CONCRETE AGGREGATES CORPORATION

16 May 2016

THE PHILIPPINE STOCK EXCHANGE, INC.
3rd Floor, Philippine Stock Exchange Plaza
Ayala Triangle, Ayala Avenue, Makati City

Attention: **Ms. Janet A. Encarnacion**
Head, Disclosure Department

Gentlemen:

Pursuant to the Philippine Mineral Reporting Code (PMRC) on disclosures of technical reports, we furnish you a copy of the Economic Assessment and Ore Reserve Estimation Report for Concrete Aggregates Corporation (CAC) dated April 2016 covering its property located in Barangay San Isidro, Municipality of Angono, Province of Rizal.

In accordance with the requirements under the PMRC, the Economic Assessment and Ore Reserve Estimation Report was prepared by Egr. Orlando S. Cruz, who is a registered professional mining engineer under the Philippine Regulatory Commission and is a Competent Person under the PMRC. A copy of the Competent Person's Certification is made part of the Economic Assessment and Ore Reserve Estimation Report.

We wish to note that, last 26 November 2015, CAC submitted a copy of the Mineral Resource Estimate Report to the Securities and Exchange Commission and the Philippine Stock Exchange.

The Economic Assessment and Ore Reserve Estimation Report, which covers approximately 130 hectares of CAC's property in Angono, Rizal, found approximately Sixty Seven (67) million metric tons of ore reserve as of April 2016.

Thank you and best regards

Very truly yours,

ISAGANI ELIAS A. ELACIO
Corporate Information Officer

COVER SHEET

36140

S.E.C. Registration Number

CONCRETE AGGREGATES CORP.

(Company's Full Name)

9TH FLR. ORTIGAS BLDG. ORTIGAS AVE., PASIG CITY

(Business Address No. Street City / Town / Province)

JOSE ANTONIO V. EVANGELISTA III

Contact Person

6311231

Company Telephone Number

12 31

Month Day

Fiscal Year

06 25

Month Day

Annual Meeting

SEC FORM 17-C

FORM TYPE

PERMIT TO OFFER SECURITIES

Secondary License Type, If Applicable

Dept. Requiring this Doc.

Amended Articles Number/Section

Total Amount of Borrowings

559

Total No. of Stockholders

Domestic

Foreign

To be accomplished by SEC Personnel concerned

File Number

LCU

Document I.D.

Cashier

STAMPS

Remarks = pls. use black ink for scanning purposes

PSE Security Code ______
SEC Number 36140
File Number ______

CONCRETE AGGREGATES CORPORATION

(Company's Full Name)

9th Floor Ortigas Building, Ortigas Ave., Pasig City

(Company's Address)

631-1231
fax no.: 631-6517

(Company's Telephone Number)

DECEMBER 31

(Fiscal Year Ending)
(Month & Day)

SEC 17-C

(FORM TYPE)

(Amendment Designation if Applicable)

Period Ended Date

Permit to Offer Securities for Sale

(Secondary License Type, if any)

SECURITIES AND EXCHANGE COMMISSION

SEC 17-C

CURRENT REPORT UNDER SECTION 17 OF THE SECURITIES REGULATION CODE AND SRC RULE 17.1 THEREUNDER

1. 13 May 2016
   ....
   Date of Report (Date of earliest event reported)

2. SEC Identification Number: 36140

3. BIR Tax Identification No. 000-201-881-V

4. Concrete Aggregates Corporation
   ....
   Exact name of issuer as specified in its charter

5. Philippines
   ....
   Province, country or other jurisdiction of incorporation

   (SEC Use Only)
   Industry Classification Code:

6. 9/F Ortigas Building, Ortigas Avenue, Pasig City — 1605
   ....
   Address of principal office — Postal Code

7. (02) 631-12-31
   ....
   Issuer's telephone number, including area code

8. Not Applicable
   ....
   Former name or former address, if changed since last report

9. Securities registered pursuant to Sections 8 and 12 of the SRC or Sections 4 and 8 of the RSA

Title of Each Class	Number of Shares of Common Stock Outstanding and Amount of Debt Outstanding
Common Class	27,466,449

10. Indicate the item numbers reported herein:

    Item 9

CONCRETE AGGREGATES CORPORATION

13 May 2016

SECURITIES AND EXCHANGE COMMISSION
SEC Building, EDSA
Greenhills, Mandaluyong City

Attention : **Dir. Justina F. Callangan**
Corporate Finance Department

Gentlemen:

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Thank you and best regards

Very truly yours,

JOSE ANTONIO V. EVANGELISTA III
Compliance Officer

2016

ECONOMIC ASSESSMENT AND ORE RESERVE ESTIMATION ON CONCRETE AGGREGATES CORPORATION ANGONO BASALT PROJECT

April 2016

Prepared for:

CONCRETE AGGREGATES CORPORATION
Brgy. San Isidro, Angono
Rizal, Philippines

Prepared by:

ENGR. ORLANDO S. CRUZ
CP - Mining Engineer for Nickel, Copper and Aggregates

CERTIFICATE AND CONSENT OF CP FOR TECHNICAL REPORT

In his capacity as Competent Person (CP) for Mining under the Philippine Mineral Reporting Code (PMRC), the undersigned certifies that he has carefully examined the exploration data and various geological reports on the Feasibility Study of Concrete Aggregates Corporation's (CAC) Angono Basalt Project. The review included a mine site visit in January 30, 2016. As reference, he used the report of Rogel A. Santos, PhD, Professional Geologist and CP for Geology. He further certifies that he is not an employee of CAC or any of its subsidiaries nor he is a holder of any shares of stocks of the mentioned company.

The undersigned is a Licensed and Registered Mining Engineer and likewise a Fellow of the Philippine Society of Mining Engineers (PSEM) and an accredited Competent Person by the Philippine Stock Exchange Commission (SEC).

The method employed in the calculation of ore reserves was based on best mining engineering practices that could support the projection of production and marketing schedule and complies with the guidelines of the Philippine Mineral Reporting Code (PMRC).

This certificate applies to this technical report prepared for CAC completed in April 2016. In the event that new geological information and exploration results may arise that will affect the ore reserves declared in this technical report after the aforementioned date, further examination is to be conducted and that this certificate does not apply.

This report shall be used in accordance with the intent and purposes of the PMRC as elaborated under Section II item 4 of the PMRC Handbook 2007 Edition.

ENGR. ORLANDO S. CRUZ
Mining Engineer – License # 722
Competent Person #009
Open Pit- Copper & Nickel; Quarrying – Industrial (Aggregates)

EXECUTIVE SUMMARY

Concrete Aggregates Corporation (CAC) owns tenements located in Brgy. San Isidro and Brgy. San Roque, both in Angono Rizal. The property hosts a considerable amount of basalt deposit belonging to the Kinabuan Formation (mainly composed of spillitic basalt flows with intercalated highly indurated sandstone, shale and chert beds)

This technical report provides economic assessment and ore reserve estimate in accordance to the Philippine Mineral Resource Code (PMRC). The reserve model was generated under the supervision and validation of Engr. Orlando Cruz, CP for Mining. The assessment and validation was conducted by the author from January to April 2016 with a mine site visit on January 30, 2016.

The CAC tenement is a mere an hour and a half drive from Ortigas Avenue-EDSA (Epifanio de los Santos Avenue) through Manila East Road (Angono National Highway) passing by Municipality of Taytay then about a kilometer and half towards Don Mariano Santos Avenue. The tenement transects the Barangays of San Roque and San Isidro both of the Municipality of Angono, Province of Rizal. An alternate route passing by the east peripheral road of Manggahan Floodway will take about an hour and connects to Manila East Road in Baytown.

The mineral property is within the CAC's existing tenements with Mineral Production Sharing Agreement (MPSA) No. 032-95-IV and MPSA No. 055-96-IV, the former consisting of three (3) meridional blocks. Both MPSA covers an area of about 212 hectares.

In 2015, a mineral resource amounting to 233,350,950 MT has been defined by Mr. Rogel A. Santos, a Professional Geologist and a Competent Person for Geology under the Philippine Mineral Reporting Code (PMRC).

The deposit has been exploited as early as 1969 and is currently in operation and production stage. In 2008, CAC and La Farge Holcim Aggregates, Inc. (LHAI) entered into an operating agreement where LHAI agreed to explore, develop, exploit and commercially utilize CAC's mineral property. LHAI shall extract, mine, process, market or sell or distribute for its own account the basalt deposit or aggregate materials produced from CAC's mineral property. LHAI shall pay a royalty amount equal to 2.5% of the value of the aggregates sold to CAC.

Material	Proven		Probable		Total	
	BCM	*MT*	*BCM*	*MT*	*BCM*	*MT*
Ore	**23,320,786**	**65,298,201**	**863,516**	**1,727,031**	**24,184,302**	**67,025,232**

Analysis of the data provided and assumptions made produced an ore reserve estimate of approximately 67,025,232 MT yielding a project net present value (NPV) of PhP 2.85 billion assuming a 16-year mine life. Consequently, the project will yield Concrete Aggregates Corporation royalty earnings amounting to PhP 309 million throughout the entire project life.

Contents

List of Figures

List of Tables

INTRODUCTION

This technical report has been prepared as a commissioned work pursuant to the Philippine Mineral Reporting Code (PMRC) to support a public disclosure of Concrete Aggregates Corporation (CAC). The author has relied mainly on the information provided by the personnel of CAC and La Farge Holcim Aggregates, Inc. (LHAI), previous and existing technical reports as well as the latest Mineral Resource Report prepared by the Rogel A. Santos, CP for Geology.

This report discloses an Ore Reserve Estimate and the viability of operating CAC's mineral property. The assessment and validation was conducted by the author from January to April 2016 with a mine site visit on January 30, 2016.

The CAC tenement is a mere an hour and a half drive from Ortigas Avenue-EDSA (Epifanio de los Santos Avenue) through Manila East Road (Angono National Highway) passing by Municipality of Taytay then about a kilometer and half towards Don Mariano Santos Avenue. The tenement transects the Barangays of San Roque and San Isidro both of the Municipality of Angono, Province of Rizal. An alternate route passing by the east peripheral road of Manggahan Floodway will take about an hour and connects to Manila East Road in Baytown.

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RELIANCE ON OTHER EXPERTS OR CPs

The mineral property of CAC has been studied by various experts and the results are referenced on this report. The following experts are:

- Fred Monsada, BScMetallurgical Engineering, MSc Metallurgical Engineering, ASEAN Engineer, Competent Person for Metallurgy under the Philippine Mineral Reporting Code assisted in the review of the processing aspects of this report
- Johnny Felizardo, BSc Metallurgical Engineering, assisted in the market study and financial analysis.
- Brian Domagas, BSc Mining Engineering, assisted in the generation of the reserve model and report preparation
- Kayzer Llanda, BSc Mining Engineering, MSc Finance, assisted in the market study, financial analysis and report preparation.

TENEMENT AND MINERAL RIGHTS

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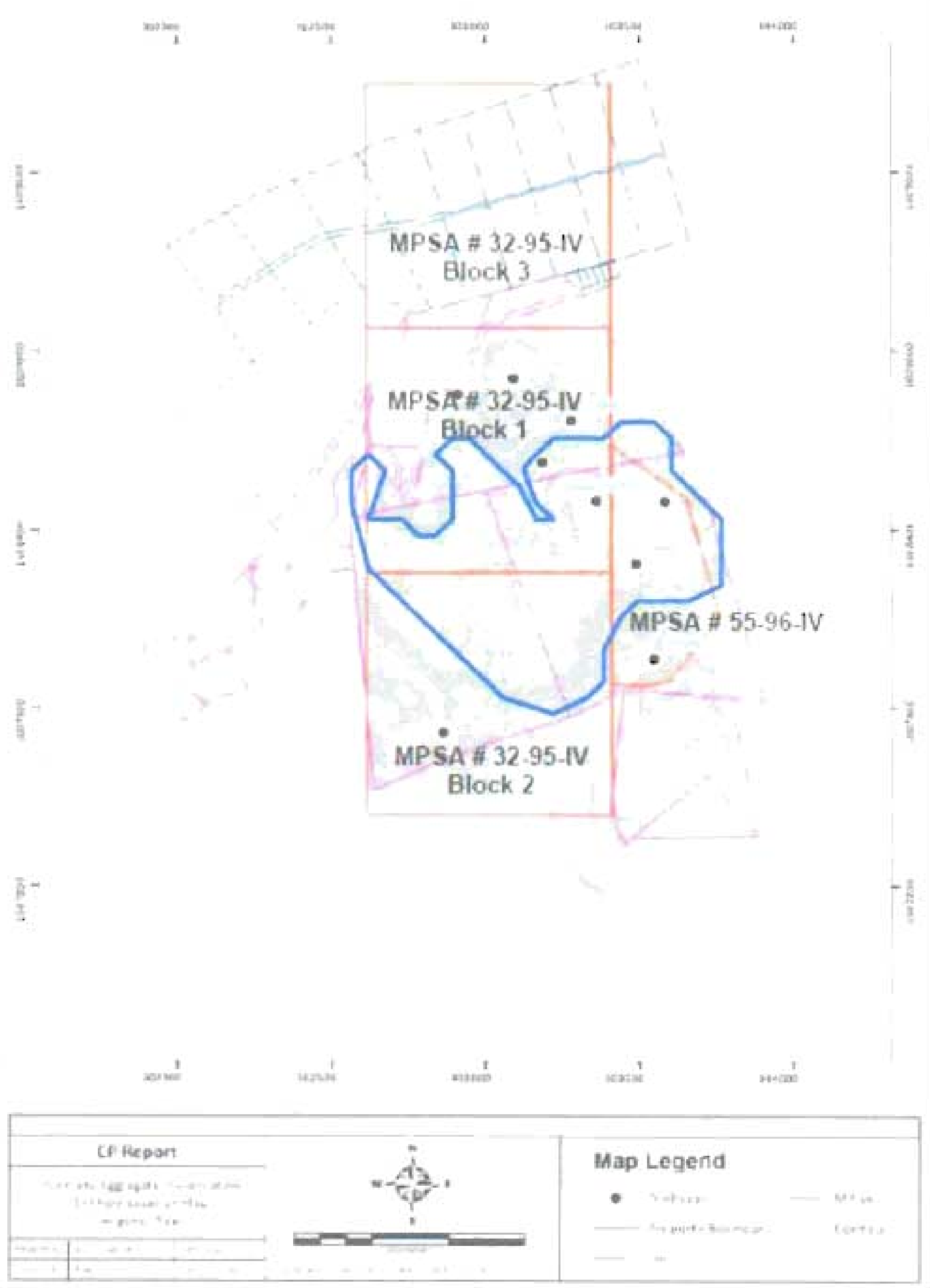

Figure 1. Tenement Map of Angono Basalt Project of Concrete Aggregates Corp.

MPSA Corner Coordinates	
Easting	**Northing**
517960.855	1609743.009
518759.217	1609743.606
518759.843	1608923.999
518761.643	1608527.043
519004.594	1608349.694
519112.046	1607952.113
518947.860	1607733.179
518762.256	1607723.079
518761.094	1607284.787
517962.652	1607284.192
517962.053	1608103.797
517961.454	1608923.403

Table 1. Corner Coordinates of both MPSA 055-96-IV and MPSA 032-96-IV

GEOGRAPHIC FEATURES

The following features have been laid out by Rogel Santos in his resource report.

Location and Accessibility

The CAC tenement is a mere an hour and a half drive from Ortigas Avenue-EDSA (Epifanio de los Santos Avenue) through Manila East Road (Angono National Highway) passing by Municipality of Taytay then about a kilometer and half towards Don Mariano Santos Avenue. The tenement transects the Barangays of San Roque and San Isidro both of the Municipality of Angono, Province of Rizal. An alternate route passing by the east peripheral road of Manggahan Floodway will take about an hour and connects to Manila East Road in Baytown.

Topography, Physiography, Drainage and Vegetation

The vicinity of CAC tenements manifests rolling terrains with moderate to steep slopes on river incised valleys though generally of moderate altitude at 30 meters to about 180 meters (above sea level, asl) elevation on areas underlain by basalt flows. The drainage pattern is dominantly dendritic with occasional abrupt deviation due to presence of faults. On areas underlain by volcaniclastic formations drainage yields sub-parallel pattern.

Volcanic flows underlying the CAC property traverse the core of Sierra Madre Mountains. The tenement is at the southwestern foothills of the Southern Sierra Madre Mountains and immediately north of the Laguna de Bay. The pervasive presence of massive basalt flows and pillows within the vicinity of Angono, Antipolo, and Binangonan made the district lucrative for aggregates business.

Vegetation in the vicinity is mainly cogonal grasses with sporadic patches of fruit-bearing trees such as those of mangoes, santol, and tamarind. The sparse vegetation is attributable to thin soil profile particularly, as expected, on sloping grounds and relatively fresh basalt bedrock.

Climate and Demography

The vicinity of Angono lies within the thin corridor of Type III climate based on the modified Corona classification but with its proximity to Metro Manila and with no bounding distinct physiography Type I may also be manifested. Thus, the two seasons are very pronounced which is dry from November to April and wet for the rest of the year. The period also marks the peak of the typhoon season in the Philippines. Effects of microclimate cannot be discounted having the highlands of the Southern Sierra Mountains as the local controlling geomorphologic features for seasonal winds and monsoons.

Land Use and Infrastructure

Having been in operation since year 1969 and has acquired the property of its quarry operation, the vicinity of the tenement remains unaffected by the fast urbanization of the Municipality of Angono and the adjacent town of Binangonan. Housing subdivisions sprawled in the surrounding areas and adjacent to the property perimeter which even encroaches the boundaries of the MPSA's.

The quarry operation maintains crushing facilities, motor pools, and adjoining offices within the quarry area. In the adjacent area of the property across the Don Mariano Santos Avenue (a national highway), a couple of huge warehouses for aggregates are constructed with an office building in the southwest corner. A memorial park was proposed on the vacant land between these warehouse area and the building facilities of the quarry operation across the highway.

Socio-Economic Environment

The Province of Rizal being underlain predominantly by basalt and to minor extent, limestone and pyroclastics, added to its proximity to Metro Manila have been a major source of aggregates and building stones for over 40 years. Aggregate quarries can be found in the adjacent municipalities of Antipolo, San Mateo, and Binangonan. Limestone of Teresa has been a good source of carbonates for cement manufacture and commercial "marble". "Adobe" (pyroclastic rocks) which are dimension stones from tuff and ignimbrites associated with basalts have been supplied to the construction market for some time in the past.

Environmental Features

Being underlain by basalt flows and pillows that are generally fresh with slight propylitic alteration and thinly weathered, mass movements such as rockslides or landslides are not frequent nor pervasive. In fact quarry bench slopes are almost vertical (80°) at heights of about 10 meters and yet keep its stability. With such characteristics of basement rocks run-offs on rainy period far outweigh the seepage to groundwater thus minor stream tributaries are not perpetually drained with running water particularly during dry months.

These bedrock characteristics also brought about poor vegetal cover which has gone favorable for a quarry operation.

PREVIOUS WORK

Though the quarry operation has been in existence since year 1969, the more recent of the resource assessments done within the CAC property are the ones conducted by Philex Mining Corporation (Philex). Based on a September 2001 report, Geological Resource Evaluation of Philex initially took place in December 2000 where core drilling was first proposed. Ardex Mining and Geoservices, Inc. (AMGI) was hired by CAC as third party drilling contractor to facilitate core drilling and geological logging. Based on this drilling contract nine (9) holes were completed and the logs were turned over to Philex for resource evaluation and engineering works for quarry. Consequently Philex also conducted the topographic survey of the pit and immediate vicinity. Maximum drilling depth is at 60 meters with 57.30 meters as the second deepest while the rest is at 20 meters. Drillhole distribution is at random and to date five (5) of these holes are yet affected or reached by the quarry pit advances. The resulting geological resource evaluation becomes the basis for the September 2001 report of Philex. Messrs. Noel C. Oliveros and Homer S.R. Magdamit are the Geologists – preparer while Mr. Leonardo P. Josef, Vice-President for Operations and Chief Operating Officer, is the signing Senior Officer for Philex.

In January of 2002, the Technical Services Group of Philex Mining Corporation made a follow-through to conduct an estimation of the remaining mineable reserve for CAC. The work is conducted by Mr. Rolando R. Cruz, Mining Engineer of Philex Mining Corporation then. Besides reserve estimation the work also includes geotechnical studies, mine production plans and schedule, and economic analysis.

Most recently, Rogel Santos, CP for Geology, has prepared a PMRC compliant mineral resource report which was used as the main reference for the preparation of the ore reserve estimate.

HISTORY OF PRODUCTION

Year	Basalt, in MT
2002	1,701,000
2003	1,758,000
2004	2,038,000
2005	1,828,000
2006	1,295,000
2007	1,700,000
2008	2,160,000
2009	2,276,000
2010	2,481,122
2011	1,838,051
2012	2,651,096
2013	3,504,615
2014	3,978,901
2015	4,100,397
Total	**33,310,182**

Table 2. Angono Basalt Project Historical Production Figures

LHAI presently operates the CAC quarry in Barangays San Roque and San Isidro of Angono. Prior to participation of LHAI, CAC manages the quarry operation since its initial production in 1969.

From 2002 to 2014, LHAI has documented a total of 33,310,182 MT of basalt produced from the mine site.

REGIONAL AND DISTRICT GEOLOGY[1]

1.1 Regional Geological Setting

The CAC tenement and property is at the southwestern margin of the Southern Sierra Madre physiographic terrane. The pillow basalt which is the source of the aggregates of CAC is interpreted to be the volcanic carapace of the Montalban Ophiolitic Complex and was popularly known then as Angat Ophiolite (Karig (1983) in Geology of the Philippines (GOP), 2012). North and east of the tenement the basalt are found to be intercalated with thin beds of ferruginous, siliceous red mudstone that may grade to sheeted dike complex (Arcilla (1991) in Geology of the Philippines, 2012). Gabbro bodies both the low level layered type and that of the upper level isotropic variety, diabase dike complex with minor plagiogranitic intrusions comprise the rest of the ophiolitic complex. In the works of Revilla and Malaca (1987, in GOP, 2012), these basalt exposures are grouped into Barenas – Baito Formation wherein the basalt is said to be associated with chert, basaltic sedimentary rocks, and pyroclastics.

This physiographic terrane is bounded to the north by the northwest trending trace of the Philippine Fault and separates it from the adjacent terrane of the Northern Sierra Madre The terrane terminates southwards at the vicinity of the Mt. Banahaw volcano complex near Dolores, Quezon.

1.2 Regional Stratigraphy

The Montalban Ophiolitic Complex is interpreted to be of Late Cretaceous Age and overlain by the Kinabuan Formation which is said to be the sedimentary cover of the ophiolitic complex. The latter formation is the equivalent of Barenas-Baito Formation of Revilla and Malaca (1987, in GOP, 2012). The sedimentary fraction of the Kinabuan Formation is said to be flysch type wherein the basal portion is associated with pillow basalt and basaltic breccias. Small limestone bodies along Tanay on the way to the CAC tenement is believed to be the calcareous member (Masungi Limestone) of the Maybangain Formation which rests conformably with the Kinabuan Formation. Maybanagain Formation is estimated to be of Paleocene to Middle Eocene Age. The youngest of the more rigid formation is the Manila Formation which is composed mainly of tuffaceous clay and silt of fluvial to marine in origin. It overlies the extensive Guadalupe Formation which make up the most of the bedrock of Metro Manila wherein the Diliman Tuff in Quezon City is one of the more observable member.

1.3 Regional Structures

Distribution of various formation and lithology with the Southern Sierra Madre Physiographic Terrane is controlled mainly by north-south and southwest trending lineaments which are believed to be high-angle faults. At the southwestern extreme is the Marikina Valley Fault

[1]The contents pertaining to Geological Work and Resource Estimation are taken from the Mineral Resource Report for Concrete Aggregates Corporation (June 2015) authored by Rogel A. Santos, Professional Geologist and Competent Person for Geology under PMRC.

System forming a graben which serves as basin for the Marikina River. The West Valley Fault traces the western margin of Laguna de Bay while the East Valley Fault pair is obliterated by the younger sediments in the vicinity of Pasig-Taytay area.

1.4 Local Linements

The major lineaments delineated within the vicinity of CAC property are mainly in the north-northwest trend paralleling the major lineaments west at the vicinity of Teresa, Rizal. Short lineaments west of the property are generally east-west with slight deviations towards NE and SE. Some are observable in the pit area along bench walls or slopes

MINERAL PROPERTY GEOLOGY

1.5 Lithological Distribution and Related Formation

The aggregate source of the quarry operations within the CAC property are the basalt pillows and breccias. The basalt forms part of the Montalban Ophiolitic Complex as the extrusive unit at the top of the complex. The basalt covers the entirety of the property, that of the MPSA areas and immediate vicinity. Sedimentary cover or carapace of the ophiolitic complex is not observable. Thin soil cover on unmined areas is pervasive and on open cuts the distinct red-orange brown soil color contrasts the dark greenish-gray color of the fresh outcrop. North-northwest trending lineaments are observable close to the eastern and western perimeters of the property. The structures are possible manifestation of high angle faults. Minor lineaments trending east-northeast, probable fault splays, are observable on the west and southern portion of the property. These structures hardly affect the quality of the aggregates in general since no extensive gouges or fault-related shear were observed. The faults are mostly sharp cuts in the outcrop.

1.6 Petrographic Studies

The rock is generally fresh with slight propylitic alteration thus turning the outcrop to dark greenish gray color. Previous petrographic studies yield plagioclases and augite crystals in a matte of feldspars. The dark green tinge can be attributed mainly to the presence of chlorite and some epidote. Pillow rims exhibit vesicles with secondary in-fills of quartz and on occasion some calcite.

EXPLORATION

1.7 Overview of Recent Exploration Activities

Prior to the historical aggregates extraction of CAC in 1969, there were no available data stating the exploration history of the company. More recently Philex Mining Corporation in December of 2000 conducted a resource assessment survey wherein nine (9) drill holes were driven to the property in order to determine the remaining resources after more than forty (40) years of operation. Core drilling was conducted then using a third party entity, Ardex Mining and Geoservices, hired by CAC.

DECLARED MINERAL RESOURCE BY CP FOR GEOLOGY

The Mineral Resource estimate has been classified in accordance with the Philippine Mineral Reporting Code (PMRC) for Exploration Results, Mineral Resources and Ore Reserves.

The Competent Person who calculated the below resource estimate and classification is Rogel A. Santos, as present in his Mineral Resource Report submitted to CAC.

Location	Category	Basalt, in MT
Area 1	Measured	1,547,219
	Indicated	10,416,306
	Inferred	131,775
Area 2	Measured	206,917,725
	Indicated	13,757,100
Area 3	Measured	712,600
Overall Total		233,482,725
Total (Meas + Ind)		**233,350,950**

Table 3. Mineral Resource Estimate by Rogel A. Santos, CP for Geology

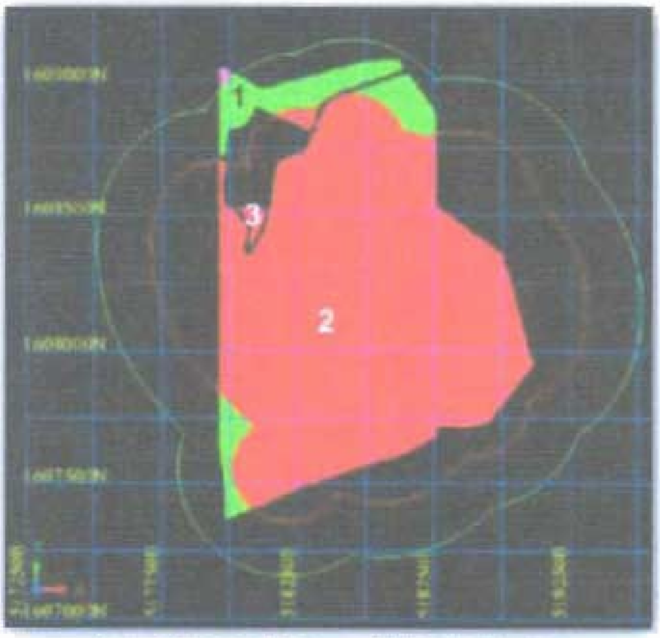

Figure 2. Mineral Resource Deliniated by Area

ECONOMIC ASSESSMENT OF THE MINING PROJECT

1.8 Description of Mineral Resources Estimates Used as Basis for Conversion of Ore Reserves

The mineral resource estimate used as basis for conversion of ore reserve in this report is produced by Rogel A. Santos as described in the Declared Mineral Resource by CP for Geology.

1.9 Type and Level of Feasibility Study

The type and level of feasibility of this report and estimate is at definitive stage already. The reserve is being mined out and the mine is in operation stage and has been producing as early as 1969.

1.10 Brief Description of the Project

1.10.1 Existing Mining and Processing Operations

The LHAI quarry is employing a hillside cut approach of quarrying. Mining operations include stripping, drilling, blasting, loading and hauling. Quarry's unit operations are being handled by LHAI's main contractor, Delta Earthmoving Incorporated (DEI) together with its sub-contractor, Orica Philippines Incorporated (OPI).

Stripping operations employ typical removal of overburden, usually topsoil or loose material. The overburden is loaded onto dump trucks and hauled to designate dumping areas. If overburden is composed of hard material such as weathered basalt or waste rock, drilling and blasting is usually conducted to fragment the materials before being hauled and dumped. Some topsoil or waste rocks are stockpiled for future rehabilitation use.

Drilling and blasting operations is used when there is a need to excavate hard materials, either the ore or waste. Top hammer type drilling is being employed. Blasting usually uses emulsion of Ammonium Nitrate Fuel Oil (ANFO) depending on the characteristics of the drill hole. Design of drill patterns and explosive initiation usually considers the safest and most efficient standards. Blasting utilizes non-electric delay detonators to minimize ground vibration, fly rock, dust and generation of disproportionate sound waves.

Loading, hauling and dumping is performed by a fleet composed of heavy duty excavators and dump trucks.

Processing operations are employed to meet the desired specifications of marketable products. The ore mined undergoes several crushing facilities and auxiliary processes to arrive at the specified material size.

Crushing operations include primary crushing, scalping, secondary crushing, screening and sorting, and tertiary crushing.

Primary crushing caters to the fresh ore transported from the mine. Boulders with size of 0.50 meter are initially crushed using a jaw crusher to reduce the size to a maximum of 0.25 meter. The crushed ore is sent to a scalping screen where size classification is achieved. Those that are 3 to 4 inches in size are sent to a secondary crusher while those that pass the screen, usually 1.5 to 2 inches are sent to the base course or sub-base course product stockpile.

Secondary crushing uses a gyratory crusher. Ore that pass this stage advances to screening and sorting for further size classification.

A vibrating screen is used for screening. The first deck of the vibrating screen produces G-1 aggregates; second deck are 0.75 inch aggregates; the third deck are 3/8 inches aggregates; and the last deck are sand (S-1). The sand in pulp is fed to the spiral classifier where a clean and higher quality of sand is separated from the water. The overflow of the spiral classifier is discharged to the settling pond wherein the clear water is recycled to the plants. The fine materials are recovered and mixed with base course materials.

Oversized materials from the first screen deck undergoes another crushing stage, the tertiary crushing for further size reduction and are conveyed back to vibrating screens.

1.10.2 Mining Method and Capacity

The mining method employed is hillside cut quarrying, a type of open-pit mining and an industry accepted approach to basalt quarrying. The mine is targeted to produce an equivalent of 4,200,000 MT of ore per year.

1.10.3 Processing Method and Capacity

The processing method employed is crushing and grinding. The ore requires no further physical or chemical processing and requires only size reduction to meet product specifications. The capacity is such that it can accommodate the mine's annual output.

1.10.4 Ore to be Mined and Products to be Produced

The ore mined is basalt. It is reduced into the following marketable sizes:

Figure 3. Physical Appearance of Products to be Produced

Classification	Size, in mm
G-1	38
3/4"	20
3/8"	10
S-1	5

Table 4. Classification and Size of Products to be Produced

1.10.5 Prospective Buyers and Markets

Prospective buyers and markets for rock aggregates could be classified into the following segments:

Industry Sector	Product Uses
Construction	Used as chief components of cement and asphalt concrete, filling materials for infrastructure and building foundations, railroad ballast
Metallurgical/Chemical	Used as casting material for foundry operations, glass manufacturing
Filtration	Used as filtering medium for water treatment facilities, septic leaching systems
Others	Used as abrasives in sandpaper, sandblasting material for de-rusting or cleaning of ship hulls

Table 5. Prospective Buyers and Market

It is estimated that more or less 99%+ of the aggregate market is consumed by the construction industry.

1.10.6 Estimated Mine Life

The estimated remaining mine life is 16 years.

1.10.7 Total Project Cost Financing

The project requires no additional major capital expenditure as equipment and machineries are already in place. Working capital requirements can be financed using cash flow from operations or short term credit facilities from lenders.

1.10.8 Production Cost and Schedule

The gross production cost is estimated to be at PhP 225 per MT of ore. The production schedule is expected to produce an annual output of 4,200,000 MT of ore.

1.11 Marketing Aspects

1.11.1 Demand and Supply Situation

<u>Demand Situation</u>

Demand for aggregates is mainly driven by the construction industry. The different product classifications are widely used as concrete mixes, beddings or fillings and materials for pre-stress and pre-cast products. For this reason, the demand for aggregates will be analyzed by correlating it with trends in the construction industry. The demand for aggregates closely reflect the demand for cement as these two commodities are the basic components of concrete mixes which are chief building materials used by the construction industries.

Concrete mixes usually contain an average of 0.146 cubic meters of aggregates and/or sand and gravel for every bag of cement used[2]. Using this assumption and data from the Cement Manufacturers' Association of the Philippines, Inc (CeMAP), demand can be correlated with cement consumption with results as follows[3]:

	Cement (in '000 MT)	Concrete Mix (in '000 MT)	Cement Demand Y-o-y Growth
2011	15,595	127,960	
2012	18,356	150,615	18%
2013	19,445	159,550	6%
2014	21,305	174,812	10%
2015	24,352	199,810	14%
2016F	26,300	215,795	8%
2017F	27,089	222,269	3%
2018F	28,172	231,159	4%
2019F	29,299	240,406	4%
2020F	30,471	250,022	4%

Table 6. Cement Consumption and Corresponding Concrete Mix Requirement

Cement consumption from years 2011 to 2015 represents actual figures from the (CeMAP). Consumption in 2016 to 2020 are estimates based on growth figures from the Cement Roadmap of the 2014 Investment Priorities Plan of the Board of Investments of the Department of Trade and Industry.

Years 2012 to 2015 saw significant increases in year on year growth possibly brought about by a boom in both public and private infrastructure and real estate construction. Key projects in the last few years included the construction of Tarlac-Pangasinan-La Union Expressway, Cavite-Laguna Expressway, Metro Manila Skyway Stage 3, LRT lines 1 and 2 extension Extension, Philippine Arena Construction, Vertis North among others. The past few years also saw rapid construction of condominium towers across Metro Manila.

Table 6, however, shows the overall country demand of concrete mixes, aggregates included. For LHAI's case, it is assumed that economic hauling distance would range 20 to 50km as delivering beyond this distance squeezes profit margins for buyers or sellers, depending on their delivery agreement. As such, the analysis narrowed down on regions closest to the mine site which are as follows: National Capital Region, Region III – Central Luzon and Region IV-A – CALABARZON.

To determine the appropriate distribution of the overall concrete mix demand derived from table 6 to regions of economic trading distance to LHAI, the contribution or the gross value added of each region in construction as part of the country's gross domestic product is used as follows[4]:

[2]Based on "Studies on Philippine Industries No. 9 (1975) by the Philippine Development Corporation of the Philippines"
[3]Annual cement demand growth based on the following:
2011-2015: Actual Cement Manufacturers' Association of the Philippines, Inc. (CeMAP) figures
2016: Author estimates
2017-2020: Board of Investments – Cement Roadmap figures, taken from 2014 Investment Priorities Plan
[4]Philippine Institute for Development Studies – Economic and Social Database (http://econdb.pids.gov.ph/tablelists/table/680)

Region	2010	2011	2012	2013	2014	as % of Total Country GVA
National Capital Region	155,439	129,944	148,203	169,517	167,868	24%
Central Luzon	51,297	55,078	67,832	73,285	81,951	10%
CALABARZON	72,996	73,729	98,129	110,793	117,847	14%
Philippines (Total)	**551,230**	**522,197**	**633,065**	**727,378**	**828,161**	

Table 7. Gross Value Added in Construction (at Current Prices), in million PhP

Using the percentage derived, the following table represents estimated (E) and forecasted (F) overall demand for 2011-2020 for NCR, Central Luzon and CALABARZON:

	Country Total	NCR	Central Luzon	CALABARZON	Region Total
2011E	127,960	30,879	12,944	18,263	62,085
2012E	150,615	36,345	15,235	21,497	73,077
2013E	159,550	38,502	16,139	22,772	77,412
2014E	174,812	42,184	17,683	24,950	84,817
2015E	199,810	48,217	20,211	28,518	96,946
2016F	215,795	52,074	21,828	30,799	104,702
2017F	222,269	53,636	22,483	31,723	107,843
2018F	231,159	55,782	23,383	32,992	112,157
2019F	240,406	58,013	24,318	34,312	116,643
2020F	250,022	60,334	25,291	35,684	121,309

Table 8. Estimated and Forecasted Concrete Mix Demand from 2012-2020, in thousands MT

Supply Situation

Data from the MGB[5] show an increasing production of concrete mixes, aggregates and sand and gravel combined. The total production over the years is characterized by 70% sand and gravel and 30% aggregates.

Region	2011	2012	2013	2014	2015E
Central Luzon	10,119	11,943	17,552	19,635	21,108
CALABARZON	30,356	49,016	65,258	71,176	76,514
Total	**48,475**	**60,959**	**82,837**	**90,810**	**97,622**
Y-o-y Growth		*26%*	*36%*	*10%*	*7.5%*

Table 9. Concrete Mix (Aggregates plus Sand and Gravel) Production from 2011-2015, in thousand MT

In years 2011 to 2013, production growth saw significant increases. However, in 2014, production growth, both in aggregates and sand and gravel declined. Aggregate production grew only 7% while sand and gravel production grew at 11%. The decline is attributed to balancing of supply and demand. Years 2011 and 2012 saw a considerable supply deficit which could have led to an outstanding supply growth in 2013 at 36%. This growth have led a

[5] Lifted from Mineral Statistics Series (2010-2014) published by the Mines and Geosciences Bureau (MGB) in June 2015

surplus of five million tons in 2013. The surplus continued and resulted to a steep decrease in production in 2014 and 2015.

The response of producers, particularly in 2013 and 2014, highlighted the low entry and exit barriers in the industry. The low capital required and use of unsophisticated technology, particularly in sand and gravel production, allowed players to increase and cut production depending on market situation. In this sense, we foresee a disciplined market reacting to a stable growth environment going forward. We project a growth rate in production of five percent in our calculation of production figures.

Region	2016F	2017F	2018F	2019F	2020F
Central Luzon	22,163	23,271	24,435	25,657	26,940
CALABARZON	80,340	84,356	88,574	93,003	97,653
Total	**102,503**	**107,627**	**113,009**	**118,660**	**124,593**

Table 10. Concrete Mix Production Forecast from 2016-2020, in thousand MT

Supply and Demand Balance

	Supply	Demand	Surplus/(Deficit)
2016F	102,503	104,702	2,199
2017F	107,627	108,843	1,216
2018F	113,009	112,157	(852)
2019F	118,660	116,643	(2,017)
2020F	124,593	121,309	(3,284)

Table 11. Supply and Demand Balance from 2016-2020

Five year forecast of supply and demand shows a generally balanced market. Therefore, there is no reason to believe a drastic change in prices unless a new player enters and significantly push more tonnage in the market and engage in a price war. We do not see this as the case especially after the market immediately balanced as a result of a surplus in 2013.

Should a significant change in the market balance occur, we consider the following as LHAI/CAC's competitive advantages:

1) Product Quality – The construction industry considers the product of LHAI/CAC to be of superior quality. Often called as "blue rock" due to its bluish grey color, the material boasts top of the line qualities in terms of strength reinforcement to the overall composite material. This product is frequently used by major and leading construction firms and developers in the country.

2) Proximity – The proximity of the mine site to NCR and Southern Luzon offers a distinct competitive advantage. The shorter distance allows buyers or LHAI/CAC to incur lower hauling cost and thereby reducing overall landed cost.

3) Customer Relationship – The brand built by LHAI and La Farge as a whole offers a unique advantage. The relationship built by LHAI to its existing customers, not only in the aggregates business, but also in the cement business allows it to maintain its standing should new players enter the market.

Despite the growth decrease and apparent market imbalance in 2014, LHAI has in fact survived and endured such with sustained profit margin at higher production outputs. This therefore defines LHAI's strong position in the aggregate and concrete mix industry.

1.11.2 Prospective Markets or Buyers

Prospective buyers and markets for rock aggregates could be classified into the following segments:

Industry Sector	Product Uses
Construction	Used as chief components of cement and asphalt concrete, filling materials for infrastructure and building foundations, railroad ballast
Metallurgical/Chemical	Used as casting material for foundry operations, glass manufacturing
Filtration	Used as filtering medium for water treatment facilities, septic leaching systems
Others	Used as abrasives in sandpaper, sandblasting material for de-rusting or cleaning of ship hulls

Table 12. Prospective Markets or Buyers

1.11.3 Product Specification

The following marketable products are currently being produced:

Classification	Size, in mm
G-1	38
3/4"	20
3/8"	10
S-1	5

Table 13. Aggregate Size Classification

G-1 aggregates are primarily used in paving concrete roads, preparing surface for asphalting or general concrete construction works. This type of material is also blended with ¾" gravel to form well-graded high quality mixtures. Other uses include massive foundations, granular bedding or filler and asphalt concrete mix with coarser design specifications.

3/4" aggregates are primarily used for thin reinforced concrete walls and slabs and bituminous asphalt mixes for road paving. This type of material is the basic size for structural concrete mixes, pre-stress and pre-cast concrete products.

3/8" aggregates are primarily used in the manufacture of concrete products such as pipes and wear surfacing for built-up roofings. This type of material is also used for high-strength concrete mixes applied in densely reinforced structures, pre-stress and pre-cast concrete products, asphalt wearing and surface courses.

S-1 aggregates are generally used as ingredient in all concrete and asphalt mixes. This type of material is also used as structural beddings, pavement seal coats and fairways sand caps.

1.11.4 Price Forecasts

The following selling prices were assumed. The prices were forecasted to escalate by a factor of 0.5% annually.

Product	Price (PhP/MT)
G-1	370
3/4"	500
3/8"	490
S-1	250

Table 14. Product Price per Unit Weight

1.11.5 Sales Contract

LHAI markets and sells aggregates produced from the mine and consequently holds various contracts with established customers. Due to its confidential nature, the details of the contracts are not incorporated in this report.

1.12 Technical Aspects[6]

1.12.1 Mining Plans

1.12.1.1 Mining Method

The LHAI quarry is employing a hillside cut approach of quarrying. Mining operations include stripping, drilling, blasting, loading and hauling. Quarry's unit operations are being handled by LHAI's main contractor, Delta Earthmoving Incorporated (DEI) together with its sub-contractor, Orica Philippines Incorporated (OPI).

Stripping operations employ typical removal of overburden, usually topsoil or loose material. The overburden is loaded onto dump trucks and hauled to designate dumping areas. If overburden is composed of hard material such as weathered basalt or waste rock, drilling and blasting is usually conducted to fragment the materials before being hauled and dumped. Some topsoil or waste rocks are stockpiled for future rehabilitation use.

Drilling and blasting operations is used when there is a need to excavate hard materials, either the ore or waste. Top hammer type drilling is being employed. Blasting usually uses emulsion of Ammonium Nitrate Fuel Oil (ANFO) depending on the characteristics of the drill hole. Design of drill patterns and explosive initiation usually considers the safest and most efficient standards. Blasting utilizes non-electric delay detonators to minimize ground vibration, fly rock, dust and generation of disproportionate sound waves.

Loading, hauling and dumping is performed by a fleet composed of heavy duty excavators and dump trucks.

1.12.1.2 Mining Design and Parameters

For existing operations, the average working bench width is 20 meters inclusive of the safety berm. Safety berm is about 3 meters wide and1.5 meters tall, equivalent to half of the diameter of the tire of the largest equipment used, whichever is pertinent. The bench height is 10 meters

[6] The contents of this section are taken from LHAI's 2016-2018 Work Program

based on the mine plan with approximately 15 meters working bench width and 70 degrees working bench slope.

There are two 2 main haulage ways whose continuities are marked by intermediate ramps in order to attain the desired 10% gradient for the entire quarry road and 15% gradient for short distances. A 50-meter buffer zone is provided to take care of the slope stability upon reaching the pit limit.

The final pit considers the following parameters:

a) Final inter-ramp pit slope = 45 degrees
b) Final bench height = 10 meters
c) Final bench width = 5 meters
d) Final Bench Slope = 80 degrees
e) Working bench slope = 70 degrees
f) Working bench height = 5 to 10 meters
g) Working bench width = 10 to 15 meters
h) Bench super elevation = 3 degrees
i) Ramp width = 20 meters (inclusive of a 3-meter safety berm with 1.5-meter height and 1-meter toe drain)
j) Maximum ramp gradient = 15% for short distance
k) Average ramp gradient = 10%
l) The mining will be limited to the last free-drain elevation of the pit.

1.12.1.3 Mining Recovery, Dilution and Losses

Mining recovery is practically high due to the application of secondary breaking for boulders, while fine materials can be classified as S1 in the processing plant. Essentially all of the mined materials will be ore since the estimation employed was conservative or modest. Waste/overburden materials has been set to a thickness of 20 meters from the surface, composing of topsoil, weathered and transition materials. Dilution will be low since the waste/overburden has been segregated from the very beginning.

1.12.1.4 Planned Capacity, Production Schedule and Estimated Mine Life

The planned mine capacity and production schedule is 4,200,000 MT of ore mined per year. Based on remaining reserves, the mine as a remaining life of 16 years.

1.12.1.5 Working Schedule

Mine operations run 24 hours, seven days a week consisting of three eight-hour shifts.

1.12.1.6 List of Mining Equipment, Auxiliary Machinery and Mine Infrastructure

Equipment	Brand	Model	No. of Units
Excavator	VOLVO	EC480DL	1
Excavator	VOLVO	EC480	1
Articulated Dump Truck	VOLVO A40F	A40F	1

Table 15. List of Mining Equipment Used in Development

Equipment	Brand	Model	No. of Units
Excavator	VOLVO	EC460	3
Excavator	Komatsu	PC 850 – 8R	3
Excavator	Kobelco	SK200	2
Excavator	Komatsu	PC800	1
Offroad Dump Truck	Komatsu	HD205	2
Offroad Dump Truck	Caterpillar	772G	2
Offroad Dump Truck	Caterpillar	771D	1
Offroad Dump Truck	Komatsu	HD405	10
Bulldozer	Caterpillar	D8R	1
Bulldozer	Komatsu	D115A	1
Road Grader	VOLVO	G930	1
Road Grader	Caterpillar	12H	1
Fuel Truck	Mitsubishi	Canter Tank Lorry	1
Water Truck	DAEWOO NOVUS	K6DVF 24,000L	1
Water Truck	Mitsubishi	FUSO Tank Lorry	1
Tower Lights	TEREX	RL40000	7
Explosives Truck	Isuzu	Close Van – Elf	1
Road Compactor	BOMAG	BW211D - 40	1
Rock Breaker	Kobelco	SK 200 (converted into breaker)	1
Wheel Loader	Komatsu	WA 500-5, WA 500-6,WA 470	5
Wheel Loader	VOLVO	L150G	2
Wheel Loader	Doosan	DL420A	3
Hydraulic Drill	Everdigm	ECD45E	2
Hydraulic Drill	Sandvik	DX800	2

Table 16. List of Mining Equipment Used in Production

1.12.2 Processing Plans

The processing operations include primary crushing, scalping, secondary crushing, screening/sorting, and tertiary crushing.

LHAI has two existing primary plants (Primary Plant 2 and Primary Plant 5) and three secondary plants (Plant 2, Plant 3 and Plant 5 and a standalone plant, Plant 4). Primary Plant 2 provides crushed materials known as surge pile delivered to Plant 2 and Plant 3 wherein these will be reduced further. Primary Plant 5 feeds the same type of material Plant 5. Plant 4 was constructed without primary plant.

1.12.2.1 Metallurgical Process Flowsheet

Annex 1 shows the process flowsheet of Primary Plant 2 feeding Plants 2 and 3. The same flowsheet is employed for Primary Plant 5. Annex 2 shows the process flowsheet of Primary Plant 4.

1.12.2.2 Material Balance

Classification	Size, in mm	% Distribution
G-1	38	10
3/4"	20	41
3/8"	10	31
S-1	5	15
Sub-base/Base course		4
Total		*100*

Table 17. Material Balance

1.12.2.3 Plant Capacity and Production Schedule

The capacity and schedule is designed to accommodate the mine's annual output of 4,200,000 MT of ore. The plant is expected to produce the following amount of products annually:

Classification	Annual Output, in MT
G-1	420,000
3/4"	1,722,000
3/8"	1,302,000
S-1	630,000
Sub-base/Base course	168,000
Total	*4,200,000*

Table 18. Annual Production Output

1.12.2.4 Plant Working Schedule

Crushing and grinding operations run 24 hours, seven days a week consisting three eight-hour shifts.

1.12.2.5 Product Specification

The following will be the main products from the plant:

Classification	Size, in mm
G-1	38
3/4"	20
3/8"	10
S-1	5

Table 19. Aggregate Size Classification

1.12.2.6 List of Mill Machineries and Auxiliary Equipment

Area	No. of Units	Equipment
Primary 2	1	Apron Feeder, size 48" x 12'

	1	Jaw Crusher, Nordberg Bergaud, 400 MTPH capacity @ 7" css, size 1.3m x 1.1m x 2.4m long
	1	Spillage Belt Conveyor, size 24" wide x 4.2 m long belt
	1	Conveyor No. 1, size 36" wide x 30m long belt
Primary 5	1	Primary 5 1 CJ612 Sandvik Primary Jaw Crusher, 160 kW
	1	SV1653H Primary Grizzly Feeder 30 kW
	1	Primary Crushing Station-CJ612, 60-cu.m heavy duty hopper
	1	Conveyor No. 1,1200mmW x 10mL belt
	2	Conveyor No. 2,1200mmW x 75mL belt
	2	Conveyor No. 3,1000mmW x 39mL belt
Plant 2	1	Vibrating Feeder, Trio Pan Feeder, size 3' x 6'
	1	Tunnel Conveyor, size 32" wide x 25.0m long belt
	1	Scalping Screen (Screen No. 1), size 4' x 8', single deck
	1	Gyratory Crusher, Allis Chalmers, size 14" x 50"
	1	Gyratory Conveyor, size 36" wide x 7.3m long belt
	1	Main Conveyor, size 36" wide by 27.2m long belt
	2	Vibrating Screen 2&3 (TRIO), size 6' x 16' double deck
	1	Feed Conveyor, Symons, size 32" wide x 4.5m long belt
	1	Sandvik Cone Crusher, CH430, size 3800
	1	Return Conveyor, size 32" wide x 28.2m long belt
	1	Short Head Cone Crusher, Symons, size 3'
	1	3 Footer Conveyor, size 24" wide x 6.9m long belt
	1	Sand Classifier, size 36" x 22' long
	1	Conveyor # 3, Size 32" wide, x 24m long belt
	1	S-1 Conveyor, size 24" wide x 28m long belt
	1	3/4 Conveyor, size 24" wide x 20.2m long belt
	1	3/8 Conveyor, size 24" wide x 24.4m long belt
	1	Base Conveyor 1, size 24" wide x 26.2m long belt
	1	Base Conveyor 1, size 24" wide x 18.8m long belt
	2	Water Pump, Baldor Goulds Centrifugal,size 6" impeller ø/600 gpm
Plant 3	1	Vibrating Feeder, VME Svedala, size 1.75 x 8.0m
	1	Tunnel Conveyor, size 36" wide x 28.8m long belt
	1	Scalping Screen (Screen No. 1), size 4' x 8', single deck
	1	Base Course Conveyor, size 24" wide x 30.5m long belt
	1	Jaw Crusher, Austin Western, size 25" x 40"
	1	Jaw Conveyor, size 36" wide x 11m long belt
	1	Main Conveyor, size 36" wide x 25m long belt
	2	Vibrating Screen 2&3 (TRIO), size 6' x 16' double deck
	1	Feed Conveyor, Symons, size 32" wide x 4.9m long belt
	1	Sandvik Cone Crusher, CH430, size 3800
	1	Return Conveyor, size 32" wide x 28.2m long belt
	1	Short Head Cone Crusher, Symons, size 3'
	1	Footer Conveyor, size 24" wide x 7.9m long belt

	1	Sand Classifier (TRIO), size 36" x 25' long
	1	S-1 Conveyor, size 24" wide x 28m long belt
	1	3/8 Conveyor, size 24" wide x 23.6m long belt
	1	3/4 Conveyor, size 24" wide x 20.12m long belt
	1	G-1 Conveyor, size 24" wide x 22.25m long belt
	1	3/8 Overflow Conveyor, size 24" wide x 30.5m long belt
	1	3/4 Overflow Conveyor, size 24" wide x 21.25m long belt
	1	G-1 Overflow Conveyor, size 24" wide x 30.79m long belt
	2	Water Pump, Baldor Goulds Centrifugal,size 6" impeller ø/600 gpm
Plant 4	1	Vibrating Grizzly Feeder (TRIO) size 40" x 16'
	1	aw Crusher, IBAG, 32" x 40"
	1	Jaw Conveyor, size 32" wide x 14.6m long belt
	1	Main Conveyor, size 32" wide x 32.5m long belt
	1	Vibrating Screen 1, size 5' x 16' double deck
	1	Vibrating Screen 2, size 8' x 20' triple deck
	1	Feed Conveyor, size 32" wide x 3.35m long belt
	1	Standard Cone Crusher, Symons, size 4.25'
	1	Return Conveyor, size 32" wide x 34m long belt
	1	Transfer Conveyor, size 24" wide x 10.36m long belt
	1	Hydrocone Feed Conveyor, size 24" wide x 3.35m long belt
	1	Sandvik Cone Crusher, H3800
	1	Return 2 Conveyor, size 24" wide x 7.31m long belt
	1	Sand Classifier, size 36" x 22' long
	1	S-1 Conveyor, size 24" wide x 19.4m long belt
	1	3/8 Overflow Conveyor, size 24" wide x 23.4m long belt
	1	3/4 Overflow Conveyor, size 24" wide x 31.1m long belt
	1	G-1 Conveyor, size 24" wide x 25.3m long belt
	1	Water Pump, Baldor Goulds Centrifugal,size 6" impeller ø/600 gpm
Plant 5	1	Sandvik Secondary Cone Crusher, 160 kW
	1	Sandvik Tertiary Cone Crusher, 315 kW
	1	Sandvik VSI Crusher, 185 kW
	1	MS 400 x 130 MS Sand-Dewatering + Cyclone
	2	U Lip Tunnel Feeder , 2x2.3 kW
	1	SP1320H Feeder, 2x2.3kW
	1	Vibrating Screen 37 kW
	1	Pan Feeder, 2 x 2.3kW
	1	SP0715 Feeder, 2x1.2kW
	1	3/4 Conveyor, 800mmW x 71.2mL belt
	1	3/8 Conveyor, 800mmW x 71.2mL belt
	1	S-3 Conveyor, 650mmW x 77.0mL belt
	1	G-1 Conveyor, 650mmW x 77.0mL belt

Table 20. List of Mill Machineries and Auxiliary Equipment

1.12.3 Mine Support Services

1.12.3.1 Power Source

The annual power requirement based on 2016 projected consumption is 10,111,023 kwh for production related activities and 273,243.24 kwh for non-production related activities. Power is sourced from the grid as distributed by MERALCO.

1.12.3.2 Mechanical Shop

The mechanical shop for mobile equipment maintenance is handled by the company's mining contractor.

1.12.3.3 Industrial Water Supply

Process water is estimated at 5,450.50 m3 per day as initial supply is obtained from surface water. Substantial amount of this process water is being re-used in plant operation.

1.12.4 Environmental Protection and Management Plan

1.12.4.1 Environmental Impacts and Corresponding Mitigating Measures

Activity	Impact Description	Mitigation Measures
Construction of Quarry Roads	Minor change in topography	*Re-contouring of the area during rehabilitation*
	Disturbance of flora & fauna	*Progressive reforestation and rehabilitation of disturbed areas*
	Modification of soil	*Proper soil stockpiling & rock banking/boulder lining*
	Modification of surface drainage	*Proper planning*
	Erosion & siltation of water bodies (TDS) & increase in oil and grease	*Provision of settling ponds, as well as silt traps, along drainage canals*
		Cutting & filling of slopes along designated areas so that erosion will be minimized by the angle of repose
		Directing run-off to road side canals, away from water sources
		Directing runoff above the slopes away from the exposed areas;
	Noise & dust emissions (TSP)	*Regular maintenance of construction equipment*
		Regular water sprinkling within the road construction area
		Reduce truck speed
		Covering of trucks with canvass to avoid silt spillages onto roads
		Surface improvement by adding gravel or slag to dirt roads
Blasting	Hazards due to fly rocks	*Warn community before the blasting operation*
		Conducting blasting during daytime only
		Use of controlled blasting techniques

	Ground vibration	*Warn community before the blasting operation*
		Conducting blasting during daytime only
		Use of controlled blasting techniques
		Use of vibrometer every blasting to monitor vibration and air blast in compliance with the standards
	Disturbance of aquifers affecting water quality & quantity of shallow wells	*Use of controlled blasting techniques*
		Use of engineered and geologically-assessed quarry plans
	Noise and dust emissions	*Warn community before the blasting operation*
		Use of controlled blasting techniques
Quarrying Development/ Operations (Excavating & Loading)	Removal of overburden	*Clearing only of areas that will be quarried*
		Replacing topsoil during progressive rehabilitation
		Delivering & properly stockpiling overburden that will be stripped to a designated waste dump
	Modification of soil	*Proper soil stockpiling & rock banking/boulder lining*
	Disturbance of flora & fauna	*Progressive rehabilitation of mined-out areas*
	Erosion/siltation of water bodies (TDS)	*To extent possible, all major clearing & stripping of overburden to be done during dry season*
		Provision of settling ponds, as well as silt traps, along drainage canals
		Diverting runoff flow away from water sources
		Regular desilting of siltation ponds
		Delivering & properly stockpiling overburden that will be stripped to a designated waste dump away from water bodies
	Rock slides & landslides	*Provision of adequate drainage control*
		Engineering measures to ensure slope stability
	Noise & dust emissions (TSP)	*Regular maintenance of excavating & loading equipment*
		Providing exhaust mufflers on haulage vehicles
		Water sprinkling of roads
		Planting trees along the roads in areas near the villages to serve as noise & dust barriers
		Surface improvement by adding gravel or slag to dirt roads
	Erosion/siltation of water bodies (TDS)	*All topsoil to be properly stockpiled upslope and way from other spoil materials*

		Provision of settling ponds, as well as silt traps, along drainage canals
Stockpiling	Dust emissions (TSP)	*Water sprinkling of roads*
		Planting trees along the roads in areas near the villages to serve as noise & dust barriers
	Noise & dust emissions	*Impose traffic regulations such as no blowing of horns*
		Periodic water sprinkling along quarry roads during dry season
		Use of optimum route per vehicle
		Reduce speed along haulage roads, especially near residential areas
		Regular maintenance of hauling equipment.
Hauling	Destruction of aquifer from over extraction of water	*Covering trucks with canvass to avoid silt spillages onto roads*
		Limit load capacity
		Surface improvement by adding gravel or slag to dirt roads
		Regular clean-up of drainage canals
		Provision of settling ponds, as well as silt traps, along drainage canals
		Regular monitoring of surface runoff from the plant
	Dust emissions	*C-6 Area concreting to reduce dust accumulation*
		DOMSA Asphalt overlay to improve road quality
Plant Operations	Siltation of water bodies due to inadequate storage capacity of ROM & finished products	*Ensure proper stockpiling area to prevent siltation of the river due to finish product during heavy rains thru provision of land berms along the crushing plants areas parallel to the river*
		Provision of proper drainage along the plants for run-off water separate from the process water
	Contamination of nearby water bodies with oil & grease & other pollutants from runoff from the plant	*Provision of settling ponds, as well as silt traps, along drainage canals*
	Generation of scrap materials other solid wastes from the equipment & facilities replacement	*Practicing proper solid waste management by recycling or selling all recyclable materials*

Table 21. Environmental Impacts and Corresponding Mitigating Measures

LHAI's environmental protection and enhancement program budget for 2016-2018 lifted from its latest three-year work program is as follows:

Year	Budget (PhP)
2016	24,611,386
2017	25,889,423
2018	26,610,908

Table 22. LHAI EPEP 2016-2018 Budget

1.12.4.2 Mine Closure Plan

In its Final Mine Rehabilitation and Decommissioning Plan (FMRDP), LHAI has allotted a total of PhP 23,233,600 for the implementation of its rehabilitation and decommissioning plans.

A residential and commercial development area is the planned final land use of the quarry. The entire area, covering a total of 45 hectares, will have tree farms, agricultural land, country club, recreational facilities, school facilities, waste treatment facilities, among others.

1.12.5 Mine Safety and Health Plan

Activities	Sub Activities
Leadership and administration (LHAI health and safety policies and rules)	Orientation of new employees, contractors and visitors
	Discussing of the roles and responsibilities of Supervisors and Superintendents
	Conduct of monthly VFL visits
Organization rules and procedures (Line management safety awareness, promotions and programs	Safety month celebration
	Replacement/installation of signages
	Cleanliness and orderliness campaign
	Smoke free campaign
	Conducting of toolbox talk at department meetings
Safety training	Safety awareness seminar
	First aid training
	Emergency drill and awareness training
	BOSH seminar
	Loss control management seminar
	Standard/advisories training
Safety inspection	Site condition audit
	Reporting and investigation
	Supervisors' conduct of risk assessment
Accident and incident analysis	Reporting and investigation
	Monthly general accident report
	Accident and incident analysis
Health control and services	Pre-employment medical examination
	Medical consultation
	Disease prevention

	Physical fitness program
	Health insurance
	Annual physical and medical examination
Emergency response and preparedness program	Training and seminars
	ERT regular meetings
	Emergency drills
	ERT presentation and demos
	ERT equipments availability
Personal protective equipment (PPE)	Strict use of PPE on site
	PPE stock replenishment
Health and safety incentives	VFL/safety observation awards
	Housekeeping
Company initiatives	Site improvement
	Progressive discipline

Table 23. Mine Safety and Health Plan

1.13 Financial Aspects

1.13.1 Total Project Cost Estimates and Assumptions

There are no new major capital equipment and works installed or provided assumed in this report.

1.13.2 List of Capital Equipment and Works

See Section 1.12.1.6 and Section 1.12.2.6 of this report.

1.13.3 Financial Plans and Sources of Funds

Funds needed for working capital and minor capital investments are assumed to be sourced from cash flow from existing operations or credit facilities from lenders.

1.13.4 Production Costs and Estimates

1.13.4.1 Mining and Milling Costs

The assumed combined mining and milling cost is PhP 225 per MT of ore. The financial projection uses an annual cost escalation factor of 1.5%.

1.13.4.2 Other Costs

Other costs assumed for the projections is PhP 41 per MT of ore. Likewise, this cost is subjected to an annual cost escalation factor of 1.5%.

1.13.4.3 Royalty

Based on CAC-LHAI agreement, LHAI shall pay CAC a royalty in the amount of 2.5% of the total value of the aggregates sold.

1.13.5 Government Incentives, if any

No government incentives were assumed in this report.

1.13.6 Basis of Revenue Calculation

The following selling prices were assumed as basis of revenue calculation.

Product	Price (PhP/MT)
G-1	370
3/4"	500
3/8"	490
S-1	250

Table 24. Product Price per Unit Weight

The prices were subjected to an annual escalation factor of 0.5%.

1.13.7 Pro-forma Financial Projections

See Annex 3. Note that for presentation purposes, the projection shows only the first 10 years of the business but the production, cost and revenue assumptions and the Net Present Value (NPV) calculation extends up to the 16th year until the reserve is depleted.

1.13.8 Financial Analysis

Using a base case of assumptions aforementioned in this section, the project will yield a net present value of PhP 2,846,689,094 assuming a 16-year mine life and a 12% cost of capital. Consequently, the project will deliver CAC royalty earnings amounting to PhP 309,623,531 throughout the entire project life.

Sensitivity analysis

The following sensitivity analysis was made by adjusting selling price and cost escalation factors and the cost of capital:

Price and Cost Escalation Factor Adjustments:

The annual price and cost escalation factors assumed in this report is 0.50% and 1.50% respectively. Table 25 shows the effect of incremental changes in both price and cost to the project's NPV. Note that the increments in the column sections denote changes in cost while those in the row sections denote changes in price.

Values in million PhP	-0.50%	-0.25%	+0.00%	+0.25%	+0.5%
-0.50%	2,773	2,682	2,587	2,491	2,392
-0.25%	2,092	2,810	2,715	2,619	2,521
+0.00%	3,034	2,941	2,847	2,750	2,651
+0.25%	3,167	3,075	2,981	2,884	2,786
+0.5%	3,304	3,211	3,117	3,020	2,922

Table 25. Effect of Incremental Changes in Price and Cost in Project NPV (in million PhP)

Since CAC's royalties are dependent of revenue, changes in input costs of LHAI will not affect royalties received by CAC. Table 26 shows the effect of incremental changes in price escalation factor to royalties received by CAC.

Adjustment	Royalty NPV, in PhP
-0.50%	300,105,618
-0.25%	304,816,043
+0.00%	309,623,531
+0.25%	314,530,360
+0.50%	319,538,865

Table 26. Sensitivity Analysis on CAC Royalty

Cost of Capital Adjustments:

Table 27 shows the effect of incremental changes in the cost of capital to the project NPV and royalties received by CAC.

Adjustment	Royalty NPV, in million PhP	Project NPV, in million PhP
-2.00%	348	3,168
-1.00%	328	3,000
0.00%	310	2,847
+1.00%	293	2,706
+2.00%	278	2,576

Table 27. Effect of Incremental Changes to CAC Royalty and Project NPV

1.14 Socio-Economic Aspects

1.14.1 Employment

1.14.1.1 Total Operational Workforce

The operation employs around 150 employees. Its quarry operations contractor, DEI employs a total of 194 personnel.

1.14.1.2 Table of Organization

See Annex 4.

1.14.2 Community Development and Socio-economic Contribution

Community development and socio-economic projects include health programs, educational support, infrastructure, peace and order, and emergency assistance. Seventy percent of Social Development Management Program (SDMP) is usually allocated to directly affected barangays (Barangay San Isidro and Barangay San Roque) while the remaining 30% is allocated to neighboring communities.

LHAI's SDMP budget for 2016-2018 lifted from its latest three-year work program is as follows:

Year	Budget (PhP)
2016	9,229,270
2017	9,708,534
2018	9,979,091

Table 28. LHAI SDMP 2016-2018 Budget

The community development programs for the year 2016 to 2018 will be distributed to the following projects:

- Health programs such as provision of medicines, medical activities, provision of ambulance and other support to health programs
- Support to education such scholarship programs, provision of school supplies and other activities.
- Support to Solid Waste Management such provision of equipment, materials, Information Education and Communication Campaign (IEC) for the improvement of the solid waste management of the barangays.
- Infrastructure projects which include drainage canal/ flood interceptor/ sidewalk/ provision of construction materials alleviate the problem especially in flooding.
- Support to livelihood which includes provision of livelihood, development of open spaces for food production, trainings/seminars and other support of this program.
- Support to Culture and Arts such as provision of funds for the conservation and promotion of the culture and arts of barangays of Angono.
- Emergency Assistance, Peace and Order which includes provision of equipment and materials in case of emergency or after the disaster. Project orders will depend on the agreement with the community.

ORE RESERVES ESTIMATES

1.15 Database Used

The database used in the ore reserve estimation consists of the resource model, boundary limits, maps and topographic surfaces. The resource model was a result of the resource estimate done by the CP Geology using the previous 9 drillholes of Ardex Mining and Geoservices.

1.16 Integrity of Database

The database were created and complied in accordance to best practices. Due diligence were applied in validating the data by the CP Geology. In turn, the resource model and other data were analyzed for the reserve estimation process. The resource model was visually checked and validated against the generated report based on applied constraints such as string limits and pit design surfaces.

The resource model was also modified to incorporate new attributes such as material class or type whether ore or overburden as delineated by geology.

1.17 Data Verification and Validation

A site visit was conducted on January 30, 2016 to verify and validate the status of the operations. MINERCON team composed of Engr. Orlando Cruz, Engr. Brian Domagas and Engr. Kayzer Llanda met with Ms. Roslin Ivy Ricamara, CAC's Asset and Planning Manager and Mr. Renato Baja, LHAI Manufacturing Manager to clarify and discuss items related in the preparation of this report.

Figure 4. MINERCON Engineers with CAC's Ms. Ricamara and LHAI Engineers

1.18 Ore Reserve Estimation Method Used

The following steps were used in estimating the ore reserve:

1. Only deposits occurring within both the MPSA and CAC property boundary were considered. This is to ensure that all legal aspects are taken into account. (Red line indicates MPSA boundary. Blue line indicates CAC property boundary)

2. A 30m- buffer zone was observed from the above limit. The buffer zone is a provision of the ECC and regularly monitored by government agencies.

3. The resulting pit limit was smoothened for a more workable hauling radiuses. (White line indicates the pit limit)

4. Prescribed final pit configurations from CAC/LHAI were respected such as:

   a. Berm width of 5m
   b. Bench height of 10m
   c. Bench angle of 80 degrees

5. Overburden or *banlik* dumps (collectively as "wastes") were condemned and not included in the pit limit for mining. The dump area locations were provided by CAC.

   The corresponding limit was estimated and smoothened for a more practical approach. Figure 7 below shows exclusion of the various dumps (overburden, *banlik*, Orica/Delta reclamation, etc.) from the mine pit limit (heavy white line).

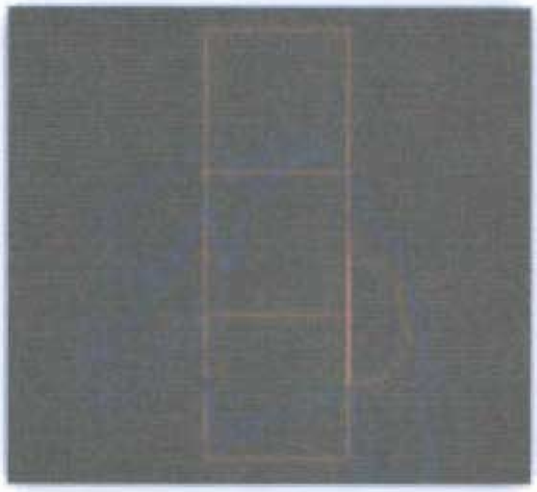

Figure 5. CAC Property (in blue) and MPSA (in red)

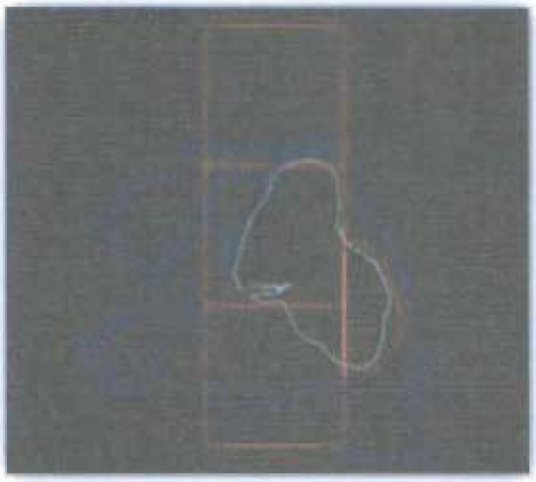

Figure 6. Resulting Pit Limit (in white)

6. Areas at the south and southwest portion of the MPSA are excluded due to the presence of nearby community (subdivision).

7. The free drain elevation and assumed water table depth is at elevation of 30 meters above sea level. Hence, the last bench elevation for the final pit was set at 40 m. There was no assumed dewatering/pumping activity to be done or provision of drain tunnel.

8. The final pit was designed based on the pit limit by offsetting berms and benches.

9. Overburden was constrained only at the overburden zone delineated by the CP Geology. That is within the lateral boundary and the 20m thickness from the surface.

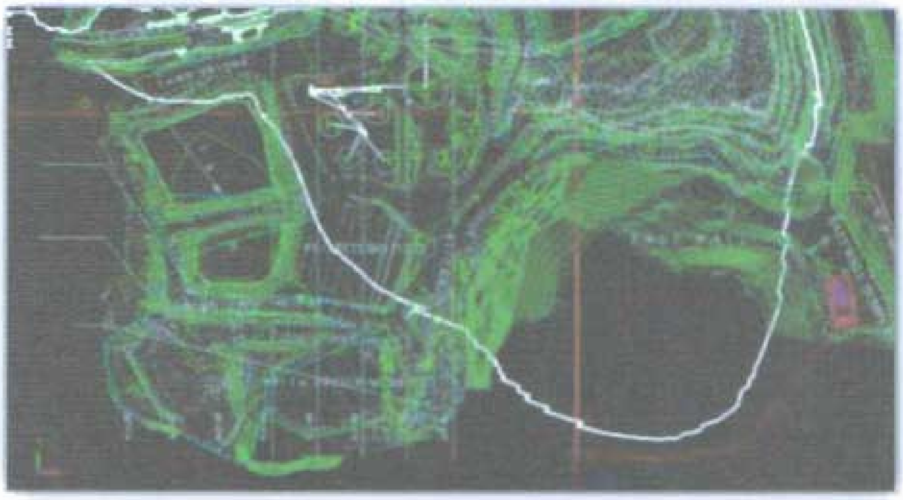

Figure 7. Exclusion of Various Dumps from the Mine Pit Limit.

10. The resource model was modified by adding material type attributes: overburden ("ovb") and ore ("ore").

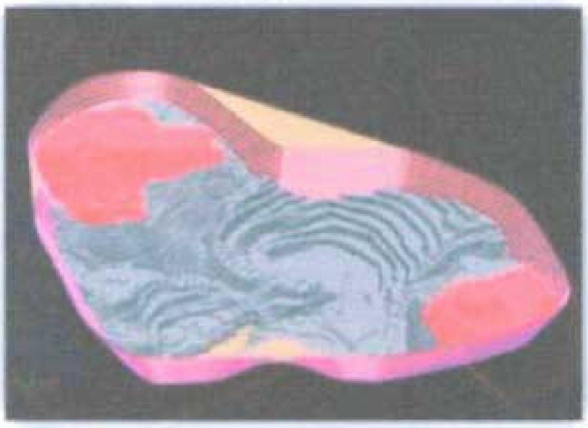

Figure 9. Pit Shell Showing Overburden and Ore

ore
ovb

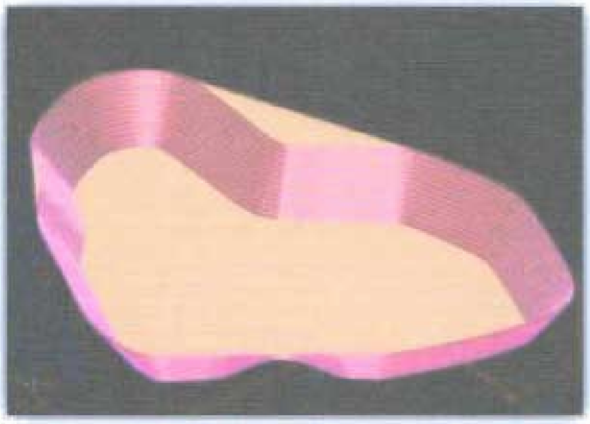

Figure 8. Pit Shell Showing Depleted Reserves

11. All materials included inside the pit design is considered part of the reserve. Basalt ore reserve is coded with color gray, while overburden is coded with color red. Overburden volume is minimal and all basalt materials are considered profitable to be mined.

12. Only Parcel 2 was considered for the reserve due to the following:

    a. Parcel 1 and Parcel 3 are impractical to mine due to their narrow area. Parcel 1 has only a total of 2.4 hectares coverage considering the 30m-buffer zone from the property limits. A 20m-wide ramp will again reduce the area. Lastly, overburden stripping with estimated 20m thickness will result in a very minimal reserve.

    b. Parcel 1 and Parcel 3 are non-contiguous zones and may have access route problems from DOMSA and community.

1.19 Ore Reserve Estimations

1.19.1 Ore Specific Gravity or Density

The ore specific gravity used is 2.801. This was previously established and considered by Philex Mining Corp. Technical team. CAC is also using this, as well as the Mineral Resource Estimate of the CP Geology.

1.19.2 Mining Plans, Mining Recovery, Dilution Factor and Mining Losses

The final pit design was derived from the earlier mentioned procedure. It is after considering the property and permit limits, waste dumps, pit dimensions, free-draining elevation, among others. The final pit design is considered to be the long range plan. This will be the basis for the medium and short-term plans.

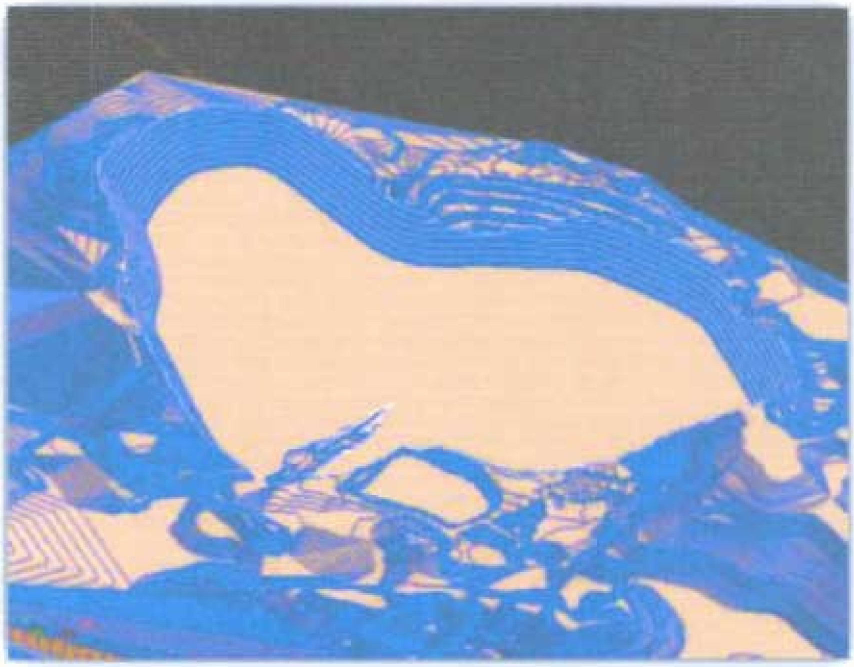

Figure 10. Final Pit Design

Mining recovery is practically high due to the application of secondary breaking for boulders, while fine materials can be classified as S1 in the processing plant. Essentially all of the mined materials will be ore since the estimation employed was conservative or modest. Waste/overburden materials has been set to a thickness of 20 meters from the surface, composing of topsoil, weathered and transition materials. Dilution will be low since the waste/overburden has been segregated from the very beginning.

1.19.3 Relevant Production Costs Considered

No production costs considered in the reserve calculation. No pit optimization was applied.

1.19.4 Basis of Revenue Calculation

The following selling prices were assumed as basis of revenue calculation.

Product	Price (PhP/MT)
G-1	370
3/4"	500
3/8"	490
S-1	250

Table 29. Product Price per Unit Weight

The prices carry an annual escalation factor of 0.5%.

1.19.5 Cut-off Grade Determination

There are no cut-off grade considered in the reserve calculation. For aggregate basalt, this is largely not applicable.

1.20 Ore Reserve Classification Used

The basalt reserves are classified as Proven and Probable.

1.21 Ore Reserves Estimate

Upon adjusting for reserves depleted or extracted in 2014 and 2015 amounting to 8,079,299 MT, the remaining total reserve stand at 67,025,232 MT

Material	Proven		Probable		Total	
	BCM	MT	BCM	MT	BCM	MT
Ore	23,320,786	65,298,201	863,516	1,727,031	24,184,302	67,025,232

Table 30. Ore Reserve Estimate

The following table shows the Ore Reserve Estimate on a per bench inventory based on the above-mentioned procedure and topographic data as of January 2014.

		PROVEN		PROBABLE		TOTAL	
MATERIAL	BENCH	BCM	MT (2.8 SG)	BCM	MT (2.8 SG)	BCM	MT (2.8 SG)
ORE	40.0 -> 50.0	4,696,734	13,150,856	30,750	86,100	4,727,484	13,236,956
	50.0 -> 60.0	4,134,219	11,575,813	40,781	114,188	4,175,000	11,690,001
	60.0 -> 70.0	3,529,688	9,883,125	52,281	146,388	3,581,969	10,029,513
	70.0 -> 80.0	3,238,547	9,067,931	65,172	182,481	3,303,719	9,250,412
	80.0 -> 90.0	2,925,031	8,190,088	79,281	221,988	3,004,312	8,412,076
	90.0 -> 100.0	2,487,594	6,965,263	95,125	266,350	2,582,719	7,231,613
	100.0 -> 110.0	2,037,266	5,704,344	112,422	314,781	2,149,688	6,019,125
	110.0 -> 120.0	1,500,625	4,201,750	80,328	224,919	1,580,953	4,426,669
	120.0 -> 130.0	893,016	2,500,444	60,656	169,838	953,672	2,670,282
	130.0 -> 140.0	475,188	1,330,525	-	-	475,188	1,330,525
	140.0 -> 150.0	249,469	698,513	-	-	249,469	698,513
	150.0 -> 160.0	38,875	108,850	-	-	38,875	108,850
TOTAL		26,206,250	73,377,500	616,797	1,727,031	26,823,047	75,104,531

Table 31. Ore Reserve per Bench

INTERPRETATION, CONCLUSION AND RECOMMENDATION

The Ore Reserve estimate of approximately 67,025,232 MT yields a project net present value of PhP 2,846,689,094 assuming a 16-year mine life and a 12% cost of capital. Consequently, the project will yield Concrete Aggregates Corporation royalty earnings amounting to PhP 309,623,531 throughout the entire project life.

The price used in this feasibility study is applicable based on my validation and analysis. The current economic conditions will likewise support the data used in the feasibility study.

The data used in the preparation of this report has been verified and validated thoroughly and is deemed to comply with industry accepted standards. Likewise, the mining methods employed and technical assumptions used are judged to be compliant with industry accepted standards. The existing processing method has been found by Engr. Federico Monsada, a Metallurgical Engineer and Competent Person for Metallurgy under PMRC to be compliant with industry accepted standards as well.

Noting all items mentioned, the author therefore presents this ore reserve estimate and conclude that the project is feasible and worth continuing.

Material	Proven		Probable		Total	
	BCM	*MT*	*BCM*	*MT*	*BCM*	*MT*
Ore	**23,320,786**	**65,298,201**	**863,516**	**1,727,031**	**24,184,302**	**67,025,232**

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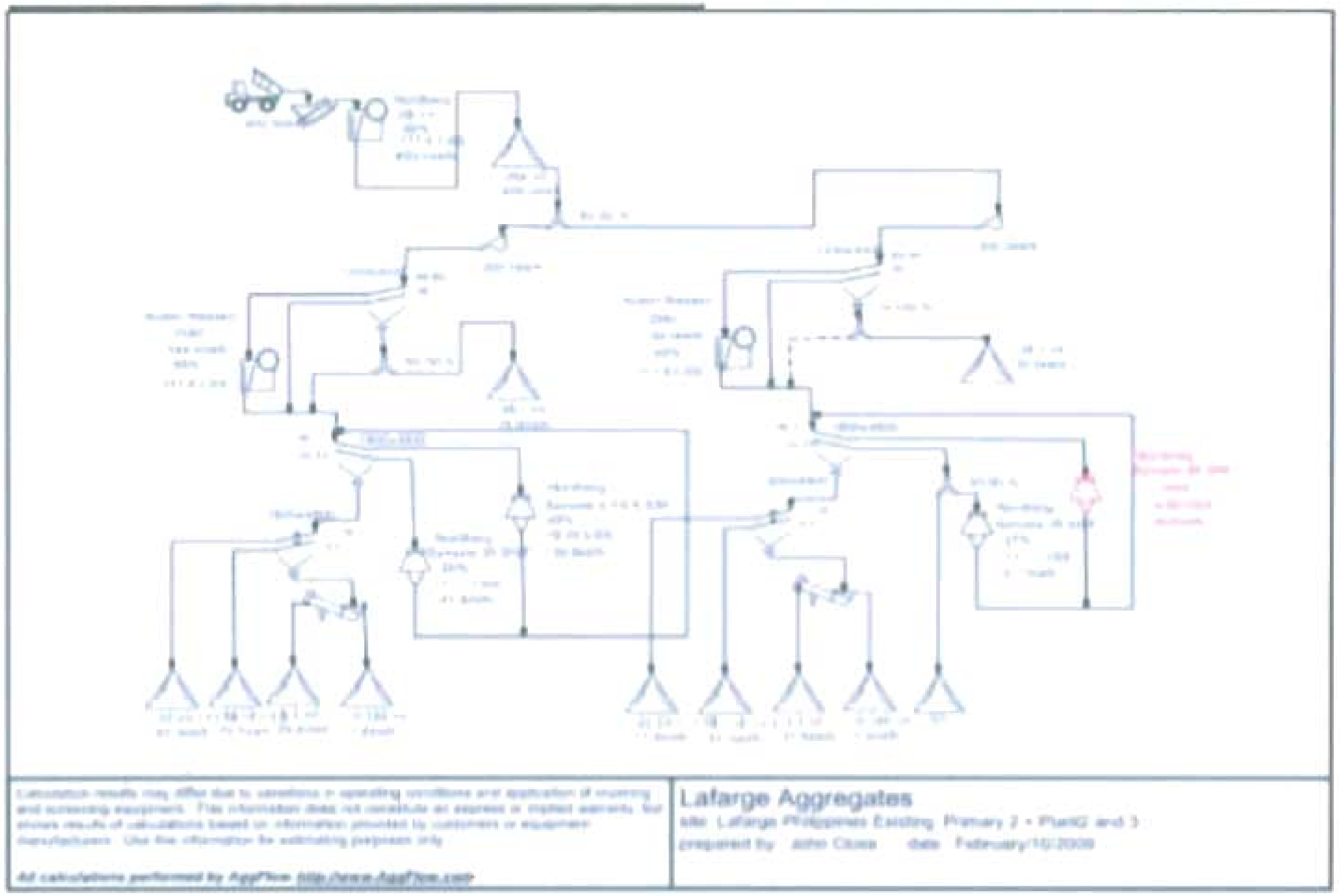
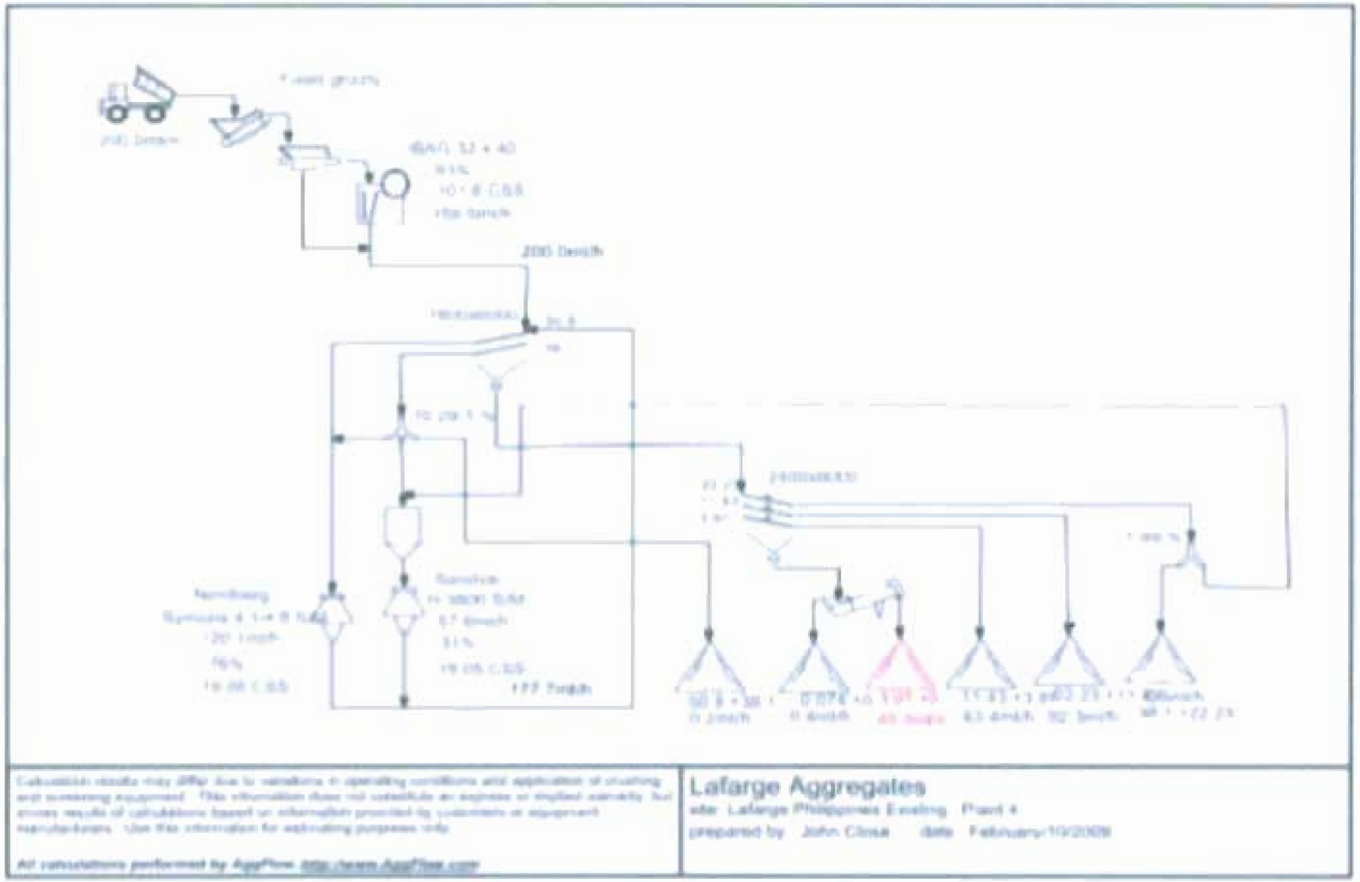
ANNEXES

ANNEX 1 - Primary Plant 2 and 5 Process Flowsheet



ANNEX 2 - Primary Plant 2 Process Flowsheet



ANNEX 3 - Pro-forma Financial Projection

	1 2016F	2 2017F	3 2018F	4 2019F	5 2020F	6 2021F	7 2022F	8 2023F	9 2024F	10 2025F
Total Sales (in MT)	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000	4,200,000
Figures in PhP										
Revenue	1,729,892,430	1,738,541,892	1,747,234,602	1,755,970,775	1,764,750,628	1,773,574,382	1,782,442,254	1,791,354,465	1,800,311,237	1,809,312,793
COGS	959,175,000	973,562,625	988,166,064	1,002,988,555	1,018,033,384	1,033,303,884	1,048,803,443	1,064,535,494	1,080,503,527	1,096,711,080
Gross Profit	770,717,430	764,979,267	759,068,537	752,982,219	746,717,245	740,270,497	733,638,811	726,818,970	719,807,710	712,601,714
Operating Expenses	168,366,669	170,892,169	173,455,552	176,057,385	178,698,246	181,378,719	184,099,400	186,860,891	189,663,804	192,508,761
Other Expenses	3,899,853	3,958,350	4,017,726	4,077,992	4,139,161	4,201,249	4,264,268	4,328,232	4,393,155	4,459,052
Finance Costs	10,957,456	10,957,456	10,957,456	10,957,456	10,957,456	10,957,456	10,957,456	10,957,456	10,957,456	10,957,456
Profit Before Tax	587,493,452	579,171,292	570,637,804	561,889,387	552,922,382	543,733,073	534,317,687	524,672,392	514,793,295	504,676,444
Income Tax Expense	176,248,036	173,751,388	171,191,341	168,566,816	165,876,715	163,119,922	160,295,306	157,401,718	154,437,988	151,402,933
Net Income	411,245,417	405,419,904	399,446,463	393,322,571	387,045,667	380,613,151	374,022,381	367,270,674	360,355,306	353,273,511
Less NPPE	432,473	432,473	434,635	436,809	438,993	441,188	443,394	445,611	447,839	450,078
Less NWC	715,221	715,221	718,797	722,391	726,003	729,633	733,281	736,948	740,633	744,336
Add Depreciation and Amortization	40,327,000	40,370,247	40,413,495	40,456,958	40,500,639	40,544,538	40,588,657	40,632,996	40,677,557	395,341
Free Cash Flow	450,424,722	444,642,457	438,706,525	432,620,329	426,381,310	419,986,869	413,434,363	406,721,112	399,844,393	352,474,438
CAC Royalty	43,247,311	43,463,547	43,680,865	43,899,269	44,118,766	44,339,360	44,561,056	44,783,862	45,007,781	45,232,820

Project NPV (PhP)	2,846,689,094
CAC Royalty NPV (PhP)	309,623,531
Cost of Capital	12%

ANNEX 4 - Table of Organization