out will not adversely affect the livelihood of people living in the vicinity and



adjacent area. This will include the protection of cultivated plants and domestic

animals in the area and the continuous access of the local people in to the area. The proponent shall also promote the putting up of allied or support economic activities in the area. Direct employment of people from the host barangays would be given priority.

7.6 Alternative plans if special habitat flora and fauna are affected

There are no known "special habitat for flora and fauna" nor rare species of flora and fauna exist in the project area.

7.7 Socioeconomic measures

7.7.1 Plans for information and education campaign and dialogue between the company and population regarding project plans including compensation measures, if necessary

Regular dialogues will be conducted with the local officials and residence to apprise them of the activities being carried by the proponent in the area. This will serve as a chance for either side to clarify matters or problems being encountered or arising from the activities of the company.

The proponent shall limit to the barest minimum possible the number of workers brought in from other areas so as not to cause problem with local residents. Only technical personnel and support skilled workers will be brought in to carry out the actual field activities. All pick-up or unskilled labor will be source locally.

7.7.2 Working environment and protection measures for employees

The proponent shall see to it that the working environment will be safe for the people implementing the program as well as local inhabitants. The people carrying out the exploration activities shall be provided with proper equipment and tools to effectively undertake the various survey. They shall also be provided with first-aid kits and medicine for common problems routinely encountered during this type of undertakings. The company shall also see to it that the people employed in this undertaking are provided with proper medical attention should they fall in while performing their jobs for the company.

7.8 Abandonment

7.8.1 Control measures for acid mine drainage, the generation of which is not only limited to the period of exploration but occurs also after exploration.

As already stated, there will be no generation of acid mine drainage that would occur in the project and is not expected to occur during and after exploration program.

7.8.2 Rehabilitation of the area by replanting and reforestation program.

The cutting of trees and removal cover foliage will be reduced to the barest minimum possible under the program. Planting of cover foliage will be routinely undertaken. Every effort will be exerted to prevent bushfire and discourage slash-and-burn practices that might render some areas totally bare. Planting of trees and shrubs along road sides and open areas will be carried.



7.8.3 Restoration of the original flow of river system that have been diverted/alterd with emphasis on quality.

There will be no river system that will be diverted or altered under this exploration program.

7.9 Environmental base line

The study to be undertaken could form an important component of the environmental baseline setting and monitoring to be set up for the acquisition of the Environmental Compliance certificate (ECC).

Table 3. Summary of 2-year Exploration Work Program  
GANNT CHART- Two Year Exploration Work Program of MPSA No.066-97-VII

LEYTE CEMENT PROJECT								
PROPOSED TWO-YEAR WORK PROGRAM								
ACTIVITIES	FIRST YEAR				SECOND YEAR			
	1 Q	2 Q	3 Q	4 Q	1 Q	2 Q	3 Q	4 Q
Project Promotion	■	■	■	■	■	■	■	■
Detailed Geological Mapping			■					
Topographic Survey			■	■				
Drilling Design and Layout				■				
Drilling Bid				■				
Mobilization and Core Drilling					■	■		
Laboratory Analysis and Testing				■		■		
Data Synthesis and Project Economics							■	
Filing of DMPF								■

Table 4. Summary of Environmental Impacts and Mitigating Measures

Environmental Component	Impact	Mitigating measures
1.Land use	Minimal Land use Change	-Vegetation disturbance keep to a minimum -Progressive rehabilitation of disturbed areas (backfilling, earthworks for stabilization and planting of quick growing species or reforestation). -Existing access road, tracks and roads will be utilized -No new roads, unless absolutely necessary. Strict implementation of clearance procedures for all workers: -The use of smallest drill rigs capable of compel drill pad kept to a minimum while ensuring safe operations of the rigs to be used -Decommissioning and rehabilitation of all disturbs areas at the completion of the exploration program

		-Environmental awareness of personnel working at the area.
2. Flora & Fauna	Minimal effect on Flora and Fauna	-Rehabilitation of disturb and/or affected areas
3. Water Quality / Hydrology	Sedimentation and /or siltation of water bodies	-Erosion control measures -Progressive rehabilitation -implement strict waste disposal program -construction/operation of containment structures like drilling sump/pits -water quality monitoring
4. Air Quality	Air contamination due to dust generation and increase in noise level	-use of water sprayers on roads -vehicle in restriction -Equipment maintenance -use of clean diesel fuel -retention of forest buffer zone to serve as sound absorber, if any
5. Social cultural aspect	Minimal impact to inhabitants of residents	-Info dissemination and consultation

The total estimated budget for the environment management measures is approximately One Million Four Hundred Sixty-Nine Thousand Nine Hundred Thirty (Php 1,469,930.00) Pesos which is inclusive of salaries of laborers who will be hired during the rehabilitation activities, construction cost of small structures for erosion and siltation control devices, road maintenance, environmental monitoring and community relation.

Table 5. Summary of Environmental Management Measures and Cost

Activities	Impacts (Land, Water, Air and Noise)	Mitigating Measures	Schedule of Implementation								Unit of Measure	Cost (Php)	
			First Year				Second Year						
			1Qtr	2Qtr	3Qtr	4Qtr	1Qtr	3Qtr	3Qtr	4Qtr			
1. Exploration Activity													
a. Detailed Mapping	a. Siltation b. Erosion c. Loss vegetation	a. Top soil shall be separated from the subsoil for proper backfilling. b. Re-vegetation of the area c. Silt traps										Not applicable	250,000
b. Topographic Survey	Brushing/cutting of vegetation	a. Minimized cutting of trees b. Replanting										Cover the whole MPSA area 8 holes	
c. Drilling/Sub-surface Investigation	a. Siltation b. Minor modification of land c. Cutting of some trees d. Minor contamination of soil & water	a. Dis-assemble the drilling Machine b. Minor silt trap soil mitigation plan c. Soil removed shall be returned. d. Replanting of trees e. Water recycling will be implement of water truck/pond in each drill site											
2. Management of stockpile	a. Brushing Cutting of Trees b. Siltation c. Minor modification of landforms	a. Minimized cutting trees b. Reforestation c. Avoids stock filing on a steep ground d. Minimized height of stockpile e. Provide drain channels and direct the flows to sediment traps										Not applicable	60,000

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 MINES AND GEOLOGICAL SURVEY  
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3. Maintenance of Road	a. Siltation b. Erosion c. Cutting of trees e. Dust generation	a. Provide drain channel and direct the flows to silt traps b. Re-planting of trees c. Use existing tracks as much as possible e. Road maintenance shall be conducted regularly.							Not applicable	510,000
4. Handling of Toxic materials	Contamination of River water and soil due to generation of non-biodegradable materials such as oil	a. Non- biodegradable materials shall put in container and transport it on the proper disposal area at designated dumpsite in accordance with DENR rules and regulation to prevent any possible contamination of surface and ground water.							Not applicable	40,000
5. Accommodation of Economic activity	a. Increase in migration	a. It shall see to it that the activities to be carried out will not adversely affect the livelihood of people living in the vicinity and adjacent area. b. To promote employment opportunities by giving the local community priority on jobs available in relation to this project							Not Applicable	200,000
6. Socio economics activity	a. clarify matters or problems being encountered or arising from the activities of the company. b. Safety and Health	a. Regular dialogues will be conducted with the local officials and residence to apprise them of the activities being carried by the proponent in the area. b. They shall also be provided with first-aid kits and medicine for common problems routinely							Not Applicable	140,000

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		encountered during this type of undertakings.									
7. Abandonment	a. Vegetation b. Quality of water	a. Rehabilitation of the area by replanting and reforestation program b. Restoration of the original flow of river system that have been diverted/alterd with emphasis on quality								Not applicable	140,000
8. Environmental Database	a. Minor change landform b. siltation c. water quality	a. Rehabilitation of landform b. construction silt traps c. Replanting of trees								Not Applicable	129,930

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**APR 22 2021**  
 [Signature]



8.0 Name and Signature of Applicant or Person(s) preparing the EWP

Prepared by:

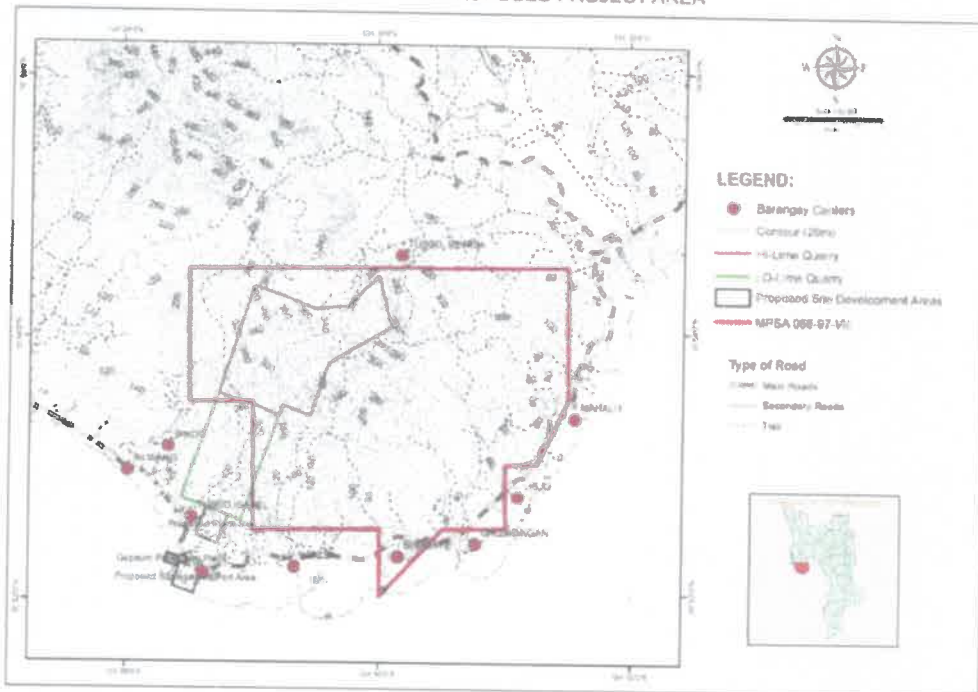
  
**RONNIE JOSE G. PORTES**  
Geologist  
PRC License No. 1675  
PTR No. 6247782  
Issued on: January 3, 2020  
Issued at: Pasig City

Conforme by:

  
**Mr. LEONARDO B. ILUYKO**  
President  
Cosco Capital Inc.

9.0 Plan of the Proposed Operation showing the location of the area

PLAN OF THE PROPOSED PROJECT AREA





Republic of the Philippines

Department of Environment and Natural Resources

**MINES AND GEOSCIENCES BUREAU**

Regional Office No. VIII

MacArthur Park, Candahug, Palo, Leyte 6501

Tel. No. (+63 53) 833-8004-8011 Telex No. (+63 53) 932-4214 E-mail: [mgbr8@mgbr.demr.gov.ph](mailto:mgbr8@mgbr.demr.gov.ph) Website: [www.mgbr8.demr.gov.ph](http://www.mgbr8.demr.gov.ph)

## TWO (2) YEAR COMMUNITY DEVELOPMENT PROGRAM (CDP)

# CERTIFICATE OF APPROVAL

CDP # 005 - 2020 - 02VIII - 3<sup>rd</sup> Renewal

The Mines and Geosciences Bureau (MGB), Regional Office No. VIII (MGB R.O. No. VIII) having evaluated the 2 Year Community Development Program (CDP) of Cosco Capital, Inc. for the 3<sup>rd</sup> renewal application of Exploration Period for its Limestone Exploration Project under the Mineral Production Sharing Agreement No. 066-97-VIII (MPSA-066-97-VIII) granted to Cosco Capital, Incorporated located in the Municipalities of Menda and Isabel, Province of Leyte, hereby grants this Certificate of Approval after substantially complying with the requirements as mandated under the DENR Administrative Order (D.A.O.) No. 2010-21.

This Certificate is being issued subject to the pertinent provisions of the above-mentioned D.A.O. and the following conditions:

1. This Certificate is valid only for the activities stipulated in the approved 2 Year CDP (hereto attached as Annex "A" and made an integral part hereof).
2. The total budgetary allocation is One Million Four Hundred Sixty-Nine Thousand Nine Hundred Thirty Pesos (PhP1,469,930.00) which is equivalent to the ten percent (10%) of the estimated cost for its Exploration Work Program amounting to PhP14,699,300.00
3. The Company shall submit an annual status report to the MGB RO, copy furnished the MGB Central Office (CO) thirty (30) calendar days after the beginning of the following calendar year.
4. Additional conditions may be imposed to effectively and efficiently implement the approved CDP should the results of monitoring by the MGB RO or audit by the MGB CO warrant them.
5. Transfer of ownership or assignment of the Exploration Project carries with it the same conditions as contained in this Certificate for which written notification shall be made by the Company to the MGB RO copy furnished the MGB CO within fifteen (15) days from such transfer; and
6. The Company shall comply with the resolutions of Inter-Agency Task Force (IATF) on safety and health protocols relative to COVID-19.

Non-compliance with the above conditions shall be sufficient ground for the cancellation, revocation or termination of this Certificate or suffer the penalty prescribed in the Penal Provisions of Republic Act No. 7942, the Philippine Mining Act of 1995.

Given this 24<sup>th</sup> day of June, 2020 at Candahug, Palo, Leyte

LEO VAN V. JUGUAN, CESO V  
Regional Director  
MGB Regional Office No. VIII

Conforme:

MR. LEONARDO B. DAYAO  
President

Cosco Capital, Incorporated

"MINING SHALL BE PRO-PEOPLE AND PRO-ENVIRONMENT  
IN SUSTAINING WEALTH CREATION AND IMPROVED QUALITY OF LIFE"





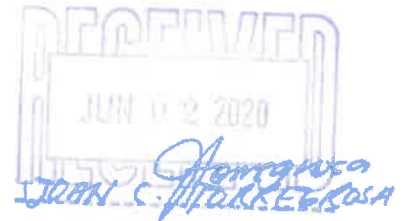
Republic of the Philippines  
Department of Environment and Natural Resources  
**MINES AND GEOSCIENCES BUREAU**

North Avenue, Diliman, Quezon City, Philippines

Tel No. (+63 2) 920-9120/920-9130 Trunkline No. 667-6700 loc. 134 Fax No. (+63 2) 920-1635 Email: central@mgb.gov.ph.

May 20, 2020

**Mr. Leonardo B. Dayao**  
President  
**Cosco Capital, Inc.**  
2<sup>nd</sup> Floor, Tabacalera Building  
2900 D. Romualdez, Sr. Street, Paco  
1007 Manila



Dear Mr. L. B. Dayao:

This refers to the application for third renewal of the Exploration Period under Mineral Production Sharing Agreement (MPSA) No. 066-97-VIII granted to Cosco Capital, Inc. (Cosco) on June 2, 1997 covering the 1,784.4754-hectare contract area situated in Merida and Isabel, Leyte.

After finding that the pertinent requirements have been complied with, this Office hereby grants the **third renewal** of the two-year Exploration Period under MPSA No. 066-97-VIII pursuant to the pertinent provisions of Section 39 and 136-B of Department of Environment and Natural Resources Administrative Order (DAO) No. 2010-21<sup>1</sup>, to take effect starting this date, subject to the following conditions:

1. Such renewal of the Exploration Period shall represent the 7<sup>th</sup> and 8<sup>th</sup> years of the Exploration Period of the MPSA as provided for under Section 5.1 thereof and that it shall not constitute an extension of the 25-year term of MPSA No. 066-97-VIII.
2. A negative variance of at least twenty percent (20%) in the implementation of the Exploration Work Program (ExWP) and the corresponding expenditures shall be subject to the prior approval of the Director.
3. This grant requires the **full implementation** of the approved ExWP and Environmental Work Program (EWP), as well as compliance with the terms and conditions of the MPSA, **including the filing of the Declaration of Mining Project Feasibility (DMPF)** during this term of the Exploration Period, pursuant to Section 5.5 thereof.

Please be guided as follows:

- a. The implementation of the approved ExWP and EWP by Cosco is subject to periodic audit/monitoring by this Office and the Mines and Geosciences Bureau (MGB) Regional Office (RO) No. VIII;
- b. That a copy of the approved ExWP and EWP should be furnished by Cosco to the *Sanaauniana Panlalawigan* of Leyte furnishing this



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- c. The status reports on compliance with the approved ExWP and EWP should be submitted to MGB RO No. VIII, copy furnished this Office.
  - d. Thus, in this 3<sup>rd</sup> renewal, Cosco should be filing the DMPF, as prescribed. Failure of Cosco to file the DMPF within the prescribed period is a gross violation of the terms and conditions of the MPSA, which may cause the cancellation of the same.
4. Cosco shall submit the following documents within 30 days from receipt hereof:
  - a. Revised EWP, taking into account the attached comments of the Mine Safety, Environment and Social Development Division of this Office;
  - b. Proof of approval of the Community Development Program by MGB RO No. VIII; and
  - c. Performance surety equivalent to the expenditure requirement of the ExWP and EWP with validity covering the two-year term of this Exploration Period.

Failure to submit the said document within the above deadline shall constrain this Office to withdraw the grant of this renewal of the Exploration Period under MPSA No. 066-97-VIII.

In the interim, Cosco can implement its proposed EWP, pending submission and approval of its revision.

Attached is a copy of the approved ExWP and the interim EWP, for guidance.

Thank you.

Very truly yours,

  
ATTY. WILFREDO G. MONCANO.  
Acting Director

Encs.: as stated

c.f.: **The Regional Director**

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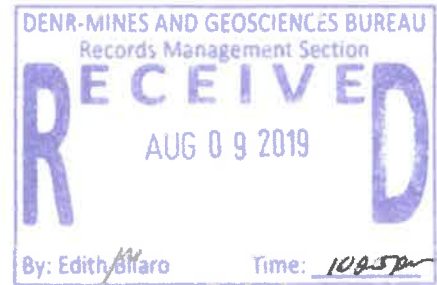
Republic of the Philippines  
 Department of Environment and Natural Resources  
**MINES AND GEOSCIENCES BUREAU**  
 North Avenue, Diliman, Quezon City

**EXPLORATION WORK PROGRAM**

**1.0 Cosco Capital Incorporated (CCI)**  
 2/F Tabacalera Building No. 2  
 900 D. Romualdez Street  
 Paco, Manila  
 Tel. No. (632) 524-92-36  
 Fax No. (632) 524-74-52

**Contact Person:**

**LEONARDO B. DAYAO**  
 Cosco Capital Incorporated  
 President  
 Tel. No. (632) 2570851  
 Fax. No. (632) 5247452



**2.0 Leyte Cement Project**

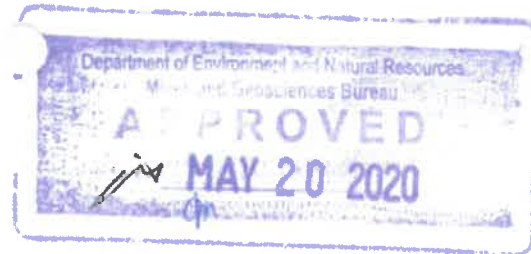
The prospect area is located in the municipalities of Merida and Isabel, Province of Leyte

**Project Location:**

POINT	LONGITUDE	LATITUDE
1	124°28'30"	10°53'30"
2	124°28'30"	10°54'30"
3	124°31'30"	10°54'30"
4	124°31'30"	10°53'30"
5	124°31'15"	10°53'00"
6	124°31'00"	10°53'00"
7	124°31'00"	10°52'30"
8	124°30'30"	10°52'30"
9	124°30'00"	10°52'00"
10	124°30'00"	10°52'30"
11	124°29'00"	10°52'30"
12	124°29'00"	10°53'30"

**3.0 Area or size of coverage (hectares)**





#### 4.0 Project Area Description

##### 4.1 Terrain/Physiography

The project area characterized as moderate to rolling topography with gentle slopes near the coastline. Moderate to steep slopes and very steep topography is typical of the structurally deformed areas at the central and eastern portion of the contract area. Elevations range from 5 to 10 meters above the sea level (masl) along the Ormoc-Isabel road and gradually rise to 300 meter above sea level (masl) at the limestone exposure in the north-central portion of the contract area. The ground abruptly climbs to elevations reaching a maximum of 500 meters on the peak of Mt. Lundag to the north.

##### 4.2 Accessibility

The contract area is accessible from Ormoc City through a 49-km stretch of well-maintained concrete coastal road up to Isabel town proper. This concrete road passes along the southern periphery of the claims. Ormoc City, in turn, is accessible from both Tacloban and Cebu cities. A 110-km highway connects Ormoc City to Tacloban City where provincial buses regularly ply the route. Access from Cebu City is provided by a 2-hour ride in upgraded ferryboats of prominent inter-island shipping companies. Other smaller companies that serve the other parts of Cebu Island provide additional ferry services.

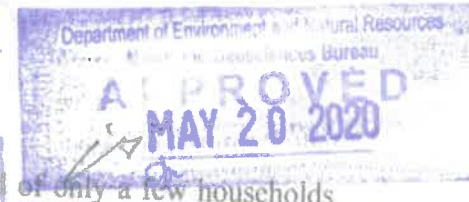
Some of the of the mountain villages can be reach through dirt roads, some of which are passable by motorcycles and vehicles with converted high wheelbase such as pick-ups and weapons carrier/light truck. Foot trails traverse the entire area that connects even isolated villages.

##### 4.3 Drainage System/s

Numerous drainage networks transect the contract area but only a few streams are perennial type. These include the Calunangan and Apale creeks, and the Matlang River. The absence of water in most of the creeks in the area is attributed to ground seepage especially in the limestone covered areas. Most of the perennial creeks were observed to have slowed its erosion process upon reaching the calcareous clastics beneath the younger limestone. All River and streams discharge their load to Ormoc Bay.

##### 4.4 Vegetation

The area, as a whole, is sparsely vegetated with most of the elevated terrain covered by shrubs and trees. Secondary growth vegetation is confined along steep slopes and gullies. Coconut, corn, rice, root crops and occasional tropical fruit-bearing trees are planted along gentle slopes and flat area, and these constitute the main agricultural crops planted in the area.



Generally, the mountain villages are composed of only a few households ( $\leq 10$ ) with 4-5 members each at the village centers while the rest are scattered along the slopes where the members work the fields. Predominantly all arable areas located at the bases of the slopes are planted with corn and other root crops. Arable slopes are planted with coconut trees and some tropical fruit bearing trees.

## 5.0 Description of Exploration Program

### 5.1 Research Work (Completed)

It is necessary that prior to the commencement of actual fieldwork, compilation, collation and re-interpretations of all available data generated during the past exploration works will be conducted to gather and gain more and better understanding of the geology, structures and mode of occurrence of limestone deposit and other associated rocks in the area. Data on hand will now become the basis in designing the ensuing exploration campaign. A preliminary topographic and geological map will be prepared and the most promising sites and or targets as recommended by the past exploration studies will be plotted.

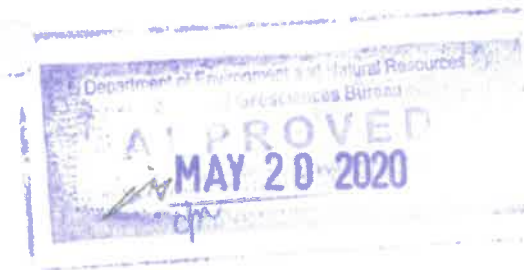
### 5.2 Reconnaissance/Regional Survey (Completed)

After a literature researches, a reconnaissance survey will commence on the early months of 1997. It is consisting of rapid geological mapping and rock sampling. The geological observation will be plotted on topographic map in scale of 1:50,000. This likewise includes laboratory analysis of samples taken.

Reconnaissance mapping shall be done on the area covered by the application. Surface geologic mapping shall be carried out using Global Positioning System (GPS), maps, compass and tape. Other important materials to be used are sample bag, and labelling pens. Rocks samples in chip or grab form will be collected. One or two samples will be taken per square kilometre. Stream courses are still the main traverse line areas blanketed by alluvium and or soil. The tracing of mineralized float fragments of rock to their source exposure should be collected. Collected limestone rocks and others associated rocks shall be investigated. Confirmed and evaluated on the ground.

### 5.3 Semi-detailed Survey or Follow-up Studies (Completed)

Semi-detailed/follow-up geologic mapping was followed after the result obtained from the previous reconnaissance survey indicated the areas potential as a source for cement raw materials. Mapping covered a total of 51 mining claims with an aggregate of 4,293 hectares covered by the municipalities of Palompon, Merida and Isabel in Leyte Province.



#### 5.4 Detailed Survey or Geological Survey

##### 5.4.1 Detailed Geological Mapping

This activity to be undertaking is the most important aspect in all exploration stages. These stages of exploration shall cover the most significant areas to determine the viability of the project in terms of economic and commercial values and its mineral content.

Pinpointing/delineating potential target area during the previous activity, a delineated follow up survey shall be designed and conducted. A larger Map scale shall be used for the purposed of depicting more details of the data gathered. A 1:2,000 map scale should be utilized.

A lithogeochemical survey involving collection of rock samples from a grid (450 m x 450 m) shall be conducted or less. Samples are made up of a few pieces of rock which appear to represent the outcrop. Sampling shall be conducted separately if more than one rock type is present in mapable quantity. A sample weighing about 2 kg is adequate to be considered

A cloth bag with a string or thick plastic bag shall be used for storage of these samples with tag.

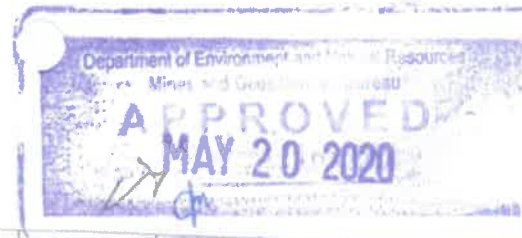
##### 5.4.1.1 Mapping Method

Based from the favourable results of 5.3. Extensive section logging will be undertaken, with a view on delineating in greater detail the thickness and extent of the deposit using the Brunton-tape method. This will also determine and characterize the presence of deleterious horizons such as interbedded clays, sandstones and intervening igneous rocks, etc.

The detailed survey will be composed initially of permanently locating exploration points. Permanently grid lines will be established. Intermediate traverse lines will be conducted through brunton and tape traverse. More detailed geologic features shall be obtained, gathered and recorded in the base map or plans.

##### 5.4.1.2 Sampling Density/Estimated Number of Samples

Two hundred (200) samples is envisioned to be collected. A grid sampling system will be utilized and more detailed petrographic work will be undertaken to establish and confirm textures and mineralogy.



## 5.4.1.4 Manpower Complement

	unit	Quantity
1 Project geologist	Man-day	60
1 Geologist	Man-day	60
1 Petrographer	Man-day	60
1 Mining Engineer	Man-day	60
1 CAD Operator	Man-day	60
2 Geologic Aide/Mapper	Man-day	120
6 Helper	Man-day	360
1 Driver	Man-day	60

## 5.4.1.5 Estimated Cost

ACTIVITIES	YEAR 1	YEAR 2
Professional Fee	1,173,000.00	
Laboratory Fee	400,000.00	
Transportation	370,000.00	
Miscellaneous	200,000.00	
Representation	100,000.00	
<b>TOTAL</b>	<b>2,243,000.00</b>	

## 5.4.1.6 Output

## Reports

The output for this survey shall be Final Geologic Reports of Limestone Deposit in the Area. This shall cover the result of the survey discussing lithology, mineralization and occurrence and extend of the deposit in the project area. Final geologic features shall also be included in the report.

## Maps

Detailed geologic maps of project area with selected cross sections and possible drill site locations.

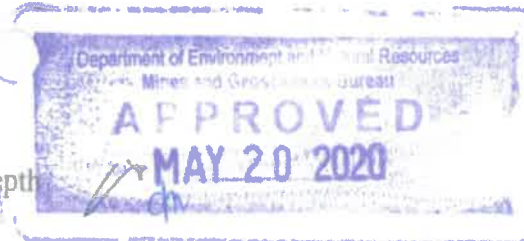
Geochemical map showing limestone grades

Topographic map showing actual sampling locations

## 5.4.2 Subsurface Investigation

## 5.4.2.1 Drilling

This activity is being conducted to have a reliable data on the extent and chemical composition of the limestone deposit at depth. This will provide data in the computation of reserved for development and mining



5.4.2.1.2 Number and depth

Eight (8) first stage drill holes with an aggregate depth of 400 meters are programmed for the second year. Step-out development drills are also programmed but the merits of these holes being drilled are dependent on the outcome of the first-stage drilling activity. Drilling array may deviate depending on the outcome of the completed holes.

5.4.2.1.3 Estimated number of samples

An approximately 400 samples shall be taken and subjected for laboratory analysis in manila using XRF.

5.4.2.1.4 Estimated cost

ACTIVITIES	YEAR 1 (Php)	YEAR 2 (Php)
Professional Fee (Geologist)		600,000.00
Mobilization/demobilization		1,000,000.00
Turn-key Drilling (Php 8,000.00/meter)		3,200,000.00
Laboratory Analysis using XRF		800,000.00
Head Office		360,000.00
<b>TOTAL</b>		<b>5,960,000.00</b>

5.4.2.2 Trenching/Test pitting

These methods will not be applied to the claim area. However, the need for driving these trenches and pits will be adopted as part of the environmental protection measures against spillage in drill site areas

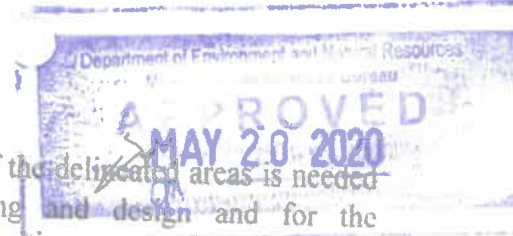
5.4.2.3 Tunnelling or Adit

These methods will not be applied to the claim area. Since the area is carbonate, we see no need to drive these horizontal subsurface. All exploration activities are to be conducted above ground.

5.5 Topographic Survey

Topographic Survey will be programed to establish control station, update topographic map and locate cultural and mining related features. The topographic map will have 2 meters contour interval or 1:2 000 scale. It





Topographic survey and location survey of the delineated areas is needed necessary in mine development planning and design and for the establishments of legal boundaries. The resulting topographic map useful in accurate design of grid pattern for test pits, trenches or simply random grab sampling. This is likewise necessary in planning the site for drill holes during drilling activity.

#### 5.5.1 Duration

More or less, six (6) months with possible in-fill follow-up works depending on the outcome.

#### 5.5.2 Manpower Complement

Manpower	
1	Senior Geodetic Engineer
1	Geodetic Engineer
1	Instrument man
5	Helper

#### 5.5.3 Estimated Cost

Outsource (Package deal) Php 3,400,000.00

#### 5.5.4 Output

The output of the program is a 1:2,000 scale topographic map that will incorporate rock types and structures. It will also be used as working map for drill holes' location and section.

### 5.6 Data Syntheses, Reserves Computation and Project Economics

#### 5.6.1 Pre-Feasibility and Bankable Feasibility Studies

The company will have utilized both manual and computer method for reserve estimate using 3D dimensional computerized ore model. Computer software to be used is SURPAC or other computer software, a mining and geological software which is capable of computing the ore resource/ reserve.

#### 5.6.2 Duration

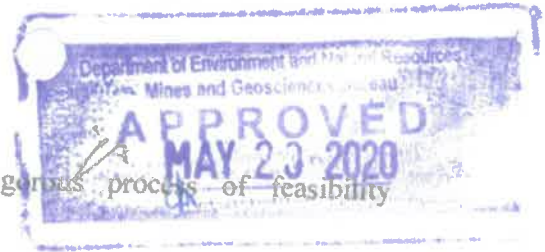
Three (3) month

#### 5.6.3 Estimated Cost

The estimated cost for this activity Php 500,000.00

#### 5.5.4 Declaration of Mining Feasibility





and will undergo the rigorous process of feasibility approval and acceptance.

#### 5.5.4.2 Duration

Three (3) months

#### 5.5.4.3 Estimated Cost

The estimated cost for this activity is Php 500,000.00

### 6.0 Total Estimated Exploration Cost

ACTIVITIES	YEAR 1	YEAR 2
Project Promotion	200,000	200,000
Detailed Geological Survey	1,843,000.00	
Laboratory & Petrographic Analysis	400,000.00	800,000.00
Topographic Survey	3,400,000.00	
Mobilization/demobilization		1,000,000.00
Turn-key Core Drilling (Php8,000/meter)		3,200,000.00
Professional (Core logging) Fees		600,000.00
Head Office G&A	360,000	360,000.00
Ore Reserve Calculation & Declaring Feasibility Study		1,000,000.00
Contingency Funds 10%	620,300.00	716,000.00
<b>TOTAL</b>	<b>6,823,300.00</b>	<b>7,876,000</b>

Year 1: Php 6,823,300.00

Year 2: Php 7,876,000.00

**Total: Php14, 699,300.00**

### 7.0 Schedule of Activities (Gantt chart) – attached

Table 2. Summary of 2-Year Exploration Work Program


LEYTE CEMENT PROJECT								
PROPOSED TWO-YEAR WORK PROGRAM								
ACTIVITIES	FIRST YEAR				SECOND YEAR			
	1 Q	2 Q	3 Q	4 Q	1Q	2 Q	3 Q	4 Q
Project Promotion								
Detailed Geological Mapping								
Topographic Survey								
Drilling Design and Layout								
Drilling Bid								



**8.0 Map Attachments**

- 8.1 Location Map of MPSA No. 066-97-VIII
- 8.2 Regional Geologic Map of MPSA NO. 066-97-VIII
- 8.3 Geologic and Structural Map of MPSA No. 066-97-VIII

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