

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2021

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☐ SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 001-35401

CEMENTOS PACASMAYO S.A.A.
(Exact name of Registrant as specified in its charter)

PACASMAYO CEMENT CORPORATION
(Translation of Registrant's name into English)

Republic of Peru
(Jurisdiction of incorporation or organization)

Calle La Colonia 150, Urbanización El Vivero
Surco, Lima
Peru
(Address of principal executive offices)

Javier Durand, Esq., General Counsel
Tel. +51-1-317-6000
Calle La Colonia 150
Urb. El Vivero - Lima, Peru
(Name, telephone, email and/or facsimile number and address of company contact person)

Securities registered pursuant to Section 12(b) of the Act.

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares, par value S/1.00 per share, in the form of American Depositary Shares, each representing five Common Shares	CPAC	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

At December 31, 2021

423,868,449 common shares
4,238,397 investment shares*

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

If this report is an annual or transition report, indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes ☐ No ☒

Note- Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the Registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 203.405 of this chapter) during the preceding 12 months (or for such other period that the registrant was required to submit and post such files). Yes ☐ No ☒ Note: Not required for Registrant.

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐

Accelerated filer ☒

Non-accelerated filer ☐
Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act. ☐

† The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark which basis of accounting the Registrant has used to prepare the financial statements included in this filing:

U.S. GAAP ☐

International Financial Reporting Standards as issued by the International Accounting Standards Board ☒

Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the Registrant has elected to follow. Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

* Excluding 36,040,497 investment shares held in treasury.

PART I INTRODUCTION

Certain Definitions

All references to “we,” “us,” “our,” “our company,” “Pacasmayo,” and “Cementos Pacasmayo” in this annual report are to Cementos Pacasmayo S.A.A., a publicly-held corporation (*sociedad anónima abierta*) organized under the laws of Peru, and, unless the context requires otherwise, its consolidated subsidiaries. The term “U.S. dollar” and the symbol “US\$” refer to the legal currency of the United States; and the term “sol” and the symbol “S/” refer to the legal currency of Peru.

Financial Information

Our consolidated financial statements included in this annual report have been prepared in *soles* and in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”) and audited in accordance with the standards of the Public Company Accounting Oversight Board (United States).

In this annual report, we present EBITDA, which is a financial measure that is not recognized under IFRS. We refer to such financial measures as “non-IFRS” financial measures. A non-IFRS financial measure is generally defined as one that purports to measure financial performance; financial position or cash flows of the subject reporting company but excludes or includes amounts that would not be so adjusted in the most comparable IFRS measure. We present EBITDA because we believe it provides the reader with a supplemental measure of the financial performance of our core operations that facilitates period-to-period comparisons on a consistent basis. EBITDA should not be construed as an alternative to profit or operating profit, as an indicator of operating performance, as an alternative to cash flow provided by operating activities or as a measure of liquidity (in each case, as determined in accordance with IFRS). EBITDA, as calculated by us, may not be comparable to similarly titled measures reported by other companies, including those in the cement industry. For a calculation of EBITDA and a reconciliation of EBITDA to the most directly comparable IFRS financial measure, see “Item 4. Information on the Company—B. Business Overview—Overview.”

We have translated some of the *soles* amounts appearing in this annual report into U.S. dollars for convenience purposes only. Unless the context otherwise requires, the rate used to translate *soles* amounts to U.S. dollars was S/3.9865 to US\$1.00, which was the average accounting exchange rate (*tipo de cambio contable*) reported on December 31, 2021, by the Peruvian Superintendence of Banks, Insurance and Private Pension Fund Administrators (*Superintendencia de Banca, Seguros y AFPs*, or “SBS”). The Federal Reserve Bank of New York does not report a noon buying rate for *soles*. The U.S. dollar equivalent information presented in this annual report is provided solely for convenience of the reader and should not be construed as implying that the *soles* amounts represent, or could have been or could be converted into, U.S. dollars at such rates or at any other rate.

Certain figures included in this annual report have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not be arithmetic aggregations of the figures that precede them.

Market Information

We make estimates in this annual report regarding our competitive position and market share, as well as the market size and expected growth of the construction sector and cement industry in Peru. We have made these estimates on the basis of our management’s knowledge and statistics and other information available from the following sources:

- the Central Bank of Peru (*Banco Central de Reserva del Perú*, or the “BCRP”);
- the National Statistical Institute of Peru (*Instituto Nacional de Estadística e Informática*, or “INEI”);
- the Association of Cement Producers of Peru (*Asociación de Productores de Cemento*, or “ASOCEM”);

- the Ministry of Housing, Construction and Sanitation (*Ministerio de Vivienda, Construcción y Saneamiento*);
- ADUANET, a website administered by the Peruvian Tax Superintendence (*Superintendencia Nacional de Administración Tributaria*, or “SUNAT”);
- the Peruvian Chamber of Construction (*Cámara Peruana de la Construcción*); and
- the Global Competitiveness Index prepared by the World Economic Forum.

We believe these estimates to be accurate as of the date of this annual report on Form 20-F.

Forward-Looking Statements

This annual report contains forward-looking statements. Forward-looking statements convey our current expectations or forecasts of future events. These statements involve known and unknown risks, uncertainties and other factors, including those listed under “Item 3. Key Information – D. Risk Factors,” which may cause our actual results, performance or achievements to differ materially from the forward-looking statements that we make.

Forward-looking statements typically are identified by words or phrases such as “may,” “will,” “expect,” “anticipate,” “aim,” “estimate,” “intend,” “project,” “plan,” “believe,” “potential,” “continue,” “is/are likely to,” or other similar expressions. Any or all of our forward-looking statements in this annual report may turn out to be inaccurate. Our actual results could differ materially from those contained in forward-looking statements due to a number of factors, including:

- political, economic and social risk inherent to conducting business in Peru including as a result of public health crises in Peru, and the Peruvian government’s responses thereto;
- exchange rates, inflation and interest rates;
- the entry of new competitors into the market we serve;
- construction activity levels, particularly in the northern region of Peru;
- private investment and public spending in construction projects;
- unpredictable natural disasters, such as floods and earthquakes affecting the northern region of Peru, and global events, such as public health crises and epidemics/pandemics and the worldwide effects thereof and responses thereto;
- availability and prices of energy, admixtures and raw materials;
- changes in the regulatory framework, including tax, environmental and other laws;
- the successful expansion of our production capacity;
- our ability to compete with potential substitutes of cement products that may be introduced in the Peruvian construction industry;
- our ability to maintain and expand our distribution network;
- the impact of global or local public health events, including pandemics and the severity and duration of the COVID-19 pandemic, including the availability of vaccines in Peru and governments’ related responses to the outbreak which could cause business disruptions and continued declines in production of or demand for cement;

- international conflicts, such as the current one between Russia and Ukraine, and the worldwide effects and responses thereto
- our ability to retain and attract skilled employees; and
- other factors discussed under “Item 3. Key Information—D. Risk Factors.”

The forward-looking statements in this annual report represent our expectations and forecasts as of the date of this annual report. Except as required by law, we undertake no obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise, after the date of this annual report.

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. [Reserved]

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

Global Risks

The extent to which the coronavirus (COVID-19) pandemic and measures taken in response thereto impact our business, results of operations and financial condition will depend on future developments, which are highly uncertain and cannot be predicted.

Global health concerns related to the COVID-19 pandemic have been weighing on the macroeconomic environment and the outbreak has significantly increased economic uncertainty. Although during 2021 government-imposed restrictions were much less than in 2020, the Peruvian economy has not yet recovered to pre-pandemic levels. To the extent that new strains of the virus continue to emerge, these and other measures may remain in place for a significant period of time and are likely to continue to affect financial condition and prospects.

The spread of COVID-19 has caused us to modify our business practices (including employee travel, employee work locations, and the cancellation of physical participation in meetings, events, and conferences), and we may take additional steps as required by current circumstances, by government authorities or that we determine are in the best interest of our employees, customers and business partners. There is no certainty that such measures are sufficient to mitigate the risks posed by COVID-19 or are satisfactory to government authorities. The extent to which the COVID-19 pandemic impacts our business, results of operations and financial condition will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of COVID-19, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. Even after the COVID-19 pandemic has subsided, we may continue to experience materially adverse impacts to our business as a result of its global economic impact, including the recession that has already occurred and may continue or intensify in the future.

Global macroeconomic conditions may have an adverse effect on our business, financial condition and results of operations.

Our operations and customers are located in Peru. As a result, our business, financial condition and results of operations, like those of most companies in Peru, could be adversely affected by the level of economic activity in the country. Therefore, variations in economic indicators such as inflation, gross domestic product ("GDP"), the balance of payments, the appreciation and depreciation of the currency, access to credit, interest rates, investment and savings, consumption, spending and fiscal income, employment, among other variables, over which we have no control, could affect the development of the Peruvian economy and, therefore, could generate adverse consequences for our business, financial condition and results of operation.

Peru's economy experienced a relatively greater contraction than the economies of other countries in the region as a result of the COVID-19 pandemic, mainly due to the more severe virus containment measures implemented in Peru: a greater number of activities were mandated to be shut down and a strict national stay-at-home order and quarantine lasted more than 100 days. The application of these severe measures aimed at containing the expansion of COVID-19 in the country caused the Peruvian economy to contract 11.1% in 2020. With the progressive reopening of the economy and the application of monetary and fiscal stimuli, GDP bounced back in 2021, reaching 13.2% growth. In addition, in 2021 the annual inflation rate was 6.2% compared to 1.5% in 2020, mainly due to external factors, such as the increased cost of oil and transportation, as well as the depreciation of the *sol*. Domestic demand also recovered after the 9.4% decrease in 2020, reaching 13.9% growth in 2021.

The extent to which the economy continues its recovery depends on the extent the country is able to combat the adverse impacts of the inflationary pressure, the continuation of the vaccination process and the ability to decrease the current political uncertainty and its negative impact on future economic expectations.

The cement sector is closely related to the following main macroeconomic variables: (i) the expansion or contraction of the economy as measured by GDP, (ii) domestic demand, (iii) private investment and (iv) public spending. In this regard, prolonged conditions that adversely affect the economic growth of Peru would negatively affect the cement sector, in such a way that the economic situation and our results of operations may not coincide with those presented at the date of this annual report.

International conflicts, such as the current conflict between Russia and Ukraine have adversely affected international prices, increasing inflation and therefore our business, financial condition and results of operations

Global markets are currently operating in a period of economic uncertainty, volatility and disruption following Russia's full-scale invasion of Ukraine on February 24, 2022. Although the length and impact of the ongoing military conflict is highly unpredictable, the conflict in Ukraine and any other geopolitical tensions could have an adverse effect on the economy and business activity globally and lead to (i) credit and capital market disruptions, (ii) increase in interest rates and inflation in the markets in which we operate, (iii) lower or negative global growth, among others. These developments have caused interruptions in the trade flows of goods produced by Russia and Ukraine (mainly energy and grains) which have generated upward pressure on international prices. Additionally, Russia's prior annexation of Crimea, recent recognition of two separatist republics in the Donetsk and Luhansk regions of Ukraine and subsequent military interventions in Ukraine have led to sanctions and other penalties being levied by the United States, European Union and other countries against Russia, Belarus, the Crimea Region of Ukraine, the so-called Donetsk People's Republic, and the so-called Luhansk People's Republic. As a result of these commercial and financial sanctions pressure on international prices may continue, even after the conflict has ended.

Similar pressures have been observed in the price of energy. Russia is a major producer of natural gas, oil and coal. Production and commercial activities have been affected by direct and indirect sanctions. Peru is a net importer of oil, and as such it has been affected by the significant increase in price, generating high levels of inflation. The inflation rate in March 2022 was the highest since 1996. The increase in the price of coal directly affects our business since it is one of the raw materials used in our process and in 2021 accounted for 11.6% of our cement production cost. Indirectly, the increase in the price of oil and gas also affects our business, as it generates inflationary pressure throughout, and increases freight prices, which in turn increase import costs.

Geopolitical and economic risks have also increased over the past few years as a result of trade tensions between the United States and China, Brexit, and the rise of populism and tensions in South America and Middle East. Growing tensions may lead, among others, to a deglobalization of the world economy, an increase in protectionism or barriers to immigration, a general reduction of international trade in goods and services and a reduction in the integration of financial markets, any of which could materially and adversely affect our business, financial condition and results of operations.

Global freight costs increases have adversely affected international prices, increasing inflation and therefore our business, financial condition and results of operations

The current increase in freight prices is due both to demand and supply side issues. On the one hand, there was a surge in demand for goods, as consumers spent their money on goods rather than services during pandemic lockdowns and restrictions. On the other, there was capacity constraints, including container ship carrying capacity, container shortages, labor shortages, continued on and off COVID-19 restrictions across port regions and congestion at ports. This mismatch between surging demand and reduced supply capacity then led to record container freight rates during 2021. According to UNCTAD, this will have a profound impact on trade and undermine socioeconomic recovery, especially in developing countries, until maritime shipping operations return to normal. In Peru, this has already resulted in higher levels of inflation, reaching 6.2% in 2021 compared to 1.5% in 2020. Increase freight costs directly affect our business and results of operation since imported materials represent approximately 39.7% of our production costs.

Risks Relating to Peru

Public health crises and epidemics/pandemics, such as COVID-19 have adversely affected Peru's economy and therefore our business, financial condition and results of operations.

The COVID-19 pandemic had a material adverse impact on the Peruvian economy resulting in, volatility in the financial markets, reduced international trade and lower activity in certain of the key drivers of the local economy. In addition, social distancing and stay-at-home quarantine measures imposed to minimize pressure on the healthcare system and contain social costs, adversely affected dynamism of various productive sectors of the economy. Reduced activity in these economic sectors has resulted in reduced employment and less income for families and companies. Poverty levels increased 9.9 percentage points in 2020.

In 2021, there was a substantial recovery and the most dynamic sectors were construction, non-primary manufacturing, commerce and some branches of the service sector, including telecommunications and finance and insurance. However, there are sectors that are still lagging behind in their recovery, especially those with a greater degree of physical interaction such as services related to transportation, accommodations and restaurants.

Over the long-term, we cannot assure you that the measures adopted by the Peruvian government to counteract the effects of the COVID-19 pandemic will be sufficient to restore public confidence or to restore economic growth.

Economic, social and political developments in Peru including political instability, rates of inflation and unemployment could have a material adverse effect on our business, financial condition and results of operations.

All of our operations and customers are located in Peru. Accordingly, our business, financial condition and results of operation depend on the level of economic activity in Peru. Our business, financial condition and results of operations could be affected by changes in economic and other policies of the Peruvian government (which has exercised and continues to exercise substantial influence over many aspects of the private sector), and by other economic and political developments in Peru, including devaluation or depreciation, currency exchange controls, inflation, economic downturns, political instability, corruption scandals, social unrest and terrorism.

In the past, Peru has experienced political instability that included a succession of regimes with disparate economic policies and programs that created uncertainty for domestic and foreign investors. Pedro Castillo became President of Peru, after a disputed election results. President Castillo has faced political opposition in the Peruvian Congress, which is highly fragmented, as no political party has achieved a clear majority and at least 10 political parties have minority representation, which has led some groups in the Peruvian Congress to ask for his resignation. On February 8, 2022, President Castillo appointed Aníbal Torres as the Prime Minister to serve under his government. Mr. Torres had previously served as the Ministry of Justice and Human Rights. The current Prime Minister was preceded by Héctor Valer, Mirtha Vásquez and Guido Bellido. On March 9, 2022, the Peruvian cabinet (*Consejo de Ministros*), headed by Aníbal Torres, received a vote of confidence (*voto de confianza*) from the Peruvian Congress after obtaining a total of 64 votes in favor, 58 votes against and two abstentions. This was the fourth cabinet that received a vote of confidence from the Peruvian Congress under President Castillo's administration. On March 14, 2022, the Peruvian Congress admitted a motion to impeach (*moción de vacancia*) President Castillo with a total of 76 votes in favor, 41 votes against and one abstention, claiming alleged permanent moral incapacity of President Castillo. This was the second motion to impeach against President Castillo presented to the Peruvian Congress since he took office on July 28, 2021. On March 28, 2022, the Peruvian Congress denied the motion to impeach with a total of 55 votes in favor, 54 votes against and 19 abstentions and as a result, President Castillo has remained in office. However, since the political opposition in the Peruvian Congress remains strong, we cannot assure that additional impeachment motions will not be presented to the Peruvian Congress against President Castillo during the remainder of his term, which will expire in 2026. In addition, the Peruvian government led by President Castillo may seek to modify and reform the Peruvian Constitution to expand the role of the government in activities currently undertaken by the private sector in accordance with statements made during his campaign. The new President is expected to face challenges in aligning certain initiatives with, and obtaining support from, the Peruvian Congress. Although it is expected that a majority opposition from the Peruvian Congress against certain new policies and reforms to be proposed by the new President will continue, there is a risk of unpredictable policymaking. We cannot assure you whether President Castillo or any of his successors, should an impeachment motion (*moción de vacancia*) be approved by the Peruvian Congress, will pursue business-friendly and open-market economic policies that stimulate economic growth and stability, and that measures negatively impacting private investment, such as higher taxation or exchange controls, will not be implemented.

In spite of this political turmoil, the Peruvian economy has continued its recovery from the effects of COVID-19. Exports reached record numbers during 2021, which in turn gave a record on the positive account balance of Peru. However, expectations of private investment are still negative, according to BCR.

During the 1980s and the early 1990s, Peru experienced severe terrorist activity targeted against, among others, the government and the private sector. Since then, terrorist activity in Peru has been mostly confined to small-scale operations in the Huallaga Valley and the Valleys of the Rivers Apurímac, Ene and Mantaro, or "VRAEM," areas, both in the Eastern part of the country. The Huallaga Valley and VRAEM constitute the largest areas of coca cultivation in the country and thus serve as a hub for the illegal drug trade. Terrorist activity and the illegal drug trade continue to be key challenges for Peruvian authorities. Any violence derived from the drug trade or a resumption of large-scale terrorist activities which may occur could hurt our operations and, could disrupt the economy of Peru and our business. In addition, Peru has, from time to time, experienced social and political turmoil, including riots, nationwide protests, strikes and street demonstrations. In March 2022, a nationwide strike by carriers resulted in riots and on April 4, 2022, the Government issued Supreme Decree 034-2022-PCM, imposing a 22-hour lockdown for Metropolitan Lima and the Constitutional Province of Callao for April 5, 2022. This generated massive protests in Lima, leading President Castillo to cut the lockdown and to further decrease his popularity levels.

Despite Peru's ongoing economic growth and stabilization, the social and political tensions and high levels of poverty and proper employment continue. Future government policies to preempt or respond to social unrest could include, among other things, expropriation, nationalization, suspension of the enforcement of creditors' rights and new taxation policies. These policies could adversely and materially affect the Peruvian economy and our business.

The foregoing political uncertainty and presidential decisions could further increase interest rates and currency volatility, as well as adversely and materially affect the Peruvian economy and our business, financial condition and results of operations.

A depreciation or devaluation of the sol could have a material adverse effect on our business, financial condition and results of operations.

A significant depreciation or devaluation of the *sol* may affect us due to the fact that our revenues are denominated in *soles* while 38.7% of our indebtedness, as of December 31, 2021 is denominated in U.S. dollars. As a result, we are exposed to currency mismatch risks. As of December 31, 2021, we maintain cross currency swap hedging agreements in aggregate principal amount of 100% of our current U.S. dollar-denominated debt obligations to hedge against the associated foreign exchange risks. Nonetheless, a depreciation or devaluation of the *sol* against the U.S. dollar and increased exchange rate volatility would increase the cost of our debt service obligations which could have a material adverse effect on our business, financial condition and results of operations.

If the Peruvian government were to implement restrictive exchange rate policies and other similar laws, our business, financial condition and results of operations could be adversely affected.

Since 1991, the Peruvian economy has undergone a major transformation from a highly protected and regulated system to a free market economy. During this period, protectionist and interventionist laws and policies have been dismantled. As a result the Peruvian economy had been growing consistently, until 2020 due to the COVID-19 pandemic. Currently, foreign exchange rates are determined by market conditions, with regular open-market operations by the BCRP in the foreign exchange market to reduce volatility in the value of Peru's currency against the U.S. dollar.

We cannot assure you that the Peruvian government will not institute restrictive exchange rate policies in the future. Any such restrictive exchange rate policy could have a material adverse effect on our business, financial condition and results of operations and adversely affect our ability to repay debt or other obligations and restrict our access to international financing.

In addition, if the Peruvian government were to institute restrictive exchange rate policies in the future, we might be obligated to seek an authorization from the Peruvian government to make payments on the notes and the guarantees. We cannot assure you that such an authorization would be obtained. Any such exchange rate restrictions or the failure to obtain such an authorization could materially and adversely affect our ability to make payments under our U.S. dollar-denominated debt and to pay dividends on our ADRs.

Increased rates of inflation in Peru could have an adverse effect on the Peruvian long-term credit market, as well as the Peruvian economy generally and, therefore, on our business, financial condition and results of operations.

In the past, Peru has suffered through periods of high and hyper-inflation, which has materially undermined the Peruvian economy and the government's ability to create conditions that support economic growth. In response to increased inflation, the BCRP, which sets the Peruvian basic interest rate, may increase or decrease the basic interest rate in an attempt to control inflation or foster economic growth. Increases in the base interest rate could adversely affect our results of operations, increasing the cost of certain funding. Additionally, a return to a high-inflation environment would also undermine Peru's foreign competitiveness, with negative effects on the level of economic activity and employment, while increasing our operating costs and adversely impacting our operating margins if we are unable to pass the increased costs on to our customers. During 2021, inflation reached 6.2%, well above the previous five-year average of 2.32%. Supply shocks, including the recent rise in prices of energy, increased freight costs, and the increase in domestic demand explains this increase at a global level. The recent conflict between Russia and Ukraine is likely to exacerbate these effects.

Changes in tax laws or their interpretation may increase our tax burden and, as a result, negatively affect our business.

The Peruvian Congress and government regularly implement changes to tax laws that may increase our tax burden, or the tax burden of our subsidiaries. These changes may include modifications in our taxable base, tax rates and, on occasion, the enactment of temporary taxes that in some cases have become permanent taxes or changes to VAT exemptions applicable to certain of our operations in the Amazonian region. We are unable to estimate the outcomes that these changes may have on business. In that sense, the Peruvian government recently introduced several changes related to transfer pricing rules and formal obligations in order to comply with BEPS (base erosion and profit shifting) Guidelines on transactions performed between related parties or with the intervention of low or no-tax jurisdictions, such as the obligation to file new local-files, master-files and country-by-country reports with the Peruvian tax authority, and to adjust taxable bases accordingly for income tax purposes.

The effects of any tax reforms that could be proposed in the future and any other changes that result from the enactment of additional reforms have not been, and cannot be, quantified. However, any changes to our tax regime or interpretations thereof (including in connection with the tax rates, tax base (*base imponible*), deductions rules, payments in advance regime (*regimen de pagos a cuenta*), time of payment or the establishment of new taxes thereof) may result in increases in our overall costs and/or our overall compliance costs, which could negatively affect our results of operation.

Our operations could be adversely affected by an earthquake, flood or other natural disasters.

Severe weather conditions and other natural disasters in areas in which we operate may materially adversely affect our operations. Peru is located in an area that experiences seismic activity and occasionally is affected by earthquakes. For example, in 2007, an earthquake with a magnitude of 7.9 on the Richter scale struck the central coast of Peru, severely damaging the region south of Lima. Peru is also affected by El Niño, an oceanic and atmospheric phenomenon that causes a warming of temperatures in the Pacific Ocean, resulting in heavy rains off the coast of Peru and various other effects in other parts of the world. The effects of El Niño, which typically occurs every two to seven years, include flooding and the destruction of fish populations and agriculture, and accordingly have a negative impact on Peru's economy. For example, in early 2017, El Niño adversely affected agricultural production, transportation and communications services, tourism and commercial activity, caused widespread damage to infrastructure and displaced significant populations. Although our facilities were not significantly affected, our ability to ship cement was compromised by the destruction of infrastructure. Any of the foregoing conditions, or other natural disasters or weather conditions, may result in physical damage to our properties, closure of one or more of our production facilities, inadequate work force in our operations, temporary disruptions in the ability to ship cement, among others. Any of these factors may disrupt and materially adversely affect our business, financial condition and results of operations.

Our operations could be adversely affected by government-mandated plant closures

Public health outbreaks, epidemics or pandemics, as well as other events may result in the government stopping our operations. In March 2020, the Peruvian government ordered a state of emergency due to the outbreak of COVID-19, therefore our operations were closed from March 16, 2020 until May 18, 2020. This had a materially adverse effect on our business, financial condition and results of operation, mainly during the state of emergency. Although our dispatches recovered well following the lockdown, we do not yet know if the government will take further measure that may have an impact on the economy as a whole, the construction sector, our customers' ability to purchase cement and cement-based products, and their ability to pay for previously sold products.

The Peruvian economy could be adversely affected by economic developments in regional or global markets.

Financial and securities markets in Peru are influenced by economic and market conditions in regional and global markets. Although economic conditions vary from country to country, investors' perceptions of the events occurring in one country may adversely affect cash flows and securities from issuers in other countries, including Peru. For example, the Peruvian economy was adversely affected by the political and economic events that occurred in several emerging economies in the 1990s, including in Mexico in 1994, which impacted the fair value of securities issued by companies from markets throughout Latin America. The crisis in the Asian markets beginning in 1997 also negatively affected markets throughout Latin America. Similar adverse consequences resulted from the economic crisis in Russia in 1998, the Brazilian devaluation in 1999 and the Argentine crisis in 2001. In addition, Peru's economy continues to be affected by events in the economies of its major regional partners and in developed economies that are trading partners or that affect the global economy.

The 2008 and 2009 global economic and financial crisis substantially affected the financial system, including Peru's securities market and economy. Additionally, the debt crisis in Europe that began with financial crises in Greece, Spain, Italy and Portugal, reduced the confidence of foreign investors, caused volatility in the securities markets and affected the ability of companies to obtain financing globally. Doubts about the pace of global growth, particularly in the United States, contributed to already weak international growth in 2011, 2012 and 2013. Brexit continues to create volatility and uncertainty in a number of financial markets. The global COVID-19 pandemic has resulted in a worldwide recession that we cannot yet accurately measure as it is ongoing. Any interruption to the recovery of developed economies, the continued effects of the global crisis in 2008 and 2009, a worsening or resurgence of the debt crisis in Europe, impacts due to Brexit, the economic impact of COVID-19, or a new economic and/or financial crisis, or a combination of the above, could affect the Peruvian economy, and consequently, materially adversely affect our business. In particular, the Peruvian economy recently has suffered the effects of fluctuating commodity prices in the international markets, a decrease in export volumes, a decrease in foreign direct investment inflows and, as a result, a decline in foreign reserves and an increase in its current account deficit. To date, the United States and China are facing a trade dispute, which has imposed new tariffs that could undermine economic growth and raise costs for manufacturers around the world. Further, the current global COVID-19 pandemic caused a global recession in 2020, that has in turn affected our business, financial condition and results of operation. See "—Global Risks."

Additionally, adverse developments in regional or global markets or an increase in the perceived risks associated with investing in emerging markets in the future could adversely affect the Peruvian economy and, as a result, adversely affect our business, financial condition and results of operations. In March 2020, after its annual review, the FTSE announced that, since there is only one Peruvian stock in the FTSE Global All Cap index, it does not meet the requirements of the new minimum investable market cap and securities count requirement criterion. As a result, Peru was reclassified from Secondary Emerging to Frontier market status as of September 2020.

During 2021, with the advance of vaccination at the global level and the contained impact of the COVID-19 pandemic, despite new variants, we have seen a recovery in global growth levels. Nonetheless, this recovery has weakened due to, among others, the increase in energy prices, general supply shortages, and the increase of COVID-19 cases due to new variants, such as Delta and Omicron.

A decline in the prices of certain commodities in the international markets could have a material adverse effect on our financial condition and results of operations.

In 2021, traditional exports, in particular mineral products, fishing products, agricultural products and petroleum and its derivatives, represented 73.6% of Peru's total exports, according to the figures published by the BCRP. Changes in commodity prices in the international markets, may have an adverse impact on Peruvian government finances, which could affect both investor confidence and the sustainability of government expenditure and social programs. Thus, a decline in commodity prices could, ultimately, affect the political environment in Peru, especially as regional and local governments are particularly reliant on tax revenue from mining concerns. By potentially affecting private sector demand and investor confidence, lower commodity prices could also affect the retail sector, leading to, for example, a decline in purchasing power and consumer spending.

Corruption and ongoing high-profile corruption investigations may hinder the growth of the Peruvian economy and have a negative impact on our business and operations.

Peruvian authorities are currently conducting several high-profile corruption investigations relating to the activities of certain companies in the construction and infrastructure sectors, which have resulted in suspension or delay of important infrastructure projects that were otherwise operational and permitted. The overall delay relating to such projects has resulted in a drop in GDP growth and overall infrastructure investment.

In July 2017, former President Ollanta Humala and his wife were detained in connection with a corruption probe and in February 2018, a Peruvian judge submitted a request to extradite former president Alejandro Toledo on allegations of bribery, both in connection with Brazilian construction company Odebrecht S.A. Several high-profile politicians are subject to corruption investigations. Corruption and corruption investigations could directly affect the Peruvian government, divert resources that would otherwise be focused on developing the economy, create political instability, and result in slower or negative economic growth, such as has recently happened in Brazil. In turn, this could impact our ability to successfully implement our growth and expansion strategies.

On March 21, 2018, President Kuczynski announced his decision to resign his office as president, due to allegations of corruption he faced. On March 23, 2018, Congress accepted his resignation and his first vice president, Martín Vizcarra, was sworn in as acting president. On April 2, 2018, President Vizcarra appointed the members of his cabinet.

In July 2018, a set of secretly recorded phone conversations involving high-court officials in Peru revealed widespread corruption in the judicial system's top ranks. In February 2019, preventive prison was ordered of four of the implicated judges while the investigations continue.

In April 2019, two former presidents were placed in preliminary detention due to their alleged ties to corruption: Pedro Pablo Kuczynski, who is currently detained, and Alan Garcia, who took his own life when police came to place him under arrest.

During 2020, Peru experienced a new change of President, after Congress voted to impeach Martín Vizcarra on November 10. As there was no Vice-President, Manuel Merino, the President of Congress assumed the Presidency in the midst of protests against the legitimacy of his Government, and had to resign five days later. On November 16, 2020, Francisco Sagasti was elected President of Congress and, due to constitutional succession after Mr. Merino's resignation, President of Peru. On July 28, 2021, Pedro Castillo became President of Peru, after a disputed election results. During the first six months of President Pedro Castillo's administration, he, members of his government, and people around him have been confronted with a series of complaints and accusations of corruption. Some of these cases are under investigation and others, specifically against the President, have been suspended until the end of his mandate.

Although recent history has shown that the macroeconomic stability of the country remains unaffected by political turmoil, we cannot yet assess the political and economic impact these developments may have on the political stability of the country. See "—Economic, social and political developments in Peru including political instability, rates of inflation and unemployment could have a material adverse effect on our business, financial condition and results of operations."

Risks Relating to our Business and Industry

We are subject to the possible entry of domestic or international competitors into our market, which could decrease our market share and profitability.

The cement market in Peru is competitive and is currently served mainly by three main groups, which together supply most of the cement consumed in the country, although there are two more smaller producers and some imports. In the cement industry, the location of a production plant tends to limit the market a plant can serve because transportation costs are high, reducing profit margins. Historically, we have supplied the northern region of Peru while two other groups have supplied the central (which includes the Lima metropolitan area) and southern regions of Peru, driven principally by the location of production facilities and distribution focus. However, competition could intensify if other manufacturers decide to enter our market.

We may face increased competition if the other Peruvian cement manufacturers, despite incremental freight costs, expand their distribution of cement to the northern region of Peru, or if they develop a cement plant in the north, particularly if the cement markets in Lima or other areas of Peru become saturated. In the past, some foreign cement manufacturers have announced plans to build cement plants in the central region of the country. If competition intensifies in the central region of Peru due to the presence of foreign cement manufacturers or otherwise, it may have price repercussions in our market.

We also face the possibility of competition from the entry into our market of imported clinker for grinding facilities, cement or other materials or products from foreign manufacturers, which may have significantly greater financial resources than us, particularly as production capacity continues to exceed depressed demand in other parts of the world and transportation costs decrease.

We may not be able to maintain our market share if we cannot match our competitors' prices or keep pace with the development of new products. If any of these events were to occur, our business, financial condition and results of operations could be adversely affected.

Demand for our cement products is highly related to housing construction in northern Peru, which, in turn, is affected by economic conditions in the region.

Cement consumption is highly related to construction levels. Demand for our cement products depends, in large part, on residential construction in the north of Peru, which consists mostly of low-income families gradually building or improving their own homes without technical assistance, which we refer to as *auto-construcción*. We estimate that in 2021, *auto-construcción* accounted for approximately 70.3% of our cement sales, which proved to be the most resilient sector during the economic crisis generated during 2020 by the COVID-19 pandemic. Residential construction, in turn, is highly correlated to prevailing economic conditions in Peru. A decline in economic conditions would reduce household disposable income and cause a significant reduction in residential construction, leading to a decrease in demand for cement. As a result, a deterioration of economic conditions in the northern region of Peru would have a material adverse effect on our financial performance and results of operations. We cannot assure you that growth in Peru's GDP, or the contribution to GDP growth attributable to the northern region of the country, will continue at the recent pace or at all. Despite political uncertainty, cement sales have continued to be strong during 2021. However, we cannot assure you that strong sales will remain during 2022 and beyond, as the economy continues to be affected by external factors such as inflationary pressure, and political uncertainty continues.

A reduction in private or public construction projects in the northern region of Peru would have a material adverse effect on our business, financial condition and results of operations.

We estimate that in 2021, approximately 15.0% of our cement sales were derived from private construction (other than *auto-construcción*) and 14.7% from public construction in the north of Peru. Significant interruptions or delays in, or the termination of, private or public construction projects may adversely affect our business, financial condition and results of operations. Private and public construction levels in our market depend on investments in the region which, in turn, are affected by economic conditions.

The level of public infrastructure construction also depends, to a great extent, on the priorities and financial resources of the national, regional and local governmental authorities. Although the anticipated increase in Peru's large infrastructure projects has been delayed, this remains an important growth driver for the country and also a necessity due to Peru's significant infrastructure deficit. In the North, significant spending will be directed towards reconstruction works to address the damage caused by Coastal El Niño, based on Peru's "Reconstruction with Changes" Plan. This Plan has an approved budget of S/25.7 billion (US\$7.6 billion). In June 2020, the Peruvian government signed an agreement with the government of the United Kingdom, for the execution of a package of S/7 billion to be executed during 2020 and 2021. Through the agreement, the United Kingdom will provide the structure, strategy and governance processes necessary for the timely delivery of all works, promoting efficiency and avoiding corruption. This model has already been used successfully for the construction of the necessary infrastructure for the Lima 2019 Pan American Games, therefore favorable results are expected this time as well. Although execution has been slower than expected, the continuation of this project will continue to boost our sales. However, we cannot assure that public spending for construction projects will continue in the upcoming years. A reduction in public infrastructure spending in our market would adversely affect our business, financial condition and results of operations.

Our business, financial condition and results of operations may be adversely affected by increases in energy prices or shortages in the supply of energy.

Energy accounts for a significant percentage of our production costs. Our principal energy sources are coal, gas and electricity. In 2021, the cost of energy represented approximately 25.3% of our cement production costs, compared to 28.8% in 2020 and 31.4% in 2019. We use a substantial amount of coal as a source of fuel in our production process. Most of the coal we use is anthracite coal which we purchase from domestic suppliers and import a small amount of bituminous coal from suppliers primarily in Colombia, in each case, at market prices. We do not have long-term coal supply agreements, and we do not engage in hedging transactions in connection with the price of coal. Any shortage or interruption in the supply of coal could also disrupt our operations. In addition, the price of coal is largely driven by the price of oil, and, as a result, increases in international oil prices are likely to affect the price of coal and adversely affect our results of operations. The current increase in both coal and oil prices because of the conflict between Russia and Ukraine will have a negative effect on our margins and hence on our results of operations.

We have a long-term electricity supply agreement with Electroperú S.A. (“Electroperú”), a government-owned company, to serve the electricity requirements of our Pacasmayo and Piura facilities until 2026. We have also entered into a supply agreement with Electro Oriente S.A. (“ELOR”) to supply the Rioja facility until November 2022. Our business, financial condition and results of operations could be materially and adversely affected by higher costs, interruptions, and unavailability or shortage of electricity. We have no back-up power system at our plants and cannot assure you that, in case of interruption or failure in Electroperú’s or ELOR’s operations, we will have access to other energy sources at the same prices and conditions, which could adversely affect our business, financial condition and results of operations. Moreover, electricity to our plants is transmitted through the Peruvian Electricity Interconnection System (*Sistema Eléctrico Interconectado Nacional del Perú*, or “SEIN”). Any interruptions or failures in SEIN’s system would also have a material adverse effect on our business, financial condition and results of operations.

In the recent past, we have experienced electricity rationing, limiting our use of electricity to certain times of the day. In such cases, we were forced to readjust our production schedules in order to ensure that our production process was not interrupted. In the event of any future rationing of electricity, we may not be able to readjust quickly enough and our production process may be interrupted. Future shortages or efforts to respond to or prevent shortages, such as rationing, may adversely impact the cost or supply of electricity for our operations.

A significant increase in the prices of coal, gas or electricity would increase our costs of production. We may not be able to increase the prices of our cement products in the future if the prices of coal, gas or electricity rises, which would adversely affect our business, financial condition and results of operations.

Changes in the cost or availability of admixtures and raw materials supplied by third parties may adversely affect our business, financial condition and results of operations.

We use certain admixtures and raw materials in the production of cement, such as gypsum, blast furnace slag and iron that we obtain from third parties. In 2021, our cost of admixtures and raw materials supplied by third parties as a percentage of our cement production costs was approximately 4.3%, similar to 2020. Moreover, during 2021, we had to use imported clinker, to satisfy the sharp and sudden increase in cement demand, and the cost of this imported clinker as a percentage of our cement production costs was approximately 21.5%, compared to 10.1% in 2020. We do not have long-term contracts for the supply of admixtures or raw materials that we use and if existing suppliers cease operations or reduce or eliminate production of these products, our costs to procure these materials may increase significantly or we may be obligated to procure alternatives to replace these products. Current increases in import prices, mainly due to freight increases, have affected the price of our admixtures. We have tried to replace, when possible, imported admixtures with local ones to decrease the effect on our cost of production. We are also currently investing to optimize the current capacity at our Pacasmayo plant, in order to produce an additional estimated 600,000 metric tons of clinker per year, in order to reduce our clinker imports. We expect to finish this optimization by the second half of 2023. However, we cannot assure that we will be continue to be able to replace imported admixtures or optimize the current capacity at our Pacasmayo plant in the timing expected or at all.

We may undertake future acquisitions that may not achieve expected benefits.

Our strategic initiatives include pursuing acquisitions that tend to diversify our existing portfolio of products and services and expand our geographic footprint. In the future, we may decide to expand by acquiring other companies in Peru or abroad. Any future acquisitions will depend on our ability to identify suitable candidates, negotiate acceptable terms, and obtain financing for the acquisitions. If future acquisitions are significant, they could change the scale of our business and expose us to new geographic, political, operating and financial risks. In addition, each acquisition involves a number of risks, such as the diversion of our management’s attention from our existing business to integrating the operations and personnel of the acquired business, possible adverse effects on our results of operations during the integration process, our inability to achieve the intended objectives of the combination and potential unknown liabilities associated with the acquired assets.

We may not be able to obtain the funding required to implement future strategies.

Our strategies to continue to expand our cement production capacity and distribution network require significant capital expenditures. We cannot assure you that we will generate sufficient cash flow from operations, or that we will have access to external financing sources, to adequately fund such capital expenditures. Our access to external sources of financing will depend on many factors, including factors beyond our control, such as conditions in the global capital markets and investors’ risk perception of investing in Peru and in emerging markets generally. Any equity or debt financing, if available, may not be on terms that are favorable to us. If our access to external financing is limited, we may not be able to execute our strategy, which could adversely affect our business, financial condition and results of operations.

In addition, the indenture pursuant to which we issued our 4.50% Senior Notes due 2023, as well as our local bonds due 2029 and 2034, and the “club deal” loan we entered into in 2021, contain covenants that limit our ability and that of our restricted subsidiaries to incur additional indebtedness if we do not meet certain financial ratios. If we are unable to incur additional debt to fund our future strategies, our business could be adversely affected.

We are subject to risks related to litigation and administrative proceedings that could adversely affect our business and financial performance in the event of an unfavorable ruling.

The nature of our business exposes us to litigation relating to product liability claims, labor, health and safety matters, environmental matters, regulatory, tax and administrative proceedings, governmental investigations, tort claims and contract disputes, among other matters. In the past, we have been subject to antitrust and tax proceedings or investigations. While we contest these matters vigorously and make insurance claims when appropriate, litigation is inherently costly and unpredictable, making it difficult to accurately estimate the outcome of actual or potential litigation. Although we establish provisions as we deem necessary, the amounts that we reserve could vary significantly from any amounts we actually pay due to the inherent uncertainties in the estimation process. We cannot assure you that these or other legal proceedings will not materially affect our ability to conduct our business, financial condition and results of operations in the event of an unfavorable ruling.

Our business is subject to a number of operational risks, which may adversely affect our business, financial condition and results of operations.

Our business is subject to several industry-specific operational risks, including accidents, natural disasters, labor disputes and equipment failures. Such occurrences could result in damage to our production facilities and equipment, and/or the injury or death of our employees and others involved in our production process. Moreover, such accidents or failures could lead to environmental damage, loss of resources or intermediate goods, delays or the interruption of production activities and monetary losses, as well as damage to our reputation. Our insurance may not be sufficient to cover losses from these events, which could adversely affect our business, financial condition and results of operations.

In addition, key equipment at our facilities, such as our mills and kilns, may deteriorate sooner than we currently estimate. Such deterioration of our assets may result in additional maintenance or capital expenditures, and could cause delays or the interruption of our production activities. If these assets do not generate the cash flows we expect, and we are not able to procure replacement assets in an economically feasible manner, our business, financial condition and results of operations may be materially and adversely affected.

Our business depends on the continued operation of our Pacasmayo and Piura facilities.

Our production facilities in Pacasmayo and Piura are essential to our business. In 2021, approximately 90.7% of our total cement and all of our quicklime was produced at our Pacasmayo and Piura facilities. These plants are subject to normal hazards of operating any cement production facility, including accidents, natural disasters and unexpected malfunctioning of the equipment. Any interruption in our operation of our Pacasmayo or Piura facilities or a decrease in the effective capacity of these facilities would adversely affect our results of operations. In 2020, the production and commercialization of cement was shut down for over two months, as a consequence of the state of emergency declared to prevent the spread of COVID-19. This halt in production and commercialization for over two months had an adverse effect on our business, financial condition and results of operations, which we were able to partially offset during the second half of the year due to strong demand. However, we cannot assure you that demand will continue to be strong during 2022, or that there will not be further shutdowns or closures of significant parts of the economy as a result of the COVID-19 pandemic.

The introduction of cement substitutes into the market and the development of new construction techniques could have a material adverse effect on our business, financial condition and results of operations.

Materials such as plastic, aluminum, ceramics, glass, wood and steel can be used in construction as a substitute for cement. In addition, other construction techniques, such as the use of drywall, could decrease the demand for cement and concrete. In Peru, drywall has only been introduced into the housing construction market in recent years and it is not widely used. However, the use of drywall for housing construction could increase significantly in the future as it becomes more popular. In addition, research aimed at developing new construction techniques and modern materials may introduce new products in the future. The use of substitutes for cement could cause a significant reduction in the demand and prices for our cement products.

Our success depends on key members of our management.

Our success depends largely on the efforts and strategic vision of our executive management team and board of directors. The loss of the services of some or all of our executive management team or members of our board of directors could have a material adverse effect on our business, financial condition and results of operations.

The execution of our business plan also depends on our ongoing ability to attract and retain additional qualified employees capable of operating our plants. Due to the limited pool of skilled workers in the north of Peru or workers from other regions willing to relocate to the north of Peru, we may not be successful in attracting and retaining the personnel we require. If we are unable to hire, train and retain qualified employees at a reasonable cost, we may be unable to successfully operate our business or reach full planned production levels in a timely manner and, as a result, our business, financial condition and results of operations could be adversely affected.

Our operations and sales are highly concentrated in the northern region of Peru.

All of our operations are located in the northern region of Peru, including our production facilities and the quarries from where we obtain limestone to produce cement. In addition, substantially all of our cement products are sold to consumers in this market. As a result, any adverse economic, political or social conditions affecting the northern region of Peru, as well as natural disasters and weather conditions, such as the El Niño climate pattern, among other factors that may affect this region, could have a material adverse effect on our business, financial condition and results of operations. In 2017, the north of Peru experienced severe rain, landslides and flooding, which affected the demand for cement, and the ability to ship it, as well as the provision of raw materials since some roads were destroyed. Our plants did not suffer any significant damage as we halted operations to mitigate physical damage.

We are subject to environmental regulations and may be exposed to liability and political cost as a result of our handling of hazardous materials and potential costs for environmental compliance.

We are subject to various environmental protection and health and safety laws and regulations that regulate, among other things, the generation, storage, handling, use and transportation of hazardous materials; emissions and discharge of hazardous materials; and the health and safety of our employees. Pursuant to Peruvian law, in order to conduct mining and industrial activities, we are required, among other things, to (i) submit an environmental impact assessment to the Ministry of Production (*Ministerio de la Producción*) and a mining closure plan to the Ministry of Energy and Mines (*Ministerio de Energía y Minas*, or “MINEM”) prior to initiating mining activities, (ii) comply with certain air emission and wastewater discharge standards, (iii) obtain approval from the water management authority to discharge wastewater into natural water sources or soil, (iv) dispose solid waste generated by us in special landfills exclusively through companies registered with the environmental agency, and (v) store fuel in compliance with environmental and safety standards. In addition, we are required to have a health and safety committee and develop an internal health and safety code. Although we believe we are in compliance with all these regulations in all material respects, we cannot assure you that we have been or will be at all times in full compliance with these laws and regulations. Any violation of such laws or regulations could result in substantial fines, criminal sanctions, revocations of operating permits and shutdowns of our facilities. In addition, current or future governments may also impose stricter regulations which may require us to incur higher compliance costs.

Pursuant to certain applicable environmental laws, we could be held liable for all or substantially all of the damages caused by pollution at our current or former facilities or those of our predecessors or at disposal sites. We could also be held liable for all incidental damages due to the health effects of exposure of individuals to hazardous substances or other environmental damage.

We cannot assure you that our costs of complying with current and future environmental and health and safety laws and regulations, and any liabilities arising from past or future releases of, or exposure to, hazardous substances will not adversely affect our business, financial condition and results of operations.

Social unrest by local communities may have an adverse effect on our business and results of operation

In recent years, Peru has experienced protests against mining projects in several regions around the country. Mining is an important part of the Peruvian economy, with mining and oil and gas as of December 31, 2021, accounted for approximately 12.3% of the country's GDP according to the BCRP. On several occasions, local communities have opposed these operations and accused them of polluting the environment and hurting agricultural and other traditional economic activities. Since 2019, there have been on-and-off conflicts in Las Bambas between local communities and China Minmetals Corp, resulting in road blockages and halt in operations repeatedly throughout this period, and is still ongoing. We conduct some extraction activities in our quarries and operate in areas close to local communities. Although we have always had very good relationship with our communities, we cannot assure this will continue to be the case in the future. During 2021 and the first months of 2022, there have been social demands by different groups such as agriculture, transportation, mining, which have temporarily caused instability. Further social demands and conflicts may have an effect on the Peruvian economy, and on our business and results of operation.

International agreements related to climate change may result in an increase in our costs.

There are ongoing international efforts to address greenhouse emissions. The United Nations and certain international organizations have taken action against activities that may increase the atmospheric concentration of greenhouse gases. Regulatory measures, such as the Kyoto Protocol, aimed at addressing greenhouse gas emissions and climate changes, are in various stages of negotiation and implementation. Such measures may result in increased costs to us for installation of new controls aimed at reducing greenhouse gas emissions, purchase of credits or licenses for atmospheric emissions, and monitoring and registration of greenhouse gas emissions from our operations. These measures, if adopted in Peru, could adversely affect our business, financial condition and results of operations.

Changes in regulations or in the interpretation of regulations may adversely affect our business, financial condition and results of operations.

Our business is subject to extensive regulation in Peru, including, among others, relating to tax, environmental, labor, health and safety, and mining matters. We believe that our facilities are currently operating in all material respects in accordance with all applicable concessions, laws and regulations. Future regulatory changes, changes in the interpretation of such regulations or stricter enforcement of such regulations, including changes to our concession agreements, may increase our compliance costs and could potentially require us to alter our operations. We cannot assure you that regulatory changes in the future will not adversely affect our business, financial condition and results of operations.

Any dispute with the labor unions that represent our employees could have an adverse effect on our business, financial condition and results of operations.

As of December 31, 2021, 19.7% approximately of our employees were members of employee unions. Although we consider our relations with our employees are currently positive, we cannot assure you that we will not experience work slowdowns, work stoppages, strikes or other labor disputes in the future, which could adversely affect our business, financial condition and results of operations.

New projects may require the prior approval of local indigenous communities.

On September 7, 2011, Peru enacted Law No. 29785, regarding the Prior Consultation Right of Local Indigenous Communities, in accordance with the International Labor Organization Convention No. 169 (*Ley del Derecho a la Consulta Previa a los Pueblos Indígenas y Originarios, Reconocido en el Convenio 169 de la Organización Internacional del Trabajo*). This law, which became effective on December 6, 2011, establishes a prior consultation procedure (*procedimiento de consulta previa*) that the Peruvian government must carry out with local indigenous communities, whose rights may be directly affected by new legislative or administrative measures, including the granting of new mining concessions. Local indigenous communities do not have a veto right; upon completion of this prior consultation procedure, the Peruvian government retains the discretion to approve or reject the applicable legislative or administrative measure. However, to the extent that in the future our new projects may require implementation of legislative or administrative measures that impact local indigenous communities, we may not be able to undertake such projects, unless the Peruvian government first conducts the foregoing consultation procedure. We cannot assure you that this law will not adversely affect our new projects and have an adverse effect on our business, financial condition and results of operations.

The instruments pursuant to which our principal indebtedness was issued contain financial and other covenants, and any default under any of these instruments may have a material adverse effect on our financial condition and cash flows.

The indenture pursuant to which we issued our 4.50% Senior Notes due 2023 contains restrictions and covenants, including restrictions on our and our guarantor subsidiaries' ability to incur further indebtedness or issue disqualified stock and preferred stock, unless certain conditions are met.

Additionally, in January 2019, two issuances were completed under a local bond program in a total principal amount of S/570 million: One in the aggregate principal amount of S/260 million bearing interest at a rate of 6.68750% with a term of 10 years, and another in an aggregate principal amount of S/310 million bearing interest at a rate of 6.84375% with a term of 15 years. These issuances contain the same restrictions and covenants as our Senior Notes due 2023. And, in 2021, we entered into a "club deal" loan, which also contains restrictive covenants, as well as financial covenants requiring us to meet certain financial ratios tests. Failure to meet or satisfy any of these covenants could result in an event of default under the indenture, the agreements governing our local bonds or our "club deal" loan.

Risks Relating to our Common Shares and ADSs

The market price of our ADSs may fluctuate significantly, and you could lose all or part of your investment.

Volatility in the market price of our ADSs may prevent you from being able to sell your ADSs at or above the price you paid for them. The market price and liquidity of the market for our ADSs may be significantly affected by numerous factors, some of which are beyond our control and may not be directly related to our operating performance. These factors include, among others:

- actual or anticipated changes in our results of operations, or failure to meet expectations of financial market analysts and investors;
- investor perceptions of our prospects or our industry;
- operating performance of companies comparable to us and increased competition in our industry;
- new laws or regulations or new interpretations of laws and regulations applicable to our business;
- general economic trends in Peru;
- catastrophic events, such as earthquakes and other natural disasters; and
- developments and perceptions of risks in Peru and in other countries.

Our controlling shareholder has significant influence over us and his interests could conflict with the interests of other shareholders.

As of March 31, 2022, our controlling shareholder beneficially owned 50.01% of our outstanding common shares. As a result, our controlling shareholder has the ability to determine the outcome of substantially all matters submitted for a vote to our shareholders and thus exercise control over our business policies and affairs, including, among others, the following:

- the composition of our board of directors and, consequently, any determinations of our board with respect to our business direction and policy, including the appointment and removal of our executive officers;
- determinations with respect to mergers, other business combinations and other transactions, including those that may result in a change of control;
- whether dividends are paid or other distributions are made and the amount of any such dividends or distributions;
- whether we offer preemptive and accretion rights to holders of our common shares in the event of a capital increase;
- sales and dispositions of our assets; and
- the amount of debt financing we incur.

Our controlling shareholder may direct us to take actions that could be contrary to the interests of our other shareholders and may be able to prevent other shareholders from blocking these actions or from causing different actions to be taken. Also, our controlling shareholder may prevent change of control transactions that might otherwise provide the shareholders with an opportunity to dispose of or realize a premium on their investment in our common shares and ADSs. We cannot assure you that our controlling shareholder will act in a manner consistent with our other shareholders' best interests.

Holders of ADSs may be unable to exercise voting rights with respect to our common shares underlying the ADSs at our shareholders' meetings.

Holders of ADSs may exercise voting rights with respect to the common shares represented by the ADSs only in accordance with the deposit agreement relating to the ADSs. Holders of our common shares will receive notice of shareholders' meetings through publication of a notice 25 days in advance, pursuant to Peruvian law, in the official gazette in Peru, a Peruvian newspaper of general circulation, the bulletin of the Lima Stock Exchange and the website of the *Superintendencia del Mercado de Valores* (the "Peruvian Securities Commission"), and will be able to exercise their voting rights by either attending the meeting in person or voting by proxy. ADS holders will not receive notice directly from us. Instead, pursuant to the deposit agreement, we will notify the depositary, which will mail to holders of ADSs the notice of the meeting and a statement as to the manner in which voting instructions may be given. To exercise their voting rights, ADS holders must instruct the depositary how to exercise the voting rights for the common shares which underlie their ADSs. Due to these additional procedural steps involving the depositary, the process for exercising voting rights may take longer for ADS holders than for holders of our common shares.

Holders of ADSs also may not receive voting materials in time to instruct the depositary to vote the common shares underlying their ADSs. In addition, the depositary and its agents are not responsible for failing to carry out voting instructions of the holders of ADS or for the manner of carrying out such instructions, unless such failure can be attributable to gross negligence, bad faith or willful misconduct on the part of the depositary or its agents. Accordingly, holders of ADSs may not be able to exercise voting rights, and they will have little, if any, recourse if the underlying common shares are not voted as requested.

The ability of holders of our ADSs to receive payments of cash dividends may be limited.

Our shareholders' ability to receive cash dividends may be limited by the ability of the depositary to convert cash dividends paid in *soles* into U.S. dollars. Under the terms of our deposit agreement with the depositary for the ADSs, the depositary will convert any cash dividend or other cash distribution we pay on the common shares underlying the ADSs into U.S. dollars, if it can do so on a reasonable basis and can transfer the U.S. dollars to the United States. If this conversion is not possible or if any government approval is needed and cannot be obtained, the deposit agreement allows the depositary to distribute the foreign currency only to those ADS holders to whom it is possible to do so. If the exchange rate fluctuates significantly during a time when the depositary cannot convert the foreign currency, holders of ADSs may lose some or all of the value of the dividend distribution.

Holders of ADSs may be unable to exercise pre-emptive or accretion rights with respect to the common shares underlying their ADSs.

Under Peruvian corporate law, if we issue new common shares as part of a capital increase, unless otherwise agreed to by holders of 40% of our outstanding common shares, our shareholders will generally have the right to subscribe to a proportional number of common shares of the class held by them to maintain their existing ownership percentage, which is known as preemptive rights. In addition, shareholders are entitled to the right to subscribe for the unsubscribed common shares of either the class held by them or other classes which remain unsubscribed at the end of a preemptive rights offering, on a pro rata basis, which is known as accretion rights. Holders of ADSs may not be able to exercise the preemptive or accretion rights relating to common shares underlying the ADSs unless a registration statement under the U.S. Securities Act of 1933, as amended (the "Securities Act"), is effective with respect to those rights or an exemption from the registration requirements of the Securities Act is available. We are not obligated to file a registration statement with respect to the common shares relating to these preemptive and accretion rights and we cannot assure you that we will file any such registration statement. Unless we file a registration statement or an exemption from registration is available, holders of ADSs may receive only the net proceeds from the sale of their preemptive and accretion rights by the depositary or, if the preemptive and accretion rights cannot be sold, they will be allowed to lapse. As a result, U.S. holders of our ADSs may suffer dilution of their interest in our company upon future capital increases.

We are entitled to amend the deposit agreement under which our ADSs were issued, and to change the rights of ADS holders under the terms of such agreement, without the prior consent of the ADS holders.

We are entitled to amend the deposit agreement and to change the rights of the ADS holders under the terms of such agreement, without the prior consent of the ADS holders. Any change related to an increase in deposits or charges for book-entry securities services or any modification that might hinder the rights of the ADS holders will be effective within 30 days after the ADS holders have received notice of such change or modification and such holders will have no right to any compensation whatsoever.

Our status as a foreign private issuer allows us to follow alternate standards to the corporate governance standards of the New York Stock Exchange, which may limit the protections afforded to investors.

We are a "foreign private issuer" within the meaning of the New York Stock Exchange corporate governance standards. Under New York Stock Exchange rules, a foreign private issuer may elect to comply with the practices of its home country and not to comply with certain corporate governance requirements applicable to U.S. companies with securities listed on the exchange. We currently follow certain Peruvian practices concerning corporate governance and intend to continue to do so. Accordingly, holders of our ADSs will not have the same protections afforded to shareholders of companies that are subject to all New York Stock Exchange corporate governance requirements.

For example, the New York Stock Exchange listing standards provide that the board of directors of a U.S. listed company must have a majority of independent directors at the time the company ceases to be a "controlled company." Under Peruvian corporate governance practices, a Peruvian company is not required to have a majority of independent members on its board of directors.

The listing standards for the New York Stock Exchange also require that U.S. listed companies; at the time they cease to be "controlled companies," have a nominating/corporate governance committee and a compensation committee (in addition to an audit committee). Each of these committees must consist solely of independent directors and must have a written charter that addresses certain matters specified in the listing standards. Under Peruvian law, a Peruvian company may, but is not required to, form special governance committees, which may be composed partially or entirely of non-independent directors.

In addition, New York Stock Exchange rules require the independent non-executive directors of U.S. listed companies to meet on a regular basis without management being present. There is no similar requirement under Peruvian law.

The New York Stock Exchange's listing standards also require U.S. listed companies to adopt and disclose corporate governance guidelines. In November 2013, the Peruvian Securities Commission and a committee comprised of regulatory agencies and associations prepared and published a list of suggested non-mandatory corporate governance guidelines called the "Good Corporate Governance Code for Peruvian Companies." Although we have implemented a number of these measures, we are not required to comply with the corporate governance guidelines by law or regulation, only to disclose whether or not we are in compliance.

Minority shareholders in Peru are not afforded equivalent protections as minority shareholders in other jurisdictions and investors may face difficulties in commencing judicial and arbitration proceedings against our company or the controlling shareholder.

Our company is organized and existing under the laws of Peru, and our controlling shareholder is resident in Peru. Accordingly, investors may face difficulties in serving process on our company, our officers and directors or the controlling shareholder in other jurisdictions, and in enforcing decisions granted by courts located in other jurisdictions against our company, our officers and directors or the controlling shareholder that are based on securities laws of jurisdictions other than Peru.

In Peru, there are no proceedings to file class action suits or shareholder derivative actions with respect to issues arising between minority shareholders and an issuer, its controlling shareholders or directors and officers. Furthermore, the procedural requirements to file actions by shareholders differ from those of other jurisdictions, such as in the United States. As a result, it may be more difficult for our minority shareholders to enforce their rights against us, our directors, officers or controlling shareholder as compared to the shareholders of a U.S. company. The deposit agreement provides that the depositary has no obligation to commence or become involved in any judicial proceedings and any other legal actions relating to the ADSs or the deposit agreement, either on behalf of the ADS holders or on behalf of any other person.

The ability of investors to enforce civil liabilities under U.S. securities laws may be limited.

Most of our directors or executive officers are not residents of the United States. All or a substantial portion of our assets and those of our directors and executive officers are located outside of the United States. As a result, it may not be possible for investors in our securities to affect service of process within the United States upon such persons or to enforce in U.S. courts or outside of the United States judgments obtained against such persons outside of the United States.

We are a company organized and existing under the laws of Peru, and there is no existing treaty between the United States and Peru for the reciprocal enforcement of foreign judgments. It is not clear whether a Peruvian court would accept jurisdiction and impose civil liability if proceedings were commenced in a foreign jurisdiction predicated solely upon U.S. federal securities laws.

ITEM 4. INFORMATION ON THE COMPANY

A. History and Development of the Company

Our History

Cementos Pacasmayo S.A.A. was incorporated in Lima, Peru in 1949, by a group of private investors that founded the company to serve the cement market in the northern region of Peru. Cementos Pacasmayo began its operations in 1957 and is a publicly-held corporation (*sociedad anónima abierta*) organized under the laws of Peru. Our executive offices are located at Calle La Colonia 150, Urbanización El Vivero, Surco, Lima, Peru. Our telephone number at this location is + (511) 317-6000. Our website address is www.cementospacasmayo.com.pe. Information on or accessible through our website is not a part of, nor incorporated by reference in, this annual report.

Cementos Pacasmayo S.A.A. and Hochschild Mining plc together constitute the two businesses of the Hochschild Group, which has operated in Latin America for more than 100 years. Hochschild Mining plc is incorporated in the United Kingdom and its shares have been listed on the London Stock Exchange since 2006. Cementos Pacasmayo has been listed on the Lima Stock Exchange since 1995. As of March 31, 2022, Eduardo Hochschild, directly and indirectly, owned and controlled 38.32% of the shares of Hochschild Mining plc. Through Inversiones ASPI S.A. (“ASPI”), as of that same date, Eduardo Hochschild, directly and indirectly, owned and controlled 50.01% of the outstanding common shares of Cementos Pacasmayo S.A.A.

The Hochschild Group traces its origins to 1911, when Mauricio Hochschild, a German mining engineer, founded a group of companies in South America that came to be known as the Hochschild Group. Following World War I, the Hochschild Group expanded into Bolivia where it developed significant interests in tin. The Hochschild Group commenced operations in Peru in 1925 and in 1945 Luis Hochschild, the nephew of Mauricio Hochschild (and the father of Eduardo Hochschild), joined the Hochschild Group’s Peruvian operations.

During the first decades of its operations, the Hochschild Group focused on the commercialization of minerals, although it later began operating its own mines and other industrial companies. During World War II, the Hochschild Group was a key supplier of tin and other metals to the allied forces.

The Hochschild Group acquired its initial ownership interest in us in 1956. Set forth below are key developments in our company’s history.

- In 1957, we began our operations with the installation of our first clinker line with an installed production capacity of approximately 110,000 metric tons per year. In 1966 and 1977, we added a second and third clinker line, respectively, increasing our installed clinker production capacity to approximately 830,000 metric tons per year.
- In November 1984, the South American mining and industrial operations of the Hochschild Group were sold to the Anglo American Corporation of South Africa which, in the same month, sold the Peruvian operations of the Hochschild Group, including its interest in Cementos Pacasmayo and predecessors of Hochschild Mining plc, to a group of companies controlled by Luis Hochschild.
- In 1995, we launched our distribution network to commercialize and distribute our products throughout the northern region of Peru. In that same year, we also listed our common shares for trading on the Lima Stock Exchange, currently under the ticker symbol “CPACASC1.”
- In 1998, we acquired from the Peruvian government our Rioja facility, located in the northeast of Peru. At the time, the Rioja facility had one clinker line with an installed cement production capacity of approximately 35,000 metric tons per year.
- In 2003, we acquired Zemex Corporation, a U.S. company engaged in non-metallic mining and industrial activities in the United States and Canada, which we sold in 2007 in a series of transactions.
- In 2009, we created Fosfatos del Pacifico in order to explore phosphate rock deposits from our concession at Bayóvar in the north of Peru.
- In 2010, we reached an aggregate total installed cement production capacity of 3.1 million in our Pacasmayo and Rioja facilities and completed the conversion of our Waelz kiln, retrofitting it to produce quicklime or calcine zinc interchangeably. That same year, we also sold our copper mining concessions in the central region of Peru known as “Mina Raul,” which were previously leased to a third party, for US\$28.0 million.
- In December 2011, we sold a minority equity interest in Fosfatos to an affiliate of Mitsubishi to develop our phosphate deposits in the Bayóvar fields, in the northwest of Peru.

- In March 2012, we completed our initial equity offering of 22,296,800 ADSs in the United States and listed our ADSs on the New York Stock Exchange.
- In February 2013, we issued US\$300 million in our inaugural international bond offering. A portion of the proceeds from this offering were used to prepay amounts outstanding on our secured loan agreement with BBVA Banco Continental, and the remaining proceeds were used to fund a portion of the capital expenditures related to the construction and operation of our new Piura plant and our cement business.
- In September 2015, we began producing cement at our new plant in Piura. This was a very important milestone for us, since we have been investing in this project since 2012 and we have begun to reap the benefits of this investment.
- In January 2016, we began producing clinker at our new plant in Piura, finishing the start-up of the plant, adding one million metric tons of annual clinker production capacity.
- In March 2017, Cementos Pacasmayo consummated the spin-off of Fostatos del Pacífico.
- In December 2017, our board of directors resolved to focus our strategy on our core business of developing cement and building solutions. In furtherance of this strategy, we have focused on disposing our non-core investments. In the fourth quarter of 2017, we discontinued our brine project.
- In March 2018, Cementos Pacasmayo launched its new brand image and updated its vision: to further enhance our position as a leader in developing building solutions and innovations that anticipate the needs of our clients and that contributes to the progress of our country.
- During 2018, Cementos Pacasmayo implemented the ISO 37001 anti-bribery management systems, obtaining certification in January 2019. This certification confirms that our management systems are designed to help prevent, detect and respond to bribery and comply with anti-bribery laws and voluntary commitments applicable to its activities. This certification and related initiatives reiterates our commitment to global anti-bribery best practices and high standards of transparency and good corporate governance.
- In November 2018, Cementos Pacasmayo launched an offer to purchase for cash a portion of the US\$300 million principal amount of international bonds outstanding. The offer expired on December 7, 2018 with a total of US\$168,388,000, or approximately 56.13% of the total outstanding amount, tendered and repurchased by Cementos Pacasmayo.
- On January 8, 2019, the General Shareholders' Meeting approved the issuance of a local bond program in an aggregate principal amount up to S/1,000 million. On January 31, 2019, two issuances were completed under the program for a total principal amount of S/570 million: One for S/260 million accruing interest at a rate of 6.68750% per annum with term to maturity of 10 years, and another for S/310 million accruing interest at a rate of 6.84375% per annum with a term to maturity of 15 years. The proceeds were used to purchase part of our outstanding 4.50% Senior Notes due 2023. The rates and terms obtained reduce our financial cost structure, with lower cost of capital, an extended maturity and less exposure to exchange rate fluctuations.
- In 2020, we were included on the Dow Jones MILA Sustainability Index for the second consecutive year. This Index is made up of those companies that demonstrate superior performance among their peers based on social, environmental and economic criteria.
- In February 2021, we were chosen to be part of The Sustainability Yearbook 2021. To appear in the Yearbook, companies must score within the top 15% of their industry globally and have a gap of less than 30% from the leader's Global ESG score. Moreover, we were awarded with the Industry Mover distinction, since we showed the strongest year on year score improvement in our industry.

- In October 2021, due to the exponential growth in cement demand, our Board of Directors approved the optimization of our Pacasmayo plant, to produce an additional estimated 600,000 metric tons of clinker per year, in order to reduce the use of imported clinker.
- During 2021, we were included in the Dow Jones MILA Sustainability Index for the third consecutive year, and as part of The Sustainability Yearbook for the second consecutive year.

Capital Expenditures

We expect to spend approximately US\$25 million per year over the next three years on recurring capital expenditures necessary to maintain our plants and equipment. We expect to finance these investments with our current and future cash flows.

The table below sets forth our total capital expenditures incurred in 2021, 2020 and 2019.

(in millions of S/)	Year ended December 31,		
	2021	2020	2019
Concrete and aggregates equipment	27.9	24.9	44.6
Piura plant projects	15.1	17.0	12.3
Pacasmayo plant projects	45.4	16.9	25.0
Rioja plant projects	8.9	3.4	5.2
Other investing activities	-	0.5	-
Total	97.3	62.7	87.1

B. Business Overview

Overview

We are a leading Peruvian cement company, and the only cement manufacturer in the northern region of Peru. With more than 64 years of operating history, we produce, distribute and sell cement and cement-related materials, such as precast products and ready-mix concrete. Our products are primarily used in construction, which has been one of the fastest growing segments of the Peruvian economy in recent years. We also produce and sell quicklime for use in mining operations, although it represents a very small percentage of our overall revenues.

In 2021 our cement shipments were approximately 3.6 million metric tons, representing an estimated 26.8% share of Peru's total cement shipments. Cement volumes in 2021 increased by 40.4% compared to 2020, setting a new historical record. It is important to note that in 2020, despite the halt in our operations for more than two months, volumes only decreased slightly. Even when compared to 2019, which was already a record year, volumes increased 39.6% in 2021. We believe the construction sector has significant potential to grow with the continued deficit in infrastructure and the persistent housing deficit in the country, as well as the reconstruction of northern Peru following the impact of El Niño weather conditions in the first four months of 2017. However, we are aware that the exponential growth experienced this year will be difficult to replicate and consider that maintaining current volumes will be a challenging objective for 2022.

We own three cement production facilities, our flagship Pacasmayo facility located in the northwest region of Peru, our Piura facility located around 300 kilometers north of Pacasmayo, and our smaller Rioja facility located in the northeast. Our facilities have total installed annual cement production capacity of approximately 4.9 million metric tons. We also have installed annual production capacity of 240,000 metric tons of quicklime. We own concession rights to several quarries with reserves of limestone and other raw materials located near our facilities.

We completed an expansion of our Rioja plant in April 2013. We more than doubled the cement production capacity of our Rioja facility by installing a new production line with 240,000 metric tons of installed annual cement production capacity. We finished construction of our plant in Piura in 2015. This facility has annual production capacity of 1.6 million metric tons of cement. In September 2015, we began cement production, and clinker production began in January 2016. During 2021, we decided to optimize our capacity at our Pacasmayo plant, in order to add an estimated 600,000 metric tons of clinker capacity per year. This should be completed during 2023.

We provide consumers with high-quality and value-added cement products and, as a result, we believe we have developed strong brand recognition and customer loyalty in our market. We have developed one of the largest independent retail distribution networks for construction materials in Peru. Through our network of 240 independent retailers and 379 hardware stores as of March 31, 2022, we distribute our cement products as well as other construction materials manufactured by third parties, such as steel rebar, cables and pipes, in the northern region of Peru. We also sell our cement products directly to other retailers that are not part of our distribution network and to private construction companies and government entities.

The following table sets forth certain macroeconomic data for Peru and operating and financial data for our company for the periods indicated.

	As of and for the year ended December 31,		
	2021	2020	2019
Economic data⁽¹⁾:			
Change in GDP	13.2%	(11.1)%	2.2%
Change in construction sector in Peru	34.7%	(15.6)%	1.5%
Operating data:			
<i>Capacity (thousands metric tons per year):</i>			
Installed cement capacity	4,940	4,940	4,940
Installed clinker capacity	2,780	2,780	2,780
<i>Production (thousands metric tons):</i>			
Cement production	3,632	2,590	2,623
Clinker production	2,036	1,477	1,853
<i>Utilization rate at Pacasmayo plant⁽²⁾:</i>			
Cement	67.9%	45.1%	47.2%
Clinker	58.6%	47.5%	57.6%
<i>Utilization rate at Rioja plant⁽²⁾:</i>			
Cement	76.8%	59.8%	68.4%
Clinker	94.4%	70.9%	82.5%
<i>Utilization rate at Piura plant⁽²⁾:</i>			
Cement	82.7%	63.7%	59.7%
Clinker	89.3%	56.6%	75.8%
Gross profit (\$/ million)	559.4	375.3	486.9
Gross profit margin	28.9%	29.0%	35.0%
EBITDA (\$/ million)	453.9	315.3	400.3
EBITDA margin	23.4%	24.3%	28.7%
Profit (\$/ million)	153.2	57.9	132.0
Profit margin	7.9%	4.5%	9.5%

(1) Source: BCRP.

(2) Utilization rate is calculated by dividing production for the specified period by installed capacity.

Non-IFRS Financial Measure and Reconciliation

We define EBITDA as profit minus finance income and plus finance costs, income tax expenses, and depreciation and amortization, and plus or minus gain from exchange difference, net.

EBITDA should not be construed as an alternative to profit or operating profit, as an indicator of operating performance, as an alternative to cash flow provided by operating activities or as a measure of liquidity (in each case, as determined in accordance with IFRS). EBITDA, as calculated by us, may not be comparable to similarly titled measures reported by other companies, including those in the cement industry.

The following table sets forth the reconciliation of our profit to EBITDA:

	Year ended December 31,			
	2021	2021	2020	2019
	(in millions of US\$) ⁽¹⁾	(in millions of S/)		
Profit	38.4	153.2	57.9	132.0
Income tax expense	17.8	70.9	28.0	62.3
Finance income	(0.7)	(2.9)	(3.0)	(2.6)
Finance costs	22.3	89.0	88.7	78.0
Gain (loss) on the valuation of trading derivative financial instruments at fair value through profit or loss	(0.2)	(0.6)	(5.3)	1.5
Liquidation of financial instruments	—	—	—	—
Accumulated net loss due to settlement of derivative financial instruments at fair value through profit or loss	0.4	1.6	—	—
Loss from exchange difference, net	1.8	7.1	9.8	(0.7)
Depreciation and amortization	34.0	135.6	139.2	129.8
EBITDA	113.9	453.9	315.3	400.3

(1) Calculated based on an exchange rate of S/3.9865 to US\$1.00 which was the average accounting exchange rate reported on December 31, 2021, by the SBS.

Peruvian Cement Market

Peru had experienced sustained economic growth over the past decade, but the effects of the COVID-19 pandemic in 2020 resulted in the greatest annual economic contraction of the last 100 years. However, the recovery during 2021 was substantial, reaching 13.2% growth. From 2017 to 2021, GDP grew at a compound annual growth rate, or “CAGR”, of 1.7%. Growth during this period was accompanied by low inflation, which averaged 2.88% per year. In addition, as of December 31, 2021, the government had accumulated foreign exchange reserves of approximately US\$78.7 billion, and the sovereign long-term debt rating was investment grade from each of the three major international credit rating agencies. Although this economic growth had resulted, among other key trends, in significant poverty reduction, with a decrease in the percentage of the country’s population living below the poverty line from approximately 48.6% in 2004 to approximately 20.2% in 2019, the COVID-19 pandemic took a toll on it. Poverty levels for 2020 increased 9.9 percentage points, reaching 30.1%.

We sell substantially all our cement in the northern region of Peru, which in 2021 accounted for approximately 32.5% of the country's population and 16.0% of national GDP. Two other groups sold most of the cement consumed in each of the central and southern regions of Peru, with 5.7% of all the cement consumed in the country coming from imports, and approximately 3.7% coming from a small domestic producer. From 2017 to 2021, total cement consumption in Peru increased 5.9% according to the INEI. Peru continues to have a significant housing deficit, estimated by the INEI at 1.9 million homes nationwide. In Peru, cement is mainly sold to a highly fragmented consumer base, consisting primarily of households that buy cement in bags to gradually build or improve their own homes without professional technical assistance, a segment known in our industry as *auto-construcción*. We estimate that in 2021 sales to the *auto-construcción* segment accounted for approximately 70.3% of our total sales of cement, private construction projects accounted for 15.0%, and public construction projects accounted for the remaining 14.7%. Approximately 89.6% of our total cement sales in 2021 were in the form of bagged cement, substantially all of which was sold through retailers.

Even though our ready mix sales are still a small proportion of our sales, we expect this trend to change as infrastructure becomes a bigger driver of demand in the upcoming years, and we continue to implement our strategy to become a building solutions company.

Brine Project Impairment

In 2017, our board of directors resolved to prioritize investments in the development of products related to the manufacture and sale of cement and building solutions. In furtherance of this strategy, we have pursued the sale or other disposition of investments that are not central to our core cement production business. As a result of this decision, during the fourth quarter of 2017 we discontinued the brine project.

Competitive Strengths

Our principal competitive strengths include the following:

Strong corporate governance standards and international recognition

Our common shares are listed on the Lima Stock Exchange and our ADSs are listed on the New York Stock Exchange. We are subject to the disclosure requirements of the U.S. Securities and Exchange Commission (the “SEC”) and the Peruvian Securities Commission and we must comply with and adopt internal compliance standards to increase transparency and improve corporate governance standards including an audit committee and appointment of independent directors. Since 2009, every year we have been selected as part of the Good Corporate Governance Index of the Lima Stock Exchange. Furthermore, in 2021, we received the Top Social Responsibility Award (*Distintivo de Empresa Socialmente Responsable*) for the ninth consecutive year, in recognition of our achievement of corporate goals in a socially responsible manner, principle that is ingrained in our corporate culture and business strategy. Also, we were included for the third consecutive year as part of the 2021 Dow Jones MILA Sustainability Index. This Index is made up of those companies that demonstrate superior performance among their peers under social, environmental and economic criteria. This achievement comes as a result of Pacasmayo’s effort to improve in all of these criteria and to work towards ambitious goals in terms of long-term sustainability. We are committed not only to remain in the Index but to improve our performance, as we are convinced that the focus on sustainability is key to our business and our stakeholders.

In February 2022, we were selected to be part of The Sustainability Yearbook 2022, for the second consecutive year. To appear in the Yearbook, companies must score within the top 15% of their industry globally and have a gap of less than 30% from the leader’s Global ESG score. With around 7,000 companies evaluated around the world, an inclusion in the yearbook is a true statement of excellence in corporate sustainability.

Track record of cash flow generation and strong results through multiple business cycles

We have historically generated strong cash flow and high profit margins mainly due to the following key factors:

- our leadership position in the northern region of Peru; and
- our extensive distribution network, operational flexibility and efficiency, and focus on innovation.

Despite the difficulties encountered globally due to the COVID-19 pandemic, we were able to recover strongly and generate a record S/453.9 million in EBITDA during 2021, the highest in company history.

This solid financial position and our ability to consistently generate operating cash flow also allows us to obtain relatively low interest rates.

Leader in attractive and expanding market with solid macroeconomic fundamentals

We are currently the only cement manufacturer in the northern region of Peru and we produce and sell substantially all of our cement in the region. In 2020, the northern region accounted for approximately 32.5% of the country’s population and 16.0% of its GDP. From 2017 to 2021, GDP in the northern region increased at a CAGR of 4.5%. During the same period, our cement sales volume grew at a CAGR of 12.4%, above northern region GDP mainly due to increased public spending resulting from the government’s reconstruction plan after El Niño in 2017, and the resilience of the *auto-construcción* segment, mainly driven by high employment levels in agriculture which is prominent in the North.

Best-in-class operating efficiencies with vertical integration and strong brand recognition

Our quarries are located in close proximity to our plants, enabling us to minimize transportation costs. We strive to enhance our operational efficiency by focusing on lowering costs and improving profitability. We also benefit from our vertically integrated operations, participating in the entire chain of production from the quarries, which we own directly, to the related products such as quicklime, ready-mix, precast and our large distribution network. We have developed one of the largest independent retail distribution networks for construction materials in Peru, known as “DINO,” consisting of 240 independent retailers and 379 hardware stores as of December 31, 2021, primarily small, local stores in the northern region, through which we distribute our cement products, as well as construction materials manufactured by third parties. We use our distribution network, together with our strategically located commercial offices, to promote our products and stay abreast of market developments. We have developed this network through years of fostering relationships with retailers in the region, which we believe would be difficult for a competitor to replicate. Our distribution network has enabled us to build strong recognition for our Pacasmayo brand among retailers and end-consumers in our market, which we believe is important to our business, particularly because our cement is principally sold in bags to retail consumers.

Disciplined capital expenditure plan with attractive risk / return profile

We seek to minimize risk while securing an adequate return on our development projects. In 2015, we completed construction of our new plant in Piura, the third largest city in northern Peru, which has an annual production capacity of 1.6 million metric tons of cement. The first ton of cement from the Piura plant was produced and shipped on September 17, 2015. The Piura plant improves our competitive position in the northern region of Peru. With production from three plants, we are able to serve our market more efficiently. This state-of-the-art plant is one of the most modern in Latin America. It also reduces transportation costs by enabling the dispatching of cement from plants within closer proximity to the point of sale.

During 2021, we decided to invest approximately US\$70 million to optimize our current capacity at our Pacasmayo plant, in order to produce an additional estimated 600,000 metric tons of clinker per year. Due to the sudden and sharp increase in demand since the second half of 2020, we have had to import clinker, which negatively affects our margin due to higher cost of production. This optimization, when completed during the second half of 2023, will allow us to stop importing clinker, if demand remains around current levels, as we currently expect.

Emphasis on innovation

We place significant emphasis on research and development to ensure our products meet the needs of consumers in our market and to improve the efficiency of our operations. For example, we have developed cement products suitable to coastal construction that tend to be more exposed to erosion from sulfate. We believe that, by educating retailers and end consumers of these attributes of our products, we have been successful in building demand and realizing higher margins for our differentiated product offering.

In July 2016, we created the Innovation Department with the main objective of systematizing the continuous transformation process of the business in order to ensure a sustainable growth for Cementos Pacasmayo and the improvement of its margins. To achieve this objective it is necessary to:

- Put the customer at the center of all our processes.
- Design a management innovation model.
- Promote an organizational culture that encourages entrepreneurship and innovation.

Given that customers, and consumption patterns can change quickly and unexpectedly we must quickly adapt in order to retain our customers.

In 2019 we worked hard to develop new value propositions, that will enable us to offer our clients the best experiences. We designed Journey Maps together with the commercial and Marketing areas wherein we detailed the experience of our various clients to identify our strengths and those aspects that we need to improve. Under this approach, in 2021 we began to develop (and in some cases) to consolidate our digital platforms:

Name of the project	Description
PACASPRO	Digital platform aimed at delivering value to Construction companies. Through this digital application, our clients will be able to check the status of their dispatches, re-schedule them and display the GPS location of their shipments in real time.
APOLO	It will be our new commercial digital platform that will support our Mundo Experto digital strategy. It is in the research and design stage.
SISPLAN	Digitization of the request, approval and issuance processes for the discount on plans and promotions, negotiation, tenders and sale, giving visibility to our clients and sales force.
BIM	Digital catalogue of company products, aimed at facilitating the transition from traditional construction processes to the implementation of building information modeling. The initiative includes team training and use of BIM as a virtual design tool in the Engineering Department.
Cellular Concrete	Project development in conjunction with the R&D and Marketing Departments that involves the design of a new type of concrete with innovative properties such as lighter weight and high thermal and acoustic performance.
AYU	The project focuses on getting to know Peruvian families to design a value proposition that enhances the fulfillment of their plans through financial inclusion.
ISICOM	The project is aimed at the commercial management carried out by the sales force (CRM), in which we cover all the activities of its roadmap to be able to fulfill its commercial management of sales, registration of construction projects and contact with customers.
DAKAR	Digital platform aimed at medium and small carriers seeking greater utilization of their units by offering them an easy and fast way to find reliable cargo.
DEDALO	Design and guide the implementation of a process automation model, accelerating the digital transformation of the company.
EVA	Digital platform aimed at hardware stores that want to generate sales with digital receipts and that seek to improve the management of their business.

Strong relationship with local communities

Since we began operations 64 years ago, we have been committed to improving the quality of life of the communities surrounding our plants, whose members we regularly employ. We have developed close and cooperative relationships with the local communities, which are supported by several social responsibility initiatives we have undertaken. For example, the family of our controlling shareholder founded, Asociación Tecsup, a leading non-profit institute in Peru that provides technical education to students as well as UTEC, a leading technical university. We provide scholarships and financial aid to local qualified students interested in studying at Tecsup. Through its three campuses in Peru, as of December 31, 2021, Tecsup had graduated over 12,484 students in various technical fields, some of whom currently work for us and our affiliates.

Highly experienced and professional management and board of directors

Our management team, with an average of 14 years of experience in the cement industry in Peru, has extensive technical and local market expertise and has led our company through our recent growth. We have developed a strong professional business culture and a team of highly qualified executives. We also have a well-regarded and experienced board of directors that includes some of Peru's business leaders and former senior government officials. Since 2009, we have been selected to form part of the Best Corporate Governance Practices Index of the Lima Stock Exchange, and since 2019 we have been selected as part of the Dow Jones MILA Sustainability Index, for three consecutive years.

Our Strategies

Our objective is to maximize shareholder value, while honoring our commitment to the environment and abiding by our social responsibility goals. We aim to be a leading company that provides building solutions anticipating the needs of our clients and that contributes to the continued development of our country. We intend to achieve our objective through the following principal strategies:

Continue to focus on our core business of supplying the rising demand for cement

We plan to continue to meet the increasing demand for cement in our market, while controlling production costs. We intend to increase our production capacity while we continue to serve the current cement market, as well as increasing cement demand through the production of new cement-based products. Our principal goal is to maintain our market share in the northern region of Peru without reducing the profitability of our business.

Deepen our commercial relationship with retailers and end-consumers

We plan to enhance our commercial relationships with retailers and end-consumers in our market, both to maintain brand loyalty and to foster demand for our cement products. We will continue to support retailers in our DINO distribution network by providing product education, training sessions, rewards programs, and assistance in financing purchases of our products. In addition, we continue with our door-to-door commercial strategy for cement sales. We believe that these initiatives have been successful in strengthening our relationship with retailers and end-consumers.

Continue to focus on being the preferred provider of building solutions

We strive to be the supplier of choice for cement consumers in the northern region of Peru, whether its individuals building their homes or private construction companies or governmental entities undertaking projects of any size. We continue to focus on providing consumers with efficient and customized building solutions for their construction needs. Over the past several years, we have evolved from being a single type cement manufacturer to offering five different types of cement products, under 2 brands, and other building solutions, such as assembly gravity walls, sheet piles, precast beams, among others. Moreover, in 2018 we launched a new corporate image and future vision, transforming ourselves from a cement producer to a building solutions company. We focus on innovation and are constantly searching for ways to improve building practices, inspired by our culture based on sustainability. For example, we offer cement that contains special properties that protect against sulfate erosion, as well as other products designed to meet the needs of consumers in the northern region of Peru. For the industrial segment and under our *Pacasmayo professional* brand, we continue with the digitalization of the purchasing process and of the use of our products and services. For our mass channel and self-builders we have *Mundo Experto*, an ecosystem that integrates physical and digital solutions, improves the purchasing experience and contributes to the professionalization and formalization of the construction market. Our mission is to provide a comprehensive solution for all project types and thus respond to the unique needs of each client, generating savings and efficiencies in the construction processes. During 2021, we received a Silver Effie award, in the brand experience category, for “construyexperto.pe”, an online platform created to redesign the foreman’s experience, with training and tools that help them be more efficient. The Effie Awards honor the world’s most effective companies and brands.

Selectively pursue acquisitions

We will continue to evaluate and may selectively pursue strategic acquisitions of cement and complementary businesses that expand our geographic footprint and diversify our portfolio of products. Our management team has significant operating experience and industry knowledge in the production and commercialization of cement and cement-related materials, and we believe this experience will enable us to identify and pursue attractive acquisitions that will maximize shareholder value.

Continue to strengthen our enterprise risk management

We continue to strengthen our enterprise risk management methods and processes that allow us to identify, assess and monitor the legal, commercial, operational, financial and reputational risks, as well as fraud, corruption, bribery and money laundering and financing of terrorism risks, determining the existing controls and establishing a plan along with other areas in order to mitigate existing risks. Along these lines, since 2018, we have implemented the ISO 37001 Anti-bribery management systems obtaining the certification every year since 2019. This certification confirms that our management system are designed to help prevent, detect and respond to bribery and comply with anti-bribery laws and voluntary commitments applicable to its activities. We believe this certification reiterates our commitment to global anti-bribery best practices and high standards of transparency and good corporate governance.

Maintain high environmental, social and governance standards

We are committed to maintaining high environment, social and corporate governance standards. We are focused on developing and strengthening a favorable social environment for the continuity and growth of our operations, prioritizing our social investment in innovative education, health and local development programs in coordination with other stakeholders to contribute to sustainable development. Since 2009, we have been selected as part of the Good Corporate Governance Index of the Lima Stock Exchange. Furthermore, in 2021, we received the Top Social Responsibility Award (*Distintivo de Empresa Socialmente Responsable*) for the ninth consecutive year, in recognition of our achievement corporate goals in a socially responsible manner, a principle that is ingrained in our corporate culture and business strategy. Furthermore, in 2021 we obtain a special distinction in the Ethics and Integrity category. Also, we were included for the third consecutive year as part of the Dow Jones MILA Sustainability Index. This Index is made up of those companies that demonstrate superior performance among their peers under social, environmental and economic criteria.

In February 2022, we were chosen to be part of The Sustainability Yearbook for the second consecutive year. To appear in the Yearbook, companies must score within the top 15% of their industry globally and have a gap of less than 30% from the leader's Global ESG score. 2021 was the first year that Peruvian companies were included as part of the Yearbook, and we are the only Peruvian cement company to be included for two consecutive years. With around 7,000 companies evaluated around the world, an inclusion in the yearbook is a true statement of excellence in corporate sustainability. This achievement is a recognition of our extraordinary efforts to improve in all of these criteria and to work towards ambitious goals in terms of long-term sustainability. We are committed not only to remain in the Index but to improve our performance, as we are convinced that the focus on sustainability is key to our business and our stakeholders.

Likewise, in 2021 we were recognized with first place in the category "Leading Company in Corporate Governance Peru" and second place in the category "Leading Company in Investor Relations Peru" in the "ALAS 20-Agenda Sustainable Leaders" award, organized by GOVERNART in Peru and other countries in the region.

Our Products

Our core products are cement and other cement-related materials. We also produce quicklime. In 2021, cement, concrete and precast accounted for 92.1% of our net sales and quicklime accounted for 2.0%. We also sell and distribute construction materials, such as steel rebar, cables and pipes, manufactured by large third-party manufacturing companies, and others which in 2020 represented 5.8% of our net sales.

The following table sets forth a breakdown of our shipments by type of product for the periods indicated:

(in thousands of metric tons)	Year ended December 31,		
	2021	2020	2019
Cement, concrete and precast	3,625	2,581	2,614
Quicklime	66	59	66

The following table sets forth a breakdown of our total net sales by product for the periods indicated:

(in millions of \$/)	Year ended December 31,		
	2021	2020	2019
Cement, concrete, mortar and precast	1,784.5	1,185.2	1,292.2
Quicklime	113.9	32.5	36.1
Construction supplies ⁽¹⁾	39.1	78.2	64.1
Others	0.3	0.4	0.3
Total	1,937.8	1,296.3	1,392.7

(1) Refers to construction materials manufactured by third parties that we distribute. Construction supplies include the following products: steel rebar, wires, nails, corrugated iron, electric conductors, plastic tubes and accessories, among others.

Cement

Cement is a powdered mixture of ground minerals that, when mixed with water, adheres to other materials and hardens to form a rock-like substance. Cement is generally mixed with other materials, such as gravel and sand, forming concrete with a high degree of compressive strength that is able to withstand substantial pressure.

Cement types are generally classified as either Portland cement or blended hydraulic cement. Portland cement is a hydraulic cement produced by pulverizing clinker, consisting essentially of crystalline hydraulic calcium silicates and calcium sulfate. Blended hydraulic cement consists of a mixture of Portland cement clinker and mineral admixtures, such as blast furnace slag, pozzolanic materials and limestone.

We produce predominantly blended cement, which represented 82.3% of our cement sales in 2021. This type of cement requires less clinker and reduces carbon dioxide emissions of our operations and production. Our global clinker/cement ratio is estimated at 72%, below the average value for similar producers globally of approximately 76%.

We produce a range of cement products suitable for various uses, such as residential and commercial construction and civil engineering. We currently offer the following six types of cement products designed for specific uses:

- *Type ICo.* This type of cement is used for general purposes and is similar to Portland Type I cement. It is widely used in our market due to its effectiveness and low hydration heat.
- *Type MS/MH/R (called Fortimax3).* This is the new formula for the type of cement that is used to protect against moderate sulfate action, such as drainage structures, with higher-than-normal, but not unusually severe, sulfate concentrations in ground water. It is designed for sites and structures in humid areas that are exposed to sulfates and sea water. It also prevents thermal contraction cracking due to moderate heat hydration, and is resistant to contact with alkaline reagents.
- *Type I.* This type of cement is for general purposes and suitable if special properties are not needed. It is generally used for constructing pavements, floors, reinforced concrete buildings, bridges, reservoirs, pipes, masonry units and precast concrete products.
- *Type V.* Type V cement is used in concrete exposed to severe sulfate action, principally in places where soil or ground water has high sulfate content. It is generally used in hydraulic construction, such as irrigation canals, tunnels, water conduits and drains.
- *Type HS.* Type HS cement is used in concrete that is exposed to severe sulfate action, principally where soil or ground water has high sulfate content. It is recommended for port construction, industrial plants and construction of sewage sites. Our Portland Type HS cement has low reactivity with alkali-reactive aggregates, making it more durable than other types of cement.
- *Type IL.* Type IL cement is a blended Portland limestone cement. These cements are more environmentally friendly than Portland cements and have very similar performance to Portland Type I/II cements.

We believe that our Type V, Fortimax and HS cement products are particularly suitable for construction in the northern coastal region of Peru, where sulfate and chloride concentrations from soil, ground water and sea water affect the durability of construction structures. By educating retailers about the different cement characteristics and conducting marketing campaigns, we believe we have been successful in building demand for our cement products. Our research and development department is also equipped to produce custom-tailored cement products on demand. In addition, through our dedicated team of geologists and scientists, we have significantly reduced the amount of clinker required for cement production minimizing our capital expenditures and significantly reducing our carbon dioxide emissions (CO₂).

We market and distribute our cement primarily in 42.5 kilogram bags. Most of our bagged cement is sold to the retail sector consisting primarily of households that buy bags of cement to build or expand their own homes over time with little or no formal technical assistance (commonly referred to as *auto-construcción*). The bags are made of Kraft paper to preserve the quality of the cement. Our bags include information relating to the composition of our cement, handling instructions, production dates and storage instructions. Our cement bags have different colors to easily identify the different types of cement. Once bagged at our Pacasmayo, Rioja and Piura facilities, our cement is loaded onto trucks operated by third parties. Cement in bulk is sold to large industrial consumers.

Concrete Products

We also produce and sell concrete products principally in the form of ready-mix concrete used in large construction sites, as well as precast, bricks, pavers and other precast materials.

- *Ready-mix concrete.* Ready-mix is a blend of cement, aggregates (sand and stone), admixtures and water. It is manufactured and delivered to construction sites in a form that is ready to use. This mixture hardens to form a building material, ranging from sidewalks to skyscrapers. We have 19 fixed and mobile ready-mix plants.
- *Concrete precast.* We produce and sell concrete precast, such as paving units, or paver stones for pedestrian walkways, as well as other bricks for partition walls and concrete precast for structural and non-structural uses.
- *New cement based products.* We have developed, and are in the process of developing more cement-based products that are innovative and easy building solutions. Some of these products are:
 - *Mortar for brick laying:* Pre-dosed and bagged dry masonry mortar for block and brick laying.
 - *Mortar for plaster:* Pre-dosed mortar to plaster interiors and exteriors, walls and ceilings. Allows smooth finishes and thin applications
 - *Caravista Concrete:* Concrete designed to be exposed without any additional coating or paint.
 - *Tremie Concrete:* Concrete designed to be placed under water at depths greater than 1.5 meters.
 - *New Jersey Walls:* safety barriers used to separate traffic flows
 - *Mortar for brick laying:* Pre-dosed and bagged dry masonry mortar for block and brick laying.
 - *Viaforte Type MH:* Cement of moderate heat of special hydration for stabilization of soils and road bases. The cement provides greater workability and less risk of cracking on site, also ensuring greater durability to the structure
 - *Bagged Dry Concrete:* Pre-dosed mixture of cement, aggregates (Stone and Sand) and additives, that only requires the addition of water indicated on the package and mixing (manual or mechanical) to be used immediately
 - *Corner block:* Product that complements the structures built with our precast, giving better functionality to any corner.
 - *Beam block:* Product that is used to confine the upper part of walls built with our precast.
 - *Concrete driving pipes:* precast reinforced concrete pipes that are installed without the need to open pit ditches or dredging of maritime floors. The main use of the driving pipe is to collect seawater (inlet pipe) and to bring brackish water back out to sea (outfall pipe). We are building a 1.5 kilometer long underwater outfall project for the Talara Refinery, where it is necessary to build a water collection system for its fire and cooling system.
 - *Sheet piles presented and assembled:* concrete piles that can be pre-stressed or reinforced (they are two different types of manufacturing) that sink one alongside the other, forming a containment structure, used as riparian defenses. We are manufacturing 40,000 ml pre-stressed and reinforced sheet piles that will form a coastal defense for the Piura River, ensuring the containment of water during rainy events, reducing the vulnerability of the city to floods.

Quicklime

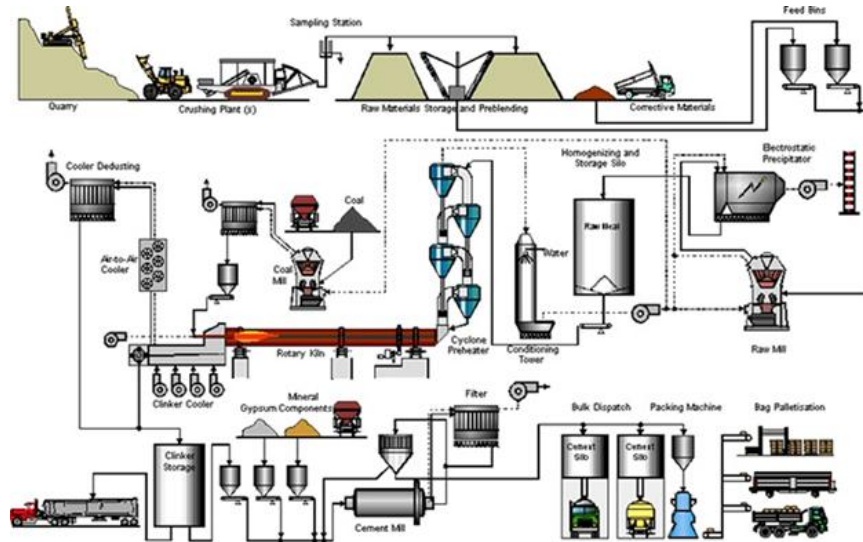
We produce and distribute quicklime, which has several industrial uses. Quicklime serves as a neutralizer, lubricant, drying and absorbing material, disinfectant, and as a raw material. Quicklime has various applications, including in the steel, food, fishing and chemical industries. It is also used in mining operations to treat water and industrial residues, in agriculture as a fertilizer enhancer and, to a lesser extent, in other industries. In Peru, quicklime is mainly used in the mining industry, as an additive to treat water residues. We produce quicklime in finely and coarsely ground varieties and sell it either in bags of one metric ton or in bulk, according to clients' requirement.

Production Process

Cement Production Process

The diagram below depicts the standard cement production process, which consists of the following main stages:

- extraction and transportation of limestone or seashells from the quarry;
- grinding and homogenization to make the raw material of consistent quality;
- clinkerization;
- cement grinding;
- storage in silos; and
- packaging, loading and distribution.



Extraction of raw materials. To produce cement, limestone/seashells are extracted from our quarries. We use explosives to loosen the limestone and deploy bulldozers to remove dirt and the overburden covering the limestone. We crush the limestone in our primary and secondary cone crusher and the resulting limestone is loaded into trucks and hauled to our Pacasmayo or Rioja facilities from the adjacent quarry where it is stored. In the case of Piura, our surface miner drills out our seashell quarry and then it is also loaded into trucks and hauled to the Piura plant.

Grinding and homogenization. Limestone/seashells, clay and sand are mixed with iron that is acquired from third parties. The quality of the resulting raw meal is monitored by examining samples of each batch and processing them through our quality control x-ray software that automatically measures the mix of materials to confirm the blend is in compliance with our quality standards. Subsequently, the raw meal is sent to a blending silo and then to a storage silo from where it is fed into the pre-heater.

Clinkerization. The raw meal is heated at a temperature of approximately 1,450 degrees Celsius in our kilns. The intense heat causes the limestone and other materials in the mixture to react inside the kiln, turning the mixture into clinker. Clinker is then cooled to a temperature of approximately 200 degrees Celsius and stored in a silo or in an outdoor yard.

Cement grinding. After being cooled, clinker, together with gypsum and some admixtures, is fed into a ball mill or into a vertical roller mill where it is ground into a fine powder to produce cement. In this form, cement reacts as a binding agent that, when mixed with water, sand, stone and other aggregates, is transformed into concrete or mortar.

Storage in silos. After passing through the ball mills, the cement is transferred on conveyor belts and stored in concrete silos in order to preserve its quality until distribution.

Packaging, loading and transport. Cement is transferred through another conveyor belt from the silo to be packaged in 42.5 kilogram bags and then loaded into trucks operated by third parties to be transported for distribution. Bulk cement may be transported (unpackaged) on especially designed trucks that deliver large amounts of cement directly to the work site.

Quicklime Production Process

Quicklime is produced by crushing limestone with a calcium carbonate content of at least 95% by calcinating it in a rotary kiln. The limestone for quicklime comes from our quarries. The crushing of the limestone is done at the quarry and the calcination process takes place only at our Pacasmayo facility. We produce quicklime in finely and coarsely ground varieties and sell both varieties in bags of 40 kilograms and up to one metric ton, as well as in bulk.

Raw Materials and Energy Sources

Limestone and Other Calcareous Resources

We obtain limestone required to produce clinker and quicklime principally from land where we have concession rights. For our Pacasmayo plant, we extract limestone from our Acumulación Tembladera quarry located approximately 60 kilometers from the plant, and for our Rioja plant, we extract limestone from our Calizas Tioyacu quarry which is adjacent to our Rioja plant. For our Piura plant, we extract seashells from Virrilá quarry, located approximately 120 kilometers from the plant.

Acumulación Tembladera. We have a concession with an indefinite term to extract limestone and other minerals from our Acumulación Tembladera quarry, a 3,390 hectare open-pit mine located in the district of Yonan, in the department of Cajamarca. We acquired this concession in November 2002.

Calizas Tioyacu. For our Rioja production, we have a concession with an indefinite term to extract limestone and other minerals from a 400 hectare open-pit mine near our Rioja facility in the district of Elias Soplin Vargas, in the department of San Martín. We acquired this concession in February 1998.

Virrilá. For our Piura production, we also have a group of concessions with an indefinite term to extract seashells and other minerals from our Virrilá quarry, a 931 hectare open-pit mine located in the district of Sechura, in the department of Piura. We acquired these concessions between 2000 and 2008.

In addition to our Acumulación Tembladera, Calizas Tioyacu, Bayovar 4 and Virrilá quarries, we also own concession rights to various other calcareous material quarries consisting, in total, of approximately 40,767 hectares located in the northern region of Peru. None of these quarries are in operation as of the date of this annual report.

Clay, Sand and Other Raw Materials and Admixtures

The other raw materials that we use to produce clinker are clay, sand, iron and diatomite.

Clay

For cement production in our Pacasmayo facility, we extract clay from our Cerro Pintura quarry, a 400 hectare open-pit concession located in the district and province of Pacasmayo, department of La Libertad. We were granted this concession by the MEM in 1996. The term of the concession is indefinite, provided we pay an annual concession fee and meet minimum annual production requirements.

For cement production in our Rioja facility, we extract clay from our Pajonal quarry, a 400 hectares open-pit concession located in the district and province of Rioja, department of San Martín. This concession was granted to us by the MEM in 1998. The term of the concession is indefinite, provided we pay an annual concession fee and meet minimum annual production requirements.

We have not calculated our clay reserves, as we believe there is an abundant supply of clay in our concessions and more broadly in the northern region where we operate.

Sand

For cement production in our Pacasmayo facility, we use sand extracted from our Cerro Pintura quarry. Our Rioja facility does not utilize sand as a raw material given the type of cement it produces.

We have not calculated our sand reserves, as we believe there is an abundant supply of sand in our concessions and more broadly in the northern region where we operate.

Iron

We use small quantities of iron in our cement production, which we purchase from third parties at market prices.

Pozzolanic Materials and Other Admixtures

Our cement production also requires small amounts of other admixtures, such as pozzolanic materials, gypsum and blast furnace slag.

For cement production in our Pacasmayo facility, we use pozzolanic materials obtained from our Cunyac quarry, a 200 hectare open-pit concession located in the district of Sexi, province of Santa Cruz, department of Cajamarca. The concession was granted to us by the MEM in 2008. The term of the concession is indefinite, provided we pay an annual concession fee and meet minimum annual production requirements.

For cement production in our Rioja facility, we use pozzolanic materials obtained from our Fila Larga quarry, a 1,000 hectare open-pit concession located in the district of El Milagro, province of Utcubamba, department of Amazonas. The concession was granted to us by the MEM in 1998.

We also own several other concessions containing pozzolanic material which have not been exploited. In addition, our use of pozzolanic materials may be substituted with clinker or other admixtures. Other admixtures, such as gypsum and blast furnace slag, are purchased at market prices from third-party suppliers. If we are unable to acquire raw materials or admixtures from current suppliers, we believe that other sources of raw materials and admixtures would be available without significant interruption to our business.

Energy Sources

Our main energy sources are fuel in the form of coal and electricity. Our production processes consume significant amounts of energy, because our kilns must reach extreme temperatures to produce clinker and quicklime. In addition, milling operations, homogenization and transportation of materials consume significant amounts of energy.

Coal

We purchase mostly anthracite coal from local suppliers and import small amounts of bituminous coal from suppliers mainly in Colombia, in each case at spot market prices. Anthracite coal tends to be less expensive than bituminous coal. We store coal at our premises and in our warehouse facility adjacent to the Salaverry port, located approximately 130 kilometers south of our Pacasmayo facility, where we have sufficient stock of coal to maintain our production levels for the next year.

In December 2009 and February 2010, we entered into option agreements to acquire coal mining concessions as a means to secure a steady and reliable source for our coal requirements and to reduce the volatility in costs related to coal. In 2011, we exercised certain options under these agreements to acquire coal mining concessions for 908.5 hectares near our Pacasmayo facility for a total purchase price of US\$4.5 million. In 2013, we exercised our remaining options to purchase an additional coal mining concession for 501.2 hectares for US\$1.0 million, thereby completing the acquisition of the related coal mining concessions.

Electricity

As of December 31, 2021, all of the electricity requirements for our Pacasmayo and Piura facilities were supplied by Electroperú and for our Rioja facility by ELOR.

We have a long-term electricity supply contract with Electroperú currently valid until 2026. Electroperú has agreed to provide us with sufficient energy to operate our Pacasmayo and Piura facilities at pre-determined maximum amounts during the term of the contract. Payments for electricity are based on a formula that takes into consideration our energy consumption and certain market variables, such as the U.S. purchase price index, the global price of oil, the local price of natural gas and the import price of bituminous coal.

In addition, we have a medium-term electricity supply contract with ELOR to supply the Rioja facility, which was recently extended until November 2022. ELOR supplies the Rioja facility with six megawatts of electricity at peak hours and eight megawatts at non-peak hours. Payments for electricity are based on a formula that takes into consideration our energy consumption and certain market variables, such as the U.S. dollar price, the local price of natural gas, the global price of oil and the import price of bituminous coal.

Other Production Materials

We use other materials in the cement production process, including paper bags to package cement, which we purchase principally from local suppliers; plastic bags used to package quicklime, which we purchase from local suppliers; and water to cool the kiln exhaust gases and for our crushing operations at our Acumulación Tembladera quarry, which we obtain principally from a well located at our Pacasmayo facility and from the Jequetepeque river. Water used in our production process is maintained in a closed system at our plants and re-processed for utilization in our production process.

Consumer Base

The retail cement sector in Peru is characterized by households that purchase single bags of cement to gradually build or improve their homes with little or no professional assistance. This sector is known as *auto-construcción*. Families in this sector tend to invest a large portion of their savings in building or improving their own homes. *Auto-construcción* is often conducted with the help of a foreman (*maestro de obra*) who generally has experience in construction. Our retail marketing plans typically target the *maestro de obra* who is usually the decision maker when buying cement and other related construction materials.

We also sell directly to small, medium and large private construction companies working on a variety of construction projects, from housing complexes to commercial developments. In the public sector, we provide cement for national, regional and local governments carrying out construction projects including housing complexes and public construction, ranging from local schools and hospitals to large infrastructure.

Sales and Distribution

Distribution

Our market extends from the Ecuadorian border in the north of Peru to the city of Barranca in the south (approximately 180 kilometers north of Lima), to the rainforest in the east and the Pacific Ocean in the west. Our market covers the provinces of Amazonas, Cajamarca, La Libertad, Lambayeque, Piura and Tumbes in the north; and San Martín and Loreto in the northeast.

Our Pacasmayo, Piura and Rioja facilities supply the entire northern region of Peru, interchangeably subject to where it is most efficient to ship from at the moment, depending on the distance and type of cement being produced, among other factors.

In 2021, approximately 88.6% of our total cement shipments were in the form of bagged cement, substantially all of which was sold through retailers both within and outside of our distribution network. The remaining 11.4% of our cement was sold in bulk or in shipments of precast products or ready-mix concrete directly to large construction companies.

We have developed one of the largest independent retail distribution networks for construction materials in Peru, consisting of more than 379 local hardware stores, with which we have a distribution agreement. In addition, we also distribute to other independent retailers located throughout the northern region of Peru with whom we do not have contractual relationships. We have built our distribution network by investing in strengthening our relationship with retailers.

Even though our ready mix sales are still a small proportion of our sales, we expect this trend to change as infrastructure becomes a bigger driver of demand in the upcoming years. Additionally, we sell and distribute other construction materials manufactured by third parties that are used alongside cement, such as steel rebar, plastic pipes and electrical wires, among others.

Marketing and Brand Awareness

We use our distribution network, together with our strategically located local commercial offices, to promote our products and brands, as well as to keep us informed of market developments. We believe our distribution network has enabled us to build strong recognition for our Pacasmayo brand among *maestros de obra*, retailers and end consumers which we believe is important to our business, particularly because our cement is principally sold in bags to retail consumers.

Our marketing expenses in 2021 were approximately S/5.6 million, or 0.3% of our sales. Historically, our marketing strategy has been to develop brand loyalty by providing high-quality products, tailored to the needs of our customers, and customer service accompanied by complimentary training for the *maestros de obra*, who are typically the decision makers in the *auto-construcción* segment.

We develop strong ties with our distributors by promoting income generating opportunities for them. For instance, we give them priority when hiring transportation to distribute our cement throughout our territory. Also, our large salesforce has the ability to cover most of the construction sites in northern Peru generating business opportunities that are then channeled through our distributors. Finally, our distributors enjoy various commercial and marketing benefits such as rebates, special promotions, special credit conditions, and loyalty programs.

We have been working consistently in recent years to focus time and attention on our client's needs, in an effort to go beyond just selling cement and its byproducts, to providing solutions and innovating. Consequently, we were well-positioned to leverage these initiatives during the ongoing pandemic period. The self-construction segment has been the primary driver behind the growth in volume sales during 2021. We have focused on several fronts to enhance the customer experience and to facilitate access to our solutions. We have developed *Mundo Experto*, which is a virtual ecosystem made up of digital solutions that serves to join supply and demand and offers a superior purchasing experience leveraged on intensive use of technology to generate more value for our users. The digital solutions are targeted and customized for the different users, such as foremen, hardware stores, and the self-builder.

Quality Control

In Peru, cement production is subject to standardization (*normalización*) regulations approved by the National Institute for the Protection of Competition and Intellectual Property (*Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual*, or “INDECOPÍ”). Although the standardization regulations are not mandatory, they are useful in achieving an optimum level of management. As of the date of this annual report, we comply with all standardization regulations applicable to our products.

We have established a quality assurance program in accordance with ISO Standard 9001-2008, certified by SGS del Perú S.A.C., a company that provides inspection, verification, testing and certification services. We monitor quality at every stage of the cement production process. In our facilities, we periodically test the quality of our raw materials. These tests include chemical, physical and x-ray tests. We perform similar examinations of the clinker we produce. Additionally, we also perform regular quality tests on our finished products.

We have a quality control area with computerized systems to access real-time information on the quality of our products. As part of our quality control process, we monitor the performance of our different cement products, monitor the performance of additives in our cement and review monthly statistical analysis on the resistance of cement, among other things.

Competitive Position

Peru’s cement production is segmented into three main geographic regions: the northern region, the central region, including Lima’s metropolitan area, and the southern region. We are the only cement manufacturer in the northern region of Peru. The central region is principally served by UNACEM (formerly known as Cementos Lima and Cemento Andino), some imports, Caliza Cemento Inca and Mixercon. The south is principally served by Cementos Yura and Cementos Sur. In 2021, our cement shipments were approximately 3.6 million metric tons, representing an estimated 26.8% share of total cement shipments in Peru.

Regulatory Matters

Overview

Although our core business is the production of cement, we hold a number of mining concessions granted by the Peruvian government for the supply of limestone and other raw materials required for cement production. As a result, we are subject both to the mining and the general industrial legal framework in Peru. The regulatory framework applicable to our cement production may be divided into rules and regulations relating to (i) the mining and crushing of limestone and clay, and (ii) the production process.

Mining Regulations

The General Mining Law (*Texto Único Ordenado de la Ley General de la Minería*) approved by Supreme Decree No. 014-92-EM, published in the Peruvian Official Gazette, *El Peruano*, on June 3, 1992, is the primary law governing both metallic and non-metallic mining activities in Peru and is supplemented by implementing guidelines and policies regarding mining and the processing of minerals enacted by the MEM. Under the General Mining Law, mining activities (except storage, reconnaissance, prospecting and trade) are carried out exclusively through various forms of concessions. Mining concessions are granted by the Geological, Mining and Metallurgical Institute (*Instituto Geológico Minero y Metalúrgico*, or “INGEMMET”), and all other concessions, including our mineral processing concessions, are granted by the Directorate General for Mining of the MEM. Any act, transfer, termination or agreement related to these concessions must be registered with the Mining Rights Registry, which is part of the National Public Registry System, to be effective against the Peruvian government and third parties.

Holders of concessions or mining claims must comply with several obligations, including the payment of an annual concession fee (*derecho de vigencia*) of US\$3.00 per applicable hectare. The annual concession fee is due and payable on or prior to June 30 of each year. Failure to pay the annual concession fee for two consecutive years will result in the termination of the mining concession.

Mining activities require holders to obtain title to the surface land from individual landowners, peasant communities or the Peruvian government. Mining concessions are granted for an unlimited period, subject to the achievement of minimum annual production levels. Two different regimes apply depending on the date the concession was granted:

Under Legislative Decree 1320 and Supreme Decree No. 011-2017-EM, since January 1, 2019, if the annual minimum production or investment has not been met, the annual penalty and the causes to terminate a mining concession will be determined by the General Mining Law for all concessions, as described below.

For concessions granted until 2008, the following rules apply:

- the minimum annual production target is equivalent to one tax unit (approximately US\$1,187) per year per hectare, in case of metallic mining concessions, and 10% of one tax unit (approximately US\$119) per year per hectare, in the case of non-metallic mining concessions;
- the minimum production level is to be achieved no later than the end of the tenth year from the date of grant;
- if the minimum production level is not achieved within that period, an annual penalty equivalent to 2% of the minimum annual production level is due until such level is achieved;
- if the minimum production level is not achieved by the end of the fifteenth year, an annual penalty equivalent to 5% of the minimum annual production level is due until such level is achieved;
- if the minimum production level is not achieved by the end of the twentieth year, an annual penalty equivalent to 10% of the minimum annual production level is due until such level is achieved; and
- if the minimum production level is not achieved by the end of the thirtieth year, the mining concession expires.

Any penalty must be paid prior to June 30 of each year. Failure to pay the penalty for two consecutive years results in the termination of the mining concession.

Since January 1, 2020, these penalties will be applied for concessions granted in 2009 and thereafter.

The foregoing penalties and fines are not applicable to mining concessions granted by the government through private investment promotion initiatives, which will be subject to the minimum production and investment levels set forth in such contracts.

In addition to the payment of the annual concession fee and the penalty, holders of mining concessions must, pursuant to the Mining Royalty Law, pay a royalty for the exploitation of metallic and non-metallic resources. Prior to the amendment of the Mining Royalty Law described below, the amount of the royalty was determined on a monthly basis. For those minerals with an international market price (gold, silver, copper, zinc, lead and tin), the amounts were computed by applying the rates to the value of the concentrate or its equivalent, according to the applicable international market price. The historic rate scales were established in the Mining Royalty Law's regulations as shown in the following table:

Annual sales (in millions of US\$)	Rate
Up to 60	1%
Between 60 and up to 120	2%
More than 120	3%

In case of minerals without an international reference market price (minerals other than gold, silver, copper, zinc, lead and tin), the mining royalty amounted to 1% of the value of the final product obtained from the mineral separation process, net of any costs incurred in the mineral separation process (*componente minero*).

However, the Mining Royalty Law was amended on September 29, 2011 to increase the tax payable on metallic and non-metallic mineral resources. Effective October 1, 2011, the royalty for the exploitation of metallic and non-metallic resources is payable on a quarterly basis in an amount equal to the greater of (i) an amount determined in accordance with the following statutory scale of tax rates based on a company's operating profit margin and applied to the company's operating profit, as adjusted by certain non-deductible expenses, and (ii) 1% of a company's net sales, in each case, during the applicable quarter. The royalty rate applied to the company's operating profit is based on its operating profit margin according to the following statutory scale of rates:

Operating Margin	Applicable Rate (%)
0% - 10%	1.00
10% - 15%	1.75
15% - 20%	2.50
20% - 25%	3.25
25% - 30%	4.00
30% - 35%	4.75
35% - 40%	5.50
40% - 45%	6.25
45% - 50%	7.00
50% - 55%	7.75
55% - 60%	8.50
60% - 65%	9.25
65% - 70%	10.00
70% - 75%	10.75
75% - 80%	11.50
More than 80%	12.00

Mining royalty payments will be deductible for income tax purposes in the fiscal year in which such payments are made.

We believed that certain portions of the regulations of the Mining Royalty Law were unconstitutional, because they impose a mining royalty tax on non-mining activities. For instance, for cement companies, the amended Mining Royalty Law and its regulations established that the mining royalty tax was calculated based on the total operating profit or net sales, as opposed to operating profit or net sales attributable exclusively to mining products, such as limestone, used to produce cement. Accordingly, in December 2011, we filed a claim to declare that the mining royalty tax applicable for the exploitation of non-metallic mining resources be calculated based on the value of the final product obtained from the mineral separation process, net of any costs incurred in the mineral separation process ("*componente minero*").

In November 2013, the Peruvian Constitutional Court affirmed the constitutional challenge we filed against the new regulation of the Mining Royalty Law, in a final and unappealable ruling, on the grounds that the new regulation violates the constitutional right of property, as well as the principles of legal reserve and proportionality. Therefore, the new regulation is rendered inapplicable to our operation. As a result, we will continue to use as a basis for the calculation of the mining royalty the value of the concentrate or mining component, and not the value of the product obtained from the industrial or manufacturing process.

Finally, holders of mining concessions are required at the beginning of their operations to submit a mining closure plan that must contain a description of the steps to restore the areas and facilities of each mining operation area to pre-mining condition. Holders of mining concessions are required to secure completion of the restorative measures by means of the following guarantees: (i) banking guarantee or credit insurance; (ii) cash guarantees; (iii) trusts; or (iv) those indicated in the Peruvian Civil Code.

In August 2021, Law 31347 was approved. This Law amended the Mine Closure Law (Law 28090), specifying aspects such as administrative and oversight powers, the opportunity for presentation and approval of applicable guarantees and periodic reports to be presented to various authorities, among others.

As of the date of this annual report, we primarily owned non-metallic mining concessions and limited metallic mining concessions with respect to iron. Substantially all of our concessions were granted prior to 2008. Our mining rights and concessions are in full force and effect under applicable Peruvian laws. We believe that we are in compliance in all material respects with the terms and requirements applicable to our mining rights and concessions.

Production Process

The cement production process along with other manufacturing activities are governed by General Industry Law (*Ley General de Industrias*), Law No. 23407, published in *El Peruano* on May 29, 1982, which establishes basic rules that promote and regulate activities in the manufacturing industry. The Ministry of Production is vested with authority to promote private investments in connection with industrial, processing and manufacturing activities, the surveillance of sustainable exploitation of natural resources (except for those extractive activities involving primary transformation of natural products), the protection of the environment, and the supervision of the quality of manufactured products. All industrial companies are subject to the General Industry Law and its regulations to the extent that the company's gross income is primarily derived from industrial activities. Pursuant to Supreme Decree No. 009-2011-MINAM, the supervisory and monitoring functions of the Ministry of Production were transferred to the OEFA in 2013.

Technical Regulation on Hydraulic Cement

On January 21, 2022, the Government published the Supreme Decree No. 1-2022-PRODUCE, which approves the Technical Regulation on Hydraulic Cement Used in Buildings and Constructions in General, allowing the verification of compliance with the minimum safety requirements of cement and preventing and minimizing possible material damage as well as possible losses of human lives. The Regulation will enter into force 6 months after its publication, a period in which all the parties involved (public entities, national manufacturers, importers, laboratories, chain of supply, among others) must adapt their protocols to comply with the provisions contained therein.

This regulation was enacted to correct and avoid possible unfair competition practices, considering that the commercialization of cement that do not meet the minimum safety requirements generates negative effects on those manufacturers and importers that bear the costs for the implementation of the minimum product safety requirements; which creates an imbalance in market competition.

Additionally, the inadequate storage of cement makes cement to lose its physical and chemical properties. The commercialization of such products -that do not meet the minimum requirements of security- produces negative effects on final consumers and prevents them from acquiring safe cement. In case of imports, well-managed cement has a useful life of up to three months but if transported in unsuitable conditions it can be damaged.

Environmental Regulations

Industrial companies and particularly cement companies are required to comply with several environmental regulations. Pursuant to Article 50 of Legislative Decree No. 757, the competent environmental authority is that corresponding to the activity of the company which generates the higher gross annual income. For that reason, the environmental authority that monitors our operations, considering that cement production represents the highest proportion of our gross profit, is the Ministry of Production.

The Environmental Regulations for Manufacturing Industries (*Reglamento de Protección Ambiental para el Desarrollo de Actividades de la Industria Manufacturera*—Supreme Decree No. 019-97-ITINCI, or the “Environmental Regulations”), set forth different environmental obligations depending on the date of commencement of the subject company’s industrial activities. Thus, companies with industrial cement activities operational at the time these regulations entered into force (September 1997) were obliged to submit an Environmental Adaptation Management Plan (*Programa de Adecuación y Manejo Ambiental*, or “PAMA”) to the Ministry of Production; while companies with industrial activities starting from that date onwards are obliged to submit either an environmental impact assessment or an environmental impact declaration depending on the level of risk and the impact of their activities on the environment. Furthermore, the Environmental Regulations establish that the Ministry of Production may require a mining closure plan (as an independent environmental assessment) with environmental measures that all companies must comply with before closing their operations to prevent any negative effects on the environment.

With regard to air emissions and wastewater discharges, the Ministry of Production has adopted legally binding environmental quality standards (*Limites Máximos Permisibles*, or “LMPs”) for cement industries (approved by Supreme Decree No. 001-2020-MINAM). These standards are legally enforceable and all cement industry operations are required to comply with them.

A violation of the Environmental Regulations is subject to different types of administrative sanctions, as determined in the Environmental Sanctions Regime of the Ministry of Production (*Régimen de Sanciones e Incentivos del Reglamento de Protección Ambiental para el Desarrollo de Actividades de la Industria Manufacturera*—Supreme Decree No. 025-2001-ITINCI), including warnings notices; fines of up to 600 UIT (S/2,640,000); restrictions, suspensions or cancellation of the authorization or concession; and total or partial closing of the industrial facilities. The type of sanction imposed ultimately depends on the seriousness of the violation. Although the environmental competent authority for industrial activities is the Ministry of Production, other government agencies may impose fines in case of non-compliance with applicable permits.

By Directing Council Resolution No. 023-2013-OEFA/CD, of the *Organismo de Evaluación y Fiscalización Ambiental* (the Environmental Monitoring and Enforcement Agency or “OEFA”), OEFA assumes the functions of monitoring, supervision, control and sanctioning of environmental matters in the Cement Sector of the Manufacturing Industry, of the Industrial Subsector of the Ministry of Production - PRODUCE.

In 2016, by Ministerial Resolution No. 201-2016-MINAM, the “National Protocol of Continuous Emission Monitoring Systems – CEMS” was approved. Its objective is to standardize the process of continuous monitoring of polluting gases and particles emitted into the atmosphere by manufacturing activities. It establishes the technical criteria for the selection of continuous monitoring methodologies, as well as the location of the monitoring points, the operation of the equipment and the calibration tests required for the assurance of the quality of the measurements.

By Ministerial Resolution No. 191-2016-MINAM, the “National Plan for the Integral Management of Solid Waste - PLANRES 2016-2024” was approved. It establishes among other things, obligations to managers regarding the management of non-municipal solid waste, as well as the modification of the environmental studies in case it is planned to carry out co-processing.

On January 25, 2022, Supreme Decree No. 003-2022-MINAM was published, declaring the climate emergency of national interest and providing guidelines and priority actions for mitigation and adaptation to climate change.

Prior Consultation with Local Indigenous Communities

On September 7, 2011, Peru enacted Law No. 29785, Prior Consultation Right of Local Indigenous Communities. The law was enacted in order to implement Convention No. 169 of the International Labor Organization on Local Indigenous Communities in Independent Countries, previously ratified by Peru through Legislative Decree No. 26253. This law, which became effective on December 6, 2011, establishes a prior consultation procedure to be undertaken by the Peruvian government in favor of local indigenous communities, whose collective rights may be directly affected by new legislative or administrative measures, including the granting of new mining concessions. A regulation implementing this law was approved on April 3, 2012, by Supreme Decree No. 001-2012-MC, which defines the local indigenous communities that are entitled to the prior consultation rights and establishes the different stages that comprise the prior consultation procedure.

Consultation procedures for mining and processing concessions are carried out by the MEM prior to the granting of a new processing concession.

According to the recent practice of the Geologic Institute of Mining and Metallurgy (*Instituto Geológico Minero Metalúrgico*), the granting of mining concessions does not qualify as an “administrative measure” that potentially affects the rights of indigenous people because it does not grant *per se* a right to explore and exploit mineral deposits. Accordingly, the granting of mining concessions has not been included among measures that require consultation procedures with indigenous people. According to Ministerial Resolution No. 003-2013-MEM-DM, the MEM has established that consultation procedures are applicable prior to the commencement of: (i) exploration activities (*Autorización de inicio de actividades de exploración*); (ii) exploitation activities (*Autorización de inicio o reinicio de las actividades de desarrollo, preparación y explotación - incluye plan de minado y botaderos*); and (iii) processing concessions (*otorgamiento de concesión de beneficio*).

Local indigenous communities do not have a veto right; upon completion of this prior consultation procedure, the Peruvian government can discretionarily approve or reject the applicable legislative or administrative measure. In addition, any sale, lease or other act of disposal of surface land owned by local indigenous communities is subject to the approval of an assembly composed of the members of such communities according to the following rules:

- for local indigenous communities located on the coast, approval of not less than 50% of members attending the assembly is required; and
- for local indigenous communities located in the highlands and the Amazon region, approval of at least 2/3 of all members attending the assembly is required.

Permits and Licenses

Mining Concessions

According to the General Mining Law, a mining concession is required in order to extract mineral resources needed to produce cement. The mining concession grants the right to explore and exploit the mineral resources located in a solid of indefinite depth, limited by the vertical plane corresponding to the sides of square, rectangle or polygon referred to by the Universal Transversal Mercator coordinates. The Geological Mining and Metallurgical Institute (*Instituto Geológico Minero y Metalúrgico*) is in charge of managing the procedure of granting mining concessions, which includes the receipt of the request, the granting and the termination of mining concessions.

Explosives.

Mining concessionaires are required to obtain the following permits to operate and store explosives:

- Certificate of Mining Operation (*Certificado de Operación Minera*), granted by the MEM;
- Semiannual Authorization for Use of Explosives, granted by the General Bureau of Explosives of the Ministry of Interior (*Superintendencia Nacional de Control de Servicios de Seguridad, Armas, Municiones y Explosivos de Uso Civil*, or “SUCAMEC”);
- Manipulation of Explosives License for each individual that intends to handle explosives, granted by the SUCAMEC; and
- Explosive’s Warehouse Operation License, granted by SUCAMEC.

Water and Wastewaters

To use water resources in cement industry activities, it is necessary to obtain a water right granted by the Water Management Authority (*Autoridad Nacional del Agua*, or “ANA”) prior to the use of underground or fresh water sources. If the proposed activities will generate domestic or industrial wastewaters, which will be discharged into natural water sources or soil, authorization from ANA is required, with a favorable opinion of the General Bureau of Environmental Health (*Dirección General de Salud Ambiental*, or “DIGESA”).

Hazardous Waste

Hazardous waste generated as a consequence of cement production activities must be disposed of in specialized landfills. The transportation of solid waste outside the limits of the industrial complex must be conducted exclusively through specialized companies registered with DIGESA and MINAM. Industries are free to contract with an EO-RS (a company that provides solid waste services such as transportation, treatment or disposal) or with an EC-RS (a company that carries out commercialization activities aiming at the reuse of solid waste). Yet in order to limit their liability in case of environmental harm, industries must make sure the EO-RS and EC-RS they retain count with all necessary permits to collect, transport and dispose hazardous wastes.

Chemical Feedstock

The commercialization, transportation and use of controlled chemical feedstock (*Insumos Químicos y Productos Fiscalizados*, or “IQPF”) is restricted, because of their potential use in the production of illegal drugs or controlled substances. Companies that require an IQPF must obtain an IQPF User Certificate (*Certificado de Usuario de IQPF*) from the General Bureau of Chemical Feedstock of the Ministry of Interior (*Unidad Antidrogas de la Policía Nacional del Perú*, or “DIRANDRO”). Companies such as ours are also required to register with the Ministry of Production any IQPF activities they plan to carry out (*Registro Único para el Control de IQPF*).

Fuel Storage

Any company that purchases fuels for its own activities and has facilities to receive and store fuel with a minimum capacity of one meter cubed (264.170 gallons) is required to (i) receive from the Mining and Energy Investment Supervision Body (*Organismo Supervisor de la Inversión en Energía y Minería*, or “OSINERGMIN”) prior permission to build and operate said installations, and (ii) be registered with the Registry of Direct Fuel Consumers, in order to obtain the SCOP Code (*Código del Sistema de Control de Órdenes de Pedido*) necessary to purchase fuel.

Cultural Heritage Protection

If the design and development of cement industry activities involves the removal of topsoil, a Certificate of Non-Existence of Archaeological Ruins (*Certificado de Inexistencia de Restos Arqueológicos*, or “CIRA”) from the Ministry of Culture (*Ministerio de Cultura*) with respect to the area under construction must be obtained. The CIRA will either certify that on the surface of the evaluated area no archaeological sites or features were discovered, or will identify their exact location and extent in order to implement precautionary measures to protect the archaeological artifact. The CIRA is valid for an unlimited period, but will become void should any archaeological artifacts be accidentally discovered during the construction works or due to any natural cause. In such an instance, the company must stop the construction work immediately and notify the Ministry of Culture. Failure to stop the construction work may generate civil and criminal liabilities. Under certain exceptional circumstances, Peruvian legislation allows the removal of archeological artifacts when the area is required for development of projects that are of national interest.

Labor Regulations

Peruvian legislation allows hiring employees through: (i) a fixed-term contract, (ii) a contract for an indefinite duration; or (iii) a contract for part-time employment.

The minimum wage established in Peru is S/1,025 per month. Peruvian labor legislation establishes a maximum 8-hour work day or 48 hours per week for employees older than 18 years. For overtime, employers must pay at least an additional 25% and an additional 35% over the regular hourly wage for the first two hours and for any additional hours, respectively. Employees are entitled to a minimum rest of 24 consecutive hours per week.

Regardless of the type of employment contract, pursuant to Peruvian law full-time employees are entitled to receive:

(i) an additional 10% of the minimum wage, provided that they are responsible for (a) one or more children under the age of 18 or (b) persons who are up to 24 years of age if they are pursuing higher education,

(ii) two additional months' salary per year, one in July and one in December (pursuant to Law No. 29351, said payments were not subject to any social contribution, except for Income Tax; consequently, until December 2015, employers paid directly to their employees as an Extraordinary Bonus, the amount of the contribution to the Social Health Insurance (ESSALUD) for such payments, equivalent to 9% of the bonus paid),

(iii) thirty calendar days of annual paid vacation per year,

(iv) life insurance, since the first day at work,

(v) a compensation for years of service (CTS) equal to 1.16% of a monthly salary and is deposited each year in May and November, provided they work an average of at least four hours per day for the same employer,

(vi) benefits from the Peruvian Social Health Insurance (ESSALUD) to which employers must contribute a rate equivalent to 9% of their employees' income, and

(vii) a percentage of the company's annual income net of taxes (10% in the case of income derived from industrial cement operations, and 8% in the case of income derived from our mining or commercial activities), provided the company has twenty or more employees.

On June 25, 2021, Law 31246 was published, which modified the current Law on Safety and Health at Work, to guarantee the right of workers to safety and health at work in the face of epidemiological and health risk.

Free and Fair Competition Protection

In Peru, businesses are generally not required to receive the prior authorization of the antitrust authority, which in Peru is INDECOPI. However, in order to promote economic efficiency and protect consumers, anti-competitive behavior is subject to sanctions under applicable law. Behavior that is prohibited according to national law includes: (i) the abuse of a dominant market position, (ii) concerted horizontal practices and (iii) concerted vertical practices. Moreover, under the Unfair Competition Law it is illegal to act in a way that may hinder the competitive process. An unfair behavior is one that is objectively contrary to the entrepreneurial good faith, ethical behavior and efficiency in a market economy.

On January 7, 2021, Law No. 31112, Law that establishes the Prior Control of Business Concentration Operations (the "Law"), was published in the Official Gazette "El Peruano", which entered into force on June 14, 2021, together with its Regulations, approved by Supreme Decree No. 039-2021-PCM. This Law establishes a system of prior control of business concentration operations in order to promote effective competition and economic efficiency in the markets for the welfare of consumers.

C. Organizational Structure

Cementos Pacasmayo S.A.A. is part of the Hochschild Group. As of March 31, 2022, Eduardo Hochschild, directly and indirectly, owned and controlled 38.32% of the shares of Hochschild Mining plc. Through ASPI, as of that same date Eduardo Hochschild, directly and indirectly, owned and controlled 50.01% of the outstanding common shares of Cementos Pacasmayo.

All of our operating subsidiaries are incorporated in Peru. The following chart sets forth our simplified corporate structure, operating subsidiaries only, as of the date of this annual report.



The following is a brief description of the principal activities of our consolidated subsidiaries.

- Cementos Selva S.A. is engaged in the production and marketing of cement and other construction materials in the northeast region of Peru. It also owns all of the equity shares of Dinospelva Iquitos S.A.C. (a cement and construction materials distributor in the north of Peru, which also produces and sells precast, cement bricks and ready-mix concrete) and in Acuicola Los Paiches S.A.C. (a fish farm entity).
- Distribuidora Norte Pacasmayo S.R.L. is mainly engaged in selling cement produced by the Company. Additionally, it produces and sells precast, cement bricks and ready-mix concrete.
- Empresa de Transmisión Guadalupe S.A.C. is mainly engaged in providing electric energy transmission services to the Company.

Other immaterial, non-operating subsidiaries

- Calizas del Norte S.A.C. (in liquidation). On May 31, 2016, the Company decided to liquidate the subsidiary Calizas del Norte S.A.C.
- Salmueras Sudamericanas S.A. ("Salmueras") was engaged in the exploration of a brine project located in the northern region of Peru. In December 2017, the Company decided not to continue with the activities related to this project, as explained in note 1.4 to our annual audited consolidated financial statements included in this annual report. As of December 31, 2017, Quimpac S.A. held a participation of 25.1% of the common shares of this entity. Quimpac left Salmueras Sudamericanas S.A. during 2018 and as consequence, as of December 31, 2021 and 2020, Quimpac does not have common shares of this entity.
- Soluciones Takay S.A.C. is a platform that connects families that want to build with certified professionals.
- 150Krea Inc. seeks to develop a business in the United States relating to digital innovation in the construction industry.

D. Property, Plant and Equipment

Properties

We own our headquarters office in Lima, Peru, at Calle La Colonia 150, Urbanización El Vivero, Surco. We also own our plants, warehouses, transportation facilities and the office space at our production facilities, including our workers' facilities occupying approximately 50,000 square meters at our Pacasmayo facility and a warehouse occupying approximately 25,000 square meters at the Salaverry port facility.

Area of Operation

We own and operate three cement production facilities. Our largest facility is located in the city of Pacasmayo, department of La Libertad, approximately 667 kilometers north of Lima. The second facility is located in the city of Piura, department of Piura, approximately 330 kilometers north of Pacasmayo. This facility started cement production in September 2015. We also own and operate a smaller cement facility, located in the city of Rioja, department of San Martín, approximately 468 kilometers east of the Panamericana Norte highway. From our Pacasmayo and Piura facilities we supply cement principally to the coastal and highland regions of northern Peru, including the cities of Piura, Chiclayo, Cajamarca, Trujillo and Chimbote. From our Rioja facility, we supply cement to the northeastern region of Peru, including the cities of Moyobamba, Tarapoto, Loreto, among others.



Pacasmayo Facility

As of December 31, 2021, our Pacasmayo facility had 9 kilns, which produce clinker (one of which is also equipped to produce quicklime), and an additional Waelz rotary kiln that produces quicklime. Additionally, our facility has a primary and secondary cone crusher located near our Acumulación Tembladera limestone quarry. The main crusher has installed crushing capacity of 800 metric tons per hour and the secondary crusher has installed crushing capacity of 170 metric tons per hour. Our Pacasmayo facility operates with three horizontal rotary kilns with total installed annual clinker production capacity of 1,034,880 metric tons and six vertical shaft kilns with total installed annual clinker production capacity of 465,120 metric tons. The total installed annual clinker production capacity at our Pacasmayo facility is 1.5 million metric tons. Our Pacasmayo facility also features three cement finishing mills with installed annual cement production capacity of 2.9 million metric tons. Our Pacasmayo facility is also equipped with silos containing storage capacity for 26,700 metric tons of cement.

As of December 31, 2021, our Pacasmayo facility had installed production capacity of approximately 240,000 metric tons of quicklime per year, including the annual installed capacity of one of our clinker kilns and our Waelz rotary kiln, which are equipped to also produce quicklime.

Piura Facility

Annual installed production capacity of our Piura plant is 1.6 million metric tons of cement and 1 million metric tons of clinker. Our Piura plant operates with a horizontal kiln with installed clinker production capacity of 1 million metric tons per year, as well as a cement mill with installed cement production capacity of 1.6 million metric tons per year. Our Piura plant also has two storage silos with storage capacity of 240,000 metric tons of cement.

During 2020, we invested in the construction of a new silo, with a capacity of 1,300 metric tons, which will reduce transportation costs as we will be able to serve the areas of influence from the Piura plant.

Rioja Facility

Annual installed production capacity of our Rioja plant is 440,000 metric tons of cement and 280,000 metric tons of clinker.

Our Rioja facility currently operates with a small cone crusher and four vertical shaft kilns with total annual installed clinker production capacity of 280,000 metric tons and three cement finishing mills with total annual installed cement production capacity of 440,000 metric tons. Our Rioja plant is also equipped with silos with storage capacity of 1,750 metric tons of cement.

Ready-Mix Concrete Facilities

We also have 22 fixed and mobile ready-mix concrete and precast facilities located in the northern cities of Chimbote, Trujillo, Chiclayo, Piura, Cajamarca, Pacasmayo, Tarapoto, Iquitos and Moyobamba among others. These facilities allow us to supply ready-mix concrete and precast materials to small, medium and large construction projects throughout the entire northern region of Peru. As of December 31, 2021, our ready-mix operations had 191 mixer trucks, 34 concrete pumps and 2 pavers available to deliver ready-mix concrete.

Capacity and Volumes

The table below sets forth our clinker, cement and quicklime production capacity and volumes in our Pacasmayo and Rioja facilities for the periods indicated.

(in thousands of metric tons, except percentages)	As of and for the year ended December 31,								
	2021			2020			2019		
	Capacity	Production	Utilization rate(1)	Capacity	Production	Utilization rate(1)	Capacity	Production	Utilization rate(1)
Cement:									
Pacasmayo facility	2,900	1,970	67.9%	2,900	1,307	45.1%	2,900	1,368	47.2%
Piura facility	1,600	1,324	82.8%	1,600	1,020	59.8%	1,600	954	63.8%
Rioja facility	440	338	76.8%	440	263	63.7%	440	301	68.4%
Total	4,940	3,632	73.5%	4,940	2,590	52.4%	4,940	2,623	53.1%
Clinker:									
Pacasmayo facility	1,500	879	58.6%	1,500	712	47.5%	1,500	864	57.6%
Piura facility	1,000	893	89.3%	1,000	566	56.6%	1,000	758	75.8%
Rioja facility	280	264	94.3%	280	198	70.9%	280	231	82.5%
Total	2,780	2,036	73.2%	2,780	1,476	53.1%	2,780	1,853	66.6%
Quicklime⁽²⁾:									
Pacasmayo facility	240	69	28.8%	240	55	22.7%	240	74	30.8%

(1) Utilization rate is calculated by dividing production for the specified period by installed capacity.

(2) Our Rioja facility does not produce quicklime. In addition, one of our clinker kilns and our Waelz rotary kiln are equipped to produce quicklime.

Map of Mining Concessions of Cementos Pacasmayo S.A.A. and subsidiaries.

The following map of Peru shows the location of the total (material and non-material) Peruvian mining concessions of Cementos Pacasmayo S.A.A. and subsidiaries. The mining concessions are located in Piura, Lambayeque, Cajamarca, Amazonas, Ica, Cusco, San Martin, La Libertad and Ancash Region.

Figure 1 General map of the mining concessions of Cementos Pacasmayo S.A.A. and subsidiaries



General description of mining properties and operations

Cementos Pacasmayo has mining concessions in Peru which were obtained through the administrative procedure before the Instituto Geológico, Minero y Metalúrgico (INGEMMET). Mineral concessions are classified according to the type of ore (i.e., metallic and non-metallic).

Cementos Pacasmayo has mining concessions in exploration, development and production stage.

The complete list of Cementos Pacasmayo's mining concessions is presented in Table 4.

Table 1 shows the main mining concessions that are in the production and development stage, including relevant information for each quarry.

Name of mining concession	Location of the mining concession	Type and amount of ownership interests	Operator	Surface (Has)	Stage of the mining concession	Permits	Key condition of permit	Type of mine / material	Beneficiation plant and other installations	Production 2021 (Ton)	Production 2020 (Ton)	Production 2019 (Ton)
ACUMULACION TEMBLADERA	CAJAMARCA	100	San Martin Contratistas Generales SA	3391	Production	Yes	EIA ⁽¹⁾ and others	Open Pit / Limestone	Mining facilities	1,629,895	837,029	1,547,002
VIRRILA 3 ⁽²⁾	PIURA	100	ECM Posada Perú S.A.C.	600	Production	Yes	EIA ⁽¹⁾ and others	Open Pit / Calcareous material	Mining facilities	38,186	47,476	400,857
VIRRILA 10 ⁽²⁾	PIURA	100	ECM Posada Perú S.A.C.	1000	Production	Yes	EIA ⁽¹⁾ and others	Open Pit / Calcareous material	Mining facilities	342,621	668,948	918,879
VIRRILA 11 ⁽²⁾	PIURA	100	ECM Posada Perú S.A.C.	900	Production	Yes	EIA ⁽¹⁾ and others	Open Pit / Calcareous material	Mining facilities	365,690	32,298	155,402
VIRRILA 15 ⁽²⁾	PIURA	100	ECM Posada Perú S.A.C.	600	Production	Yes	EIA ⁽¹⁾ and others	Open Pit / Calcareous material	Mining facilities	673,677	0	89,025
VIRRILA 19 ⁽²⁾	PIURA	100	ECM Posada Perú S.A.C.	1000	Production	Yes	EIA ⁽¹⁾ and others	Open Pit / Calcareous material	No	4,422	0	0
CALIZAS TIOYACU	SAN MARTIN	100	Cemento Selva S.A	400	Production	Yes	EIA ⁽¹⁾ and others	Open Pit / Limestone	No	377,702	208,935	400,520

(1) Environmental Impact Study (EIA)

(2) Virrilá 3, Virrilá 10, Virrilá 11, Virrilá 15 and Virrilá 19 belong to the UEA Virrilá and they are considered as material properties in production stage.

Summary of Mineral Resources and Mineral Reserves

The following tables summarize the mineral resources and reserves of the mining concessions of Cementos Pacasmayo and subsidiaries.

Table 2 Summary of mineral resources of Cementos Pacasmayo S.A.A. and subsidiaries as of December 31, 2021.

	Measured mineral resources		Indicated mineral resources		Measured + indicated mineral resource		Inferred mineral resources	
	Amount (Million Tonnes)	Grades/Qualities (% CaO)	Amount (Million Tonnes)	Grades/Qualities (% CaO)	Amount (Million Tonnes)	Grades/Qualities (% CaO)	Amount (Million Tonnes)	Grades/Qualities (% CaO)
Limestone:								
Acumulación Tembladera	128.29	49.31	37.64	50.23	165.93	49.52	74.24	50.34
Calizas Tioyacu	0	0	0	0	0	0	19.2	45.61
Calcareous material:								
UEA Virrilá Total	21.1	48.50	29.2	48.78	50.3	48.66	3.9	46.42

* The information (prices, costs and economic aspects) assumed for the Mineral Resources estimation in the economic model can be found in the Cementos Pacasmayo S.A.A. Technical Report Summary (TRS) set forth in Exhibits 96.1 (Tembladera quarry) and 96.2 (Virrilá quarry) to this annual report. No economic evaluation was performed for the Tioyacu quarry because it only has inferred resources.

Table 3 Summary of mineral reserves of Cementos Pacasmayo S.A.A. and subsidiaries' properties at December 31, 2021.

	Proven mineral reserves		Probable mineral reserves		Total mineral reserves	
	Amount (Million Tonnes)	Grades/ Qualities (%CaO)	Amount (Million Tonnes)	Grades/ Qualities (%CaO)	Amount (Million Tonnes)	Grades/ Qualities (%CaO)
Limestone:						
Acumulación Tembladera	66.52	49.75	10.47	49.64	76.99	49.74
Calizas Tioyacu	6.5	50.30	4.8	47.29	11.3	49.03
Calcareous material:						
UEA Virrilá Total	42.4	49.99	2.9	47.77	45.3	49.85

* The information (prices, costs and economic aspects) assumed for the Mineral Reserves estimation in the economic model can be found in the Cementos Pacasmayo S.A.A. and Cementos Selva S.A. Technical Report Summary (TRS) set forth in Exhibits 96.1 (Tembladera quarry), 96.2 (Virrila quarry) and 96.3(Tioyacu quarry) to this annual report.

Table 4. List of Cementos Pacasmayo and subsidiaries mining concession by region.

Name of mining concession	Location of the mining concession	Type and amount of ownership interests	Operator	Surface (Has)	Stage of the mining concession	Permits	Type of mine / material	Beneficiation plant and other installations	Production 2021 (Ton)	Production 2020 (Ton)	Production 2019 (Ton)
ESCALERA 2009	ANCASH	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
HUANCHACAYOC	ANCASH	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
LOS SANTOS 1	ANCASH	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
LOS SANTOS 2	ANCASH	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOS SANTOS 3	ANCASH	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
LOS SANTOS 4	ANCASH	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
MACATE 2011	ANCASH	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
MACATE 2012-1	ANCASH	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
PAMPA CONDOR	ANCASH	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
ACUMULACION TEMBLADERA	CAJAMARCA	100	San Martin Contratistas Generales SA	3391	Production	Yes	Open Pit / Limestone	Mining facilities	1,629,895	837,029	1,547,002
CELENDIN 11	CAJAMARCA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
CELENDIN 12	CAJAMARCA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CELENDIN 13	CAJAMARCA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
CELENDIN 14	CAJAMARCA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
CERRO MEMBRILLO	CAJAMARCA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
CERRO QUEMADO	CAJAMARCA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CHILICO	CAJAMARCA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
CP 10	CAJAMARCA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
CP 13	CAJAMARCA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP 16	CAJAMARCA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CP 17	CAJAMARCA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
CP 23	CAJAMARCA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CP 24	CAJAMARCA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CP 3	CAJAMARCA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
CP 31	CAJAMARCA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0

CP 33	CAJAMARCA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
CP 37	CAJAMARCA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CP 38	CAJAMARCA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP 4	CAJAMARCA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
CP 40	CAJAMARCA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
CP 8	CAJAMARCA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
CP 9	CAJAMARCA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
CUNYAC	CAJAMARCA	100	NA	200	Production	Yes	Pozzolana	No	0	0	0
CUNYAC 2	CAJAMARCA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 3	CAJAMARCA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 4	CAJAMARCA	100	NA	999	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 5	CAJAMARCA	100	NA	874	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 6	CAJAMARCA	100	NA	599	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 6A	CAJAMARCA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 6B	CAJAMARCA	100	NA	199	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 7	CAJAMARCA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CUNYAC 8	CAJAMARCA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
EL CHAMAN	CAJAMARCA	100	NA	750	Exploration	Yes	Non Metallic	No	0	0	0
HUAPAL 1	CAJAMARCA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
LAJAS 2	CAJAMARCA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
PAMPA GRANDE 1	CAJAMARCA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
PAMPA GRANDE 2	CAJAMARCA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
PAMPA MOLINA	CAJAMARCA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
PARGO 1	CAJAMARCA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
PARGO 2	CAJAMARCA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
PULULO	CAJAMARCA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
SAYUNDO	CAJAMARCA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0

SUNSET 11	CAJAMARCA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
TIERRA BLANCA	CAJAMARCA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
YOMIRA I	CAJAMARCA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
CHAMO 1	CAJAMARCA / LA LIBERTAD	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
CP 11	CAJAMARCA / LA LIBERTAD	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP 12	CAJAMARCA / LA LIBERTAD	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CP 34	CAJAMARCA / LA LIBERTAD	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
ELSANA 1	CAJAMARCA / LA LIBERTAD	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CP 14	CAJAMARCA / LAMBAYEQUE	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP 39	CAJAMARCA / LAMBAYEQUE	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
TULLAL	CAJAMARCA / LAMBAYEQUE	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
CP 15	CAJAMARCA / LAMBAYEQUE / LA LIBERTAD	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
ELSANA 3	CAJAMARCA / LA LIBERTAD	100	NA	900	Exploration	No	Metallic	No	0	0	0
ANTIMORO 5	CUSCO	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
HOYADA 2011	ICA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
HOYADA 2012	ICA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
ALCENTRO2	LA LIBERTAD	100	NA	200	Exploration	No	Anthracite Coal	No	0	0	0
ANA LUCIA M	LA LIBERTAD	100	NA	400	Exploration	No	Metallic	No	0	0	0
CERRO CAÑA	LA LIBERTAD	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
CP 1	LA LIBERTAD	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
CP 19	LA LIBERTAD	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
CP 2	LA LIBERTAD	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CP 32	LA LIBERTAD	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CP 5	LA LIBERTAD	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CP-28	LA LIBERTAD	100	NA	100	Exploration	No	Anthracite Coal	No	0	0	0
CP-29	LA LIBERTAD	100	NA	500	Exploration	No	Non Metallic	No	0	0	0

CP-30	LA LIBERTAD	100	NA	400	Exploration	No	Metallic	No	0	0	0
EL DIAMANTE	LA LIBERTAD	100	NA	193	Exploration	No	Anthracite Coal	No	0	0	0
ELSANA 2	LA LIBERTAD	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
MAGIA BLANCA	LA LIBERTAD	100	NA	183	Exploration	Yes	Anthracite Coal	No	0	0	0
MARTIN III	LA LIBERTAD	100	NA	718	Exploration	No	Anthracite Coal	No	0	0	0
MARTIN IV	LA LIBERTAD	100	NA	100	Exploration	No	Anthracite Coal	No	0	0	0
MARTIN V 300	LA LIBERTAD	100	NA	300	Exploration	No	Anthracite Coal	No	0	0	0
MARTIN VI 300	LA LIBERTAD	100	NA	300	Exploration	No	Anthracite Coal	No	0	0	0
MARTIN VII 50	LA LIBERTAD	100	NA	54	Development	Yes	Anthracite Coal	Yes	0	0	0
MARTIN VIII	LA LIBERTAD	100	NA	100	Exploration	No	Anthracite Coal	No	0	0	0
NORTE 13	LA LIBERTAD	100	NA	79	Exploration	No	Non Metallic	No	0	0	0
NORTE 17	LA LIBERTAD	100	NA	47	Exploration	No	Non Metallic	No	0	0	0
NORTE 26	LA LIBERTAD	100	NA	799	Exploration	No	Non Metallic	No	0	0	0
NORTE 51	LA LIBERTAD	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
NORTE 52	LA LIBERTAD	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
NORTE 53	LA LIBERTAD	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
NORTE 54	LA LIBERTAD	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
NORTE 55	LA LIBERTAD	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
NORTE 57	LA LIBERTAD	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
NORTE 58	LA LIBERTAD	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
NORTE N° 10	LA LIBERTAD	100	NA	159	Exploration	No	Non Metallic	No	0	0	0
NORTE N° 12	LA LIBERTAD	100	NA	79	Exploration	No	Non Metallic	No	0	0	0
NORTE N° 14	LA LIBERTAD	100	NA	50	Exploration	No	Non Metallic	No	0	0	0
PAMPA COLORADA I	LA LIBERTAD	100	NA	100	Exploration	Yes	Metallic	No	0	0	0
PAMPA COLORADA II	LA LIBERTAD	100	NA	200	Exploration	No	Metallic	No	0	0	0
SAN MARCOS R.Q.	LA LIBERTAD	100	NA	369	Exploration	No	Anthracite Coal	No	0	0	0
SAN PEDRO 2	LA LIBERTAD	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
SEÑOR DE LOS MILAGROS DE PACASMAYO	LA LIBERTAD	100	Cementos Pacasmayo S.A.A.	400	Production	Yes	Open Pit / Clay and Sand	Mining Facilities	100,371	35,576	171,697
CP 22	LAMBAYEQUE	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP 53	LAMBAYEQUE	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
GITANO 10	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
GITANO 11	LAMBAYEQUE	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
GITANO 12	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
MESONES 2	LAMBAYEQUE	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
PENCAL	LAMBAYEQUE	100	NA	200	Exploration	No	Non Metallic	No	0	0	0

PENCAL 2	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
SUNSET 10	LAMBAYEQUE	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
CP 21	LAMBAYEQUE / LA LIBERTAD	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CAMPANQUIS 4	LORETO / AMAZONAS	100	No	1000	Exploration	No	Non Metallic	No	0	0	0
CAMPANQUIZ 2	LORETO / AMAZONAS	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
CAMPANQUIZ 3	LORETO / AMAZONAS	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
BAYOVAR N° 4	PIURA	100	NA	22326	Production	Yes	Open Pit / Calcareous material	No	41,113	42,564	41,531
BELIZARIO D	PIURA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
BELIZARIO E	PIURA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
BELIZARIO J	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
CP 36	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CP 42	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP 44	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CP 45	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CP 46	PIURA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
CP 49	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP 50	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
CP CINCO-B	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CP SEIS-A	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CP SEIS-B	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CP SIETE	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012 - 4	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012- 9	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012-1	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012-10	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012-11	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012-2	PIURA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012-3	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
DUNA 2012-5	PIURA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
DUNA 2013-1	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
ILLESCAS 15	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
KOKIS 1	PIURA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
KOKIS 2	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
KOKIS 3	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
KOKIS 4	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
KOKIS 5	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
KOKIS 6	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0

KOKIS 7	PIURA	100	NA	1000	Exploration	Yes	Non Metallic	No	0	0	0
LA PIEDRA	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LOBOS 69	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 12	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 19	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 20	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 20 A	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 22	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 22-A	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 23	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LONGINOS 23A	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
PAREDONES	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 10	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 12	PIURA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 13	PIURA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 14	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 15	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 16	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 18	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 2	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 3	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 4	PIURA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
PAREDONES 9	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
SOJO 4	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
SOJO 5	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
VIENTO 2014-1	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
VIENTO 2014-2	PIURA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 3	PIURA	100	ECM Posada Perú S.A.C.	600	Production	Yes	Open Pit / Calcareous material	Mining facilities	38,186	47,476	400,857
VIRRILA 10	PIURA	100	ECM Posada Perú S.A.C.	1000	Production	Yes	Open Pit / Calcareous material	Mining facilities	342,621	668,948	918,879
VIRRILA 11	PIURA	100	ECM Posada Perú S.A.C.	900	Production	Yes	Open Pit / Calcareous material	Mining facilities	365,690	32,298	155,402
VIRRILA 12	PIURA	100	NA	700	Development	Yes	Calcareous material	No	0	0	0
VIRRILA 13	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 14	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 15	PIURA	100	ECM Posada Perú S.A.C.	600	Production	Yes	Open Pit / Calcareous material	Mining facilities	683,677	0	89,025

VIRRILA 16	PIURA	100	NA	1000	Development	Yes	Calcareous material	No	0	0	0
VIRRILA 17	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 18	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 19	PIURA	100	ECM Posada Perú S.A.C	1000	Development	Yes	Open Pit / Calcareous material	No	4,422	0	0
VIRRILA 20	PIURA	100	NA	1000	Exploration	Yes	Calcareous material	No	0	0	0
VIRRILA 21	PIURA	100	NA	1000	Exploration	Yes	Calcareous material	No	0	0	0
VIRRILA 22	PIURA	100	NA	1000	Exploration	Yes	Calcareous material	No	0	0	0
VIRRILA 23	PIURA	100	NA	200	Development	Yes	Calcareous material	No	0	0	0
VIRRILA 4	PIURA	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 6	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 7	PIURA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 8	PIURA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
VIRRILA 9	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
YAPATO 1	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
YAPATO 2	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
YAPATO 3	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
YAPATO 4	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
CP 51	PIURA / LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CP 52	PIURA / LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
MAJAZ 2	SAN MARTIN	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
SM-123	SAN MARTIN	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
NORTE N° 15	LA LIBERTAD	100	NA	199	Exploration	No	Non Metallic	No	0	0	0
BAYOVAR 2011	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CP 41	PIURA	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
CP 47	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
LA PROMESA 10	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LA PROMESA 11	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
CP 43	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CP 48	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
ARCILLAS EL PAJONAL	SAN MARTIN	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
CALIZAS TIOYACU	SAN MARTIN	100	Cemento Selva S.A.	400	Production	Yes	Open Pit / Limestone	No	377,702	208,935	400,520
MOYOBAMBA 98	SAN MARTIN	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
PAJONAL 2	SAN MARTIN	100	Cemento Selva S.A.	400	Production	Yes	Open Pit / Clay	No	72,272	46,057	57,129
PAJONAL 3	SAN MARTIN	100	NA	800	Exploration	No	Non Metallic	No	0	0	0

PAJONAL 4	SAN MARTIN	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
FILA LARGA 98	AMAZONAS	100	No	300	Production	Yes	Open Pit / Clay	No	0	0	1,000
FILA LARGA 98 B	AMAZONAS	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
RIOJA 1	SAN MARTIN	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
RIOJA 2	SAN MARTIN	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
RIOJA 3	SAN MARTIN	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
RIOJA 4	SAN MARTIN	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
RIOJA 5	SAN MARTIN	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
RIOJA 6	SAN MARTIN	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
RIOJA 7	SAN MARTIN	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
RIOJA 8	SAN MARTIN	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
RIOJA 9	SAN MARTIN	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
TILAPIA 99	SAN MARTIN	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
TINGOS 2010	SAN MARTIN	100	NA	400	Exploration	No	Non Metallic	No	0	0	0
YESO YANAYACU	SAN MARTIN	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
FILA LARGA 98 A	AMAZONAS	100	No	399	Exploration	No	Non Metallic	No	0	0	0
ESPERANZA BLANCA 2	AMAZONAS	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
SOJO 3	PIURA	100	NA	200	Exploration	Yes	Non Metallic	Yes	0	0	0
EL MILAGRO 2010	LA LIBERTAD	100	NA	500	Exploration	No	Non Metallic	No	0	0	0
PARIÑAS 2011	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
DEVORA	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 10	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 19	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 20	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 22	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 23	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 30	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 37	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 39	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 4	LAMBAYEQUE	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 40	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 5	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 52	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 68	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0

EL TABLAZO 69	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
EL TABLAZO 7	LAMBAYEQUE	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 10	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
LOBOS 11	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 12	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 13	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 14	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 15	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 16	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 17	PIURA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
LOBOS 18	PIURA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
LOBOS 19	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 20	PIURA	100	NA	600	Exploration	No	Non Metallic	No	0	0	0
LOBOS 21	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
LOBOS 22	PIURA	100	NA	800	Exploration	No	Non Metallic	No	0	0	0
LOBOS 23	PIURA	100	NA	700	Exploration	No	Non Metallic	No	0	0	0
LOBOS 47	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 48	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 49	PIURA	100	NA	300	Exploration	No	Non Metallic	No	0	0	0
LOBOS 50	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 51	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 6	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 62	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0
LOBOS 65	PIURA	100	NA	200	Exploration	No	Non Metallic	No	0	0	0
LOBOS 7	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
LOBOS 8	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
LOBOS 9	PIURA	100	NA	1000	Exploration	No	Non Metallic	No	0	0	0
ÑAMUC 1	PIURA	100	NA	900	Exploration	No	Non Metallic	No	0	0	0
ÑAMUC 2	PIURA	100	NA	100	Exploration	No	Non Metallic	No	0	0	0

Acumulación Tembladera Individual Disclosure (229.1304)

Property description

Location

The mining concession is located in Yonan district, Contumaza province, Cajamarca region, Peru at longitude -79.123393° W and latitude -7.245671° S. It is located 60 kilometers from the cement plant.

The area of the mining concession is 3,390.97 Hectares. The mining rights are granted by INGEMMET (Instituto Geológico Minero y Metalúrgico) of the Energy and Mines Sector through a Presidential Resolution. Cementos Pacasmayo owns the mining concession and it is registered as “Acumulación Tembladera” as a non-metallic mining concession.

Our Pacasmayo cement plant and Acumulación Tembladera mining concession are shown in Figure 2 while the location of the Acumulación Tembladera is shown in the Figure 3. Our Pacasmayo cement plant is shown in Figure 4.

Figure 2 Pacasmayo cement plant and Acumulación Tembladera

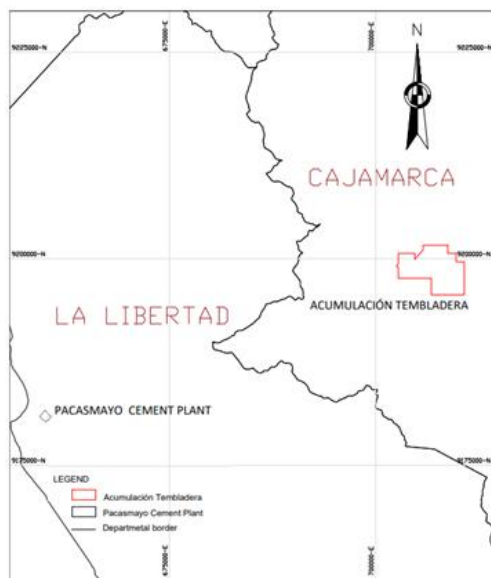


Figure 3 Acumulación Tembladera

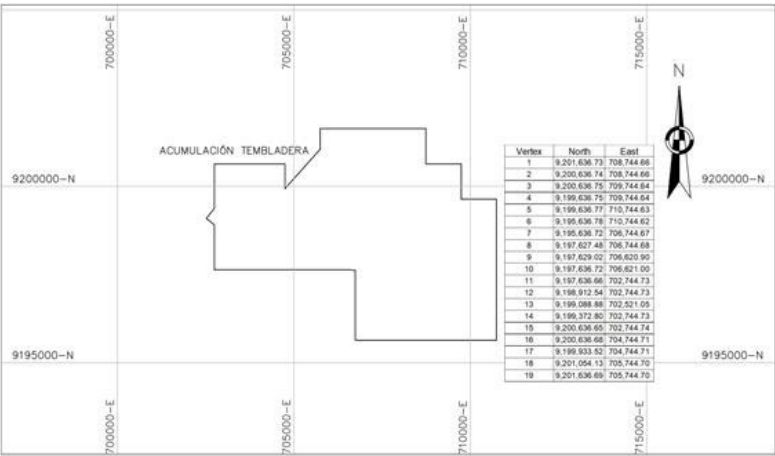
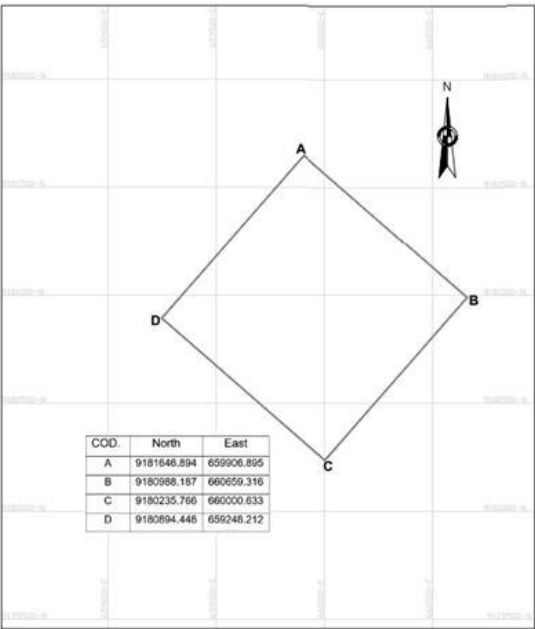


Figure 4 Pacasmayo cement plant



Infrastructure

The Tembladera quarry has the necessary infrastructure for normal operations. Facilities for electric power, water supply, fuels, accesses and roads have been installed.

Energy is supplied by Hidrandina S.A. Company, which obtains energy from the national grid. Energy distribution is overhead and at medium voltage of 2.3 kV. The quarry also has an electrical sub-station. The sub-station area is 1,062 m².

Water is obtained from the village canal, which flows near the quarry. The water is used for minor activities within the quarry, such as access and road watering, limestone watering in mining areas, post-blasting watering, watering of green areas, and consumption by restrooms.

A contractor manages the fuel system. The fuel storage and dispatch system has the necessary equipment to supply fuel to the mobile and fixed units within the quarry. Trained personnel and safety measures are in place to handle fuel safely.

The Tembladera quarry can be access by air from Lima to Trujillo (1 hour) and by land from Trujillo to Tembladera Quarry. The route is from Trujillo to Pacasmayo (112.6 kilometers), from Pacasmayo to Ciudad de Dios (14.3 kilometers) and from Ciudad de Dios to Tembladera (50 kilometers) and Tembladera - Security point (0.8 kilometers), for a total of 747.1 kilometers. The entire route is paved. Alternatively, the quarry can be accessed by air from Lima to Chiclayo, time average 1.15 hrs. of flight, and from Chiclayo to Ciudad de Dios (86.8 kilometers) and from Ciudad de Dios to Tembladera (50 km) and Tembladera – Security point (0.8 km). The entire route is paved.

The majority of the Tembladera quarry's personnel comes from the town of Tembladera, adjacent to the quarry. There are also personnel from Cajamarca and La Libertad region.

Personnel are transported from the town of Tembladera to the quarry in buses and pickup trucks.

Mining Concession Ownership and Area

The Acumulación Tembladera concession was granted by Resolution No. 01989-2002-INACC/J of the National Institute of Concessions and Cadastre (*Instituto Nacional de Concesiones y Catastro*).

The procedure to obtain a mining concession is established in the General Mining Law (Supreme Decree 014-92-EM) and its Regulation Legislative Decree 020-2020-EM.

Cementos Pacasmayo has the surface rights of the operation area in the Tembladera quarry.

Cementos Pacasmayo pays the concession fee for the Acumulación Tembladera concession with unique code 010001801L. These payments must be made from the first working day of January to June 30 of each year, providing the financial entities the unique code of its mining right. The Acumulación Tembladera concession payment is equivalent to US\$3.00 per hectare.

Royalties

Law No. 28258 approved the Peruvian Mining Royalty Law on June 24, 2004, which was amended by Law No. 29788 of September 28, 2011. Cementos Pacasmayo currently pays the Mining Royalty (see note 29 to our annual audited consolidated financial statements included in this annual report).

The payment to the Peruvian government is made through the National Superintendence of Tax Administration (SUNAT), which is the entity designated to control this consideration for the use of natural resources, such payment is made through an application that the tax authority has made available to those required to pay.

In case the mining royalty is not declared or paid, penalties for infractions and default interest for non-compliance are incurred. However, failure to pay these fines is not a cause for the loss of the mining concession.

Set forth below is additional information relevant to the particular property.

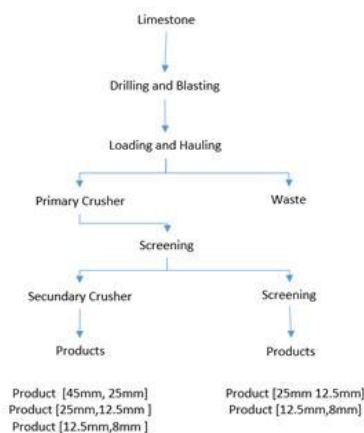
Mining activities on the property

Tembladera Quarry

The Tembladera quarry, within the Acumulación Tembladera mining concession, is currently in production stage. The Tembladera quarry is an open-pit mine that uses explosives to fragment the limestone rock. After crushing, the material is loaded onto trucks to be transported from the quarry to the cement plant located in Pacasmayo.

The Figure 5 shows the block diagram of mining process of the Tembladera quarry. Further details of the process are provided in Exhibit 96.1 to this annual report.

Figure 5 Diagram of mining process of the Tembladera quarry



Pacasmayo cement plant

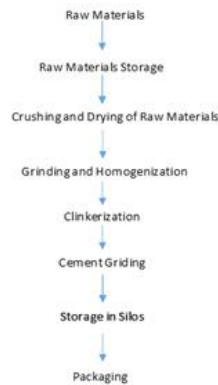
Our Pacasmayo plant is located at Pacasmayo District, Pacasmayo Province, La Libertad Region. This plant is 67.3 kilometers from the Tembladera quarry and receives material from the Tembladera quarry. Our Pacasmayo plant produces various products for the construction industry, the main product being cement. Different types of cement are produced depending on their applications, using limestone, sand, iron and clays as raw materials. The specific mix of raw materials produces the clinker necessary for the production of cement.

The standard cement production process consists of the following main stages:

- Extraction and transportation of limestone;
- Raw material storage;
- Grinding and homogenization to make the raw material of consistent quality;
- Clinkerization;
- Cement grinding;
- Storage in silos; and
- Packaging, loading and distribution.

The Figure 6 shows the block diagram for raw material processing, clinker and cement production. Further details of the process are provided in Exhibit 96.1 to this annual report.

Figure 6 Pacasmayo plant process block diagram



Tembladera Quarry

The Tembladera quarry has been operating for 64 years. The material extracted from the quarry is used to supply our Pacasmayo plant. The amount of limestone to be mined is planned annually through the mining plan.

The equipment in operation at the Tembladera quarry are in optimum condition to maintain continuity of operations. Maintenance and optimization of the equipment is carried out periodically and is supervised by the operator of the quarry. The equipment is in good condition and operational. Further details of the equipment are provided in Exhibit 96.1 to this annual report.

Facilities

The Tembladera quarry has facilities such as offices, blasting explosives warehouse, electrical substation, maintenance shop, lubricant warehouse, gas station, oil tank, guardhouse, limestone field, dining room, laboratory, truck scale, ore belt, loading tunnel, meteorological station, safety trench and septic tank.

Pacasmayo Plant

Our Pacasmayo plant has been in operation for 64 years, and uses the limestone extracted from the Tembladera quarry in the manufacture of cement and quicklime.

The equipment in operation at our Pacasmayo plant is in optimal condition to avoid any interruption in cement production. Maintenance and optimization of the equipment is carried out periodically and is supervised by our personnel. The equipment is in good condition and operational. Further details of the equipment are provided in Exhibit 96.1 to this annual report.

Facilities

Our Pacasmayo plant has facilities such as maintenance workshops, warehouses, laboratories, administrative offices, and cement production lines that support cement production.

The total cost of the mining concession, mine development costs, land, buildings and other facilities, machinery and equipment, furniture and fixtures, transportation units, computer equipment and tools, quarry rehabilitation costs, capitalized interest and work in progress amounts to S/660,798,834 as of December 31, 2021.

History

By means of Resolution No. 01989-2002-INACC/J dated November 4, 2002, the National Institute of Mining Cadastre and Concessions granted Cementos Pacasmayo, the non-metallic concession title called “Acumulación Tembladera” with code No. 01-00018-01-L. The property dates back to the date of its oldest integral concession: “Norte No. 1” granted by the Regional Mining Office of Cajamarca by Ministerial Resolution No. 267 of June 30, 1950, in benefit of Cementos Portland del Norte S.A., starting operations as Cementos Pacasmayo, from 1957 until 2013 when Calizas del Norte S.A.C. (CALNOR) was incorporated. CALNOR started activities from January 2014 until May 2016. San Martin Contratistas Generales S.A. started activities from October 2016 to the present.

Property Encumbrances

Cementos Pacasmayo does not make any payments with respect to encumbrances for the Acumulación Tembladera property. The Acumulación Tembladera mining concession currently has no outstanding payments with respect to infractions and penalties.

Concessions

The Acumulación Tembladera mining concession is a production stage property with estimated mineral reserves.

Geology

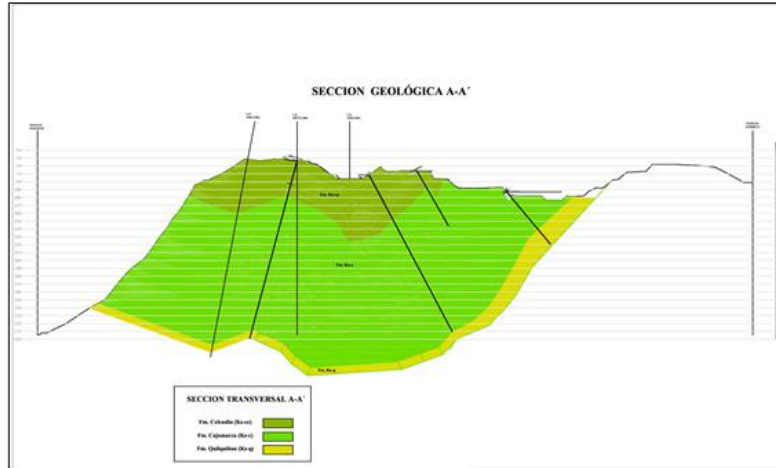
The ore deposit contains limestone rock with a grade suitable for cement production. The limestone is contained within the so-called Cajamarca Formation, belonging to the Upper Cretaceous (Turonian floor, around 90 MA). This Formation overlies the Quilquiñan Group, and intrajacent to the Celendín Formation.

Table 5 shows the stratigraphic column of the area of the Tembladera quarry and Figure 7 shows the Geological section of the Tembladera quarry. Sedimentary rocks corresponding to the Cajamarca Formation and the Upper Cretaceous Celendín Formation outcrop in the project area as described below.

Table 5 Stratigraphic Column of the Tembladera quarry

System	Series	Stratigraphic Unit		Intrusive rocks		Lithologic Description
Quaternary	Recent	Fluvial Deposit	Qr-fl	Andesite	T-an	Fluvial origin
		Alluvial Deposit	Qr-al			Alluvial origin
Tertiary	Lower					Intrusion of andesitic dykes longitudinally into the deposit rock mass.
Cretaceous	Upper	Celendin Formation	Ks-ce			Thin layers of clayey nodular limestone, interbedded with marls and lutites.
		Cajamarca Formation	Ks-c			Limestone of marine origin of whitish to light gray color.
		Quilquiñan Group	Ks-q			Lutites and marls with some calcareous intercalations.

Figure 7 Geological section of Tembladera quarry



Resources and Reserves

Table 6 shows the mineral resources categories and quality.

Table 6 Mineral Resources (exclusive of reserves) at the end of the fiscal year

	Resources					Cut-off grades (% CaO)	Metallurgical recovery
	Amount (Million Tonnes)	Grades/ qualities (% CaO)	Grades/ qualities (% SO ₃)	Grades/ qualities (% MgO)	Grades/ qualities (% Al ₂ O ₃)		
Measured mineral resources	128.29	49.31	0.31	1.81	1.84	48.6	(1)
Indicated mineral resources	37.64	50.23	0.19	1.70	1.47	48.6	(1)
Measured + Indicated mineral resources	165.93	49.52	0.28	1.79	1.76	48.6	(1)
Inferred mineral resources	74.24	50.34	1.45	0.31	1.63	48.6	(1)

Note: No Ore loss or dilution has been included. All Resources are estimated as quantities at cement plant.

(1) Limestone is used for clinker production and cement production; 100% of the limestone received at the plant is used. Limestone represents 78.54% of the raw material for clinker production.

The Mineral resources estimation considered the expected price of cement, the complete forecast horizon contemplates perpetuity is included at the end of the 30 years of projection. Clinker is used for cement production through the addition of other non-metallic minerals.

Table 7 shows the Reserves categories and quality.

Table 7 Mineral Reserves at the end of the 2021 fiscal year

	Amount (Million Tonnes)	Grades/ qualities (% CaO)	Grades/ qualities (% SO ₃)	Grades/ qualities (% MgO)	Grades/ qualities (% Al ₂ O ₃)	Cut-off grades (% CaO)
Proven mineral reserves	66.52	49.75	0.36	1.53	1.53	48.6
Probable mineral reserves	10.47	49.64	0.28	1.53	1.56	48.6
Total mineral reserves	76.99	49.74	0.35	1.53	1.53	48.6

Note: All Reserves are estimated as quantities at cement plant.

The Mineral Reserves estimation considered the expected price of cement, the complete forecast horizon contemplates a total of 30 years of projection. Clinker is used for cement production through the addition of other non-metallic minerals.

The chapter on Regulatory Matters and Mining Regulations describes the royalties associated with the Tembladera quarry's payment.

Reconciliation of Resources and Reserves at the End of the Fiscal Year

Table 8 Resources for the last two fiscal years expressed in millions of tonnes.

	Resources as at Dec. 31, 2021	Resources as at Dec. 31, 2020	Discrepancy
Measured resources	128.29	Not applicable.	
Indicated resources	37.64	Not applicable.	
Measured + Indicated resources	165.93	Not applicable.	Not applicable.
Inferred resources	74.24	Not applicable.	

* The prices assumed for the Mineral resources estimation in the economic model can be found in the Cementos Pacasmayo S.A.A. Technical Report Summary (TRS) Tembladera Quarry and Pacasmayo Cement Plant set forth in Exhibit 96.1 to this annual report. All Resources are estimated at cement plant. The average price is S/498.1 per ton of cement at nominal values, perpetuity is included at the end of the 30-year projection.

Table 9 Reserves for the last two fiscal years expressed in millions of tons.

	Reserves as at Dec. 31, 2021	Reserves as at Dec. 31, 2020	Discrepancy
Proven reserves	66.52	13.5	
Probable reserves	10.47	138.1	Probable reserves were recategorized as proved reserves. The 2021 reserve estimate considered only 30 years as LOM due to economic issues of price and cost projections.

* The prices assumed for the Mineral Reserves estimation in the economic model can be found in the Cementos Pacasmayo S.A.A. Technical Report Summary (TRS) Tembladera Quarry and Pacasmayo plant set forth in Exhibit 96.1 to this annual report. All Reserves are estimated at cement plant. The average price is S/498.1 per ton of cement, average of the 30-year projection, at nominal values.

Further details are provided in Exhibit 96.1 to this annual report.

Exploration

In 2021, Cementos Pacasmayo did not conduct any exploration activity at the Tembladera quarry.

Activities in Acquired Properties

Not applicable.

Virrila Individual Disclosure (229.1304)

Property description

Location

The mining concessions are located in the Sechura District, Sechura Province, Piura Region, Peru at longitude -80.766994° W and latitude -5.922731° S. The properties registered in INGEMET are Virrila 3, Virrila 4, Virrila 6, Virrila 7, Virrila 8, Virrila 9, Virrila 10, Virrila 11, Virrila 12, Virrila 13, Virrila 14, Virrila 15, Virrila 16, Virrila 17, Virrila 18, Virrila 19, Virrila 20, Virrila 21, Virrila 22, Virrila 23 and Bayovar N° 4 with mining activity.

The area of the mining concession is 38,226.00 Hectares. The mining rights are granted by INGEMMET (*Instituto Geológico Minero y Metalúrgico*) of the Energy and Mines Sector through a Presidential Resolution.

Cementos Pacasmayo owns the mining concession and it is registered as “Unidad Económica Administrativa (UEA) Virrila” as a non-metallic mining concession.

Cementos Pacasmayo currently has an agreement with the Fundación Comunal San Martín de Sechura for the use of the surface land associated with the production area of the Virrila quarry.

Piura Cement Plant and UEA Virrila are shown in Figure 8 while the location of the UEA Virrila property is shown in the Figure 9.

Figure 8 Piura cement plant and UEA Virrila

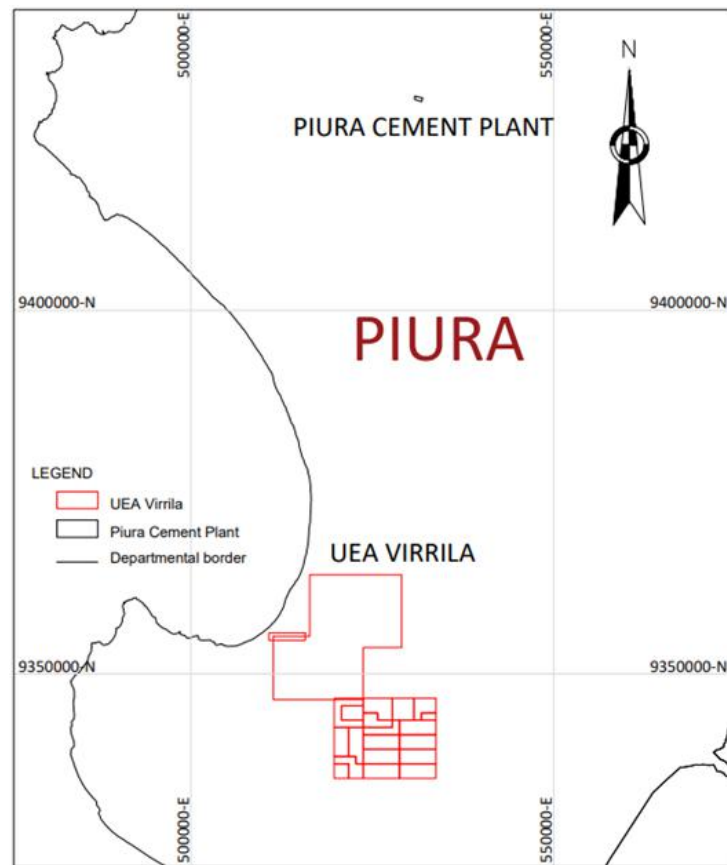
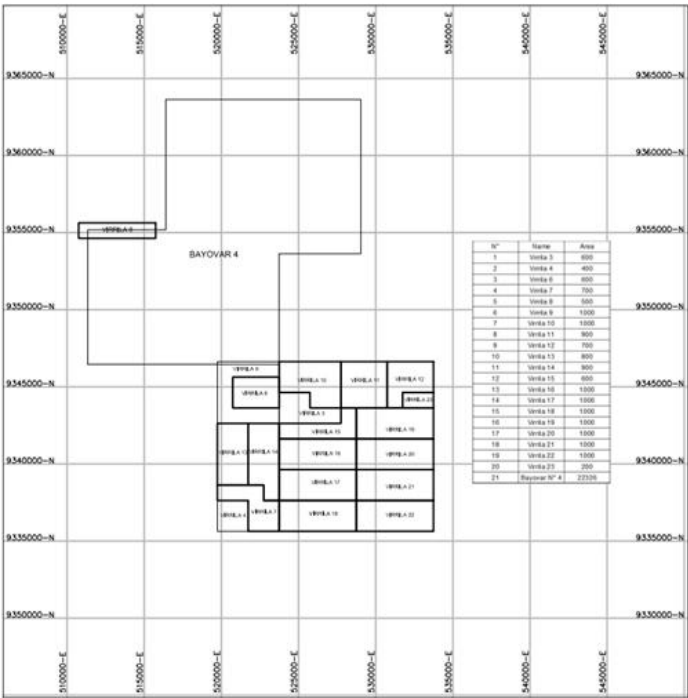
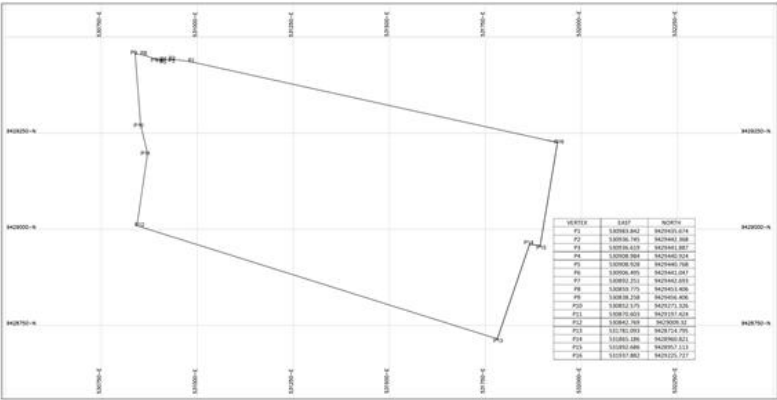


Figure 9 UEA Virrila property



Piura Cement Plant is shown in Figure 10.

Figure 10 Piura cement plant



Infrastructure

The Virrila quarry has the necessary infrastructure for normal operations. Facilities for electric power, water supply, fuels, accesses and roads have been installed.

Virrila quarry is supplied with fuel by diesel oil tanker trucks. Fuel distribution is the responsibility of an authorized contractor company, which will have the permits and records required for this type of facility and activity.

The Virrila quarry is supplied with energy by electric generators.

The Virrila quarry can be access by paved road from the Piura city, along the north Panamerican highway, to the Bayovar intersection and then to the Virrila quarry, the estimated time is 2 hours.

The majority of the Virrila quarry's personnel comes from the town of Sechura, near to the quarry. There are also personnel from Piura.

Personnel are transported from Sechura to the quarry in buses and pickup trucks. The contractor is responsible for the logistics of the personnel operating in the quarry.

Mining Concession Ownership and Area

On March 31, 2016, The Virrila concession was granted by Presidential Resolution No. 0147-2016-INGEMMET/PCD/PM and includes nine (9) non-metallic mining rights in the "Unidad Económica Administrativa" (UEA) Virrila, with code No. 01-00011-00-U.

The "Unidad Económica Administrativa" (UEA) Virrila, with code No. 01-00011-00-U of Cementos Pacasmayo S.A.A. which grouped twelve (12) non-metallic mining rights according to Presidential Resolution N° 2869-2015-INGEMMET/PCD/PM dated September 30, 2015 now has a total of 21 mining concessions.

Royalties

Law No. 28258 approved the Peruvian Mining Royalty Law on June 24, 2004, which was amended by Law No. 29788 of September 28, 2011. Cementos Pacasmayo currently pays the Mining Royalty (see note 29 to our annual audited consolidated financial statements included in this annual report).

The payment to the Peruvian government is made through the National Superintendence of Tax Administration (SUNAT), which is the entity designated to control this consideration for the use of natural resources, such payment is made through an application that the tax authority has made available to those required to pay.

In case the mining royalty is not declared or paid, penalties for infractions and default interest for non-compliance are incurred. However, failure to pay these fines is not a cause for the loss of the mining concession.

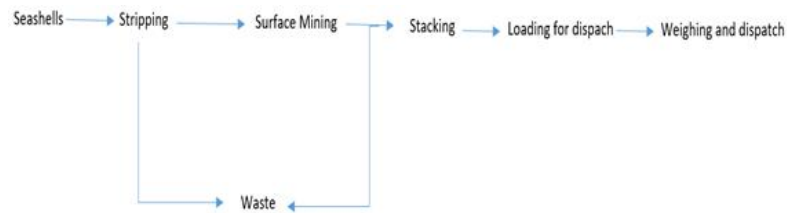
Set forth below is additional information relevant to the particular property.

Mining Activities on the Property

The Virrila quarry located in the Virrila EAU is currently in production stage. This is an open-pit mine where surface miners are used to fragment the seashells, which is loaded onto trucks by front-end loaders and transported to the cement plant located in Piura which is 120 kilometers from UEA Virrila.

The Figure 11 shows the block diagram of mining process of the Virrila quarry. Further details of the process are provided in Exhibit 96.2 to this annual report.

Figure 11 Diagram of mining process of the Virrila quarry



Piura Plant

The cement plant is located at Veintiséis de Octubre District, Piura Province and Piura Region. This facility receives material from the Virrila quarry. The cement plant produces various products for the construction industry, the main product being cement. Different types of cement are produced depending on their applications, and using seashells, sand, iron and clays are used as raw materials. The specific mix of raw materials produces the clinker necessary for the production of cement.

The standard cement production process consists of the following main stages:

- Extraction and transportation of seashells;
- Raw material storage;
- Grinding and homogenization to make the raw material of consistent quality;
- Clinkerization;
- Cement grinding;
- Storage in silos; and
- Packaging, loading and distribution.

The Figure 12 shows the block diagram for raw material processing, clinker and cement production. Further details of the process are provided in Exhibit 96.2 to this annual report on Form 20-F.

Figure 12 Piura plant process block diagram



Virrila Quarry

The Virrila quarry has been operating for 6 years. The material extracted from the quarry is used to supply the Piura plant. The amount of seashells to be mined is planned annually through the mining plan.

The equipment in operation at the Virrila quarry are in optimum condition to maintain continuity of operations. Maintenance and optimization of the equipment is carried out periodically and is supervised by the operator of the quarry. The equipment is in good condition and operational. Further details of the equipment are provided in Exhibit 96.2 to this annual report.

Facilities

The Virrila quarry has facilities such as offices, dining room, infirmary, vehicle parking lots, lubricant warehouse, chemical baths, maintenance shop, sample preparation laboratory, industrial water tank, truck scale, hopper for weighing, wastewater treatment pond, and satellite and radio antenna.

Piura Plant

The equipment in operation at the Piura plant is in optimal condition to avoid any interruption in cement production. Maintenance and optimization of the equipment is carried out periodically and is supervised by Cementos Pacasmayo's personnel. The equipment is in good condition and operational. Further details of the equipment are provided in Exhibit 96.2 to this annual report.

Facilities

The Piura Plant has facilities such as maintenance workshops, warehouses, laboratories, administrative offices, and cement production lines that support cement production.

The total cost of the mining concession, mine development costs, land, buildings and other facilities, machinery and equipment, furniture and fixtures, transportation units, computer equipment and tools, quarry rehabilitation costs, capitalized interest and work in progress amounts to S/935,232,565 as of December 31, 2021.

History

The quarry is a non-metallic deposit of seashells material, source of different types of cements for construction; Cementos Pacasmayo owns the deposit.

The Virrila quarry started operations in 2015. The mining contractor San Martin Contratistas Generales S.A. was in charge of the exploitation from the beginning of operations until March 14, 2020. The mining contractor Posada Perú SAC started operations at the Virrila quarry on September 14, 2020 until today.

Property Encumbrances

Cementos Pacasmayo does not make any payments with respect to encumbrances for the UEA Virrila concessions. The UEA Virrila concessions currently has no outstanding payments with respect to infractions and penalties.

Concessions

The UEA Virrila is a production stage property with estimated mineral reserves.

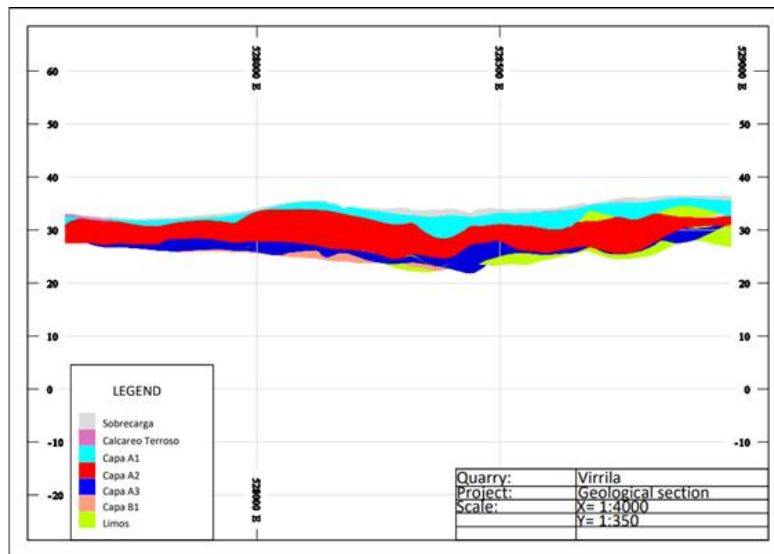
Geology

The lithostratigraphy of the area consists of Cenozoic sedimentary units, locally formed by Tertiary units and covered by Quaternary deposits; the Tablazo Lobitos and Quaternary deposits of ancient alluvial, lacustrine and Aeolian origin form these units. Table 10 shows the stratigraphic column of the area of the Virrila quarry and Figure 13 shows the Geological section of the Virrila quarry.

Table 10 Stratigraphic Column of the Virrila quarry

Era	System	Symbol	Serie	Stratigraphic Unit
Cenozoic	Quaternary	Qh-e	Holocene	Eolic deposits
	Tertiary	Qp-tt	Pleistocene	Tablazo Talara
		Tm-zi	Miocene	Lower Zapallal Formation

Figure 13 Geological section of the Virrila quarry



Resources and Reserves

Table 11 shows the mineral resources categories and quality.

Table 11 Mineral Resources (exclusive of reserves) at the end of the fiscal year

	Resources				Cut-off grades (% CaO)	Metallurgical recovery
	Amount (Million Tonnes)	Grades/ qualities (% CaO)	Grades/ qualities (% SO ₃)	Grades/ qualities (% MgO)		
Measured mineral resources	21.1	48.50	0.84	0.84	48.5	(1)
Indicated mineral resources	29.2	48.78	0.87	1.23	48.5	(1)
Measured + Indicated mineral resources	50.3	48.66	0.86	1.07	48.5	(1)
Inferred mineral resources	3.9	46.42	2.27	1.67	43.6 – 48.5	(1)

Note: No Ore loss or dilution has been included. All Resources are estimated as quantities at cement plant.

(1) Seashell is used for clinker production and cement production; 100% of the limestone received at the plant is used. Limestone represents 79% of the raw material for clinker production.

The Mineral resource estimation considered the expected price of cement, the complete forecast horizon contemplates a total of 35 years of projection. Clinker is used for cement production through the addition of other non-metallic minerals.

Table 12 Mineral Reserves at the end of the 2021 fiscal year

	Amount (Million Tonnes)	Grades/ qualities (% CaO)	Grades/ qualities (% SO ₃)	Grades/ qualities (% MgO)	Cut-off grades (% CaO)
Proven mineral reserves	42.4	49.99	0.55	0.56	48.5
Probable mineral reserves	2.9	47.77	0.96	1.08	48.5
Total mineral reserves	45.3	49.85	0.58	0.74	48.5

Note: All Reserves are estimated as quantities at cement plant.

The Mineral reserves estimation considered the expected price of cement, the complete forecast horizon contemplates a total of 30 years of projection. Clinker is used for cement production through the addition of other non-metallic minerals.

The chapter on Regulatory Matters and Mining Regulations describes the royalties associated with the Virrila quarry's payment.

Reconciliation of Resources and Reserves at fiscal year-end

Table 13 Resources for the last two fiscal years expressed in millions of tonnes.

	Resources as at Dec. 31, 2021	Resources as at Dec. 31, 2020	Discrepancy
Measured resources	21.1	7.3	The estimate of Reserves disclosed in 2020 considered more than 30 years as LOM. Mineral Reserves disclosed in 2020 after 30 years are considered Mineral Resources for fiscal 2021 due to economic cost and price considerations. Additionally, an update of the geological deposit was performed.
Indicated resources	29.2	6.6	
Measured + Indicated resources	50.3	13.9	
Inferred resources	3.9	0	The new estimation resource is due to the update of the geological model.

* The prices assumed for the Mineral Resources estimation in the economic model can be found in the Cementos Pacasmayo S.A.A. Technical Report Summary (TRS) Virrila Quarry and Piura Cement plant set forth in Exhibit 96.2 to this annual report. All Resources are estimated at cement plant. The average price is S/595.7 per ton of cement, average of the 35-year projection, at nominal values.

Table 14 Reserves for the last two fiscal years expressed in millions of tons.

	Reserves as at Dec. 31, 2021	Reserves as at Dec. 31, 2020	Discrepancy
Proven reserves	42.4	0.7	Probable reserves were recategorized as proved reserves due to increased certainty due to production activities. The 2021 reserve estimate considered only 30 years as LOM due to economic issues of price and cost projections.
Probable reserves	2.9	86.5	

* The prices assumed for the Mineral Reserves estimation in the economic model can be found in the Cementos Pacasmayo S.A.A. Technical Report Summary (TRS) Virrila Quarry and Piura Cement Plant set forth in Exhibit 96.2 to this annual report. All Reserves are estimated at cement plant. The average price is S/552.9 per ton of cement, average of the 30-year projection, at nominal values.

Further details are provided in Exhibit 96.2 to this annual report.

Other Activities

Cementos Pacasmayo has carried out drilling works in the Virrila quarry in order to confirm the mineral reserves. This activity will improve the accuracy of mineral reserves estimation. Diamond drilling was carried out and a specialized company was contracted to carry out the work. Drilling data is currently being reviewed for inclusion in the 2022 Reserves model.

Activities in Acquired Properties

Not applicable.

Property description

Location

The mining concession is located in Elias Soplin Vargas district, Rioja province, San Martin region, Peru at longitude -77.284376° W and latitude -5.999057° S. It is located 5 kilometers from the cement plant.

The area of the mining concession is 400 Hectares. The mining rights are granted by INGEMMET (Instituto Geológico Minero y Metalúrgico) of the Energy and Mines Sector through a Presidential Resolution.

Cementos Selva S.A.C owns the mining concession and it is registered as “Calizas Tioyacu” a non-metallic mining property.

Rioja cement plant and Calizas Tioyacu quarry are shown in Figure 14 while the location of the Calizas Tioyacu is shown in the Figure 15.

Figure 14 Rioja plant and Calizas Tioyacu

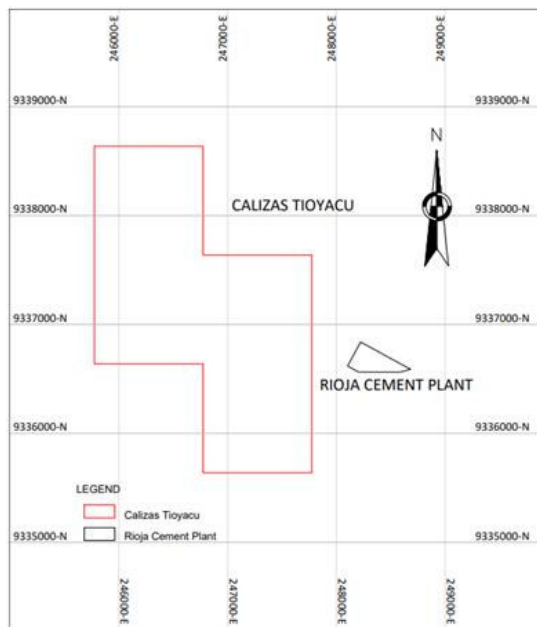
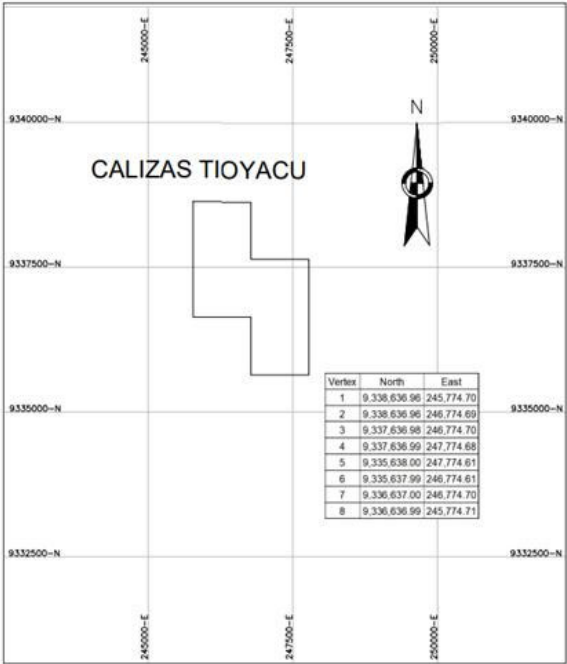
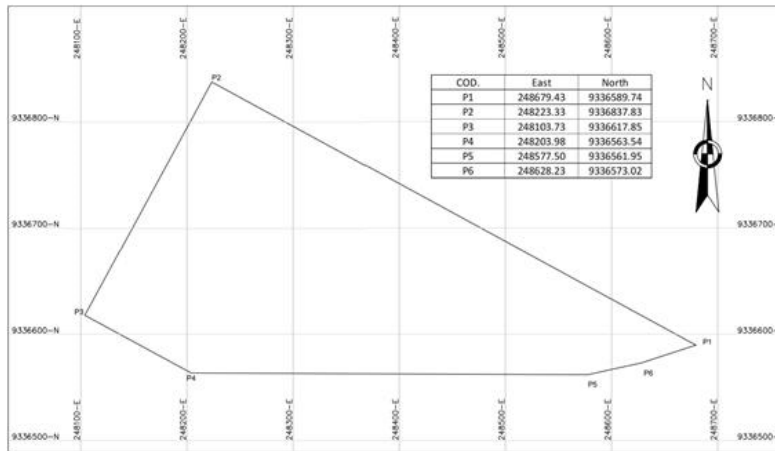


Figure 15 Calizas Tioyacu property



Rioja cement plant is shown in Figure 16.

Figure 16 Rioja cement plant



Infrastructure

The Tioyacu quarry has the necessary infrastructure for normal operations. Facilities for electric power, water supply, fuels, accesses and roads have been installed.

The Rioja plant owned by Cementos Selva S.A. currently has adequate infrastructure (such as workshops, service stations, restrooms, and others).

The Tioyacu quarry can be access from the coast is exclusively by air from Lima to Tarapoto, time average 1.10 hours by air, and from Tarapoto to Rioja (139 kilometers) and from Rioja to the Cementos Selva S.A. plant (15 kilometers). Another alternative to access the quarry is by road from Lima to Rioja and the distance is 1,107 kilometers and the road is paved.

The majority of the Tioyacu quarry's personnel come from Elias Soplin Vargas district. There are also personnel from Rioja and Nueva Cajamarca.

Mining Concessions Ownership and Area

Calizas Tioyacu concession was granted by Resolution 0960-96-RPM of the Public Mining Registry.

The procedure to obtain a mining concession is contemplated in the General Mining Law (Supreme Decree 014-92-EM) and its Regulation Legislative Decree 020-2020-EM.

Tioyacu quarry has an Usufruct and Easement Agreement for the use and easement of the surface where mining activities are carried out. The agreement was signed with Corporación de Desarrollo de San Martín (COREDESAM).

Cementos Selva S.A. pays the concession fee for the Calizas Tioyacu concession with unique code 010912495. These payments must be made from the first working day of January to June 30 of each year, providing the financial entities the unique code of its mining right. In the case of the Calizas Tioyacu concession, the payment is equivalent to US\$3.00 per hectare.

Royalties

The Peruvian Mining Royalty Law was approved on June 24, 2004 by Law No. 28258, which was amended by Law No. 29788 of September 28, 2011. Cementos Selva currently pays the Mining Royalty (see note 29 to our annual audited consolidated financial statements included in this annual report).

The payment to the Peruvian government is made through the National Superintendence of Tax Administration (SUNAT), which is the entity designated to control this consideration for the use of natural resources, such payment is made through an application that the tax authority has made available to those required to pay.

In case the mining royalty is not declared or paid, fines for infractions and late payment interest for non-compliance are incurred. However, failure to pay these fines is not a cause for the loss of the mining concession.

Set forth below is additional information relevant to the particular property.

Mining Activities on the Property

Tioyacu Quarry

The Tioyacu quarry, located within the Calizas Tioyacu mining concession, is currently in production stage. The Tioyacu quarry is an open-pit mine and uses explosives to fragment the limestone rock, which is then loaded onto trucks by front-end loaders and transported to the Rioja plant.

The Figure 17 shows the block diagram of mining process of the Tioyacu quarry. Further details of the process are provided in Exhibit 96.3 to this annual report.

Figure 17 Diagram of mining process of the Tioyacu quarry



Rioja Plant

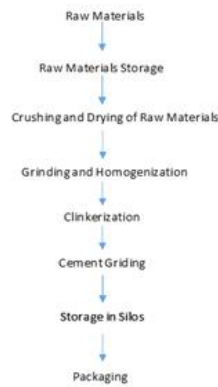
The cement plant is located in the district of Elías Soplin Vargas, Rioja province, San Martín region, 5 kilometers from the quarry. This facility receives material from the Tioyacu quarry. The cement plant produces various products for the construction industry, the main product being cement. Different types of cement are produced depending on their applications, using limestone, sand, iron and clays as raw materials. The specific mix of raw materials produces the clinker necessary for the production of cement.

The standard cement production process consists of the following main stages:

- Extraction and transportation of limestone;
- Raw material storage;
- Crushing and Drying of Raw Materials
- Grinding and homogenization to make the raw material of consistent quality;
- Clinkerization;
- Cement grinding;
- Storage in silos; and
- Packaging, loading and distribution.

The Figure 18 shows the block diagram for raw material processing, clinker and cement production. Further details of the process are provided in Exhibit 96.3 to this annual report.

Figure 18 Rioja plant process block diagram



Tioyacu Quarry

The Tioyacu quarry has been operating for 21 years for Cementos Selva. The material extracted from the quarry is used to supply the Rioja Cement Plant, which has also been in operation for 21 years. The amount of limestone to be mined is planned annually through the mining plan.

The equipment in operation at the Tioyacu quarry are in optimum condition to maintain continuity of operations. Maintenance and optimization of the equipment is carried out periodically and is supervised by the operator of the quarry. The equipment is in good condition and operational. Further details of the equipment are provided in Exhibit 96.3 to this annual report.

Facilities

The Tioyacu quarry does not have maintenance and administrative facilities because the Cementos Selva plant is adjacent to the quarry and provides the necessary facilities for quarry operations.

Rioja Plant

The equipment in operation at the Rioja plant is in optimal condition to avoid any interruption in cement production. Maintenance and optimization of the equipment is carried out periodically and is supervised by Cementos Selva personnel. The equipment is in good condition and operational. Further details of the equipment are provided in Exhibit 96.3 to this annual report.

Facilities

The Rioja plant has facilities such as maintenance workshops, warehouses, laboratories, administrative offices, and cement production lines that support cement production.

The total cost of the mining concession, mine development costs, land, buildings and other constructions, machinery and equipment, furniture and fixtures, transportation units, computer equipment and tools, quarry rehabilitation costs, capitalized interest and work in progress amounts to S/147,755,008 as of December 31, 2021.

History

The Tioyacu quarry began operations as Cementos Rioja S.A. in 2000, as the successful bidder of the Public Auction of February 6, 1998, of the “Cement Plant with Vertical Kiln of Rioja” promoted by CEPRI. By public deed of March 28, 1998, the Regional Government of San Martin transferred the quarry to Cementos Rioja S.A.

The aforementioned bid included the transfer in favor of Cementos Rioja S.A. by Empresa Minera del Perú, by public deed dated April 8, 1998, of the non-metallic mining concession “Calizas Tioyacu,” among others, for the development of the quarry.

Property Encumbrances

Cementos Selva S.A. does not make any payments with respect to encumbrances for the Tioyacu quarry. Tioyacu quarry currently has no outstanding payments with respect to infractions and penalties.

Concessions

The Calizas Tioyacu is a production stage property with estimated mineral reserves.

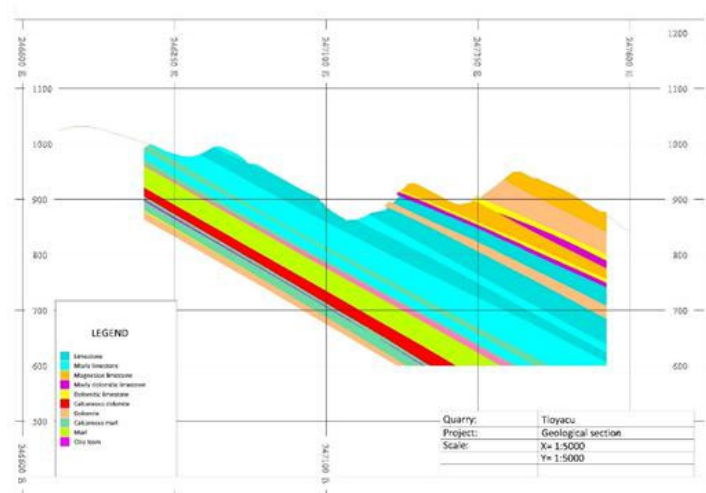
Geology

The ore deposit contains limestone rock with a grade suitable for cement production. The limestone is contained within the so-called Condorsinga Formation. This Formation is part of the Pucará Group. Figure 19 shows the stratigraphic column of the area of the Tioyacu quarry and Figure 20 shows the Geological section of the Tioyacu quarry.

Figure 19 Stratigraphic Column of the Tioyacu quarry

Stratigraphic Column of the Tioyacu Quarry					
AGES	FORMATION	STRATIGRAPHIC COLUMN	NOMENCLATURE	LITHOLOGIC DESCRIPTION	AVERAGE POTENCY (m)
QUATERNARY	ALLUVIAL DEPOSIT		TOP SOIL	GRAVELLY-SANDY CLAY, LIGHT TO DARK BROWN, FINE-GRAINED, OF NEGLIGIBLE THICKNESS	0.20 A 2
MESOZOIC	LOWER JURASSIC	PUCARÉ GROUP - CONDORSINGA FORMATION			
			MAGNESIAN LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN.	25
			DOLOMITE	LEAD COLOR WITH WHITISH SHADES, FINE TO COARSE GRAIN.	30
			DOLOMITIC LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN	8
			DOLOMITIC LIMESTONE MARLSTONE	LIGHT GRAY COLOR, FINE GRAIN	9
			MAGNESIAN LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN	22
			DOLOMITIC LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN	6
			DOLOMITIC LIMESTONE MARLSTONE	LIGHT GRAY COLOR, FINE GRAIN	6
			LIMESTONE	LEAD COLOR WITH WHITISH SHADES, FINE TO COARSE GRAIN.	15
			DOLOMITE	LEAD COLOR WITH WHITISH SHADES, FINE TO COARSE GRAIN.	18
			LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN.	24
			MARLY LIMESTONE	LIGHT GRAY COLOR WITH DARK SHADES, FINE GRAIN.	16
			LIMESTONE	LIGHT GRAY COLOR.	35
			MARLY LIMESTONE	LIGHT GRAY COLOR WITH DARK SHADES, FINE GRAIN.	34

Figure 20 Geological section of the Tioyacu quarry



Resources and Reserves

Table 15 Limestone Resources at the end of the fiscal year

	Resources				Cut-off grades (%CaO)	Metallurgical recovery Amount
	Amount (Million Ton)	Grades/ qualities (% CaO)	Grades/ qualities (% SiO ₂)	Grades/ qualities (% K ₂ O)		
Measured mineral resources	0	0	0	0	49.0	(1)
Indicated mineral resources	0	0	0	0	49.0	(1)
Measured + Indicated mineral resources	0	0	0	0	49.0	(1)
Inferred mineral resources	19.2	45.61	2.52	0.14	40.0 – 49.0	(1)

Note: No Ore loss or dilution has been included. All Resources are estimated as quantities at cement plant

(1) Limestone is used for clinker production and cement production; 100% of the limestone received at the plant is used. Limestone represents 73.1% of the raw material for clinker production.

Table 16 Limestone Reserves at the end of the 2021 fiscal year

	Amount	Grades/ qualities (% CaO)	Grades/ qualities (% SiO ₂)	Grades/ qualities (% K ₂ O)	Cut-off grades (%CaO)
Proven mineral reserves	6.5	50.30	5.46	0.21	49.0
Probable mineral reserves	4.8	47.29	5.95	0.19	49.0
Total mineral reserves	11.3	49.03	5.67	0.20	49.0

Note: All Reserves are estimated as quantities at cement plant

The calculation of the reserves estimate considered the expected price of cement, the complete forecast horizon contemplates a total of 27 years of projection. Clinker is used for cement production through the addition of other non-metallic minerals.

The chapter on Regulatory Matters and Mining Regulations describes the royalties associated with the Tioyacu quarry's payment.

Reconciliation of Resources and Reserves at the end of the fiscal year

Table 17 Resources for the two fiscal years expressed in millions of tons.

	Resources as at Dec. 31, 2021	Resources as at Dec. 31, 2020	Discrepancy
Inferred resources	19.2	19.2	-

* No economic analysis was performed for the Inferred Mineral Resources.

Table 18 Reserves for the last two fiscal years expressed in millions of tons.

	Reserves as at Dec. 31, 2021	Reserves as at Dec. 31, 2020	Discrepancy
Proven reserves	6.5	6.6	The main difference in the reduction of reserves due to consumption in operation
Probable reserves	4.8	5.1	The main difference in the reduction of reserves due to consumption in operation

* The prices assumed for the Mineral Reserves estimation in the economic model correspond can be found in the Cementos Selva S.A. Technical Report Summary (TRS) Tioyacu Quarry and Rioja Cement Plant 20-F set forth in Exhibit 96.3 to this annual report. All Reserves are estimated as quantities at cement plant. The average price is S/676.4 per ton of cement, average of the 27-year projection, at nominal values.

During 2021, Ore Reserves at the Tioyacu quarry have been reduced, due to the extraction of Ore Reserves as shown in the Tioyacu quarry/Rioja Cement Plant TRS report.

Further details are provided in Exhibit 96.3 of this annual report on Form 20-F.

Exploration

In 2021, Cementos Selva did not conduct any exploration activity at the Tioyacu quarry.

Activities in Acquired Properties

Not applicable.

Internal Control Disclosure (229.1305)

As part of its corporate policies and through its Vice-President of Operations, Cementos Pacasmayo has implemented the necessary controls and procedures for quality assurance (QA) and quality control (QC) of the company's production activities and associated information for the estimation of mineral resources and reserves. Cementos Pacasmayo has also implemented and certified ISO 9001 in its operations since 2015.

The QA and QC measures are applied to Exploration, Quarry Production and Cement Plant Processing activities. For laboratory analysis of exploration samples used in mineral resource and reserve estimates, Cementos Pacasmayo uses a program of duplicate samples, standards and blanks to evaluate the reliability of the laboratory results its qualified persons rely on for resource and reserve estimates. Its qualified persons also verify the data prior to using the data in their work.

From the operational point of view, Cementos Pacasmayo applies the quality control actions in each of its operations, which follow the quality plan, specific procedures for each stage of the process such as exploration activities, limestone production, reception of raw materials in the cement plant, crushing of raw materials, coal grinding, cement grinding and raw materials or products in the Cement Plants such as clinker, additions and cement.

Quality control procedures include sample security such as chain of custody in order to have reliable information.

Cementos Pacasmayo has a chemical analysis laboratory in each of its cement plants where procedures based on international standards are used for the chemical and physical analysis of raw materials, clinker, and additions; which are mainly used in limestone production and cement production. Methodologies including the insertion of blanks, duplicates, and standards are applied as part of the Quality Plan.

Cementos Pacasmayo has a data management department whose goal is to verify the quality of the information and its incorporation into the geological database, so that it can be used in studies and interpretations, geological modeling, and estimation of mineral resources and reserves.

Data verification activities apply to exploration, limestone/seashell production and cement processing data. For exploration and limestone production information, Datashed software is used as a tool for data analysis.

At the cement plant, the quality plan considers the PDCA (Plan, Do, Check, Act) cycle, which allows the quality of information to be verified during cement production activities.

As part of the quality control activities, Cementos Pacasmayo periodically hires a technical auditing company to verify the CPSAA's laboratory results obtained during the exploration activities, which are part of the geological database and consequently to be used in the estimation of Resources and Reserves.

Cementos Pacasmayo has implemented internal controls to ensure its mineral resource and reserves estimates are compliant with the disclosure requirements set forth in Regulation S-K, Item 1300, including ensuring that resource and reserve estimates are prepared by qualified persons who are members of the Peruvian Engineers Association, which is an organization that regulates the legal professional practice of engineers in Peru.

Insurance

We maintain a comprehensive insurance program that protects us from certain types of property and casualty losses. Our plants and equipment are insured against losses. Additionally, our insurance policy provides coverage for business interruption in our cement manufacturing facilities. We also purchase commercial insurance to cover risks associated with workers' compensation and other general liabilities. We believe our insurance programs and policy limits and deductibles are appropriate for the risks associated with our business and are in line with the insurance policies of similar cement manufactures that operate in Peru.

Sustainability Performance

We report our sustainability performance information to the GNR (Getting the Numbers Right) database, inspired by the guiding principles of the Cement Sustainability Initiative (CSI), a sector-project of the World Business Council for Sustainable Development (WBCSD) among other cement companies in Latin America through the Inter-American Cement Federation (FICEM).

In August 2018, we joined the Global Cement and Concrete Association (GCCA) and became members of the GCCA and the GCCA announced the formation of a strategic partnership with WBCSD to facilitate sustainable development of the cement and concrete sectors and their value chains. As part of a new agreement, the work carried out by the CSI and the GNR database was transfer from WBCSD to the GCCA on 1 January 2019.

In 2019, we became members of Innovandi Global Cement and Concrete Research Network which is GCCA's Innovation arm, which runs key programs to develop innovations to help the industry decarbonize and produce carbon neutral concrete by 2050.

In 2020, member companies of the Global Cement and Concrete Association came together as leaders in the sector to commit to producing carbon neutral concrete by 2050, in line with global climate targets – accelerating the CO₂ reductions that we have already achieved.

In 2021, we were included for the third consecutive year as part of the Dow Jones MILA Sustainability Index. This Index is made up of those companies that demonstrate superior performance among their peers under social, environmental and economic criteria. This achievement comes as a result of Pacasmayo's effort to improve in all of these criteria and to work towards ambitious goals in terms of long-term sustainability. We are committed not only to remain in the Index but to improve our performance, as we are convinced that the focus on sustainability is key to our business and our stakeholders.

In February 2022, we were selected to be part of The Sustainability Yearbook for the second consecutive year. To appear in the Yearbook, companies must score within the top 15% of their industry globally and have a gap of less than 30% from the leader's Global ESG score. 2021 was the first year that Peruvian companies were included as part of the Yearbook, and we are the only cement company that has been part of the Yearbook for two consecutive years. With around 7,000 companies evaluated around the world, an inclusion in the yearbook is a true statement of excellence in corporate sustainability.

In 2021, we participated in the Carbon Disclosure Project (CDP) for the first time, and we are committed to participate every year.

Social Performance

We are committed to the development and quality of life of communities that surround the area where we operate. We have developed a good relationship with the local communities surrounding our plant facilities since we started operations in Pacasmayo. We have a number of social responsibility programs aimed at improving health and education in the area. Below is a brief description of a few of our social initiatives.

Tecsup. Tecsup is a leading not-for-profit institute in Peru that provides technical education. It was founded by the family of our controlling shareholder, and we support it by providing scholarships to promising students living near our plants to study at the Trujillo campus of Tecsup. Through its three campuses in Peru, Tecsup has graduated over 11,285 students in various technical fields, some of whom currently work for us and our affiliated companies.

Center for Technological Training. We have three training centers at our facilities where we teach students and adults business and technical skills. Our centers are staffed with instructors from Tecsup. The goal of the center is to help develop the professional skills of the local population, especially of students and teachers at the educational institutions in the towns of Tembladera, Pacasmayo and Sechura. In 2021, this program benefited over 1,743 stakeholders.

Abilities Strengthening. This program seeks to provide training to local stakeholders such as grassroots organizations, local entrepreneurs, teachers, journalists, among others. The objective of the program is to strengthen their skills and knowledge by providing courses and seminars especially designed for that purpose. The program is funded by us, in coordination with local governments and social institutions, and in 2021 benefited 306 stakeholders.

Universidad de Ingeniería y Tecnología – UTEC (University of Engineering and Technology) is an educational nonprofit proposal that since 2012 is aimed at the development of people in the engineering field, looking to satisfy the need for these types of professionals in the labor market by implementing a curriculum in line with the trends and demands that globalization poses to modern engineering, with an integrated approach to innovative teaching models. We support it by providing financial aid for its operations. To enhance students' knowledge, UTEC also has various national and international alliances with top organizations.

Acuícola Los Paiches. Through our social venture, Acuícola Los Paiches S.A.C., we studied the reproductive forms of the “*paiche*” (*arapaima giga*), a native fish species that was on the edge of extinction. After years of studies and scientific testing, we have successfully bred this species in captivity, and we have obtained thousands of fingerlings.

Risk Management

Risk Management Description

Corporate Risk Management (GRC) is a structured approach that allows managing all of the important risks that could affect our long-term objectives. The purpose of this approach is to support senior management in the decision-making process, in order to reduce adverse impacts and take advantage of opportunities; as well as managing the action plans to mitigate the risks.

Therefore, Pacasmayo has processes and systems that analyze and evaluate the management of the its business units, encouraging continuous improvement. Our management control systems include:

- Mapping of new emerging risks and definition of impact, probability and design of controls;
- Periodic review of current risks and update of Impact Probability and Controls information;
- Quantification and effect of risk on EBITDA;
- Evaluation of external factors; and
- Periodic review of policies, procedures, regular internal audits and employee training.

Risk Management Process

The following are highlights of our risk management process.

- The Risks are mapped considering the impact on profit, revenues, resources, employees, communities where we operate and our suppliers.
- An integrated risk management system and tools are used to collect information collaboratively with the functional areas and external sources of the company.
- These processes include the evaluation of risks related to Operations, Human Rights, Sustainability, Fraud and Corruption, in different areas such as commercial, operations, environment, health and safety, among others.
- The development of a risk management culture throughout the company in a decentralized manner, integrating the processes to the mapping of risks and the identification and mitigation of risks from the strategic level to the operational level.
- The foregoing is reinforced with training for employees and suppliers and communication plans for the entire company.

Risk Management Organization

Managers responsible for risk metrics	Risk management team	Risks committee	Audit Committee
- Those responsible for the evaluation, management and prevention of the risk metrics of each area. - Risk management coordinates with them for the development and monitoring of these metrics.	Group responsible for the implementation of the corporate risk management strategy, which includes activities such as risk identification, evaluation, quantification, and promotion of a risk management culture, among others.	- Group created to establish and supervise the implementation of the risk management strategy at the corporate level. - It is made up by the CEO, the VPs and the Risks Manager - the Risks Committee reports to the Audit Committee	- Made up by 3 independent board members, reports directly to the Board - The participants are the external auditors, the internal auditor, the compliance officer, the CFO and the Risk Manager - Evaluates improvement opportunities and plans for the risk metrics.

Due to the outbreak of COVID-19, we have activated three plans that are key to the continuity of our business:

- *Incident response plan* – focused on the immediate response. It includes employee safety and asset protection in each location.
- *Crisis management plan* – focus on leadership and the response to manage business impact, including communication with stakeholders.
- *Business recovery plan* – Focus on the actions and knowledge needed to recover operations and maintain uninterrupted service.

Based on these plans, we have prepared a restart protocol for the restart of operations that include new safety measures and measures for the protection of and we have updated all of our protocols relating to health and safety to include measures needed to stop the spread of COVID-19.

Cybersecurity

Our focus on Information Technology (IT) is to generate a collaborative digital ecosystem, where the different actors of the company: areas, processes and people develop their activities leveraged on information, communication and automation technologies in a reliable, conscious and safe ways. Therefore, they can contribute to their own development, digital development, innovation and digital transformation and the fulfillment of our strategic objectives as a company.

Management is governed by ISO 27001, and the following 3 policies:

- Policy on information security – protects IT assets
- Logical Access Policy – regulates controlled access to information
- Help Desk Management Policy - standardizes service request management

Regarding cybersecurity, governance is led by IT management, through the Infrastructure and Information Security area, and the person responsible for supervising compliance with the strategy is the Chief Information Officer (CIO). Our management strategy focuses on four fundamental pillars:

- Awareness
- Risk management
- The regulatory framework provided by the associated internal processes and policies
- Resilience mechanisms for the protection of our information

Likewise, our management is complemented by an information security committee made up of the areas that are closely related to issues related to cybersecurity: Supply chain and risk management, human resources management, audit and internal control management, operations management and finance management.

Emerging risks

Emerging risks are those that have an impact in the long-term. The risks considered here include all recently identified risks that could have a long-term impact on the company's business or industry, although in some cases they may have already begun to impact the company's business.

Risk Description	Potential Impact	Mitigation Actions	Evidence of mitigation actions
Economic Risk: Cost increments due to extremely high energy prices influenced by geopolitical tensions in the European region (Import cost, inflation, exchange rate, etc)	Medium to high: Margin reduction due to increases in production costs. Decrease in national consumption levels.	International situation constant monitoring Increase of raw material stock levels Implementation of production cost optimization strategies Anticipated currency and cash flow matching	Development of key raw material security stock review and expansion Evaluation of additional transportation routes Coal usage optimization plan Increase of foreign currency holding levels
Economic Risk: Revenue losses and cost increments due to political instability in Peru which translates in social unrest with direct consequences on the company's operations	Medium to high: Impact on revenue and margins due to protests, manifestations, riots and/or looting that might lead to important interruptions in the delivery of our finished products, the transportation of critical raw material and the disruption of consumption in the overall market.	Constant monitoring Increase of raw material stock levels Implementation of production cost optimization strategies Evaluation of available transportation companies Crisis Communication Management Manual	Development of key raw material security stock review and expansion Evaluation of alternative routes of transportation Expansion of selected suppliers for transportation activities

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

A. Operating Results

Overview

We are a leading Peruvian cement company, and the only cement manufacturer in the northern region of Peru. With more than 64 years of operating history, we produce, distribute and sell cement and cement-related materials, such as precast products and ready-mix concrete. Our products are primarily used in construction. We also produce and sell quicklime for use in mining operations.

In 2021, our cement sales volume were approximately 3.6 million metric tons, representing an estimated 26.8% share of Peru's total cement sales that year. That same year, we also sold approximately 66 thousand metric tons of quicklime.

We own three cement production facilities, our Pacasmayo and Piura facilities located in the northwest region of Peru, and our smaller Rioja facility located in the northeast. Our facilities have total installed annual cement production capacity of approximately 4.9 million metric tons. We also have installed annual production capacity of 240,000 metric tons of quicklime. We own concession rights to several quarries with reserves of limestone/seashells and other raw materials located near our facilities. We completed an expansion of our Rioja plant in April 2013. We more than doubled the cement production capacity of our Rioja facility by installing a new production line that added 240,000 metric tons of installed annual cement production capacity. In 2015, we completed construction of our cement plant in Piura, the third largest city in northern Peru, which has an annual production capacity of 1.6 million metric tons of cement. The first ton of cement from the Piura facility was produced and shipped on September 17, 2015, and clinker production started in January 2016. The Piura plant improved our competitive position in the northern region of Peru. With production from three plants, we are able to serve our market more efficiently, as it reduces transportation costs by enabling the dispatching of cement from plants within closer proximity to the point of sale. In 2021, due to the exponential growth in cement sales, we decided to invest approximately US\$70 million to optimize our current capacity at our Pacasmayo plant, in order to produce approximately 600,000 additional metric tons of clinker per year. Since mid-2020 we have needed to import clinker in order to satisfy current demand levels, which has had a negative effect on our margins. With this optimization -when completed, during the second half of 2023- we should be able to stop importing clinker, if demand remains around current levels, as we estimate.

Factors Affecting our Results of Operations

Revenue Drivers

In 2021, approximately 88.6% of our total cement sales were in the form of bagged cement, substantially all of which was sold through retailers both within and outside of our distribution network. The remaining 11.4% of our cement was sold in bulk or in shipments of precast products or ready-mix concrete directly to large construction companies. Our retail sales are directed to both the *auto-construcción* segment and construction companies that buy cement for a variety of small construction works, including minor residential, commercial and infrastructure projects. Cement destined for large private and public projects, such as housing complexes, highways, irrigation channels, hospitals, schools, mining and industrial facilities, is typically sold in bulk or in shipments of precast products or ready-mix concrete.

Based on our estimates, sales to the *auto-construcción* segment accounted for approximately 70.3% of our total cement sales in 2021, 70.6% in 2020 and 60.3% in 2019; private construction projects, both large and small, accounted for approximately 14.7% of our total cement sales in 2021, 13.6% in 2020, and 19.9% in 2019; and public construction projects accounted for the remaining 15.0% in of our total cement sales in 2021, 15.8% in 2020, and 19.8% in 2019. During 2020 we saw an increase in *auto-construcción* compared to other segments, mainly due to its resilience in times of crisis. As the Peruvian economy starts to recover from the impact of the COVID-19 pandemic and continues to become less informal, private construction projects and infrastructure are expected to become increasingly more important to our business.

Our cement sales are largely driven by residential construction (both *auto-construcción* and small and large housing developments undertaken by construction companies), which is generally affected by economic conditions in the northern region of Peru. *Auto-construcción* is particularly affected by levels of disposable household income, as low-income families tend to invest most of their savings in developing their homes. Larger residential construction is more susceptible to the economic outlook, the availability of financing and prevailing investment levels in the region. GDP in the northern region of Peru is estimated to have grown by 19.3% in 2021, contracted by 8.0% in 2020, and grown 3.2% in 2019. Our cement volumes, which represented most of the cement sales in the northern region of Peru, grew by 40.4% in 2021, contracted by 1.3% in 2020, and grew 10.6% in 2019, in terms of metric tons of cement shipments.

Our cement sales are also driven, to a lesser extent, by commercial developments and infrastructure projects. Commercial and other private construction projects are also affected by the level of public and private investment in the region, while public infrastructure projects depend on the priorities and financial resources of the national, regional and local governments. During 2020, there was a significant reduction in activity relating to these projects, due primarily to the economic impact of the COVID-19 pandemic, but we saw a recovery in part of it during 2021.

Cost Drivers

Coal is the main source of energy used in our production process, in particular to fuel our kilns. We purchase anthracite coal from nearby coal mines and import a small amount of bituminous coal primarily from Colombia. We do not have long-term coal supply agreements, and we do not engage in hedging transactions in connection with the price of coal. In the past, the price of bituminous coal has been related to the international price of oil, as it is used as a substitute for oil. Coal accounted for an estimated 11.6% of our costs of production in 2021, 12.6% in 2020 and 13.7% in 2019. In 2011, we exercised certain of our options to purchase coal mining concessions, which we intend to use to continue to reduce our use of bituminous coal sourced by third-party producers.

Electricity is used in our facilities mainly to power our cement mills. We power our Pacasmayo facility with electricity purchased from Electroperú, with which we have a long-term supply agreement expiring in 2026. Our Rioja facility is powered primarily with electricity from ELOR, with which we have a medium-term supply agreement expiring in 2022. Under these agreements, the price of electricity is based on a formula that takes into consideration our consumption of electricity and certain market variables, including the international price of oil. Electricity accounted for approximately 13.7% of our cost of production in 2021, 14.6% in 2020 and 14.4% in 2019. Electricity costs tend to be lower during the rainy season, from January to March of each year, as our region is served primarily by hydro-electric power plants.

In addition, we purchase from third parties admixtures and certain raw materials that we use in our production process, including gypsum, blast furnace slag, iron and other materials. Admixtures and raw materials used in our cement production process do not include construction supplies that we acquire from third-parties for resale through our distribution network along with our cement products. The cost of admixtures and raw materials purchased from third parties, excluding imported clinker, accounted for approximately 4.3% of our cost of production in 2021, 4.3% in 2020, and 4.6% in 2019.

Due to the sudden and sharp increase in demand since the second half of 2020, we have had to use imported clinker in order to satisfy demand. The cost of imported clinker as a percentage of our cement production costs was approximately 21.5%, compared to 10.1% in 2020 and 2.2% in 2019.

Personnel expenses represented 15.0% of our total costs and expenses in 2021, 17.1% in 2020 and 18.9% in 2019.

Third-Party Construction Supplies

In addition to selling our own products, we also sell and distribute construction supplies manufactured by third parties, such as steel rebar, wires and pipes that are typically used in construction along with our cement. Our profit margins from the sale of third party construction supplies are significantly lower than the margins on our cement products and they are affected by fluctuations in product prices and the exchange rate between the *sol* and the U.S. dollar between the time we purchase these products and the time we resell them. We sell these products primarily as a service to retailers in our distribution network in an effort to support the sale of our cement products.

Mining Royalty Tax

The mining royalty tax for the exploitation of metallic and non-metallic minerals is payable on a quarterly basis in an amount equal to the greater of (i) an amount determined in accordance with a statutory scale of tax rates based on a company's operating profit margin that is applied to its operating profit, as adjusted by certain non-deductible expenses and (ii) 1% of a company's net sales, in each case during the applicable quarter. These amounts are determined based on our unconsolidated financial statements and those of our subsidiaries with operations that are under the scope of the Mining Royalty Law. Mining royalty payments are deductible for income tax purposes in the fiscal year in which such payments are made. For additional information, see note 29 to our annual audited consolidated financial statements included in this annual report.

Operating Segments

We have three operating segments: (i) cement, concrete and precast, (ii) quicklime and (iii) sales of construction supplies. For additional information on our operating segments, see note 32 to our annual audited consolidated financial statements included in this annual report.

New Accounting Pronouncements

For a description of new interpretations and improvements to IFRS in effect since 2021, see note 2.3.19 and 4 to our annual audited consolidated financial statements included in this annual report.

Critical Accounting Policies

The following is a discussion of our application of critical accounting policies that require our management to make certain assumptions about matters that are uncertain at the time the accounting estimate is made, where our management could reasonably use different estimates, or where accounting changes may reasonably occur from period to period, and in each case would have a material effect on our financial statements. For additional information, see note 2.3 to our annual audited consolidated financial statements included in this annual report.

Determination of Useful Life of Assets for Depreciation and Amortization Purposes

Depreciation of mining concessions and mine development costs are charged to cost of production on a units-of-production basis using proved reserves. Other assets are depreciated on a straight-line-basis over their estimated useful lives, as follows:

Buildings and other constructions:	Years
Administrative facilities	Between 20 and 51
Main production structures	Between 20 and 56
Minor production structures	Between 20 and 35
Machinery and equipment:	
Mills and horizontal furnaces	Between 24 and 45
Vertical furnaces, crushers and grinders	Between 23 and 36
Electricity facilities and other minors	Between 10 and 35
Furniture and fixtures	10
Transportation units:	
Heavy units	Between 5 and 15
Light units	Between 5 and 10
Computer equipment	Between 3 and 10
Tools	Between 5 and 10

The assets' residual value, useful lives and methods of depreciation/amortization are reviewed at each reporting period, and adjusted prospectively, if appropriate.

An item of property, plant and equipment and any significant part initially recognized is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the consolidated income statement when recognition of the asset is derecognized.

Revenue Recognition

Revenue is measured at the fair value of the consideration received or receivable, taking into account contractually defined terms of payment and excluding taxes or duty.

The following specific recognition criteria must also be met before revenue is recognized:

Sales of goods

Revenue from sale of goods is recognized at the point in time when control of the asset is transferred to the customer, generally on delivery of the goods.

We consider whether there are other promises in the contract that are separate performance obligations to which a portion of the transaction price needs to be allocated. In determining the transaction price for the sale of goods, we consider the effects of variable consideration, the existence of significant financing components, noncash consideration, and consideration payable to the customer (if any).

Rendering of services

In the businesses segments cement, quicklime, concrete, precast and construction supplies, we provide transportation services. These services are sold together with the sale of the goods to the customer.

Transportation services are satisfied when the transport service is concluded, which coincides with the moment of delivery of the goods to the customers.

Operating lease income

Income from operating lease of land and office was recognized on a monthly accrual basis during the term of the lease.

Interest income

For all financial instruments measured at amortized cost and interest-bearing financial assets, interest income is recorded using the effective interest rate (EIR). EIR is the rate that exactly discounts the estimated future cash payments or receipts over the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset or liability. Interest income is included in finance income in the consolidated statement of profit or loss.

Impairment of Non-Financial Assets

We assess at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, (goodwill and Intangible assets with indefinite useful lives), we estimate the asset's recoverable amount. An asset's recoverable value is the higher of an asset's or cash-generating unit's fair value less costs of disposal and its value in use, and is determined for an individual asset, unless the asset does not generate net cash inflows that are largely independent of those from other assets or groups of assets. Where the carrying amount of an asset's cash-generating unit exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs of disposal, recent market transactions are taken into account. If no such transactions can be identified, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded companies or other available fair value indicators.

As of December 31, 2021 and 2020, goodwill related to the acquisition of assets made by our subsidiary Distribuidora Norte Pacasmayo S.R.L. amounted to S/4,459,000. We have assessed the recoverable amount of our goodwill and has determined that there are no indicators of an impairment loss of this asset as of December 31, 2021 and 2020.

We base our impairment calculation on detailed budgets and forecast calculations, which are prepared separately from our cash generation units to which the individual assets are allocated. Impairment losses of continuing operations, including impairment on inventories, are recognized in the consolidated statement of profit or loss in expense categories consistent with the function of the impaired asset.

An assessment is made at each reporting date as to whether there is any indication that previously recognized impairment losses may no longer exist or have decreased. If such indication exists, we estimate the asset's or cash-generating unit's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the consolidated statement of profit or loss. Exploration and evaluation assets are tested for impairment annually as of December 31, either individually or at the cash-generating unit level, as appropriate and when circumstances indicate that the carrying value may be impaired.

Deferred Tax

Deferred tax is provisioned using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Deferred tax liabilities are recognized for all taxable temporary differences, except in respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, the carry forward of unused tax credits and unused tax losses. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilized, except in respect of deductible temporary differences associated with investments in subsidiaries, where deferred assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are re-assessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date. Deferred tax related to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction either in other comprehensive income or directly in equity.

Deferred tax assets and deferred tax liabilities are offset if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Derivative Financial Instruments and Hedge Accounting

Initial Recognition and Subsequent Measurement

We use derivative financial instruments, such as cross-currency swaps (CCS), to hedge our foreign currency exchange rate risk. Such derivative financial instruments are initially recognized at their fair value on the date on which the derivative contract is entered into and subsequently remeasured at their fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when fair value is negative.

For the purpose of hedge accounting, hedges are classified as follows:

- “Fair value hedges” are those that hedge the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment.
- “Cash flow hedges” are those that hedge the exposure to variability in cash flows that is either attributable to a particular risk associated with a recognized asset or liability or a highly probable forecast transaction or the foreign currency risk in an unrecognized firm commitment.
- “Hedges of a net investment in a foreign operation.”

At the inception of a hedge relationship, we formally designate and document the hedge relationship to which we wish to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

The documentation includes identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged and how our management will assess the effectiveness of changes in the hedging instrument’s fair value in offsetting the exposure to changes in the hedged item’s fair value or cash flows attributable to the hedged risk. Such hedges are expected to be highly effective in achieving offsetting changes in fair value or cash flows and are assessed on an ongoing basis to determine that they actually have been highly effective throughout the financial reporting periods for which they were designated.

A hedging relationship qualifies for hedge accounting if it meets all of the following effectiveness requirements:

- there is ‘an economic relationship’ between the hedged item and the hedging instrument;
- the effect of credit risk does not ‘dominate the value changes’ that result from that economic relationship; and
- the hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Group actually hedges and the quantity of the hedging instrument that the Group actually uses to hedge that quantity of hedged item.

Hedges that meet all the qualifying criteria for hedge accounting are recorded as cash flow hedges.

Cash flow hedges

Any gains or losses arising from changes in the fair value of derivatives is taken directly to profit or loss, except for the effective portion of cash flow hedges, which is recognized in other comprehensive income (OCI) and later reclassified to profit or loss when the hedge item affects profit or loss.

For any other cash flow hedges, the amount accumulated in OCI is reclassified to profit or loss as a reclassification adjustment in the same period or periods during which the hedged cash flows affect profit or loss.

If the cash flow hedge is discontinued, the amount accumulated in other comprehensive income must remain in other comprehensive income accumulated if the covered cash flows are still expected to occur. Otherwise, the amount will be immediately reclassified to profit or loss as a reclassification adjustment. After discontinuation, once the covered cash flows are given, any amount that remains in other comprehensive accumulated results must be recorded considering the nature of the underlying transaction.

Results of Operations

Comparison of Year Ended December 31, 2021 to Year Ended December 31, 2020

(amounts in millions of \$/)	Year ended December 31,		Variation %
	2021	2020	
Sales of goods	1,937.8	1,296.3	49.5%
Cost of sales	(1,378.3)	(921.0)	49.7%
Gross profit	559.5	375.3	49.1%
Operating income (expenses):			
Administrative expenses	(196.1)	(163.4)	20.0%
Selling and distribution expenses	(51.5)	(40.1)	28.5%
Other operating income net	6.4	4.3	49.0%
Total operating expenses, net	(241.2)	(199.2)	21.1%
Operating profit	318.3	176.1	80.7%
Other income (expenses):			
Finance income	2.9	3.0	(3.6)%
Finance costs	(89.0)	(88.7)	0.3%
Net gain (loss) of derivative financial instruments at fair value through profit or loss	0.6	5.3	(88.9)%
Accumulated net loss due to settlement of derivative financial instruments at fair value through profit or loss	(1.6)	-	N/R
Loss from exchange difference, net	(7.1)	(9.8)	(27.6)%
Total other expenses, net	(94.1)	(90.2)	4.3%
Profit before income tax	224.1	85.9	160.9%
Income tax expense	(70.9)	(28.0)	153.4%
Profit for the year	153.2	57.9	164.1%

Sales of Goods

The following table sets forth a breakdown of our sales of goods by segment for 2021 and 2020:

	Year ended December 31,			
	2021	%	2020	%
Cement, concrete, mortar and precast	1,784.5	92.1	1,185.2	91.4
Quicklime	39.1	2.0	32.5	2.5
Construction supplies	113.9	5.9	78.2	6.0
Other	0.3	0.0	0.4	0.1
Total sales of goods	1,937.8	100.0	1,296.3	100.0

Our total sales of goods increased by 49.5%, or S/641.5 million, to S/1,937.8 million in 2021 from S/1,296.3 million in 2020. This increase was primarily due to the following factors:

- a 50.6%, or S/599.3 million, increase in 2021 in sales of cement, concrete and precast mainly due to increased sales of these products, mainly bagged cement, both for self-construction and some for public projects. During 2021, the reconstruction of the North after El Niño in 2017 finally began after the government to government agreement was signed with the government of the United Kingdom for the execution of part of the reconstruction projects;
- a 20.3%, or S/6.6 million, increase in the sales of quicklime, mainly due to a decrease in 2020 during the lockdown, as well as the fact that we obtained some larger contracts during the second half of the year; and.
- a 45.7%, or S/35.7 million, increase in the sale of construction supplies, mainly due to higher activity in the self-construction segment as families increased spending on home improvement projects.

The following table sets forth the composition of our sales of cement, concrete mortar and precast for 2021 and 2020:

	Year ended December 31,		Variation %
	2021	2020	
	(in millions of S/)		
Cement	1,534.9	1,023.9	49.9%
Concrete, pavement and mortar	213.5	126.1	69.3%
Precast	36.1	35.2	2.6%
Total	1,784.5	1,185.2	51.0%

Our total sales of cement, concrete and precast increased by 50.6%, or S/599.3 million, to S/1,784.5 million in 2021 from S/1,185.2 million in 2020. This increase was primarily due to the following factors:

- cement sales revenue increased 49.9%, or S/511.0 million, in 2021 due to higher volume of cement sold (39.0%), as bagged cement sales recovered rapidly after the lockdown period, and an increase in average price (10.9%) due to both price increase and a more favorable sales mix, as we started selling more of our higher-priced cements;
- concrete, mortar and pavement sales revenue increased 69.3%, or S/87.4 million, in 2021 due to an increase in volume (62.9%), as concrete and mortar sales reached record level volumes this year, as well as an increase in the average price of concrete (6.4%); and
- sales of precast increased by 2.6%, or S/0.9 million, in 2021 mainly due to an increase in volume (20.7%) offset by a decrease in the average price of precast products (18.1%), mainly due to sales mix as we sold higher margin products during 2020.

Cost of Sales

The following table sets forth a breakdown of our cost of sales by segment for 2021 and 2020:

	Year ended December 31,			
	2021	%	2020	%
	(in millions of S/)		(in millions of S/)	
Cement, concrete, mortar and precast	(1,233.7)	89.5	(817.7)	88.8
Quicklime	(33.5)	2.4	(27.5)	3.0
Construction supplies	(110.4)	8.0	(75.2)	8.2
Other	(0.7)	0.1	(0.6)	-
Total	(1,378.3)	100.0	(921.0)	100.0

Our total cost of sales increased by 49.7%, or S/457.3 million, to S/1,378.3 million for 2021, from S/921 million for 2020, primarily due to the following factors:

- a 50.9%, or S/416.0 million, increase in the cost of sales of cement, concrete and precast in 2021, in line with increased sales, as well as the use of imported clinker due to the sudden and sharp increase in cement sales volume;
- a 21.8%, or S/6.0 million, increase in the cost of sales of quicklime, in line with increased sales; and
- a 46.8% or S/35.2 million, increase in the cost of sales of construction supplies, mainly due to an increase in sales volume.

The following table sets forth the composition of our cost of sales of cement, concrete, mortar and precast for 2021 and 2020:

	Year ended December 31,		
	2021	2020	Variation
	(in millions of S/)		%
Cement	(1,000.9)	(662.3)	51.1%
Concrete, pavement and mortar	(196.9)	(124.7)	57.9%
Precast	(35.9)	(30.7)	16.9%
Total	(1,233.7)	(817.7)	50.9%

Our cost of sales represented 71.1% of our sales revenue in 2021, compared to 71.0% in 2020. Our total cost of sales of cement, concrete and precast increased by 50.9%, or S/416.0 million, in 2021, primarily due to the following factors:

- cost of sales of cement increased by 51.1%, or S/338.6 million, mainly due to an increase in sales volume sold (39%) as well as an increase in production costs (12.1%) mainly due to the use of imported clinker;
- an increase in the cost of sales of concrete, pavement and mortar of 57.9%, or S/72.2 million due to an increase in sales volume sold (62.9%), offset by a decrease in production costs (5.0%), as there was a higher dilution of fixed costs; and
- a 16.9% increase in the cost of sales of precast, mainly due to increased sales volume (20.7%) offset by a decrease in production cost (4.0%) mainly due to sales mix, since we sold lower margin products during the first months of the year.

Gross Profit

The following table sets forth a breakdown of our gross profit and gross profit margin by segment for 2021 and 2020:

	Year ended December 31,			
	2021		2020	
	Gross profit (in millions of S/)	Gross profit margin %	Gross profit (in millions of S/)	Gross profit margin %
Cement, concrete, mortar and precast	550.8	30.9	367.5	31.0
Quicklime	5.6	14.3	5.0	15.4
Construction supplies	3.5	3.1	3.0	3.8
Other	(0.4)	N/R	(0.2)	—
Total gross profit	559.5	28.9	375.3	29.0

Total gross profit increased by 49.1%, or S/184.2 million, to S/559.5 million in 2021, from S/375.3 million in 2020, mainly because of increased sales, despite the use of imported clinker to satisfy the additional demand. Our gross profit margin (*i.e.*, gross profit as a percentage of net sales) for 2021 was 28.9% compared to 29.0% for 2020.

The following table sets forth a breakdown of our gross profit and gross profit margin for the cement, concrete, mortar and precast segment for 2021 and 2020:

	Year ended December 31,				Gross profit margin variation percentage points
	2021		2020		
	Gross profit	Gross profit margin	Gross profit	Gross profit margin	
	(in millions of S/)	%	(in millions of S/)	%	
Cement	534.0	34.8	361.6	35.3	(0.5)
Concrete, pavement and mortar	16.6	7.8	1.4	1.1	6.7
Precast	0.2	0.6	4.5	12.8	(12.2)
Total gross profit	550.8	30.9	367.5	31.0	(0.1)

Gross profit margin for cement, concrete and precast decreased slightly by 0.1 percentage points in 2021 compared to 2020. This was due mainly to a decrease in cement margin (0.5 percentage points) due to higher cost of using imported clinker, offset by an increase in concrete margin (6.7 percentage points) mainly due to higher dilution of fixed costs because of higher sales, and a decrease in precast margin (12.2 percentage points).

Operating Income (Expense)

Our operating expenses primarily reflect administrative and selling and distribution expenses. In 2021, our operating expenses increased by S/42 million to S/241.2 million from S/199.2 million in 2020, mainly due increased sales.

Administrative Expenses

The following table sets forth the composition of our administrative expenses for 2021 and 2020:

(in millions of S/)	Year ended December 31,	
	2021	2020
Personnel expenses	96.9	76.3
Third-party services	59.9	48.7
Board of directors compensation	6.4	6.0
Depreciation and amortization	16.6	16.6
Taxes	5.6	5.3
Others	10.7	10.5
Total	196.1	163.4

Our administrative expenses increased by 20.0%, or S/32.7 million, to S/196.1 million in 2021 from S/163.4 million in 2020. Personnel expenses increased by S/20.6 million mainly due to increased workers profit sharing, in line with increased income tax base and increases in the exchange rate. Third-party services increased S/11.2 million, mainly COVID-19 related expenses to comply with protocols to ensure the safety of our workers, software and licenses, training and workers' compensation. It is also important to note that, administrative expenses during a period of 2020 were low due to budget restrictions after the halt in production and commercialization.

Administrative expenses related to the cement, concrete, mortar and precast segment accounted for approximately 97.5% of total administrative expenses for 2021 compared to approximately 96.4% for 2020. Administrative expenses related to the construction supplies, quicklime and other segments accounted for approximately 1.4%, 0.6% and 0.5%, respectively, of total administrative expenses for 2021 compared to approximately 1.8%, 0.9% and 0.9% respectively, for 2020.

Selling and Distribution Expenses

The following table sets forth the components of our selling and distribution expenses for 2021 and 2020:

(in millions of S/)	Year ended December 31,	
	2021	2020
Personnel expenses	33.9	26.3
Advertising and promotion expenses	5.6	3.3
Other	12.0	10.5
Total	51.5	40.1

Our total selling and distribution expenses increased by 28.4%, or S/11.4 million, to S/ 51.5 million in 2021 from S/40.1 million in 2020, primarily due to an increase in variable salaries, in line with increased sales.

Selling and distribution expenses related to the cement, concrete, mortar and precast segment represented approximately 97.5% of total selling and distribution expenses for 2021, compared to 96.4% for 2020. Selling and distribution expenses related to construction supplies, quicklime, the and other segments represented approximately 1.4%, 0.6% and 0.5%, respectively, of total selling and distribution expenses for 2020, compared to 1.8%, and 0.9%, respectively, for 2020.

Other Operating Income, Net

Our other operating income, net increased S/2.1 million, to S/6.4 million in 2021 from S/4.3 million in 2020, mainly due to rental of raw material unloading equipment and income from the refund of selective consumption tax.

Other Expenses, Net

Our other expenses, net increased by S/4.0 million, to S/94.2 million in 2021 from S/90.2 million in 2020.

Income Tax Expense

Our income tax expense increased by 153.3%, or S/42.9 million, to S/70.9 million for 2021 from S/28.0 million for 2020, mainly due to an increase in profit before income tax, as it was unusually low during 2020, due to the effects of the COVID-19 pandemic. Our effective tax rate for 2021 was 31.7% , 32.6% in 2020, and 32.1% for 2019.

Profit for the period

As a result of the foregoing, our profit for 2021 increased by 164.6%, or S/95.3 million, from S/57.9 million for 2020 to S/153.2 million for 2021, mainly due higher operating profit, as sales recovered strongly from the effects of the COVID-19 pandemic in 2020, reaching record levels.

For a comparison of our results of operations for the year ended December 31, 2020 to the year ended December 31, 2019, please see our annual report on Form 20-F 2020 for the year ended December 31, 2020.

Liquidity and Capital Resources

Our main cash requirements are our operating expenses, capital expenditures relating to the maintenance and expansion of our facilities, the servicing of our debt, the payment of dividends and payment of taxes. Our primary sources of cash have been cash flow from operating activities, and our issuance of Senior Notes and, to a lesser extent, loans and other financings. We believe that these sources of cash will be sufficient to cover our working capital needs in the ordinary course of our business.

Cash Flows

The table below sets forth certain components of our cash flows for the years ended December 31, 2021, 2020 and 2019.

(in millions of S/)	Year ended December 31,		
	2021	2020	2019
Net cash flows from operating activities	170.6	331.4	205.1
Net cash flows used in investing activities	(91.8)	(48.4)	(79.6)
Net cash flows used in financing activities	(130.1)	(43.8)	(106.8)
Increase (decrease) in cash	(51.3)	239.2	18.7

Cash Flows from Operating Activities

Net cash flow from operating activities decreased by 48.5% or S/160.8 million, to S/170.6 million in 2021 from S/331.4 million in 2020, mainly due to inventory purchases, decreased accounts receivables and higher tax payments as our results of operations increased.

Cash Flows used in Investing Activities

Net cash flows used in investing activities were S/91.8 million for 2021, and were primarily related to maintenance capex for our cement plants.

Cash Flows used in Financing Activities

Net cash flows used in financing activities were S/130.1 million for 2021, and were primarily due to dividends paid to our shareholders. During 2021, an extraordinary dividend was given, explaining the increase compared to 2020 and 2019

Indebtedness

As of December 30, 2021, the Company's total outstanding debt reached S/1,545.4 million (equivalent to US\$386.5 million). This debt is primarily composed by the outstanding part of the international bond issued in February 2013, the two series of local bonds issued in January 2019 and short-term loans.

As of December 31, 2021, the Company maintains cross currency swap hedging agreements for US\$132 million in order to mitigate foreign exchange risks related to U.S.dollar-denominated debt. The adjusted debt in *soles* considering the exchange rate of the cross currency swap hedging agreements amounts to S/1,435.3 million (equivalent to US\$359 million).

(amounts in millions of S/)	As of December 31, 2021	Interest rate	Maturity Date
Short-term promissory notes	79.5	2.62%	January 10, 2022
Short-term promissory notes	79.5	2.62%	January 10, 2022
Mid-term promissory notes	72.0	1.8%	July 8, 2022
Mid-term promissory notes	110.0	1.55%	December 23, 2022
Mid-term promissory notes	110.0	1.55%	December 22, 2022
Senior Notes due 2023	525.4	4.5%	February 8, 2023
Senior Notes due 2029	259.5	6.69%	February 1, 2029
Senior Notes due 2034	309.4	6.84%	February 1, 2034

International Bonds. In February 2013, we issued US\$300,000,000 of our 4.50% Senior Notes due 2023 in our inaugural international bond offering. A portion of the proceeds from this offering were used to prepay amounts outstanding on our secured loan agreement with BBVA Banco Continental, and the remaining proceeds was used in capital expenditures incurred in connection with the construction and operation of the new Piura plant and our cement business. The notes were issued pursuant to Rule 144A under the Securities Act and in compliance with Regulation S under the Securities Act, and listed on the Irish Stock Exchange.

The indenture pursuant to which the notes were issued contains certain covenants, including restrictions on our and our restricted subsidiaries' ability to incur further indebtedness or issue disqualified stock and preferred stock, unless the following conditions are met:

- the fixed charge coverage ratio for our most recently ended four fiscal quarters for which internal financial statements are available immediately preceding the date on which such additional indebtedness is incurred or such disqualified stock or such preferred stock is issued, as the case may be, would have been at least 2.5 to 1.0; and
- the consolidated debt to adjusted EBITDA ratio for our most recently ended four fiscal quarters for which internal financial statements are available immediately preceding the date on which such additional indebtedness is incurred or such disqualified stock or such preferred stock is issued, as the case may be, would have been no greater than 3.5 to 1.0, in each case, determined on a pro forma basis (including a pro forma application of the net proceeds therefrom), as if the additional indebtedness had been incurred or the disqualified stock or the preferred stock had been issued, as the case may be, at the beginning of such four fiscal quarters.

The indenture also contains restrictions on our ability and that of our restricted subsidiaries to incur liens and to merge, consolidate or transfer all or substantially all of our assets.

In management's opinion, we were in compliance with all of applicable covenants as of the date of this annual report.

The subsidiaries that guarantee the notes are those related to our cement business namely, Cementos Selva S.A., Distribuidora Norte Pacasmayo S.R.L., Empresa de Transmisión Guadalupe S.A.C., Dinoseiva Iquitos S.A.C. and Calizas del Norte S.A.C., in liquidation.

In December 2018, we purchased US\$168,388,000 or approximately 56.13% of the total outstanding bonds by means of a partial cash tender offer (local bond program).

Local Bonds. On January 8, 2019, the General Shareholders' Meeting approved the issuance of a local bond program for up to S/1,000 million. On January 31, 2019, we issued two series of local bonds for a total of S/570 million. One in the aggregate principal amount of S/260 million bearing interest a rate of 6.68750% for a term of 10 years, and another in the aggregate principal amount of S/310 million bearing interest at a rate of 6.84375% for a term of 15 years. The rates and terms obtained benefit our financial costs structure, with lower cost of capital, an extended maturity and less exposure to currency fluctuations.

Medium-term Corporate Loan under "Club Deal" modality. On August 6, 2021, we entered into a S/860,000,000 medium-term corporate loan in a "Club Deal" format with Banco de Crédito del Perú S.A. and Scotiabank Perú S.A.A. Amounts borrowed under this loan bear interest at a rate of 5.82%. The loan will allow for the payment of all the financial obligations that the Company maintains with maturity until February 2023 and will be disbursed based on the maturity of each of them. The first disbursement amounted to S/159,000,000, was made on January 2022 and was used to pay the short-term loans described under "—Short-term Loans." The loan conditions include a grace / availability period of 18 months from August 6, 2021 and a payment term of seven years from the last disbursement, which is expected to be in February 2023. Commencing in February 2023, the loan will be paid in 22 equal quarterly installments.

Under this loan, the Company must comply with the following financial covenants:

- a. maintain a debt ratio (Financial Debt / EBITDA) of no more than 3.50 to 1;
- b. maintain a debt service coverage ratio (FCSD / SD) of at least 1.15 to 1; and
- c. maintain a debt service coverage ratio (EBITDA / SD) equal to 1.50 to 1.

In addition, the Company is required to comply with certain customary restrictive and affirmative covenants.

Derivative Financial Instruments. As of December 31, 2021, we maintain cross currency swap hedging agreement in aggregate principal amount of US\$132 million to hedge against the foreign exchange risks associated with our U.S. dollar-denominated debt.

Short-term loans. As of December 31, 2021, two loans, each in the amount of S/79,500,000, in U.S. dollars and *soles* with Banco de Crédito del Perú S.A. were obtained for working capital, have current and medium-term maturity and accrue interest at effective annual rates of 2.20 and 2.62 percent, respectively.

During 2021, the net loss originated by the exchange difference was approximately S/7,086,000 and, during 2020, the net loss from exchange difference amounted to S/9,831,000. All these results are presented in the caption "Gain (loss) from exchange difference, net" of the consolidated statement of income.

Capital Expenditures

See "Item 4—Information on the Company—A. History and Development of the Company—Capital Expenditures."

B. Research and Development, Patents and Licenses, Etc.

Since 2016, Pacasmayo embarked on the path of innovation and digital transformation, a journey that has allowed us to explore new ways of doing things, interact with environments with a lot of uncertainty, as well as propose a cultural change. After all this time and with much experience gained, we were ready to rethink a new strategy, seeking to accelerate and extend the adoption of innovation and digital transformation initiatives in all areas of the company, making it necessary to decentralize their execution.

Pacasmayo has become a company that provides construction solutions not only derived from cement, but that satisfy the needs of any actor in the construction sector. That is why today Pacasmayo complements its product research capacity with research focused on people. In other words, knowing who the hardware sellers, self-builders, construction foremen, transporters or construction residents really are, allows us to find new opportunities for Pacasmayo.

C. Trend Information

Cement Market

The Peruvian Cement Market

Peru's cement production is segmented into three principal geographic regions: the northern region, the central region, including Lima's metropolitan area, and the southern region. The table below sets forth selected data with respect to each region in Peru and the corresponding cement manufacturers. Market share data is based on metric tons of cement delivered during 2021.

Geographic Breakdown

Northern Region (thousands of metric tons)

Plant	2017	2018	2019	2020	2021	% share
Pacasmayo Group	2,267	2,364	2,615	2,576	3,625	26.6
Imports	76	32	13	38	62	0.5
Total	2,343	2,396	2,628	2,614	3,687	27.1

Central Region (thousands of metric tons)

Plant	2017	2018	2019	2020	2021	% share
UNACEM	4,993	5,058	5,316	4,172	5,838	42.8
Caliza Inca	387	448	513	382	492	3.6
Imports	496	885	663	493	511	3.8
Total	5,876	6,391	6,492	5,047	6,841	50.2

Southern Region (thousands of metric tons)

Plant	2017	2018	2019	2020	2021	% share
Grupo Yura	2,618	2,597	2,584	2,019	2,904	21.3
Imports	42	65	98	189	194	1.4
Total	2,660	2,662	2,682	2,208	3,098	22.7
Total Regions	10,879	11,449	11,802	9,869	13,626	100.0%

Sources: ASOCEM, INEI, ADUANET (SUNAT).

Although a large part of housing construction is mainly concentrated in the Lima metropolitan area, located in the central region of Peru, the housing market in the provinces of Peru, including the northern region, has grown significantly in recent years. Despite this trend, Peru continues to have significant shortages in housing, estimated by the INEI at 1.9 million homes nationwide. Economic growth, particularly in the mining and agribusiness sectors, rising employment levels and the implementation of real estate projects, resulted in the creation of higher paying jobs, which ultimately resulted in the expansion of the housing market. However, the COVID-19 pandemic had a significant effect on Peru's poverty levels, which increased 9.9 percentage points in 2020 when compared to 2019.

Peru continues to have a significant deficit in infrastructure. In recent years, significant efforts have been made to channel investments into the infrastructure sector through a series of initiatives that range from the creation of financial instruments (such as the infrastructure investment and trust funds) to regulatory changes, to promotion of more public private partnerships (for example "taxes for infrastructure" which allows private companies to use part of their tax payments to directly finance infrastructure works) to allowing for other executors, such as the government to government agreements that have recently been signed by Peru and other governments to ensure promptly execution without corruption.

Distribution and Logistics

Peru's cement market is divided into three regions circumscribed primarily by the location of established production facilities. Our facilities are located in the northern region of Peru, UNACEM is the main producer in the central region, and Yura in the southern region. Cement is mainly sold in bags of 42.5 kilograms (approximately 94 pounds). However, cement can also be sold in bulk according to customer requirements.

The transportation and storage of cement requires specialized equipment. A favorable location of the production facilities not only reduces the time required to transport cement products to distributors and third-party merchants but also diminishes the costs of necessary equipment and resources. The location of a cement plant relative to its distribution network provides operational efficiencies and advantages that translate into stronger market share.

Cement can be stored in silos for up to 12 months if the silo is completely humidity proof. The typical vehicles used for the transport of cement are adapted to maintain the necessary environment during shipment. The proximity of production plants and storage centers to distribution centers, third-party vendors and retail outlets, creates a more efficient supply chain and minimizes the time and resources required to transport products from the production line to the construction site. The streamlined nature of this process ensures that cement products in the northern region of Peru, for example, reach customers within approximately one week of production. A cement company's success is inherently linked to the sophistication of its distribution network and its emphasis on quality assurance throughout the supply chain.

The Peruvian cement market is comprised basically of three groups and 2 other plants:

- Cementos Pacasmayo and Cementos Selva, which principally serve the northern region;
- UNACEM, which principally serves the central region;
- Cementos Yura and Cementos Sur, which primarily serve the southern region; and
- Caliza Cemento Inca, located in Cajamarquilla, Lima which principally serves the central region as well as other regions throughout the country.
- Mixercon, located in the city of Lima, mainly serves this city, and to a lesser extent some provinces of the country.

Additionally, there are cement importers that mainly supply the cities of Lima and, to a lesser extent, other provinces of the country.

The level of competitiveness of cement companies generally depends on their cost structure, which is a function of the cost of energy, fuel, costs of raw materials and transportation. Cement companies in Peru generally compete within the limits of their distribution market, which is determined principally by their geographic locations.

The following are the main characteristics of the cement sector in Peru:

- highly fragmented consumer base;
- relatively low cost of energy and raw materials;
- operations and distribution primarily determined by geographic location; and
- high correlation to *auto-construcción* and public and private investments.

D. Critical Accounting Estimates

Our consolidated financial statements are prepared in conformity with IFRS, as issued by the IASB. See note 3 to our annual audited consolidated financial statements included in this annual report.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and Senior Management

General

Our business and affairs are managed by the board of directors in accordance with our by-laws and Peruvian Corporate Law No. 26887 (“Peruvian Corporate Law”). Our by-laws provide for a board of directors of between seven and eleven members. Between three and five alternate directors may be elected by the shareholders to act on behalf of any director who is absent from meetings or who is unable to exercise his or her duties, when and for whatever period fixed by the chairman of the board. Alternate directors have the same responsibilities, duties and powers of directors to the extent they are called to replace them.

Directors are elected at a shareholders’ meeting and hold office for three years. Directors may be elected to multiple terms. Our current board of directors is composed of seven directors. In the first board meeting held after the annual shareholders’ meeting where members of the board are elected, the board of directors must elect among its members a chairman and a vice chairman.

The board of directors typically meets in regularly scheduled bi-monthly meetings and when called by the chairman of the board or a person representing the chairman. Resolutions must be adopted by a majority of the directors present at the meeting and the chairman is entitled to cast the deciding vote in the event of a tie.

Duties and Liabilities of Directors

Pursuant to Article 177 of Peruvian Corporate Law, directors are jointly and severally liable to a corporation, shareholders and third parties for any damages caused by abuse of power, fraud, willful misconduct or gross negligence. In addition, pursuant to Article 3 of Law No. 29720, as of June 26, 2011, directors of companies listed on the Lima Stock Exchange are also strictly liable for any damages caused as a result of any transactions in which they were involved and which resulted in damages or other losses to the corporation. A director cannot be found liable if the director expressed disagreement at the time the vote was cast or upon learning of such transaction and if there is a record expressing such opposition.

Our by-laws prohibit a director from voting on matters in which such director has an interest. In addition, Article 180 of the Peruvian Corporate Law requires a director with a conflicting interest on a specific matter to disclose such interest and abstain from the deliberation and decision-making process with respect to such matter. A director who violates this requirement is liable for any damages caused to us and may be removed by a majority of the board of directors upon request of any member of the board or by a majority vote of the shareholders.

Our by-laws stipulate that Directors' compensation is determined by the Mandatory Annual General Shareholders' Meeting at the time it reviews our annual audited financial statements. The fixed portion of the Chairman's compensation shall be twice the amount allocated to any other director. If directors are part of one or more Committees, their compensation may include an additional amount for the work performed as members of such Committees. The additional compensation of the directors may not exceed the aggregate fixed portion of the compensation that the directors are entitled to receive. Our by-laws do not restrict Directors from voting upon matters relating to their own compensation.

Our by-laws do not prohibit our directors from borrowing from us. However, Article 179 of the Peruvian Corporate Law provides that directors of a company may enter into an agreement with such company only if the related loan agreement relates to operations the company performs in the regular course of business and in an arms'-length transaction. Further, a company may provide a loan to a director or grant securities in such director's favor only in connection with operations that the company usually performs with third parties. Agreements, credits, loans or guarantees that do not meet the requirements set forth above require prior approval from at least two thirds of the members of the Company's Board of Directors. Directors are jointly liable to the company and the Company's creditors for contracts, credit, loans or securities executed or granted without complying with Article 179 of the Peruvian Corporate Law.

Neither our by-laws nor Peruvian Corporate Law contain age limit requirements for the retirement or non-retirement of directors.

Board of Directors

The following sets forth our directors and their respective positions as of the date of this annual report. On July 9, 2020 the Annual Shareholder's meeting was held and the number of directors was reduced to seven members, alternate directors were not elected and new directors were elected for the period 2020-2023. Ms. Ana Maria Botella Serrano, previously an alternate director, and Venkat Krishnamurthy were elected as new members.

Name	Position	Year of Birth
Eduardo Hochschild Beeck	Chairman of the Board	1963
José Raimundo Morales Dasso	Vice Chairman of the Board	1946
Ana Maria Botella Serrano	Director	1953
Juan Francisco Correa Sabogal	Director	1974
Venkat Krishnamurthy	Director	1971
Humberto Nadal Del Carpio	Director, Chief Executive Officer	1964
Marco Antonio Zaldivar Garcia	Director	1960

The following sets forth selected biographical information for each of the members of our board of directors. The average tenure of board members is 9.96 years. The business address of each of our current directors is Calle La Colonia 150, Urb. El Vivero, Surco, Lima, Peru.

Eduardo Hochschild Beeck. Mr. Hochschild has been a Dependent Director since April 1991 and is currently Chairman of the Board. He is a Mechanical Engineer from Tufts University, Boston, United States. Mr. Hochschild is also Chairman of Hochschild Mining plc, Inversiones ASPI S.A. and the Board of Directors of UTEC and TECSUP and Director of the Foreign Trade Society of Peru (COMEX Peru) and expert advisor to the Economic Council of the Episcopal Conference.

José Raimundo Morales Dasso. Mr. Morales has been a Director since March 2008. He has a degree in Economics and Administration from the Universidad del Pacífico, and a Master's in Business Administration from the Wharton Graduate School of Finance of the University of Pennsylvania, United States. Between 1970 and 1980, he held various positions at Bank of America and Wells Fargo Bank. He joined Banco de Crédito del Perú S.A. in 1980 and held senior management positions. He was General Manager of BCP from October 1990 to April 2008. He currently holds the position of Vice Chairman of the Board of Directors of Credicorp LTD., Banco de Crédito del Perú S.A. and Pacífico Cia. Insurance and Reinsurance. He is also a member of the Board of Directors of Atlantic Security Bank, Alicorp S.A.A., Pesquera Centinela S.A., Grupo Romero, Cementos Pacasmayo S.A.A., Fosfatos del Pacífico S.A., Cerámica Lima S.A., Corporación Cerámica S.A. and Inversiones y Propiedades S.A., as well as a member of the Board of Directors of the Peruvian Institute of Economy.

Ana María Botella Serrano. Mrs. Botella has been Director since July 9, 2020. Previously, she was Alternate Director from September 1, 2019 to July 9, 2020. She has a Law degree from the Complutense University of Madrid and belongs by opposition to the Superior Body of Civil Administrators of the Spanish State. As a civil servant, she has worked in the Ministry of the Interior, the Civil Government of La Rioja, the Ministry of Public Works, the Valladolid Treasury Delegation and the Ministry of the Treasury. In 2003 she was elected Councilor of the Madrid City Council, she has been Second Deputy Mayor and has held the Government Delegations for Employment and Social Services and Environment and Mobility. In December 2011, she was sworn in as Mayor of the Madrid City Council, a position she held until June 2015. She is currently the Executive President of the Integra Foundation and Director of Programs at the Atlantic Government Institute. *Independent Director*

Juan Francisco Correa Sabogal. Mr. Correa has been a director since February 2018. He has a bachelor's degree in Business Administration from the Universidad de Lima and an MBA from The Wharton Business School, University of Pennsylvania. Previously, he served as Managing Director with Lazard Freres LLC in its offices in the Middle East of the United States until July 2017, following a career of more than 11 years with this firm. Mr. Correa was one of the founding members of the firm and was responsible for establishing the business and developing a client base in the Middle Eastern United States from a variety of industries. Prior to that, Mr. Correa was a Director at Lazard's Power, Energy & Infrastructure group in New York, covering a variety of sub-sectors. Mr. Correa also assumed responsibilities connected to Lazard's efforts in Latin America and was a member of the Board of Directors of MBA Lazard (Lazard's former joint venture for Spanish-speaking Latin America). Prior to joining Lazard, Mr. Correa worked at RWE/Thames Water, Merrill Lynch and Banco de Crédito del Perú S.A. In addition, Mr. Correa has been a consultant to a large number of international and American companies on issues that are not in the public domain related to strategies for mergers, acquisitions and corporate finance. Mr. Correa has a second degree of affinity with Eduardo Hochschild.

Venkat Krishnamurthy. Mr. Krishnamurthy serves as Director since July 9, 2020. He holds a Bachelor of Science from the Indian Institute of Technology in Kanpur, where he received the Presidential Gold Medal and a PhD in Computer Science from Stanford University. He is a serial entrepreneur, who has created disruptive business and technology breakthroughs in Computer Graphics, Enterprise Software, Social Networks, Internet Marketing, IOT, CAD, Laser Scanning, Manufacturing, Metrology, Orthodontics, EAS/Security and Supply Chain. He is currently co-founder at Alignable, North America's largest network for small and medium businesses and at Gita Krishnamurthy Vidyalyaya a free school for under-privileged children in South India, as well as board member at privately held internet travel business Grand Circle Corporation. He is an Academy Award winner for Technical Achievement (2001) for pioneering inventions in the area of animation-ready higher order (polynomial) surface reconstruction from 3-D scanners. Previously, he co-founded Invisalign, Paraform/Metris, now Nikon Metrology, CTO at OATSystems, now Checkpoint's RFID/IOT division and Instructor at MIT Professional Education on Radical Innovation. *Independent Director*

Humberto Reynaldo Nadal Del Carpio. Mr. Nadal joined the Company as Corporate Development Manager in June 2007, has been a Director since March 2008 and CEO since April 2011. He is an economist graduated from Universidad del Pacifico and has an MBA from Georgetown University. He is also CEO of ASPI, Fosfatos del Pacifico and FOSSAL. Additionally, he is a director of Ferreycorp and has been Chairman of the Board of Trustees of the Universidad del Pacifico, and Chairman of the Board of Directors of Fondo Mi Vivienda. In April 2006, he joined Compañía Minera Ares S.A.C. (subsidiary of Hochschild Mining plc) as Corporate Development Manager. Mr. Nadal was also Business, Administration and Finance Manager of Instituto Libertad y Democracia and General Manager of Socosani S.A. Distinguished among the top three CEOs in the construction industry in Latin America by Institutional Investor magazine for all years from 2014 to 2021.

Marco Antonio Zaldivar. Mr. Zaldivar has been a Director since March 2017. Certified Public Accountant, graduated from the Universidad de Lima and the Management Development Program of the PAD of the Universidad de Piura. He has an MBA from the Adolfo Ibáñez School of Management (USA). He has been Chairman of the Board of Directors of the Lima Stock Exchange. Previously, at Ernst & Young, he was Partner of Risk Management and Regulatory Matters, Senior Partner of the firm's Audit and Business Advisory Division. Also, he has been Vice Dean of the College of Public Accountants of Lima, President of the Board of Directors and President of the Good Corporate Governance Committee of Procapitales. He is currently an Independent Director of Edpyme Santander Consumption and Compañía de Minas Buenaventura, among other positions, with extensive experience in Corporate Governance issues. *Independent Director*

Executive Officers

Our executive officers oversee our business and are responsible for the execution of the decisions of the board of directors. The following table presents information concerning the current executive officers of the company and their respective positions:

Name	Position	Year of Birth	Year of Appointment
Humberto Nadal Del Carpio	Chief Executive Officer	1964	2008
Manuel Bartolomé Ferreyros Peña	Chief Financial Officer	1966	2008
Jorge Javier Durand Planas	Legal Vice – President	1966	2008
Carlos Julio Pomarino Pezzia	Vice – President of the Cement Business	1962	2009
Diego Arispe Silva	Central Manager of Human Management and Corporate Social Responsibility	1981	2021
Aldo Bertoli Estrella	Central Manager of Commercialization	1969	2016
Ibrahim Chahuan Riveros	Central Manager of Construction Solutions	1988	2021
Ely Hayashi Hirahoka	Central Manager of Finance	1982	2021
Tito Alberto Inope Mantero	Central Manager of Industrial Operations	1972	2015
Diego Reyes Pazos	Central Manager of Supply Chain	1977	2013
Hugo Villanueva Castillo	Central Manager of Operations	1962	2012

The following sets forth selected biographical information for each of our executive officers:

Jorge Javier Durand Planas. Mr. Durand joined the Hochschild Group in 1994 and has been the General Counsel and Legal Vice President of the Company since 2008. Previously, he was Legal Vice President of Hochschild Mining plc. He is a lawyer graduated from the Universidad de Lima (Peru) and a Master of Business Administration from the Universidad del Pacifico (Peru). Among other studies, he participated in the Management Program for Lawyers and in the Corporate Governance and Performance Program of the Yale School of Management (United States), in the Strategic Negotiations Program of Harvard Business School (United States) and in the Prince of Wales, Business & Sustainability Program of the University of Cambridge Institute for Sustainability Leadership (United Kingdom). Currently, Mr. Durand is a member of the Board of Directors of Inversiones ASPI S.A. and is a member of the Board of Directors of Fosfatos del Pacifico, UTEC and TECSUP.

Manuel Bartolomé Ferreyros Peña. Mr. Ferreyros was Alternate Director from March 2008 to July 9, 2020, and Vice President of Administration and Finance since January 2008. He is a member of the Board of Directors of Fosfatos del Pacifico S.A. and FOSSAL S.A.A. Mr. Ferreyros has a Bachelor degree in Business Administration from the Universidad de Lima, a multinational MBA from the Adolfo Ibáñez School of Management, Miami and an MBA from the New York College of Insurance. Mr. Ferreyros has participated in the Senior Management Program of the Central American Institute of Business Administration (INCAE) and in the CEO's Management Program at the Kellogg School of Management, among others. Before joining the Company, Mr. Ferreyros was CEO at La Positiva Seguros y Reaseguros. Distinguished among the three best CFOs in the construction industry in Latin America by Institutional Investor magazine between 2014 and 2021.

Carlos Julio Pomarino Pezzia. Mr. Pomarino has been Vice President of the Cement and Construction Solutions Business since July 2017. He has a Bachelor's degree in Economic Engineering from the Universidad Nacional De Ingenieria and an MBA from the Adolfo Ibáñez Business School and ESAN. In addition, he has participated in the Senior Management Program (PAD) of the Universidad de Piura and completed the Certification of independent Board members at Centrum Católica. He was Vice President of the Cement Business from 2012 to 2017, Deputy General Manager from 2009 to 2012, Commercial Manager of the Company from 2002 to 2009 and General Manager of Distribuidora Norte Pacasmayo S.R.L. from 1998 to 2009. Before joining the Company, Mr. Pomarino worked as Administration and Finance Manager at Comercializadora de Alimentos S.A. and as Head of Finance at the Fabrica de Tejidos San Jacinto S.A.

Diego Arispe Silva. Mr. Arispe has been the Central Manager of Human Management since June 2019 and of Corporate Social Responsibility since January 2022. He is a lawyer graduated from the Pontificia Universidad Católica del Perú and has an MBA from Columbia Business School (United States). He has worked in the company for more than 10 years, having held various positions in the areas of Human Management, Social Responsibility, and Legal, and was part of the team in charge of the implementation of our cement plant in Piura, as Project Controller.

Aldo Bertoli Estrella. Mr. Bertoli has been the Central Manager of Commercialization since May 2016. He has a university degree in Business Administration from the Universidad del Pacifico and a Master's degree in Business Administration from the Universidad de Piura. Before joining our company, Mr. Bertoli worked for five years as Peru-Ecuador-Bolivia Sales Manager at Pepsico Inc. Previously, he spent 12 years at Procter & Gamble in various commercial positions, including 4 years in Bolivia as Country Manager.

Ibrahim Chahuan Riveros. Mr. Chahuan has been the Central Manager of Construction Solutions since January 2022. He has a Bachelor of Business Administration from Universidad del Pacifico and is currently pursuing an Executive MBA at Northwestern University - Kellogg School of Management. Mr. Chahuan has 10 years of experience with the company, having held various positions primarily in the marketing area. He participated in key corporate finance projects for the development of the company, such as the issuance of bonds for USD 300 MM and for nearly 7 years he has been in charge of promoting and developing the company's construction solutions.

Ely Hayashi Hirahoka. Ms. Hayashi has been the Central Manager of Finance, since January 2022. She has a Bachelor of Business Administration from Universidad del Pacifico and an MBA from IE Business School in Madrid Spain. Ms. Hayashi joined the company in 2006 and has held various positions in operational and financial areas throughout her more than 15 years with the Company.

Tito Alberto Inope Mantero. Mr. Inope has been the Central Manager of Industrial Operations since January 2022. He is an Economist from the Universidad de Lima and has a Master of Business Administration (MBA) from the Universidad Peruana de Ciencias Aplicadas (UPC) as well as the senior management program (PAD). Mr. Inope joined the company in 1996 and has held various management positions throughout his more than 25 years with the Company.

Diego Reyes Pazos. Mr. Reyes has been Central Manager of Supply Chain, Administration and Risks since July 2013. He has solid experience in supply chain, project development, system/process design and implementation, and financial analysis. He is Business Administrator from Universidad de Lima and holds a master's degree in Business Administration by Universidad de Piura. Prior to joining our Company, Mr. Reyes served as Operations and Finance Manager at Belcorp, Senior Business Process Expert for Latin America at SAB Miller, Project Manager in the Vice-Presidency of Supply Chain at UCP Backus & Johnston, among others.

Hugo Pedro Villanueva Castillo. Mr. Villanueva has been Central Manager of Operations at Cementos Pacasmayo and Cementos Selva since January 2012. Previously, he served as the Operations Manager at Cementos Selva for more than nine years. He has been working at the Company for more than 20 years and has held various positions in the areas of Quality, Production and Operations. He is a Chemical Engineer graduated from the Universidad Mayor de San Marcos. He holds an MBA by Tecnológico de Monterrey, Mexico, has participated in the General Management Program of the PAD of Universidad de Piura and in the Senior Management Program of INCAE in Costa Rica. Additionally, he has completed various industry specialization programs.

B. Compensation

As of December 31, 2021, the total short-term compensations amounted to S/22,678,000 (2020: S/21,859,000 and 2019: S/23,692,000) and the total long-term compensations amounted to S/9,763,000 (2020: S/5,759,000 and 2019: S/6,523,000), and there were no post-employment or contract termination benefits or share-payments.

In 2011, we decided to pay each of our directors a yearly compensation of US\$200,000 (US\$400,000 in the case of our Chairman). In addition, compensation paid to certain of our directors for serving on board committees will be, in aggregate per year, not higher than the total amount paid to our directors for serving on our board of directors. Our 2021 director compensation was approved at our annual shareholders' meeting.

Neither we nor any of our subsidiaries have entered into any agreement that provides for any benefit or compensation to any director or executive officer after expiration of his or her term.

Executive Compensation Plan

Our business operates in a competitive environment where highly trained professionals and executives are in demand. Continued expansion of the Peruvian economy over the past several years has created new opportunities resulting in additional competition for local talent. As a result, we have in place compensation plan to retain our key executives and attract new executives with the skills and experience required to achieve our strategic objectives and create long-term value for our shareholders. We believe that executive compensation should reward individual performance and the achievement of our strategic objectives.

Our executive compensation plan has been designed to achieve the following primary objectives:

- recruit, retain and incentivize highly talented and dedicated executives with the skills and experience required to manage and operate our business and create long-term value for our shareholders;
- provide our executive officers with compensation opportunities that are fair, reasonable and competitive in the market;
- compensate based on our performance and individual performance;
- promote transparency by using clear and straightforward compensation metrics; and
- align the interests of our executive officers with the interests of our shareholders, both in the short-term and long-term.

Our executive compensation plan is in addition to workers' profit sharing requirements applicable to all of our employees, including our executive officers, under Peruvian labor laws.

Our compensation plan has been designed to compensate our executives through a combination of base salary, a cash bonus incentive and other benefits that we believe are fair and equitable to us and our shareholders and competitive in the market. We believe that the combination of salary, cash bonus incentive and other benefits help distinguish us from other companies in the cement industry in Peru, and serve as an important retention tool as we compete for executive talent. We also believe that it will provide an appropriate compensation structure to retain our executives, reward them for individual performance, and induce them to contribute to the creation of long-term value.

Components of Executive Compensation

The key components of our executive compensation plan are:

- base salary;
- short-term cash bonus incentives; and
- long-term cash bonus incentives.

We believe that the use of few and straightforward compensation components promotes the effectiveness and transparency of our executive compensation plan and enables us to be competitive. No formula or specific weightings or relationships are used to allocate the various components in our executive compensation plan. Each component has an important role in implementing our executive compensation philosophy and in meeting the executive compensation objectives described above.

Base Salary

We compensate our executive officers and other employees with a base salary to compensate them for services rendered on a day-to-day basis during the fiscal year. Base salaries provide stable compensation to executives, allow us to recruit and retain highly talented and dedicated executives and, through periodic merit increases, provide a basis upon which executives may be rewarded for individual performance.

Short-Term Cash Bonus Incentives

As a key component of our compensation plan, we currently provide our executive officers the opportunity to earn annual cash bonuses based on the achievement of our short-term business objectives. As additional cash compensation that is contingent on achieving our business objectives, cash incentives augment the base salary component while being tied directly to corporate and individual performance objectives.

Long-Term Cash Bonus Incentives

In addition, as a tool to promote retention of our executive officers, we have implemented a deferred cash incentive program that we believe aligns compensation with corporate performance, allows us to recruit and retain competent executive talent, and rewards for superior performance measured over the long-term. Our plan provides for the payment of bonuses in addition to the annual bonuses that are paid to our executive officers.

Our long-term bonus incentive program features the following key components:

- available to senior executives who have been employed by our company at this level for at least four years;
- at the end of each year, the cash bonus will be accrued in a “personal virtual account” for the benefit of the relevant executive;
- at the beginning of the sixth year the relevant executive will receive the amount accrued during the first four years;
- additional annual bonuses will be accrued for the following four years and a final payout will be made at the end of the eighth year from the creation or beginning of the plan; and
- if the employee decides to voluntarily leave the company before a scheduled distribution, he will not receive this compensation.

Our plan provides that the executive must meet the following eligibility criteria:

- must be no older than 58 years at the time his or her participation in the incentive program begins;
- must have at least four years as senior executives with either our company, or our subsidiaries or affiliates;
- is a professional who is deemed to have characteristics that are attractive to the market; and
- the executive’s departure is deemed by the board of directors or a committee thereof to have an adverse effect on our performance.

C. Board Practices

For information about the date of expiration of the current term of office and the period during which each director has served in such office, see “Item 6. Directors, Senior Management and Employees—A. Directors and Senior Management.”

Benefits upon Termination of Employment

There are no contracts providing for benefits to directors upon termination of employment.

Board Committees

We have four board committees comprised of members of our board of directors, which are described below.

Executive Committee

Our by-laws permit us to delegate an executive committee composed of three to five members of the board of directors. Mr. Eduardo Hochschild Beeck (chairman), Mr. Raimundo Morales Dasso and Mr. Humberto Nadal del Carpio are currently members of our executive committee. Our executive committee is mainly responsible for (i) supervising and supporting our management in executing the resolutions passed by our board of directors, (ii) executing the strategy approved by our board of directors, (iii) meeting short-term and medium-term goals, as well as designing action plans to meet such goals in accordance with the long-term strategy and goals approved by our board of directors, (iv) approving agreements or transactions involving amounts greater than US\$3 million but less than US\$20 million, (v) monitoring compliance with the annual budget and approving any significant deviations from approved levels of working capital, (vi) making strategic decisions that do not rise to the level of a full board approval, and (vii) approving and executing new projects in amounts up to US\$20 million.

Our executive committee also performs the functions of a compensation committee.

Antitrust Best Practices Committee

The antitrust best practices committee is composed of three members: Mr. Raimundo Morales Dasso, Mr. Humberto Nadal del Carpio and Mr. Eduardo Hochschild Beeck. The antitrust best practices committee is responsible for informing our employees about our competition best practices and for monitoring compliance with such practices, including compliance with antitrust regulations.

Audit Committee

Our audit committee is composed of three directors: Mr. Marco Antonio Zaldívar, who is the chairman of the audit committee, Mr. Venkat Krishnamurthy and Mrs. Ana María Botella. All of the members of the audit committee qualify as independent in accordance with the SEC rules applicable to foreign private issuers. Mr. Marco Antonio Zaldívar also qualifies as a financial expert under SEC rules. The audit committee is responsible for (i) reviewing our financial statements; (ii) evaluating our internal controls and procedures, and identifying deficiencies; (iii) the appointment, compensation, retention; and (iv) oversight of our external auditors. Additionally, it is responsible for informing our board of directors regarding any issues that arise with respect to the quality or integrity of our financial statements, our compliance with legal or regulatory requirements, the performance and independence of the external auditors, or the performance of the internal audit function; and overseeing measures adopted as a result of any observations made by our shareholders, directors, executive officers, employees or any third parties with respect to accounting, internal controls and internal and external audit, as well as any complaints regarding management irregularities, including anonymous and confidential methods for addressing concerns raised by employees.

Corporate Governance Committee

Our corporate governance committee is composed of three directors. The current members are Mr. Eduardo Hochschild Beeck Correa (chair), Mr. Juan Francisco Correa and Mr. Humberto Nadal del Carpio. The corporate governance committee is responsible for assisting the board on its oversight of director nomination and committee assignments, as well as the board and CEO successions. Similarly, it is responsible for assisting in the implementation of the committee and board self-assessment surveys and the review of governance principles.

D. Employees

As of December 31, 2021, we had a total of 1,683 permanent employees. The following table sets forth a breakdown of our employees by category as of the periods indicated.

	As of December 31,		
	2021	2020	2019
Management	39	40	36
Administrative personnel	1,325	1,299	1,364
Plant workers	319	328	321
Total⁽¹⁾	1,683	1,667	1,721

(1) Workers from our social venture Acuícola Los Paiches S.A.C. are excluded from these calculations.

As of December 31, 2021, approximately 19.7% of our employees were members of labor unions (*Sindicato Único de Trabajadores de Cementos Pacasmayo S.A.A.*, *Sindicato de Trabajadores de Distribuidora Norte Pacasmayo S.R.L.*, *Sindicato Único de Trabajadores de la Empresa Distribuidora Norte Pacasmayo S.R.L.-Dino*) that represents its members in collective bargaining negotiations. Our management and administrative personnel are not members of a labor union. Labor relations for unionized and non-unionized employees in our production facilities, including compensation and benefits, are governed by a collective bargaining agreement that is renewed annually. In March 2019, three-year Union Agreements were signed with our largest union.

Under Peruvian law, it is illegal to lay off employees without cause or without following certain formal procedures. In addition, employees who are laid off are entitled to severance payments upon termination of their employment in an amount equal to one and a half month's salary for each full year of work performed with a maximum payment equal to 12 monthly salaries provided they are indefinite term employees. In case of fixed term employment relationship the severance payment is equal to 1.5 monthly salaries for each month, until the completion of the contract, with a maximum of 12 monthly salaries.

Our employees are enrolled in either the national public pension fund or a privately managed pension fund. In both cases the applicable payment (approximately 13%) is withheld by the employer from the employees' monthly salary. As of December 31, 2021, approximately 10.9% of our employees were enrolled with the national public pension fund and 88.4% with a private social pension plan.

2020-2021 was one of the most challenging periods in Pacasmayo's history. The global COVID-19 pandemic has created unprecedented impacts in Peru, and on the national economy, namely a collapsed healthcare system, more than 37,000 dead, strict confinement measures that paralyzed the country's main economic activities and which caused a contraction in GDP of 11.1% in 2020, as well as the loss of millions of jobs. The economy bounced back in 2021, reaching a 13.2% GDP growth rate.

This situation has not only affected our operations, but also our employees, customers, suppliers, and surrounding communities. At Pacasmayo, we decided to tackle these challenges with responsibility and empathy, working with our stakeholders to overcome the emergency together. Thus, we made great efforts that have transformed us into an organization that is ever more focused on the health and safety of its employees, more supportive, digital, and flexible, and which have allowed us to continue to generate value in these difficult times.

In Pacasmayo we are in a process of constant cultural transformation. Our goal is the internalization of our purpose, which is to build together the future we dream of. Therefore, our goal is to accompany the business, towards a customer-oriented culture that offers solutions. Always having as a guide the purpose and our cultural principles to adapt and respond to the different needs that the market demands of us.

We also seek to build high levels of engagement with our workers. Our strategy works with leaders to build strong relationships with their teams, supporting individual needs and focusing on helping them grow. This allows us to have committed teams that share the same goals and values, co-create the success of the company and at the same time focus on growing and improving their personal well-being.

The strategy has two major measurements that take place in July and November of the year and has two important supports:

- Periodic measurements that help us to know the feelings and thoughts of our collaborators on some specific dimension and/or situation.
- Engagement promoters: our culture and transformation allies are the connection between the teams and the Human Resources area.

Regarding the results of our engagement surveys, for the second consecutive year, we have had 100% participation, which also shows an adaptation to digital change, and we managed to exceed our goal of 81%:

We believe we have a good relationship with our employees. In the past, we have not experienced any material strikes, work stoppages or any other significant disruptions.

E. Share Ownership

As of March 31, 2022, persons who are currently members of our board of directors and our executive officers held as a group 1,451.4 of our common shares and no investment shares (not including common shares held by Mr. Eduardo Hochschild through ASPI). This amount represented less than 1% of our outstanding share capital as of March 31, 2022. Mr. Eduardo Hochschild through ASPI indirectly controls 211,985,547 common shares.

Mr. Manuel Ferreyros, Mr. Humberto Nadal, Mr. Raimundo Morales, Mr. Carlos Pomarino own individually and in the aggregate less than 1% of our common shares.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. Major Shareholders

As of March 31, 2022, our issued and outstanding share capital was composed of 423,868,449 common shares. In addition, as of March 31, 2022, we had 40,278,894 non-voting investment shares outstanding, 36,040,497 of which were held in treasury.

The following table sets forth the beneficial ownership of our common shares and non-voting investment shares as of March 31, 2022.

Shareholder	As of March 31, 2022					
	Common shares		Investment shares		Total	
	Number of shares (in millions)	Percentage	Number of shares (in millions)	Percentage	Number of shares (in millions)	Percentage
ASPI ⁽¹⁾	211,985.5	50.0%	—	—	211,985.5	45.7%
CPSAA (treasury shares)	—	—	36,040.4	89.5%	36,040.4	7.8%
IN—Fondo 3 (AFP Integra)	25,217.1	6.0%	—	—	19,434.2	4.2%
RI—Fondo 2 (AFP Prima)	23,940.5	5.7%	—	—	22,576.7	4.9%
RI—Fondo 3 (AFP Prima)	18,346.0	4.3%	—	—	18,300.9	3.9%
PR—Fondo 2 (PROFUTURO)	19,881.9	4.7%	—	—	20,323.5	4.4%
PR—Fondo 3 (PROFUTURO)	18,909.9	4.5%	—	—	20,212.6	4.4%
Directors and officers ⁽²⁾	1,451.4	0.3%	—	—	1,351.8	0.3%
American Depositary Receipt Program	34,179.2	8.1%	—	—	31,139.0	6.7%
Other shareholders	69,956.9	16.4%	4,238.5	10.5%	82,782.7	17.7%
Total	423,868.4	100.0%	40,278.9	100.0%	464,147.3	100.0%

(1) ASPI is indirectly controlled by Mr. Eduardo Hochschild through Farragut Holdings, Inc. (Cayman Islands). Mr. Eduardo Hochschild is a member of the board of directors of our company. The shares expressed here include those held through ASPI.

(2) See “Item 6. Directors, Senior Management and Employees—Share Ownership” for information regarding shares of our common stock owned by members of our board of directors and executive officers. The number of common shares held by directors and executive officers excludes any shares that may be deemed to be beneficially owned by Mr. Eduardo Hochschild through ASPI.

Changes in Ownership

The following sets forth the composition of ownership from December 31, 2017 to December 31, 2021.

Shareholder	As of December 31,					
	2021	2020	2019	2018	2017	
ASPI	45.7%	45.7%	45.7%	45.7%	45.7%	45.7%
CPSAA (treasury shares)	7.8%	7.8%	7.8%	7.8%	7.8%	7.8%
IN—Fondo 2 (AFP Integra)	—	—	—	4.7%	—	—
RI—Fondo 2 (AFP Prima)	5.2%	4.6%	3.9%	4.4%	3.3%	3.3%
RI—Fondo 3 (AFP Prima)	4.0%	—	4.1%	0.2%	2.7%	2.7%
American Depositary Receipt Program	7.4%	6.8%	6.7%	13.0%	15.1%	15.1%
IN—Fondo 3 (AFP Integra)	5.0%	4.1%	5.1%	—	—	—
PR—Fondo 2 (AFP Profuturo)	4.3%	4.4%	4.2%	—	—	—
PR—Fondo 3 (AFP Profuturo)	4.4%	3.7%	4.0%	—	—	—
Other shareholders	16.1%	22.7%	18.5%	24.2%	25.4%	25.4%
Total	100%	100.0%	100.0%	100.0%	100.0%	100.0%

On January 19, 2017, our management approved the buyback of an additional 7,911,845 investment shares, which we currently hold in treasury.

On March 1, 2018, we spun-off a portion of the net assets (consisting of the assets and liabilities) related to Fosfatos del Pacifico S.A. to Fossal S.A.A. (“FOSSAL”), and as a result our capital stock was reduced by approximately S/107,593,030, from S/531,461,479 to S/423,868,449.

Differences in Voting Rights

Our major shareholders do not have different voting rights.

Securities Held in the Host Country

On February 7, 2012, we completed our initial public offering of 20,000,000 ADSs, each representing five common shares, in the United States. On March 2, 2012, we sold an additional 2,296,800 ADSs pursuant to an over-allotment option granted to the underwriters in that offering. Our ADSs are listed on the New York Stock Exchange. As of March 31, 2022, we estimate that there were 6,835,844 ADSs outstanding, which represented 8.1% of our common shares outstanding as of such date.

Arrangements for Change in Control

We are not aware of any arrangements that may, when in force, result in a change in control.

B. Related Party Transactions

Peruvian Law Concerning Related Party Transactions

Under Peruvian law, board members and executive officers of a publicly-held company may not (i) engage in transactions with the company or any related party of the company, except for transactions entered into in the ordinary course of business and on an arm’s length basis, (ii) appropriate for their own benefit a business opportunity that belongs to the company, or (iii) participate in any transaction or decision that presents a conflict of interest with the company.

Peruvian law sets forth certain restrictions and limitations on transactions with certain related parties.

For instance, from a tax standpoint, the value of those transactions must be equal to the fair market value assessed under transfer pricing rules (i.e., the value agreed to by unrelated parties under the same or similar circumstances). Similarly, companies with securities registered in the Peruvian Public Registry of Securities (*Registro Público del Mercado de Valores*), such as us, are required to comply with the following rules:

- The directors and managers of the company cannot, without the prior authorization of the board of directors, (i) receive in the form of a loan money or assets of the company; or (ii) use, for their own benefit or for the benefit of related parties, assets, services or credits of the company.
- The execution of agreements that involve at least 5% of the assets of the company with persons or entities related to directors, managers or shareholders that own, directly or indirectly, 10% of the share capital, requires the prior authorization of the board of directors (with no participation of the director involved in the transaction, if any).
- The execution of agreements with a party controlled by the company's controlling shareholder requires the prior authorization of the board of directors and an evaluation of the terms of the transaction by an external independent company (audit companies or other to be determined by the Peruvian Securities Commission).

The external independent company that reviews the transaction should not be related to the parties involved therein, nor to directors, managers or shareholders that own at least 10% of the share capital of the company.

Related Party Transactions

As a general policy, we do not enter into transactions with related parties, including our board members and officers, on terms more favorable than what we would offer third parties. Any related party transaction we have entered into in the past has been in the ordinary course of business and on an arm's length basis.

As of December 31, 2021, we had an accounts payable balance with ASPI, our controlling shareholder, in the amount of S/105,000 (US\$26,339).

The following transactions have been entered into by us with related parties:

- We lease a plot of land adjacent to our headquarters to our affiliate, Compañía Minera Ares S.A.C., a subsidiary of Hochschild Mining plc. We received rental payments of S/344,000 in 2019, S/1,303,000 in 2020 and S/1,230,000 in 2021.
- We provide back office management and administrative services to ASPI, Fossal and Fosfatos del Pacifico, for which we received S/1,744,000 in 2019, S/834,000 in 2020 and S/305,000 in 2021.
- We receive a reimbursement of security services from our affiliate Compañía Minera Ares S.A.C., a subsidiary of Hochschild Mining plc. We paid a total of S/1,989 in 2019, S/1,912 in 2020 and S/2,836 in 2021 for these services.

ASPI and Hochschild Mining plc are majority-owned and controlled, directly and indirectly, by Mr. Eduardo Hochschild.

For more information about our related-party transactions please see note 27 to our annual consolidated financial statements included in this annual report.

C. Interests of Experts and Counsel

Not applicable.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated Statements and Other Financial Information.

See Item 19. — Exhibits.

Legal and Administrative Proceedings

From time to time, we may become subject to various legal and administrative proceedings that are incidental to the ordinary conduct of our business. We are currently not party to any material legal or administrative proceedings.

Dividends and Dividend Policy

Our ability to pay dividends is subject to our results of operations for each year. Holders of our common shares and investment shares are entitled to receive dividends on a pro rata basis in accordance with their respective number of shares held.

Under our dividend policy, shareholders must take the following factors into consideration prior to declaring dividends: our financial and economic condition, including committed and budgeted expenses and obligations, and previously approved investments. In addition, our dividend policy states that (a) our board of directors may declare advanced dividends based on either the net income resulting from financial statements prepared for such purpose or the cumulative net income corresponding to previous years, provided that shareholders delegated such authority to the board of directors, and (b) holders of common shares representing no less than 20% of our total share capital may request the distribution of dividends up to 50% of the net income corresponding to the previous year, net of any legal reserve requirements. Our board of directors makes a recommendation at the annual shareholders' meeting with respect to the amount and timing of dividend payments, if any, to be made on our common shares and investment shares.

Under Peruvian law, companies may distribute up to 100% of their profit (after payment of income tax) subject to a 10% legal reserve until the legal reserve equals 20% of shareholders' equity. According to Article 40 of the Peruvian Corporate Law, in order to distribute dividends, profits must be determined in accordance with the individual financial statements of the company.

Payment of Dividends

Dividends are paid to holders of our common shares and investment shares, as of a record date determined by us. In order to allow for the settlement of securities, under the rules of the Peruvian Securities Commission, investors who purchase shares of a publicly-held company three business days prior to a dividend payment date do not have the right to receive such dividend payment. Dividends on issued and outstanding common shares and investment shares are distributed pro rata.

Holders of common shares and investment shares are not entitled to interest on accrued dividends. In addition, under Article 232 of the Peruvian Corporate Law, the right to collect accrued dividends declared by a publicly-held company expires 10 years from the original dividend payment date.

Previous Dividend Payments

The following table sets forth the amounts of cash dividends declared and paid from 2012 through the date hereof for our common shares and our investment shares.

Year ended December 31,	Dividends paid	Per share(in S/)
2021	366,676,401	0.79000
2020	106,753,888	0.23000
2019	154,118,465	0.36000
2018	161,396,280	0.37700
2017	149,837,396	0.35000
2016	155,236,000	0.28500
2015	162,950,000	0.28000
2014	116,393,000	0.20000
2013	58,196,000	0.10000

At the annual shareholders' meeting held on March 28, 2022, the shareholders of the Company approved the financial statements for fiscal year 2021 including the net income for such year and delegated to the Board of Directors the authority to decide the distribution of dividends from the retained earnings account and fiscal year 2022 operating results.

B. Significant Changes

We are not aware of any changes bearing upon our financial condition since the date of the financial statements included in this annual report.

ITEM 9. THE OFFER AND LISTING

A. Offer and Listing Details

Market Price of Our Common Shares and ADSs

Our ADSs

On February 7, 2012, we completed our initial public offering of 20,000,000 ADSs, each representing five common shares, in the United States. On March 2, 2012, we sold an additional 2,296,800 ADSs pursuant to an over-allotment option granted to the underwriters in that offering.

Our ADSs are listed on the New York Stock Exchange under the symbol “CPAC.”

B. Plan of Distribution

Not applicable.

C. Markets

Trading in the Peruvian securities market

The Lima Stock Exchange

As of December 31, 2021, there were 500 companies with securities listed on the Lima Stock Exchange. Established in 1970, the Lima Stock Exchange is Peru’s only securities exchange. On November 19, 2003, the members of the Lima Stock Exchange approved to convert its corporate status to a publicly held corporation effective as of January 1, 2003. As of December 31, 2021, The Lima Stock Exchange had a share capital of S/182,092,340, divided into 173,659,481 class “A” shares and 8,432,859 class “B” shares of par value S/1.00 each. Class “A” shares are entitled to one vote per share while class “B” shares do not have voting rights. As of December 31, 2021, the Lima Stock Exchange had 338 shareholders. On March 2020, after its annual review, FTSE announced that, since there is only one Peruvian stock in the FTSE Global All Cap index, it fails the new minimum investable market cap and securities count requirement criterion. As a result, Peru will be reclassified from Secondary Emerging to Frontier market status effective from September 2020.

Trading on the Lima Stock Exchange is primarily done on an electronic trading system that became operational in August 1995. From the first Monday of November through the second Sunday of March of each year, trading hours are Monday through Friday (except holidays) as follows: 8:20 a.m.-8:30 a.m. (pre-market ordering); 8:30 a.m.-2:55 p.m. (trading); 2:55 p.m.-3:00 p.m. (after-market sales); and 3:00 p.m.-3:10 p.m. (after-market trading). At all other times, trading hours are from Monday to Friday (except holidays) as follows: 9:00 a.m.-9:30 a.m. (pre-market ordering); 9:30 a.m.-3:55 p.m. (trading); 3:55 p.m.-4:00 p.m. (after-market sales); and 4:00 p.m.-4:10 p.m. (after-market trading).

Transactions during the electronic sessions are executed through brokerage firms and stock brokers on behalf of their clients. Brokers submit orders in the order in which they are received. The orders must specify the type of security as well as the amount and price of the proposed sale or purchase. In order to control price volatility, for Peruvian companies there are volatility auctions for variations of +/- 7% during trading session and +/- 4% during the last half-hour of continuous trading, when a stock reaches the 15% limit there is an auction and a consequent price formation. For non-Peruvian companies there is no limit because it is the price in the foreign market the main reference.

Regulation of the Peruvian Securities Market

The Securities Market Law regulates certain securities matters, such as transparency and disclosure, corporate takeovers, capital market instruments and operations, the securities markets and broker-dealers, and credit-rating agencies. In 1996, the Peruvian Securities Commission, “*Superintendencia del Mercado de Valores – SMV*”, formerly known as the National Supervisory Commission for Securities and Companies (*Comisión Nacional Supervisora de Empresas y Valores*, or “CONASEV”), was given additional responsibilities relating to the supervision, regulation and development of the securities market, while the Lima Stock Exchange was granted the status of a self-regulatory organization. Additionally, a unified system of guarantees and capital requirements was established for the Lima Stock Exchange.

Pursuant to Law No. 29782, published in the Peruvian Official Gazette, *El Peruano*, on July 28, 2011, the Peruvian Securities Commission is a governmental entity reporting to Peru’s Ministry of Economy and Finance with functional, administrative, economic, technical and budgetary autonomy.

The Peruvian Securities Commission is governed by the Superintendent and a five board-members confirmed by the Superintendent (who acts as President of the board) and four members appointed by the Peruvian Executive Power (one suggested by the Ministry of Economy and Finance, one suggested by the BCRP, one suggested by the Peruvian Superintendence of Banking, Insurance and Private Pension Funds and one independent member). The Peruvian Securities Commission has broad regulatory powers, including reviewing, promoting, and making rules regarding the securities market, supervising its participants, and approving the registration of public offerings of securities.

The Peruvian Securities Commission supervises the securities markets and the dissemination of information to investors. It also (i) governs the operations of the Public Registry of Securities, (ii) regulates mutual funds, publicly placed investment funds and their respective management companies and broker-dealers, (iii) monitors compliance with accounting regulations by companies under its supervision as well as the accuracy of financial statements and (iv) registers and supervises auditors who provide accounting services to those companies registered with the Peruvian Securities Commission.

Pursuant to the Securities Market Law, broker-dealers must maintain a guarantee fund. This guarantee fund must be managed by an entity supervised by the Peruvian Securities Commission. Contributions to the guarantee fund must be made by the 25 broker-dealers that are members of the Lima Stock Exchange and are based on the volume traded over the exchange. In addition to the guarantee fund managed, each broker-dealer is required to maintain a guarantee in favor of the Peruvian Securities Commission to guarantee any liability that broker-dealers may have with respect to their clients. Such guarantees are generally established through letters of credit issued by local banks.

Disclosure Obligations

Issuers of securities registered with the Peruvian Securities Commission are required to disclose material information relating to the issuer. Pursuant to the Securities Market Law and relevant regulations enacted thereunder, all material information in connection with the issuer of registered securities (such as our common shares and investment shares), its activities or securities issued or secured by such issuer which may influence the liquidity or price of such securities must be disclosed. Accordingly, issuers must file with the Peruvian Securities Commission mainly two types of information: (a) financial information, including interim unaudited financial statements on a quarterly basis (which are not required to be subject to limited review), and annual audited consolidated financial statements on an annual basis, and (b) material information relating to the issuer and its activities that may significantly affect the price, offering or negotiation of the issued securities, and in general, all the information that may be relevant for investors to be able to make investment decisions.

In order to comply with the foregoing disclosure obligations, issuers must disclose reaffirmation to the Peruvian Securities Commission and, if the securities are listed, with the Lima Stock Exchange as soon as practicable but not later than one business day after having become aware of such information.

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

ITEM 10. ADDITIONAL INFORMATION**A. Share Capital**

Not applicable.

B. Memorandum and Articles of Association

Set forth below is certain information relating to our share capital, including brief summaries of the material provisions of our by-laws, Peruvian corporate law and certain related laws and regulations of Peru, all as in effect as of the date hereof.

General

We are a publicly held corporation under Peruvian Corporate law registered with the Public Registry of Corporations in Lima. We are currently listed on the Lima Stock Exchange.

The second article of our by-laws provides that our principal corporate purpose is mining and the production and sale of cement, quicklime and other construction materials in Peru and internationally.

We have common shares and investment shares.

See “Item 6. Directors, Senior Management and Employees—A. Directors and Senior Management” for information regarding our Board of Directors.

Common Shares

Common shares represent 100% of our voting shares. As of March 31, 2022, 423,868,449 of our common shares were outstanding. As of March 31, 2022, there were 7,342 owners of record of our common shares (considering the ADSs listed in the New York Stock Exchange are held by one registered owner). Our common shares have a par value of S/1.00 per share and have been fully subscribed and are fully paid. Our common shares are registered in the Securities Public Registry of the Peruvian Securities Commission and are listed on the Lima Stock Exchange.

Investment Shares

As of March 31, 2022, 4,238,397 of our investment shares were outstanding excluding 36,040,497 investment shares that were held in treasury. Investment shares have no voting rights and are not, under Peruvian law and accounting regulations, characterized as share capital. However, investment shares are still considered part of a company’s equity. As of March 31, 2022, there were 407 owners of record of our investment shares. Our investment shares have a par value of S/1.00 per share and have been fully subscribed and are fully paid. Our investment shares are registered in the Securities Public Registry of the Peruvian Securities Commission and are listed on the Lima Stock Exchange.

Shareholders' Liability

Under Peruvian Corporate Law, holders of our common shares cannot vote on matters with respect to which they have a conflict of interest.

Under Article 133 of the Peruvian Corporate Law, a shareholder must abstain from voting if such shareholder has a conflict of interest. A resolution approved in disregard of this provision may be challenged under Article 139 of the Peruvian Corporate Law and any shareholder that participated in the determination in breach of this provision, if such shareholder's vote was key in attaining the required majority, may be held liable individually, or jointly with any other shareholder voting in breach of the provision.

Redemption and Rights of Withdrawal

Under Article 200 of the Peruvian Corporate Law, holders of our common shares have redemption rights if: (i) we change our corporate purpose; (ii) a change occurs in the place of organization to a foreign country; or (iii) any transformation, merger or significant spin-off occurs with respect to our company.

Preemptive and Accretion Rights

If we increase our share capital, holders of our common shares and investment shares have the right to subscribe to new common shares and investment shares, respectively, on a pro rata basis. Holders of common shares have preemptive rights in order to maintain their share interest in our share capital, unless the capital increase (i) results from a conversion of debt to common shares; (ii) is approved by shareholders representing at least 40% of the subscribed voting shares provided that the capital increase does not favor, directly or indirectly, certain shareholders to the detriment of others; and (iii) results from a corporate reorganization. Holders of investment shares have preemptive rights to maintain their proportional ownership in our share capital.

Shareholders who are in default of any payments relating to a capital call may not exercise their preemptive rights.

Preemptive rights are exercised in two rounds. During the first round, shareholders may subscribe to the new shares on a pro rata basis. During the second round, shareholders who participated in the first round may subscribe to any remaining shares on a pro rata basis up to the amount of shares such shareholders subscribed for in the first round. The first round must remain open for at least 15 business days. The second round must remain open for at least three business days.

Voting Rights and Dividends

Common Shares

Holders of common shares are entitled to one vote per share, with the exception of the election of the board of directors, where each holder is entitled to one vote per share per nominee. Each holder's votes may be cast for a single nominee or distributed among the nominees at the holder's discretion. To that effect, each of our common shares gives the holder the rights to as many votes as there are directors to be elected. Shareholders may pool votes in favor of one person or distribute them among various persons. Those candidates for the board who receive the most votes are elected directors. Holders of common shares may attend and vote at shareholders' meetings either in person or through a proxy.

Holders of common shares have the right to participate in the distribution of dividends and shareholder equity resulting from liquidation. Our by-laws do not establish a maximum time limit for the payment of the dividends. However, according to Article 232 of the Peruvian Corporate law, the right to collect past-due dividends in the case of companies that are publicly held companies, such as ours, expires 10 years after the date on which the dividend payment was due.

Our share capital may be increased by a decision of holders of common shares at a shareholders' meeting. Capital reductions may be voluntary or mandatory and must be approved by holders of common shares at a shareholders' meeting. Capital reductions are mandatory when accumulated losses exceed 50% of the capital and to the extent such accumulated losses are not offset by accumulated earnings and capital increases within the following fiscal year. Capital increases and reductions must be communicated to the Peruvian Securities Commission, the Lima Stock Exchange and the SUNAT. Voluntary capital reductions must also be published in the official gazette *El Peruano* and in a widely circulated newspaper in the city in which we are located.

Investment Shares

Under Peruvian Corporate Law, investment shares do not represent share capital. Accordingly, our balance sheet reflects the investment shares as a separate account from our share capital. Holders of investment shares are neither entitled neither to vote nor to participate in shareholders' meetings. However, investment shares confer upon the holders thereof the right to participate in the dividends distributed according to their par value, in the same manner as common shares. Investment shares also confer to the holders thereof the preemptive right to (i) maintain the current proportion of the investment shares in the case of a capital increase through new contributions; (ii) increase the number of investment shares upon capitalization of retained earnings, revaluation surplus or other reserves that do not represent cash contributions; (iii) participate in the distribution of assets resulting from a liquidation in the same manner as common shares; and, (iv) redeem the investment shares in case of a merger and/or change of business activity.

Liquidation Rights

If we are liquidated, our shareholders have the right to receive net assets resulting from the liquidation, after we comply with our obligation to pay all our creditors and after discounting any existing dividend liabilities. For this reason, we cannot assure that we will be able to reimburse 100% of the book value of the common shares and investment shares in case of bankruptcy or liquidation.

Ordinary and Extraordinary Meetings

Pursuant to Peruvian Corporate Law and our by-laws, the annual shareholders' meeting must be held during the three-month period after the end of each fiscal year. Additional shareholders' meetings may be held during the year. Because we are a publicly-held corporation, we are subject to the special control of the Peruvian Securities Commission, as provided in Article 253 of the Peruvian Corporate Law. If we do not hold the annual shareholders' meeting during the three-month period after the end of each fiscal year or any other shareholders' meeting required by our by-laws, a public notary or a competent judge shall call for such a meeting at the request of at least one shareholder of the common shares. Such meeting will take place within a reasonable period of time.

Other shareholders' meetings are convened by the board of directors when deemed convenient by our company or when it is requested by the holders of at least 20% of our common shares. If, at the request of holders of 20% of the common shares, the shareholders' meeting is not convened by the board of directors within 15 business days of the receipt of such request, or the board expressly or implicitly refuses to convene the shareholders' meeting, a public notary or a competent judge will call pursuant to Law No. 29560 for such meeting at the request of holders of at least 20% of our common shares. If a public notary or competent judge calls for a shareholders' meeting, the place, time and hour of the meeting, the agenda and the person who will preside shall be indicated on the meeting notice. If the meeting called is other than the annual shareholders' meeting or a shareholders' meeting required by the Peruvian Corporate Law or the by-laws, the agenda will contain those matters requested by the shareholders who requested the meeting.

Holders of investment shares have no right to request the board to call a shareholders' meeting.

Notices of Meetings

Since we are a publicly held corporation, notice of shareholders' meetings must be given by publication of a notice. The publication shall occur at least 25 days prior to any shareholders' meeting in the Peruvian Official Gazette, *El Peruano*, and in a widely circulated newspaper in the city in which we are located. The notice requirement may be waived at the shareholders' meeting by agreement of the holders of 100% of the outstanding common shares.

Quorum and Voting Requirements

According to Article 25 of our by-laws and Article 257 of the Peruvian Corporate Law, shareholders' meetings called for the purpose of considering a capital increase or decrease, the issuance of obligations, a change in the by-laws, the sale in a single act of assets with an accounting value that exceeds 50% of our share capital, a merger, division, reorganization, transformation or dissolution, are subject to a first, second and third quorum call, each of the second and third quorum call to occur upon the failure of the preceding one. A quorum for the first call requires the presence of shareholders holding 50% of our total common shares. For the second call, the presence of shareholders holding at least 25% of our total common shares is adequate, while for the third call there is no quorum requirement. These decisions require the approval of the majority of the common shares represented at the shareholders' meeting. Shareholders' meetings convened to consider all other matters are subject to a first and second quorum call, the second quorum call to occur upon the failure of the first quorum.

In accordance with Peruvian Corporate Law, only those holders of common shares whose names are registered in our stock ledger not less than 10 days in advance of a meeting will be entitled to attend the shareholders' meeting and to exercise their rights.

Limitations on the Rights of Non-residents or Foreign Shareholders

There are no limitations under our by-laws or Peruvian Corporate Law on the rights of nonresidents or foreign shareholders to own securities or exercise voting rights with respect to our securities.

Disclosure of Shareholdings and Tender Offer Regulations

Disclosure of Shareholdings

There are no provisions in our by-laws governing the ownership threshold above which share ownership must be disclosed.

However, according to Article 10 of CONASEV Resolution No. 090-2005-EF-94.10, as amended, we must inform the Peruvian Securities Commission of the members of our economic group and a list of our holders of common shares owning more than a 5% share interest, as well as any change to such information.

Tender Offer Regulations

Peruvian security regulations include mandatory takeover rules applicable to the acquisition of control of a listed company.

Subject to certain conditions, such regulations generally establish the obligation to make a tender offer when a person or group of persons acquires a relevant interest in a listed company. According to Peruvian law, a person acquires a relevant interest in a listed company when such person (a) holds or has the power to exercise directly or indirectly 25%, 50% or 60% of the voting rights in a listed company, or (b) has the power to appoint or remove the majority of the board members or to amend its by-laws.

In general, the tender offer must be launched prior to the acquisition of the relevant interest. The tender offer may be launched after the "relevant interest" is acquired if it is acquired (a) by means of an indirect transaction, (b) as a consequence of a public sale offer, or (c) in no more than four transactions within a three-year period.

This mandatory procedure has the effect of alerting other shareholders and the market that an individual or financial group has acquired a significant percentage of a company's voting shares, and gives other shareholders the opportunity to sell their shares at the price offered by the purchaser. The purchaser is required to launch a tender offer unless: (a) shareholders representing 100% of the voting rights consent in writing, (b) voting shares are acquired by a depositary in order to subsequently issue ADSs, or (c) voting shares are acquired pursuant to the exercise of preemptive rights.

Changes in Capital

Our by-laws do not establish special conditions to increase or reduce our share capital beyond what is required under Peruvian Corporate Law.

Anti-Takeover Provisions

Our by-laws do not contain any provision that would have the effect of delaying, deferring or preventing a change of control. However, acquisitions of shares of our capital stock that involve a change of control may be subject to Peruvian securities and exchange regulations (*Ley de Mercado de Valores y Reglamento de Oferta Pública de Adquisición y de Compra de Valores por Exclusión*) applicable to tender offers.

Form and Transfer

Common shares and investment shares may be either physical share certificates in registered form or book-entry securities in the CAVALI S.A. ICLV book-entry settlement system, also in registered form.

Furthermore, the Peruvian Corporate Law forbids publicly held corporations, such as us, from including in their by-laws stipulations limiting the transfer of their shares or restraining their trading in other ways. In addition, pursuant to our by-laws, we cannot recognize a shareholders' agreement that contemplates limitations, restrictions or preferential rights on the transfer of shares, even if such an agreement is recorded in our stock ledger (*matrícula de acciones*) or in CAVALI S.A. ICLV.

C. Material Contracts

On December 31, 2007, we entered into a contract for the general management and provision of services with ASPI, pursuant to which we provide legal and corporate services to it. See "Item 7. Major Shareholders and Related Party Transactions—A. Related Party Transactions."

On February 1, 2008, we entered into a surface rights agreement with Compañía Minera Ares S.A.C., pursuant to which we lease a plot of land adjacent to our headquarters to our affiliate, Compañía Minera Ares S.A.C., a subsidiary of Hochschild Mining plc. See "Item 7. Major Shareholders and Related Party Transactions—A. Related Party Transactions."

On June 30, 2008, we entered into a property lease agreement with ASPI pursuant to which we lease part of our headquarters as office space to ASPI. See "Item 7. Major Shareholders and Related Party Transactions—A. Related Party Transactions."

On June 3, 2010, we entered into a long-term electricity supply agreement with Electroperú, a government-owned company, which expires in July 2020, to serve the electricity requirements of our Pacasmayo facility. Electroperú has agreed to provide us with sufficient energy to operate our Pacasmayo facility at pre-determined maximum amounts during the term of the contract. Payments for electricity are based on a formula that takes into consideration our energy consumption and certain market variables, such as the U.S. purchase price index, the global price of oil, the local price of natural gas and the import price of bituminous coal. We entered into an addendum to this agreement, effective February 1, 2016, which extends the term of the agreement until December 31, 2026, reduces the prices for the 2016-2020 period and establishes new prices for the 2020-2026 period. See "Item 4. Information on the Company—A. History and Development of the Company—Raw Materials and Energy Sources."

On February 8, 2013, we issued US\$300,000,000 of our 4.50% Senior Notes due 2023, in our inaugural international bond offering, pursuant to an indenture. A portion of the proceeds were used to prepay amounts outstanding our secured loan agreement with BBVA Banco Continental, and the remaining proceeds were used to cover a portion of the capital expenditures in connection with the construction and development of the new Piura plant and our cement business. See "Item 5. Operating and Financial Review and Prospects—B. Liquidity and Capital Resources."

On January 31, 2019, we issued S/570,000,000 of our Senior Notes in two issuances. One for S/260 million bearing interest at a rate of 6.68750% for a term of 10 years, and another for S/310 million bearing interest at a rate of 6.84375% for a term of 15 years. The proceeds were used to purchase a portion of our US\$300,000,000 of our 4.50% Senior Notes due 2023.

On August 6, 2021, we established the conditions of a medium-term corporate loan under "Club Deal" modality with Banco de Crédito del Perú S.A. and Scotiabank Perú S.A.A. The loan amounts to S / 860,000,000 that will allow the payment of all the financial obligations that the Company maintains with maturity until February 2023 and will be disbursed based on the maturity of each of them.

On November 29, 2021, we entered into a supply contract with FLSmidth A/S for the supply of the equipment and engineering for a new 2000 tons per day pyro line for our Pacasmayo Plant for a total amount of EUR 19,254,150.

On February 16, 2022, we entered into a construction and erection contract with Ingeniería y Construcción Sigdo Koppers Perú S.A.C. for the construction and erection required for our new 2000 tons per day pyro line for our Pacasmayo Plant for a referential amount of S/ 66,083,227.

D. Exchange Controls

Since August 1990, there have been no exchange controls in Peru and all foreign exchange transactions are based on free market exchange rates. Prior to August 1990, the Peruvian foreign exchange market consisted of several alternative exchange rates. Additionally, during the 1990s, the Peruvian currency experienced a significant number of large devaluations, and Peru has consequently adopted, and operated under, various exchange rate control practices and exchange rate determination policies, ranging from strict control over exchange rates to market determination of rates. Current Peruvian regulations on foreign investment allow the foreign holders of equity shares of Peruvian companies to receive and repatriate 100 percent of the cash dividends distributed by such companies. Such investors are allowed to purchase foreign exchange at free market currency rates through any member of the Peruvian banking system and transfer such foreign currency outside Peru without restriction.

E. Taxation

The following summary contains a description of certain Peruvian and United States federal income tax consequences of the acquisition, ownership and disposition of common shares or ADSs, but it does not purport to be a comprehensive description of all the tax considerations that may be relevant to a decision to purchase common shares or ADSs. The summary is based upon the tax laws of Peru and regulations thereunder and on the tax laws of the United States and regulations thereunder as in effect on the date hereof, which are subject to change.

Prospective holders of common shares or ADSs should consult their own tax advisors as to the tax consequences of the acquisition, ownership and disposition of common shares or ADSs in their particular circumstances.

Peruvian Tax Considerations

The following are the principal tax consequences of ownership of common shares or ADSs by non-resident individuals or entities ("Non-Peruvian Holders") as of the date hereof. Legislative, judicial or administrative changes or interpretations may, however, be forthcoming. Any such changes or interpretations could affect the tax consequences to holders of common shares or ADSs and could alter or modify the conclusions set forth herein. This summary is not intended to be a comprehensive description of all the tax consequences of acquisition, ownership and disposition of common shares or ADSs and does not describe any tax consequences arising under the laws of any taxing jurisdiction other than Peru or applicable to a resident of Peru or to a person with a permanent establishment in Peru.

For purposes of Peruvian taxation:

- individuals are residents of Peru, if they are Peruvian nationals who have established their principal place of residence in Peru or if they are foreign nationals with a permanence in Peru of 183 days in any 12-month period (the condition of Peruvian resident can only be acquired as of the 1st of January of the year following the fulfillment of residence conditions); and
- legal entities are residents of Peru if they are established or incorporated in Peru.

Peruvian Income Tax Rate

The Peruvian income tax rate is 29.5% .

Cash Dividends and Other Distributions

Cash dividends paid with respect to common shares and amounts distributed with respect to ADSs are currently subject to a Peruvian withholding tax, at a rate of 5.0% of the dividend paid. As a general rule, the distribution of additional common shares representing profits, distribution of shares which differ from the distribution of earnings or profits, as well as the distribution of preemptive rights with respect to common shares, which are carried out as part of a pro rata distribution to shareholders, will not be subject to Peruvian tax or withholding taxes.

Capital Gains

Pursuant to Article 6 of the Peruvian income tax law, individuals and entities resident in Peru are subject to Peruvian income tax on their worldwide income while Non-Peruvian Holders are subject to Peruvian income tax on Peruvian source income only.

The general rule of the Law of Income Tax in Peru provides that income derived from the disposal of securities issued by Peruvian entities is considered Peruvian source income and is therefore subject to income tax. Peruvian income tax law also provides that capital gains resulting from the disposal of ADSs that represent shares issued by Peruvian entities are considered Peruvian source income and therefore also subject to Peruvian income tax. Peruvian income tax law also provides that taxable income resulting from the disposal of securities is determined by the difference between the sale price of the securities at market value and the tax basis.

Notwithstanding the foregoing, capital gains resulting from the disposal of ADSs or beneficial interest in ADSs that represent shares issued by a Peruvian entity are not considered Peruvian source income as long as the ADSs issued by the foreign depositary are held in the name of a nominee and such ADSs are not transferred to a third party as a result of the disposal of the ADSs.

In the event ADSs are exchanged into common shares and such common shares are disposed of, capital gains resulting therefrom will be subject to an income tax rate of either 5% or 30%, depending on where the transaction takes place. If the transaction is consummated in Peru, the income tax rate is 5%; if the transaction is consummated outside of Peru, capital gains are taxed at a rate of 30%. Peruvian income tax law regulations have stated that transactions are deemed to be consummated in Peru if the common shares are transferred through the Lima Stock Exchange. Any gain resulting from the conversion of ADSs into common shares or common shares into ADSs will not be subject to taxation in Peru.

Any Non-Peruvian Holder who acquires common shares will have the following tax basis: (i) for common shares purchased by the transferor, the acquisition price paid for the shares; (ii) for common shares received by the transferor as a result of a share capital increase because of a capitalization of net profits, the face or nominal value of such common shares; (iii) for other common shares received free of any payment, the stock market value of such shares if listed on the Lima Stock Exchange or, if not, the face or nominal value of such common shares and (iv) for common shares of the same type acquired at different opportunities and at different values, the tax basis will be the weighted average cost. In cases where common shares are sold by Non-Peruvian Holders outside the Lima Stock Exchange, the tax basis must be certified by the Peruvian tax administration prior to the time payment is made to the transferor; otherwise it would not be possible to deduct the tax basis and a 30% Peruvian income tax would apply to the total sale price. Under Peruvian income tax law, tax basis certification is granted by the tax authorities within 30 days from the date of the application (which application must contain supporting evidence with respect to the tax basis) is made by the transferor. If the tax authorities do not respond within such 30 day period, the tax basis presented for approval by the transferor is deemed automatically approved.

On December 31, 2010, Law No. 29645 was enacted and took effect from January 1, 2011. This law states that in transactions relating to Peruvian securities through the Lima Stock Exchange, CAVALI S.A. ICLV (the Peruvian clearing house) will act as withholding agent to the extent that such transactions are settled in cash through CAVALI's account (*liquidación en efectivo*). The implementing regulations of Law No. 29645 enacted on July 9, 2011 provide that CAVALI began acting as a withholding agent as from November 1, 2011. As a result, while such regulations do not apply to securities transferred through the Lima Stock Exchange by a Non-Peruvian Holder, such transferor must still self-assess and pay its income tax liability directly to Peruvian tax authorities within the first 12 working days following the month in which Peruvian source income was earned. With respect to transactions of Peruvian securities conducted through the Lima Stock Exchange that are settled directly without CAVALI's intervention (*liquidación directa*), Non-Peruvian Holders are required to self-assess and pay income taxes directly to the Peruvian tax authorities within the first 12 working days following the month in which income from a Peruvian source was earned. Finally, if the purchaser is resident in Peru and the sale is not performed through the Lima Stock Exchange, the purchaser will act as withholding agent.

However, Law No. 30341 was enacted on December 12, 2015 and entered into force on January 1, 2016, and Legislative Decree No. 1262, which complements Law No. 30341, entered into force on January 1, 2017. Said law, which was in force until December 31, 2019, regulates an exception to a general rule. However, its validity was extended until December 31, 2022 through Emergency Decree 005-2019. The exemption regulated by law applies to income from the sale of shares and other securities representing shares carried out through a centralized trading mechanism supervised by the Superintendence of Securities, when the shares do not represent 10% or more of the shares issued by a certain company.

Law No. 30341 and the amendment through Legislative Decree No. 1262 and Emergency Decree 005-2019 include the following provisions:

- Securities covered by the exemption:
 - American Depositary Receipts (ADRs) and Global Depositary Receipts (GDRs);
 - Exchange Trade Fund (ETF) units having underlying shares and / or debt securities as underlying;
 - Debt securities;
 - Certificates of participation in mutual funds for investment in securities;
 - Certificates of participation in Investment Fund in Real Estate Income (FIRBI) and certificates of participation in Trust for Securitization for Investment in Real Estate Income (FIBRA); and
 - Negotiable invoices.
- Requirements for apply the exemption:
 - No transfer of 10% or more of the shares or securities representing shares in a period of twelve (12) months. In the case of ADRs and GDRs, this requirement will be determined by considering the underlying shares;
 - In the case of shares or securities representing shares, the calculation of the percentage shall be determined based on the total number of shares of capital or account of investment shares at the time of disposal;
 - The law indicates those operations to be considered for calculating this percentage, as well as those that do not;
 - The securities must have a stock market presence. To determine if the securities have a stock market presence, the following shall be taken into account:
 - Within 180 business days prior to the transfer, the number of days in which the daily-negotiated amount has exceeded the limit established in the regulation shall be determined. This limit cannot be less than six (6) Tax Units (ITU) and will be established considering the volume of transactions that take place in the centralized negotiation mechanisms;
 - The number of days determined according to what is indicated in the previous section will be divided between 180 and multiplied by 100; and
 - The result cannot be less than the limit established by the regulation. This limit cannot exceed forty-five percent (45%).
 - Those responsible for conducting centralized trading mechanisms must disseminate on their web pages the list of the securities that comply with having a presence in the stock market.
- Loss of exoneration:
 - If, after applying the waiver, the issuer delivers the values of the Securities Registry of the Stock Exchange, in whole or in part, in an act or progressively, within the 12 months following the sale, the exoneration applied with respect to the values listed; and
 - Those responsible for conducting the centralized trading mechanisms must notify SUNAT, in accordance with the procedure set forth in the regulations, of the securities whose registrations are canceled within 12 months of the sale.

Other Considerations

No Peruvian estate or gift taxes are imposed on the gratuitous transfer of ADSs or common shares. No stamp, transfer or similar tax applies to any transfer of ADSs or common shares, except for commissions payable by seller and buyer to the Lima Stock Exchange (0.15% of value sold), fees payable to the Peruvian Securities Commission (0.05% of value sold), brokers' fees (about 0.05% to 1% of value sold) and Value Added Tax (at the rate of 18%) on commissions and fees. Any investor who sells its common shares on the Lima Stock Exchange will incur these fees and taxes upon purchase and sale of the common shares.

United States Federal Income Tax Considerations

The following are the material United States federal income tax consequences as of the date hereof to a United States Holder (as defined below) of the ownership and disposition of our common shares and ADSs. This summary deals only with common shares and ADSs held as capital assets (generally, property held for investment). As used herein, the term "United States Holder" means a beneficial owner of common shares or ADSs that is for United States federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for United States federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to United States federal income taxation regardless of its source; or
- a trust if it (1) is subject to the primary supervision of a court within the United States and one or more United States persons have the authority to control all substantial decisions of the trust, or (2) has a valid election in effect under applicable United States Treasury regulations to be treated as a United States person.

This summary does not represent a detailed description of the United States federal income tax consequences applicable to you if you are subject to special treatment under the United States federal income tax laws, including if you are:

- a dealer in securities or currencies;
- a financial institution;
- a regulated investment company;
- a real estate investment trust;
- an insurance company;
- a tax-exempt organization;
- a person holding our common shares or ADSs as part of a hedging, integrated or conversion transaction, a constructive sale or a straddle;
- a trader in securities that has elected the mark-to-market method of accounting for your securities;
- a person liable for alternative minimum tax;
- a person who owns or is deemed to own 10% or more of our stock (by vote or value);
- a partnership or other pass-through entity for United States federal income tax purposes;
- a person required to accelerate the recognition of any item of gross income with respect to our common shares or ADSs as a result of such income being recognized on an applicable financial statement; or
- a person whose "functional currency" is not the U.S. dollar.

The discussion below is based upon the provisions of the U.S. Internal Revenue Code of 1986, as amended (the “Code”), and regulations, rulings and judicial decisions thereunder as of the date hereof, and such authorities may be replaced, revoked or modified so as to result in United States federal income tax consequences different from those discussed below. There is currently no income tax treaty between the United States and Peru that would provide for United States federal income tax consequences different from those discussed below. In addition, this summary is based, in part, upon representations made by the depositary to us and assumes that the deposit agreement, and all other related agreements, will be performed in accordance with their terms.

If a partnership (or other entity or arrangement treated as a partnership for United States federal income tax purposes) holds our common shares or ADSs, the tax treatment of a partner in the partnership will generally depend upon the status of the partner and the activities of the partnership. If you are a partner of a partnership holding our common shares or ADSs, you should consult your tax advisors.

This summary does not address the Medicare tax on net investment income, United States federal estate and gift taxes or the effects of any state, local or non-United States tax laws. If you are considering the acquisition of our common shares or ADSs, you should consult your own tax advisors concerning the United States federal income tax consequences to you in light of your particular situation as well as any consequences arising under other United States federal tax laws and the laws of any other taxing jurisdiction.

ADSs

If you hold ADSs, for United States federal income tax purposes, you generally will be treated as the owner of the underlying common shares that are represented by such ADSs. Accordingly, deposits or withdrawals of common shares for ADSs will not be subject to United States federal income tax.

Taxation of Dividends

The gross amount of distributions on the ADSs or common shares (including amounts withheld to reflect Peruvian withholding taxes) will be taxable as dividends, to the extent paid out of our current or accumulated earnings and profits, as determined under United States federal income tax principles.

To the extent that the amount of any distribution (including amounts withheld to reflect Peruvian withholding taxes) exceeds our current and accumulated earnings and profits for a taxable year, as determined under United States federal income tax principles, the distribution will first be treated as a tax-free return of capital, causing a reduction in the adjusted basis of the ADSs or common shares, and the balance in excess of adjusted basis will be taxed as capital gain recognized on a sale or exchange. However, we do not expect to keep earnings and profits in accordance with United States federal income tax principles. Therefore, you should expect that a distribution will generally be reported as a dividend. Such dividends (including withheld taxes) will be includable in your gross income as ordinary income on the day actually or constructively received by you, in the case of the common shares, or by the depositary, in the case of ADSs. Such dividends will not be eligible for the dividends received deduction allowed to corporations under the Code.

Subject to applicable limitations (including a minimum holding period requirement), dividends received by non-corporate United States Holders from a qualified foreign corporation may be treated as “qualified dividend income” that is subject to reduced rates of taxation. A non-United States corporation is treated as a qualified foreign corporation with respect to dividends paid by that corporation on common shares (or ADSs backed by such shares) that are readily tradable on an established securities market in the United States. United States Treasury Department guidance indicates that our ADSs, which are listed on the New York Stock Exchange, but not our common shares, are readily tradable on an established securities market in the United States. Thus, we believe that dividends we pay on our common shares that are represented by ADSs, but not our common shares that are not so represented, will be eligible for the reduced tax rates. There can be no assurance, however, that our ADSs will be considered readily tradable on an established securities market in the United States in later years. You should consult your own tax advisors regarding the application of these rules given your particular circumstances.

The amount of any dividend paid in *soles* will equal the U.S. dollar value of the *soles* received, calculated by reference to the exchange rate in effect on the date the dividend is actually or constructively received by you, in the case of the common shares, or by the depositary, in the case of ADSs, regardless of whether the *soles* are converted into U.S. dollars at that time. If the *soles* received as a dividend are converted into U.S. dollars on the date they are received, you generally will not be required to recognize foreign currency gain or loss in respect of the dividend income. If the *soles* received as a dividend are not converted into U.S. dollars on the date of receipt, you will have a tax basis in the *soles* equal to their U.S. dollar value on the date of receipt. Any gain or loss realized on a subsequent conversion or other disposition of the *soles* will be treated as United States source ordinary income or loss.

Subject to certain conditions and limitations, Peruvian withholding taxes on dividends may be treated as foreign taxes eligible for credit against your United States federal income tax liability. For purposes of calculating the foreign tax credit, dividends paid on the ADSs or common shares will be treated as foreign source income and will generally constitute passive category income. However, in certain circumstances, if you have held the ADSs or common shares for less than a specified minimum period during which you are not protected from risk of loss, or are obligated to make payments related to the dividends, you will not be allowed a foreign tax credit for any Peruvian withholding taxes imposed on dividends paid on the ADSs or common shares. If you do not elect to claim a United States foreign tax credit, you may instead claim a deduction for Peruvian income tax withheld, but only for a taxable year in which you elect to do so with respect to all foreign income taxes paid or accrued in such taxable year. The rules governing the foreign tax credit are complex. You are urged to consult your tax advisors regarding the availability of the foreign tax credit under your particular circumstances.

Distributions of ADSs, common shares or rights to subscribe for ADSs or common shares that are received as part of a pro rata distribution to all of our shareholders generally will not be subject to United States federal income tax.

Taxation of Capital Gains

For United States federal income tax purposes, you will recognize taxable gain or loss on any sale, exchange or other taxable disposition of ADSs or common shares in an amount equal to the difference between the amount realized for the ADSs or common shares and your tax basis in the ADSs or common shares, both as determined in U.S. dollars. Such gain or loss will generally be capital gain or loss. Capital gains of non-corporate United States Holders derived with respect to capital assets held for more than one year are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Any gain or loss recognized by you will generally be treated as United States source gain or loss. Consequently, in the case of gain from the disposition of ADSs or common shares that is subject to Peruvian income tax, you may not be able to benefit from a foreign tax credit for that Peruvian income tax (*i.e.*, because the gain from the disposition would be United States source), unless you can apply the credit (subject to applicable limitations) against United States federal income tax payable on other income from foreign sources. However, pursuant to recently issued Treasury regulations that apply to taxes paid or accrued in taxable years beginning on or after December 28, 2021, any such Peruvian income tax would generally not be a foreign income tax eligible for a foreign tax credit (regardless of any other income that you may have that is from foreign sources). You are urged to consult your tax advisors regarding the tax consequences if Peruvian income tax is imposed on a disposition of ADSs or common shares, including the availability of the foreign tax credit under your particular circumstances.

Passive Foreign Investment Company

We do not believe that we are, for United States federal income tax purposes, a passive foreign investment company ("PFIC"), and we expect to operate in such a manner so as not to become a PFIC. If, however, we are or become a PFIC, you could be subject to additional United States federal income taxes on gain recognized with respect to the ADSs or common shares and on certain distributions, plus an interest charge on certain taxes treated as having been deferred under the PFIC rules. Non-corporate United States Holders will not be eligible for reduced rates of taxation on any dividends received from us (as discussed above under "—Taxation of Dividends") if we are a PFIC in the taxable year in which such dividends are paid or in the preceding taxable year.

Information Reporting and Backup Withholding

In general, information reporting will apply to dividends in respect of our ADSs or common shares and the proceeds from the sale, exchange or other taxable disposition of our ADSs or common shares that are paid to you within the United States (and in certain cases, outside the United States), unless you are an exempt recipient. Backup withholding may apply to such payments if you fail to provide a taxpayer identification number or certification of exempt status or fail to report in full dividend and interest income.

Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against your United States federal income tax liability provided the required information is furnished to the Internal Revenue Service in a timely manner.

The above description is not intended to constitute a complete analysis of all tax consequences relating to the ownership or disposition of our ADSs or common shares. You should consult your own tax advisors concerning the overall tax consequences to you, including the consequences under laws other than United States federal income tax laws, of an investment in our ADSs or common shares.]

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not applicable.

H. Documents on Display

We make our filings in electronic form under the EDGAR filing system of the SEC. Our filings are available through the EDGAR system at www.sec.gov. In addition, our filings are available to the public over our website www.cementospacasmayo.com.pe. Such filings and other information on our website are not incorporated by reference in this annual report. You may request a copy of this filing, and any other report, at no cost, by writing to us at the following address or telephoning us:

Investor Relations Department
Calle La Colonia 150,
Urbanización El Vivero, Surco,
Lima, Peru
Tel.: + (511) 317-6000
E-mail: cbustamante@cpsaa.com.pe

I. Subsidiary Information

See note 1 to our annual audited consolidated financial statements included in this annual report for a description of our subsidiaries.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

For a description of our market risks, see note 30 to our annual audited consolidated financial statements included in this annual report.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

A. Debt Securities

Not applicable.

B. Warrants and Rights

Not applicable.

C. Other Securities

Not applicable.

D. American Depositary Shares

Fees and expenses

JPMorgan Chase Bank, N.A., as depositary, pursuant to our Deposit Agreement, dated as of February 7, 2012, and the amendment dated December 4, 2020 (as so amended the “Deposit Agreement”), may charge each person to whom ADSs are issued, including, without limitation, issuances against deposits of common shares, issuances in respect of common share distributions, rights and other distributions, issuances pursuant to a stock dividend or stock split declared by us or issuances pursuant to a merger, exchange of securities or any other transaction or event affecting the ADSs or deposited securities, and each person surrendering ADSs for withdrawal of deposited securities or whose ADSs or American Depositary Receipts representing ADSs (“ADRs”) are cancelled or reduced for any other reason, US\$5.00 for each 100 ADSs (or any portion thereof) issued, delivered, reduced, cancelled or surrendered, as the case may be. The depositary may sell (by public or private sale) sufficient securities and property received in respect of a common share distribution, rights and/or other distribution prior to such deposit to pay such charge.

The following additional charges shall be incurred by the ADR holders, by any party depositing or withdrawing common shares or by any party surrendering ADSs or to whom ADSs are issued (including, without limitation, issuance pursuant to a stock dividend or stock split declared by us or an exchange of stock regarding the ADRs or the deposited securities or a distribution of ADSs), whichever is applicable:

- a fee of US\$1.50 per ADR or ADRs for transfers of certificated or direct registration ADRs;
- a fee of US\$0.05 or less per ADS for any cash distribution made pursuant to the deposit agreement;
- a fee of US\$0.05 or less per ADS per calendar year (or portion thereof) for services performed by the depositary in administering the ADRs (which fee may be charged on a periodic basis during each calendar year and shall be assessed against holders of ADRs as of the record date or record dates set by the depositary during each calendar year and shall be payable in the manner described in the next succeeding provision);
- reimbursement of such fees, charges and expenses as are incurred by the depositary and/or any of the depositary’s agents (including, without limitation, the custodian and expenses incurred on behalf of holders in connection with compliance with foreign exchange control regulations or any law or regulation relating to foreign investment) in connection with the servicing of the common shares or other deposited securities, the delivery of deposited securities or otherwise in connection with the depositary’s or its custodian’s compliance with applicable law, rule or regulation (which charge shall be assessed on a proportionate basis against holders as of the record date or dates set by the depositary and shall be payable at the sole discretion of the depositary by billing such holders or by deducting such charge from one or more cash dividends or other cash distributions);
- a fee for the distribution of securities (or the sale of securities in connection with a distribution), such fee being in an amount equal to US\$0.05 per ADS issuance fee for the execution and delivery of ADSs which would have been charged as a result of the deposit of such securities (treating all such securities as if they were common shares) but which securities or the net cash proceeds from the sale thereof are instead distributed by the depositary to those holders entitled thereto;
- stock transfer or other taxes and other governmental charges;
- cable and facsimile transmission and delivery charges incurred at your request in connection with the deposit or delivery of common shares;
- transfer or registration fees for the registration of transfer of deposited securities on any applicable register in connection with the deposit or withdrawal of deposited securities; and
- expenses of the depositary in connection with the conversion of foreign currency into U.S. dollars.

We will pay all other charges and expenses of the depositary and any agent of the depositary (except the custodian) pursuant to agreements from time to time between us and the depositary. The charges described above may be amended from time to time by agreement between us and the depositary.

Our depositary has agreed to reimburse us for certain expenses we incur that are related to establishment and maintenance of the ADR program, including investor relations expenses and exchange application and listing fees. The amounts of reimbursements available to us are not based upon the amounts of fees the depositary collects from investors. The depositary collects its fees for issuance and cancellation of ADSs directly from investors depositing common shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting on their behalf. The depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The depositary may collect its annual fee for depositary services by deduction from cash distributions, or by directly billing investors, or by charging the book-entry system accounts of participants acting for them. The depositary will generally set off the amounts owing from distributions made to holders of ADSs. If, however, no distribution exists and payment owing is not timely received by the depositary, the depositary may refuse to provide any further services to holders that have not paid those fees and expenses owing until such fees and expenses have been paid. At the discretion of the depositary, all fees and charges owing under the deposit agreement are due in advance and/or when declared owing by the depositary.

The Deposit Agreement is incorporated by reference as Exhibit 2.2 to this annual report, and Amendment No. 1 thereto is incorporated by reference in this annual report as Exhibit 2.2A, and Amendment No. 2 thereto is incorporated by reference in this annual report as Exhibit 2.2B. We encourage you to review these documents carefully if you are a holder of ADRs.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

Not applicable.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

Not applicable.

ITEM 15. CONTROLS AND PROCEDURES

A. Disclosure Controls and Procedures

As of the end of the period covered by this annual report, the Company's management, with the participation of our Chief Executive Officer and Chief Financial Officer, performed an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act. Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding required disclosures. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objective. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2021, the design and operation of our disclosure controls and procedures were effective at the reasonable assurance level.

B. Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not necessarily prevent or detect some misstatements. It can only provide reasonable assurance regarding financial statement preparation and presentation. Also, projections of any evaluation of effectiveness for future periods are subject to the risk that controls may become inadequate because of changes in conditions or because the degree of compliance with the policies or procedures may deteriorate over time.

Management assessed the effectiveness of its internal control over financial reporting for the year ended December 31, 2021. The assessment was based on criteria established in the framework "Internal Controls—Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework) (COSO). Based on this assessment, our management has concluded that as of December 31, 2021, our internal control over financial reporting was effective.

The effectiveness of internal control over financial reporting as of December 31, 2021, has been audited by Tanaka, Valdivia & Asociados SCRL, member firm of EY (formerly Ernst & Young), an independent registered public accounting firm, as stated in their attestation report, which is included under "Item 15—Controls and Procedures —C. Attestation Report of Independent Registered Public Accounting Firm."

C. Attestation Report of the Independent Registered Public Accounting Firm

Opinion on Internal Control over Financial Reporting

We have audited Cementos Pacasmayo S.A.A. and subsidiaries internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), (the COSO criteria). In our opinion, Cementos Pacasmayo S.A.A. and subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial position of the Company as of December 31, 2021 and 2020, the related consolidated statements of profit or loss, other comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and our report dated April 28, 2022, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards, as issued by the International Accounting Standard Board. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with International Financial Reporting Standards, as issued by the International Accounting Standard Board, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Tanaka, Valdivia & Asociados Sociedad Civil de Responsabilidad Limitada
A member practice of
Ernst & Young Global Limited

/s/ Oscar Mere
Tanaka, Valdivia & Asociados Sociedad Civil de Responsabilidad Limitada
Lima, Peru,
April 28, 2022

D. Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting identified in connection with the evaluation required under Rules 13a-15 or 15d-15 that occurred during the period covered by this annual report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16. [RESERVED]**ITEM 16A AUDIT COMMITTEE FINANCIAL EXPERT**

Our Board of Directors has determined that Mr. Marco Antonio Zaldivar, President of the audit committee, is a “financial expert,” as such term is defined in the SEC rules. We have determined that Ms. Ana Maria Botella, Mr. Venkat Krishnamurti and Mr. Marco Antonio Zaldivar are independent under the standards of the New York Stock Exchange listing rules and Rule 10A-3 under the Exchange Act.

ITEM 16B. CODE OF ETHICS

We have adopted a code of ethics that applies to our directors, officers and employees. Our code of ethics is available on our website <http://www.cementospacasmayo.com.pe>. Information on our website is not incorporated by reference in this annual report.

If we make any substantive amendment to our code of ethics or if we grant any waivers, including any implicit waiver, from a provision of the code of ethics, we will disclose the nature of such amendment or waiver by filing a current report on a Form 6-K or in our subsequent annual report on Form 20-F to be filed with the SEC. During the year ended December 31, 2021, no such amendment was made nor did we grant any waiver to any provision of our code of ethics.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES***Audit and Non-Audit Fees***

The following table presents the aggregate fees for professional services and other services rendered by our independent auditors, Tanaka, Valdivia y asociados, SCRL, member firm of EY (formerly Ernst & Young), responsible for auditing our annual consolidated financial statements included in this annual report, during the fiscal years ended December 31, 2021 and 2020.

(in thousands of S/)	Year Ended December 31,	
	2021	2020
Audit fees	1,208	1,047
Tax fees	256	169
Total fees	1,464	1,217

Audit fees in the above table are the aggregate fees billed and billable by our independent auditors in connection with the audit of our annual consolidated financial statements and review of our quarterly financial information.

Tax fees in the above table are fees billed relating to tax compliance services.

Our audit committee is responsible for the oversight of the independent auditors and has established pre-approval procedures for the engagement of its independent registered public accounting firm for audit and non-audit services. Such services can only be contracted if they are approved by the audit committee, they comply with the restriction provided under applicable rules and they do not jeopardize the independence of our auditors.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

Not applicable.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

Not applicable.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

We are a “foreign private issuer” within the meaning of the New York Stock Exchange corporate governance standards. Under New York Stock Exchange rules, a foreign private issuer may elect to comply with the practices of its home country and not to comply with certain corporate governance requirements applicable to U.S. companies with securities listed on the exchange.

We currently follow certain Peruvian practices concerning corporate governance and intend to continue to do so. There are significant differences in the Peruvian corporate governance practices as compared to those followed by United States domestic companies under the New York Stock Exchange’s listing standards.

The New York Stock Exchange listing standards provide that the board of directors of a U.S. listed company must have a majority of independent directors at the time the company ceases to be a “controlled company.” Under Peruvian corporate governance practices, a Peruvian company is not required to have a majority of independent members on its board of directors.

The listing standards for the New York Stock Exchange also require that U.S. listed companies, at the time they cease to be “controlled companies,” have a nominating/corporate governance committee and a compensation committee (in addition to an audit committee). Each of these committees must consist solely of independent directors and must have a written charter that addresses certain matters specified in the listing standards. Under Peruvian law, a Peruvian company may, but is not required to, form special governance committees, which may be composed partially or entirely of non-independent directors.

In addition, New York Stock Exchange rules require the independent non-executive directors of U.S. listed companies to meet on a regular basis without management being present. There is no similar requirement under Peruvian law.

The New York Stock Exchange’s listing standards also require U.S. listed companies to adopt and disclose corporate governance guidelines. In November 2013, the Peruvian Securities Commission and a committee comprised of regulatory agencies and associations prepared and published a list of suggested non-mandatory corporate governance guidelines called the “Good Corporate Governance Code for Peruvian Companies.” These principles are disclosed on the Peruvian Securities Commission web page at <http://www.smv.gob.pe/> and the Lima Stock Exchange web page at <http://www.bvl.com.pe>. Although we have implemented a number of these measures and are part of the Best Corporate Governance Practices Index of the Lima Stock Exchange, we are not required to comply with the referred corporate governance guidelines by law or regulation, only to disclose whether or not we are in compliance.

ITEM 16H. MINE SAFETY DISCLOSURE

Not applicable.

ITEM 16I. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

See our annual audited consolidated financial statements beginning at page F-1. Our financial statements have been prepared in accordance with IFRS as issued by the IASB.

ITEM 19. EXHIBITS

The following documents are filed as part of this Annual Report on Form 20-F or incorporated by reference herein.

Exhibit Number	Description of Document
1.1	Amended and Restated By-laws of the Registrant, as currently in effect
2.1	Registrant's Form of American Depositary Receipt, incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form F-1 filed with the SEC on January 6, 2012 (File No. 333-178922)
2.2	Deposit Agreement dated January 19, 2012 among the Registrant, J.P. Morgan Chase N.A., as depositary, and the holders from time to time of American depositary shares issued thereunder, incorporated by reference to Exhibit 4.2 to the Registrant's Registration Statement on Form F-1 filed with the SEC on January 6, 2012 (File No. 333-178922)
2.2A	Amendment No. 1, dated as of February 21, 2017, to the Deposit Agreement dated as of February 7, 2012, among the Registrant, J.P. Morgan Chase Bank, N.A., as depositary, and all holders from time to time of American depositary receipts issued thereunder, incorporated by reference to the Registrant's Registration Statement on Form F-6 filed with the SEC on February 21, 2017 (File No. 333-216152)
2.2B	Amendment No. 2, dated as of December 4, 2020, to the Deposit Agreement dated as of February 7, 2012, among the Registrant, J.P. Morgan Chase Bank, N.A., as depositary, and all holders from time to time of American depositary receipts issued thereunder, incorporated by reference to the Registrant's Registration Statement on Form F-6 filed with the SEC on December 4, 2020 (File No. 333-216152)
2.3	Indenture, dated as of February 8, 2013, among the Registrant, the Subsidiary Guarantors named therein and Deutsche Bank Trust Company Americas incorporated by reference to Exhibit 2.3 of the Registrant's Annual Report on Form 20-F filed with the SEC on April 30, 2014 (File No. 001-35401)
2.4	Local bond issuance agreement (Contrato Marco de Emisión de Bonos Corporativos correspondiente al Segundo Programa de Bonos Corporativos de Cementos Pacasmayo S.A.A.) dated January 8, 2019, between Scotiabank Perú S.A.A. as administrative agent and Cementos Pacasmayo S.A.A. as issuer (English summary of principal terms), providing for the issuance of up to S/1,000,000,000 in one or more series, and related issuances of series 1 in an aggregate principal amount of S/260,000,000 and series 2 in an aggregate principal amount of S/310 million, incorporated by reference to Exhibit 4.3 of the Registrant's Annual Report on Form 20-F filed with the SEC on April 30, 2019 (File No. 001-35401)
2(d)	Description of securities registered under Section 12(d) of the Exchange Act incorporated by reference to Exhibit 2(d) of the Registrant's Annual Report on Form 20-F filed with the SEC on April 30, 2012 (File No. 001-35401)
2.5	Summary of Terms of Medium Term Corporate Loan Undel Club Del Modality with Banco de Credito del Peru S.A. and Sotiabank Peru S.A.A dated November 29, 2021.

4.1	<u>Power Supply Agreement, dated June 3, 2010, between the Registrant and Electroperú S.A., incorporated by reference to Exhibit 4.1 of the Registrant's Annual Report on Form 20-F filed with the SEC on April 30, 2012 (File No. 001-35401)</u>
4.2	<u>Contract of General Management and Provision of Services, dated December 31, 2007, between the Registrant and Inversiones ASPI S.A. (formerly Inversiones Pacasmayo S.A.), incorporated by reference to Exhibit 4.2 of the Registrant's Annual Report on Form 20-F filed with the SEC on April 30, 2012 (File No. 001-35401)</u>
4.3	<u>Property Lease Agreement, dated June 30, 2008, between the Registrant and Inversiones ASPI S.A. (formerly Inversiones Pacasmayo S.A.), incorporated by reference to Exhibit 4.3 of the Registrant's Annual Report on Form 20-F filed with the SEC on April 30, 2012 (File No. 001-35401)</u>
4.4	<u>Surface Rights Agreement, dated February 1, 2008, between the Registrant and Compañía Minera Ares S.A.C., incorporated by reference to Exhibit 4.4 of the Registrant's Annual Report on Form 20-F filed with the SEC on April 30, 2012 (File No. 001-35401)</u>
4.5	<u>Addendum, effective February 1, 2020, to the Power Supply Agreement, dated June 3, 2010, between the Registrant and Electroperú S.A., incorporated by reference to Exhibit 4.5 of the Registrant's Annual Report on Form 20-F filed with the SEC on May 1, 2020 (File No. 001-35401)</u>
4.6	<u>Summary of Principal Terms for Equipment and Engineering supply contract between the Registrant and FLSMIDTH A/S, dated November 29, 2021.</u>
4.7	<u>Summary of Principal Terms for Construction and Assembly Contract between the Registrant and Ingeniería y Construcción Sigdo Koppers Perú S.A.C. dated February 16, 2022.</u>
8.1	<u>List of Subsidiaries</u>
12.1	<u>Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>
12.2	<u>Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>
13.1*	<u>Certification pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 for Chief Executive Officer</u>
13.2*	<u>Certification pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 for Chief Financial Officer</u>

* This certification will not be deemed "filed" for purposes of Section 18 of the Exchange Act (15 U.S.C. 78r), or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Registrant specifically incorporates it by reference.

Exhibit Number	Description of Document
96.1	Technical Report Summary (TRS), Tembladera Quarry and Pacasmayo Cement Plant 20-F 229.601 (Item 601)
96.2	Technical Report Summary (TRS), Virrila Quarry and Piura Cement Plant 20-F 229.601 (Item 601)
96.3	Technical Report Summary (TRS), Tioyacu Quarry and Rioja Cement Plant 20-F 229.601 (Item 601)
101.INS	Inline XBRL Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on Form 20-F on its behalf.

CEMENTOS PACASMAYO S.A.A.

By: /s/ Humberto Nadal Del Carpio
Humberto Nadal Del Carpio
Chief Executive Officer

By: /s/ Manuel Bartolome Ferreyros Peña
Manuel Bartolome Ferreyros Peña
Chief Financial Officer

Date: April 28, 2022

Cementos Pacasmayo S.A.A. and Subsidiaries

Consolidated financial statements as of December 31, 2021 and 2020 and for the years ended December 31, 2021, 2020 and 2019, together with the Report of Independent Registered Accounting Firm

Cementos Pacasmayo S.A.A. and Subsidiaries

Consolidated financial statements as of December 31, 2021 and 2020 and for the years ended December 31, 2021, 2020 and 2019, together with the Report of Independent Registered Accounting Firm.

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Independent Auditors' Report

To the Board of Directors and Shareholders of Cementos Pacasmayo S.A.A. and Subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Cementos Pacasmayo S.A.A. and subsidiaries (the Company) as of December 31, 2021 and 2020, and the related consolidated statements of profit or loss, other comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2021 and 2020, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board (IASB).

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB) the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated April 28, 2022 expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Independent Auditors' Report (continued)

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue recognition

Description of the Matter

At December 31, 2021, the Company's revenue from the sale of cement, concrete and precast was S/(000)1,784,487, net of discounts of S/(000)72,574. In the normal course of its operations, the Company provides various forms of discounts to its customers based on commercial agreements, mainly related to sales volumes. These discounts (contra-revenue) represent a reduction from list prices once the terms of said commercial agreements have been fulfilled. As the Company provides these discounts to a large number of small distributors and discounts earned may be remitted to the customer via a credit memo issued in a subsequent period, management analyzes the customer's activity at year end to recognize those discounts that have been earned but not yet remitted via credit in the pertinent period.

Auditing the timely recognition of discounts granted by the Company at the end of the year was complex and involved a high degree of auditor judgment because of the large number of small transactions involving different types of discount programs, which increases the complexity of management's processes to ensure that such discounts were properly recorded.

How We Addressed the Matter in Our Audit

We obtained an understanding of the process, evaluated the design, and tested the operating effectiveness of controls over the Company's process to determine the proper timing and amounts of discounts recognized, including management's controls over the completeness and the accuracy of the underlying data used by management to estimate the discounts earned but not yet remitted to the customer. For example, we tested controls over the authorization of new discount programs and the issuance of credit notes as well as tested controls over the review of the calculation of pending credit memos to be recorded at each period end.

Our audit procedures included, among others, testing transactions of discounts provided and obtaining source documents to evaluate management's application of the terms of the discount program provided to the customer and to test discounts recognition in the proper period.

We analyzed discounts activity before and after year-end and obtained explanations and supporting documentation for any unusual or unexpected discounts activity. We tested the mathematical accuracy of management's analysis related to discounts that have been provided to the customers and the timing of when such discounts were recognized in the consolidated financial statements. Furthermore, we evaluated the adequacy of the related disclosures in the consolidated financial statements.

Tanaka, Valdivia & Asociados Sociedad Civil de Responsabilidad Limitada
A member practice of
Ernst & Young Global Limited

/s/ Oscar Mere
Tanaka, Valdivia & Asociados Sociedad Civil de Responsabilidad Limitada
We have served as the Company's auditor since 2002.

Lima, Peru.
April 28, 2022

Cementos Pacasmayo S.A.A. and Subsidiaries

Consolidated statement of financial position
As of December 31, 2021 and 2020

	Note	2021 S/(000)	2020 S/(000)
Assets			
Current assets			
Cash and cash equivalents	6	273,402	308,912
Trade and other receivables, net	7	102,718	84,412
Income tax prepayments		9,288	18,076
Inventories	8	605,182	460,610
Prepayments		18,800	5,729
Total current assets		1,009,390	877,739
Non-current assets			
Trade and other receivables, net	7	41,206	5,215
Financial investments designated at fair value through other comprehensive income	9	476	692
Other financial instruments	31	106,601	42,247
Property, plant and equipment, net	10	1,974,931	2,014,508
Intangible assets	11	50,494	49,640
Goodwill	12	4,459	4,459
Deferred income tax assets	17	9,446	15,618
Right of use assets	13	4,668	6,006
Other assets		101	160
Total non-current assets		2,192,382	2,138,545
Total assets		3,201,772	3,016,284
Liabilities and equity			
Current liabilities			
Trade and other payables	14	227,554	187,876
Financial obligations	16	450,964	65,232
Lease liabilities	13	1,856	1,531
Income tax payable		17,517	1,051
Provisions	15	24,269	9,380
Total current liabilities		722,160	265,070
Non-current liabilities			
Financial obligations	16	1,094,391	1,203,352
Lease liabilities	13	3,973	5,102
Other non-current provisions	15	36,639	25,341
Deferred income tax liabilities	17	148,804	149,864
Total non-current liabilities		1,283,807	1,383,659
Total liability		2,005,967	1,648,729
Equity			
Capital stock	18	423,868	423,868
Investment shares		40,279	40,279
Investment shares holds in treasury		(121,258)	(121,258)
Additional paid-in capital		432,779	432,779
Legal reserve		168,636	168,636
Other accumulated comprehensive results		(20,094)	(33,378)
Retained earnings		271,595	456,629
Total equity		1,195,805	1,367,555
Total liability and equity		3,201,772	3,016,284

The accompanying notes are an integral part of these consolidated financial statements.

Cementos Pacasmayo S.A.A. and Subsidiaries

Consolidated statement of profit or loss
For the years ended December 31, 2021, 2020 and 2019

	Note	2021 S/(000)	2020 S/(000)	2019 S/(000)
Sales of goods	19	1,937,767	1,296,334	1,392,701
Cost of sales	20	(1,378,336)	(921,048)	(905,806)
Gross profit		559,431	375,286	486,895
Operating income (expenses)				
Administrative expenses	21	(196,069)	(163,369)	(174,482)
Selling and distribution expenses	22	(51,520)	(40,153)	(44,533)
Other operating income, net	24	6,408	4,346	2,645
Total operating expenses, net		(241,181)	(199,176)	(216,370)
Operating profit		318,250	176,110	270,525
Other income (expenses)				
Finance income	25	2,891	2,976	2,576
Finance costs	26	(88,965)	(88,694)	(77,986)
Net gain (loss) of derivative financial instruments at fair value through profit or loss		589	5,337	(1,491)
Accumulated net loss on settlement of derivative financial instruments at fair value through profit or loss	16	(1,569)	-	-
(Loss) gain from exchange difference, net	5	(7,086)	(9,831)	729
Total other expenses, net		(94,140)	(90,212)	(76,172)
Profit before income tax		224,110	85,898	194,353
Income tax expense	17	(70,940)	(28,004)	(62,306)
Profit for the year		153,170	57,894	132,047
Earnings per share				
Basic and diluted profit of the year attributable to equity holders of common shares and investment in shares of Cementos Pacasmayo S.A.A. (S/ per share)	28	0.36	0.14	0.31

The accompanying notes are an integral part of these consolidated financial statements.

Cementos Pacasmayo S.A.A. and Subsidiaries

Consolidated statement of other comprehensive income
For the years ended December 31, 2021, 2020 and 2019

	Note	2021 S/(000)	2020 S/(000)	2019 S/(000)
Profit for the year		153,170	57,894	132,047
Other comprehensive income				
<i>Other comprehensive income to not be reclassified to profit or loss in subsequent periods:</i>				
Change in fair value of financial instruments designated at fair value through other comprehensive income	9(a)	(1,995)	(17,532)	(8,659)
Deferred income tax	17	589	5,172	2,554
<i>Other comprehensive income to be reclassified to profit or loss in subsequent periods:</i>				
Net gain (net loss) on cash flows hedges	31(a)	20,836	(1,652)	(2,556)
Deferred income tax	17	(6,146)	487	754
Other comprehensive income (loss) for the year, net of income tax		13,284	(13,525)	(7,907)
Total comprehensive income for the year, net of income tax		166,454	44,369	124,140

The accompanying notes are an integral part of these consolidated financial statements.

Cementos Pacasmayo S.A.A. and Subsidiaries

Consolidated statement of changes in equity
For the years ended December 31, 2021, 2020 and 2019

	Capital stock	Investment shares	Treasury shares	Additional paid-in capital	Legal reserve	Unrealized gain (loss) on financial instruments designated at fair value	Unrealized gain (loss) on cash flow hedge	Retained earnings	Total equity
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
Balance as of January 1, 2019	423,868	40,279	(121,258)	432,779	168,356	4,002	(15,948)	519,285	1,451,363
Change in accounting policy	-	-	-	-	-	-	-	(13)	(13)
Restated total equity as of January 1, 2019	423,868	40,279	(121,258)	432,779	168,356	4,002	(15,948)	519,272	1,451,350
Profit for the year	-	-	-	-	-	-	-	132,047	132,047
Other comprehensive loss	-	-	-	-	-	(6,105)	(1,802)	-	(7,907)
Total comprehensive income	-	-	-	-	-	(6,105)	(1,802)	132,047	124,140
Terminated dividends, note 18(g)	-	-	-	-	280	-	-	-	280
Dividends, note 18(g)	-	-	-	-	-	-	-	(154,119)	(154,119)
Balance as of December 31, 2019	423,868	40,279	(121,258)	432,779	168,636	(2,103)	(17,750)	497,200	1,421,651
Profit for the year	-	-	-	-	-	-	-	57,894	57,894
Other comprehensive loss	-	-	-	-	-	(12,360)	(1,165)	-	(13,525)
Total comprehensive income	-	-	-	-	-	(12,360)	(1,165)	57,894	44,369
Dividends, note 18(g)	-	-	-	-	-	-	-	(98,465)	(98,465)
Balance as of December 31, 2020	423,868	40,279	(121,258)	432,779	168,636	(14,463)	(18,915)	456,629	1,367,555
Profit for the year	-	-	-	-	-	-	-	153,170	153,170
Other comprehensive income	-	-	-	-	-	(1,406)	14,690	-	13,284
Total comprehensive income	-	-	-	-	-	(1,406)	14,690	153,170	166,454
Dividends, note 18(g)	-	-	-	-	-	-	-	(338,204)	(338,204)
Balance as of December 31, 2021	423,868	40,279	(121,258)	432,779	168,636	(15,869)	(4,225)	271,595	1,195,805

The accompanying notes are an integral part of these consolidated financial statements.

Cementos Pacasmayo S.A.A. and Subsidiaries

Consolidated statement of cash flows

For the years ended December 31, 2021, 2020 and 2019

	Note	2021 S/(000)	2020 S/(000)	2019 S/(000)
Operating activities				
Profit before tax		224,110	85,898	194,353
Non-cash adjustments to reconcile profit before income tax to net cash flows				
Depreciation and amortization	10, 11 and 13	135,567	139,167	129,818
Finance costs	26	88,965	88,694	77,986
Long-term incentive plan	23	9,763	5,759	6,523
Provision of impairment of inventories, net	8	3,348	2,451	2,278
Accumulated net loss due to settlement of derivative financial instruments at fair value through profit or loss	16	1,569	-	-
Allowance for expected credit losses	7(d)	563	1,582	1,452
Exchange difference related to monetary transactions		(9,114)	6,978	(483)
Finance income	25	(2,891)	(2,976)	(2,576)
Net (gain) loss on disposal of property, plant and equipment and intangible assets	24	(1,775)	(2,591)	1,846
Net (gain) loss of derivate financial instruments at fair value through profit or loss		(589)	(5,337)	1,491
Other operating, net		3,761	2,202	1,887
Working capital adjustments				
(Increase) decrease in trade and other receivables		(47,713)	38,005	(23,391)
(Increase) decrease in prepayments		(12,956)	4,761	(4,383)
(Increase) decrease in inventories		(151,530)	54,140	(97,657)
Increase (decrease) in trade and other payables		48,834	3,346	(4,220)
		289,912	422,079	284,924
Interest received		4,484	1,838	2,252
Interest paid		(68,433)	(68,444)	(47,155)
Income tax paid		(55,401)	(24,108)	(34,884)
Net cash flows from operating activities		170,562	331,365	205,137

Consolidated statement of cash flows (continued)

	Note	2021	2020	2019
		<u>S/(000)</u>	<u>S/(000)</u>	<u>S/(000)</u>
Investing activities				
Purchase of property, plant and equipment		(85,594)	(47,325)	(77,680)
Loan to related party		(17,121)	-	-
Purchase of intangible assets		(8,953)	(5,224)	(5,335)
Purchase of investments available for sale		(1,779)	-	-
Loans granted		(174)	(4,203)	(1,117)
Collection of loans from related entities		17,121	-	-
Cash flow proceeds from sale of property, plant and equipment		4,152	4,634	4,199
Proceeds from loans		524	3,697	354
Opening of term deposits with original maturity greater than 90 days		-	(208,990)	-
Redemption of term deposits with original maturity greater than 90 days		-	208,990	-
Net cash flows used in investing activities		(91,824)	(48,421)	(79,579)
Financing activities				
Dividends paid	30	(336,821)	(143,623)	(120,975)
Payment for hedging instrument	30	(15,214)	(15,685)	(14,935)
Lease payments	13	(2,419)	(1,669)	-
Bank loans received	30	220,000	791,270	638,281
Cash flow from settlement of derivative financial instruments		3,879	-	1,458
Dividends returned	30	481	321	328
Payment of bank loans	30	-	(674,463)	(610,999)
Payment of bank overdraft	30	-	(70,921)	-
Proceeds from bank overdraft	30	-	70,921	-
Net cash flows used in financing activities		(130,094)	(43,849)	(106,842)
Net (decrease) increase in cash and cash equivalents		(51,356)	239,095	18,716
Net foreign exchange difference		15,846	1,551	483
Cash and cash equivalents as of January 1	6	308,912	68,266	49,067
Cash and cash equivalents as of December 31	6	273,402	308,912	68,266
Transactions with no effect in cash flows:				
Unrealized exchange difference related to monetary transactions		(9,114)	6,978	(483)
Outstanding accounts payable related to acquisition of property, plant and equipment	10(e)	7,615	4,830	8,698
Addition of right-of-use assets and lease liabilities	13	217	7,504	-
Additions of quarry rehabilitation costs	15	-	7,775	-

The accompanying notes are an integral part of these consolidated financial statements.

Cementos Pacasmayo S.A.A. and Subsidiaries

Notes to the consolidated financial statements
As of December 31, 2021, 2020 and 2019

1. Corporate information

Cementos Pacasmayo S.A.A. (hereinafter “the Company”) was incorporated in 1957 and, under the Peruvian General Corporation Law, is an open stock corporation, its shares are listed in the Lima and New York Stock Exchange. The Company is a subsidiary of Inversiones ASPI S.A., which holds 50.01 percent of the Company’s common shares as of December 31, 2021, 2020 and 2019. The Company’s registered address is Calle La Colonia No.150, Urbanización El Vivero, Santiago de Surco, Lima, Peru. All the subsidiaries are domiciled and operate in Peru.

The Company’s main activity is the production and marketing of cement, blocks, concrete and quicklime in La Libertad region, in the North of Peru.

The issuance of the consolidated financial statements of the Company and its subsidiaries (hereinafter “the Group”) for the year ended December 31, 2021 was authorized by the Company’s Board of Directors on February 14, 2022. The consolidated financial statements as of December 31, 2020 and for the year ended that date were approved by the General Shareholders’ Meeting on March 23, 2021.

As of December 31, 2021 and 2020, the consolidated financial statements comprise the financial statements of the Company and its subsidiaries: Cementos Selva S.A. and subsidiaries, Distribuidora Norte Pacasmayo S.R.L., Empresa de Transmisión Guadalupe S.A.C., Salmueras Sudamericanas S.A., Calizas del Norte S.A.C. (on liquidation), Soluciones Takay S.A.C. and 150Krea Inc. To these dates, the Company maintains a 100 percent interest in all its subsidiaries.

The main activities of the subsidiaries incorporated in the consolidated financial statements are described as follows:

- Cementos Selva S.A. is engaged in production and marketing of cement and other construction materials in the northeast region of Peru. Also, it holds 100 percent of the shares in Dinoselva Iquitos S.A.C. (a cement and construction materials distributor in the north of Peru, which also produces and sells precast, cement bricks and ready-mix concrete) and in Acuicola Los Paiches S.A.C. (a fish farm entity).
- Distribuidora Norte Pacasmayo S.R.L. is mainly engaged in selling cement produced by the Company. Additionally, it produces and sells precast, cement bricks and ready-mix concrete.
- Empresa de Transmisión Guadalupe S.A.C. is mainly engaged in providing electric energy transmission services to the Company.
- Salmueras Sudamericanas S.A. (“Salmueras”) In December 2017, the Company decided not to continue with the activities related to this project of Salmueras.
- Calizas del Norte S.A.C. (on liquidation). On May 31, 2016, the Company decided to liquidate the subsidiary Calizas del Norte S.A.C.

Notes to the consolidated financial statements (continued)

- Soluciones Takay S.A.C., entity constituted on March 29, 2019 whose corporate purpose is to provide advisory services and information, promotion, acquisition, intermediation services for the management and development of real estate projects by natural and/or legal persons.
- 150Krea Inc., entity constituted on June 3, 2021 whose corporate purpose is the lease of intangible assets.

1.1 COVID 19 -

COVID-19, an infectious disease caused by a new virus, was declared a world-wide pandemic by the World Health Organization (“WHO”) on March 11, 2020. The measures to slow the spread of COVID-19 have had a significant impact on the global economy.

On March 15, 2020, the Peruvian government declared a nationwide state of emergency, effectively shutting down all business considered non-essential (with exception of food production and commercialization, pharmaceuticals and health). As a result, since that date, the Company shut-down its three production plants until the Peruvian government allowed it to restart production and commercial activities on May 20, 2020.

During the halt period, the Company was unable to generate revenues; however, it largely returned to the operating levels prior to the shut-down as of the month of August 2020. The Group has prepared the consolidated financial statements for the financial year ended December 31, 2021 on a going concern basis, which assumes continuity of current business activities and the realization of assets and settlement of liabilities in the ordinary course of business.

Regarding its financial obligations, the Company has not seen any change in its access and cost of financing; however, at the start of the state of emergency it took out a bank overdraft facility and short-term loans as a precautionary measure in order to cover its working capital needs, some of these loans have already been paid off and others are still outstanding as disclosed in note 16.

During 2021, a large part of the Peruvian population has been immunized with various types of vaccines, which has allowed us to continue with the economic reactivation and the reduction of positive cases. Given the presence of the Omicron variant, the Peruvian Government has established a series of measures to prevent the spread of this variant, these measures have been applied by the Company to safeguard the integrity and health of its workers and to continue with normal operations.

On January 21, 2022 the Government decided to extend the state of health emergency nationwide for 180 calendar days from March 2, 2022, to August 29, 2022 in order to continue with the prevention, control and health care actions for the protection of the population of the entire country.

The Company maintains various measures to preserve the health of its employees and to prevent contagion in its administrative and operational areas, such as remote work, rigorous cleaning of work environments, distribution of personal protective equipment, test of suspicious cases and body temperature measurement.

2. Significant accounting policies

2.1 Basis of preparation –

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB).

Notes to the consolidated financial statements (continued)

The consolidated financial statements have been prepared on a historical cost basis, except for financial instruments designated at fair value through other comprehensive income (OCI) and derivative financial instruments that have been measured at fair value. The carrying values of recognized assets and liabilities that are designated as hedged items in fair value hedges that would otherwise be carried at amortized cost are adjusted to record changes in fair value attributable to the risks that are being hedged in effective hedge relationships. The consolidated financial statements are presented in Soles and all values are rounded to the nearest thousand (S/000), except when otherwise indicated.

The consolidated financial statements provide comparative information in respect of the previous period. There are certain standards and amendments applied for the first time by the Group during 2021 that did not require the restatement of previous financial statements, as explained in note 2.3.19.

2.2 Basis of consolidation -

The consolidated financial statements comprise the financial statements of the Company and its subsidiaries as of December 31, 2021 and 2020 and for the years ended December 31, 2021, 2020 and 2019. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if and only if it has: (i) power over the investee (i.e. existing rights that give it the current ability to direct the relevant activities of the investee), (ii) exposure, or rights, to variable returns from its involvement with the investee, and (iii) the ability to use its power over the investee to affect its returns.

The Group reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated financial statements from the date the Group gains control until the date the Group ceases to control the subsidiary.

Profit or loss and each component of other comprehensive income (OCI) are attributed to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

2.3 Summary of significant accounting policies -

2.3.1 Cash and cash equivalents -

Cash and cash equivalents presented in the statements of cash flows comprise cash at banks and on hand and short-term deposits with original maturity of three months or less.

2.3.2 Financial instruments-initial recognition and subsequent measurement –

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

(i) Financial assets -

Initial recognition and measurement -

Financial assets are classified at initial recognition as measured at amortized cost, fair value through other comprehensive income (OCI) or fair value through profit or loss.

Notes to the consolidated financial statements (continued)

The Group's financial assets include cash and cash equivalents, commercial and other receivables, available-for-sale financial investments and derivative financial instruments.

Subsequent measurement -

For purposes of subsequent measurement, financial assets are classified into the following categories:

- Financial assets at amortized cost (debt instruments).
- Financial assets at fair value through OCI with recycling of cumulative gains and losses (debt instruments).
- Financial assets designated at fair value through OCI with not recycling of cumulative gains and losses upon derecognition (equity instruments).
- Financial assets at fair value through profit or loss.

The classification depends on the business model of the Company and the contractual terms of the cash flows.

Financial assets at amortized cost (debt instruments) -

The Group measures financial assets at amortized cost if both of the following conditions are met:

- The financial asset is held within a business model with the objective to collect contractual cash flows and not sale or trade it, and if,
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

Financial assets at amortized cost are subsequently measured using the effective interest (EIR) method and are subject to impairment. Gains and losses are recognized in profit or loss when the asset is derecognized, modified or impaired.

Financial assets are not reclassified after their initial recognition, except if the Group changes its business model for its management.

As of December 31, 2021 and 2020 the Group held trade and other receivables in this category.

Financial assets at fair value through OCI (debt instruments) -The Group measures debt instruments at fair value through OCI if both of the following conditions are met:

- The financial asset is held within a business model with the objective of both holding to collect contractual cash flows and selling, and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding

The Group does not have debt instruments classified in this category.

Financial assets at fair value through OCI (equity instruments) -

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity and are not held for trading. The classification is determined on an instrument-by-instrument basis.

Notes to the consolidated financial statements (continued)

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognized as other income in the statement of profit or loss when the right of payment has been established, except when the Group benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in OCI. Equity instruments designated at fair value through OCI are not subject to impairment assessment.

As of December 31, 2021 and 2020 the Group elected to classify irrevocably its non-listed equity investments under this category, see note 9.

Financial assets at fair value through profit or loss -

Financial assets at fair value through profit or loss include financial assets held for trading assets, assets from derivative financial instruments at fair value through profit or loss, financial assets designated upon initial recognition at fair value through profit or loss, or financial assets mandatorily required to be measured at fair value. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. Financial assets with cash flows that are not solely payments of principal and interest are classified and measured at fair value through profit or loss, irrespective of the business model.

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value and net changes in such fair value are presented as financial costs (net negative changes in fair value) or financial income (net positive changes in fair value) in the consolidated statement of profit or loss.

As of December 31, 2021 and 2020, the Group hold assets for derivative financial instruments at fair value through profit or loss classified in this category.

Derecognition -

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognized (i.e., removed from the Group's consolidated statement of financial position) when:

- The rights to receive cash flows from the asset have expired, or
- The Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset

When the Group has transferred its rights to receive cash flows from an asset or has entered a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all the risks and rewards of the asset, nor transferred control of the asset, the Group continues to recognize the transferred asset to the extent of its continuing involvement. In that case, the Group also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Notes to the consolidated financial statements (continued)

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

(ii) Impairment of financial assets -

The Group recognizes an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECLs are recognized in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For trade receivables and contract assets, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

The Group considers a financial asset in default when contractual payments are 360 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

(iii) Financial liabilities -

Initial recognition and measurement -

Financial liabilities are classified at initial recognition as financial liabilities at fair value through profit or loss, loans and borrowings, payables, or as derivatives designated as hedging instruments in an effective hedge, as appropriate.

All financial liabilities are recognized initially at fair value and, in the case of loans and borrowings and payables, net of directly attributable transaction costs.

The Group's financial liabilities include trade and other payables, interest-bearing loans and borrowings.

Notes to the consolidated financial statements (continued)

Subsequent measurement -

The subsequent measurement of financial liabilities depends on their classification, as described below:

Financial liabilities at fair value through profit or loss -

Financial liabilities at fair value through profit or loss include financial liabilities held for trading, derivative financial instruments at fair value through profit or loss and financial liabilities designated upon initial recognition as at fair value through profit or loss.

Financial liabilities are classified as held for trading if they are incurred for the purpose of repurchasing in the near term; gains or losses on liabilities held for trading are recognized in the statement of profit or loss. This category also includes derivative financial instruments entered by the Group that are not designated as hedging instruments in hedge relationships as defined by IFRS 9.

Financial liabilities designated upon initial recognition at fair value through profit or loss are designated at the initial date of recognition, and only if the criteria in IFRS 9 are satisfied.

As of December 31, 2021 and 2020, the Group does not have instruments classified in this category.

Loans and borrowings -

After their initial recognition, interest-bearing loans and borrowings are subsequently measured at amortized cost using the EIR method. Gains and losses are recognized in the consolidated statement of profit or loss when the liabilities are derecognized as well as through the EIR amortization process.

Amortized cost is calculated by considering any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included as finance costs in the consolidated statement of profit or loss.

As of December 31, 2021 and 2020, the Group includes trade and other payables and financial liabilities in this category, for more information refer to notes 14 and 16.

Derecognition -

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amount is recognized in the consolidated statement of profit or loss.

(iv) Offsetting of financial instruments -

Financial assets and liabilities are offset and the net amount is reported in the consolidated statement of financial position if there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, to realize the assets and settle the liabilities simultaneously.

(v) Derivative financial instruments and hedge accounting –

Initial recognition and subsequent measurement:

The Group uses derivative financial instruments, cross currency swaps (CCS), to hedge its foreign currency exchange rate risk. These derivative financial instruments are initially recognized at their fair values on the date on which the derivative contract is entered into and subsequently are remeasured at their fair value. Derivatives are accounted for as financial assets when their fair value is positive and as financial liabilities when their fair value is negative.

Notes to the consolidated financial statements (continued)

For the purpose of hedge accounting, hedges are classified as:

- Fair value hedges when hedging the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment.
- Cash flow hedges when hedging the exposure to variability in cash flows that is either attributable to a particular risk associated with a recognized asset or liability or a highly probable forecast transaction or the foreign currency risk in an unrecognized firm commitment.
- Hedges of a net investment in a foreign operation.

At the inception of a hedge relationship, the Group formally designates and documents the hedge relationship to which the Group wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

The documentation includes identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged and how the Group will assess the effectiveness of changes in the hedging instrument's fair value in offsetting the exposure to changes in the hedged item's fair value or cash flows attributable to the hedged risk. Such hedges expect to be highly effective in achieving offsetting changes in fair value or cash flows and are assessed on an ongoing basis to determine that they have been highly effective throughout the financial reporting periods for which they were designated.

A hedging relationship qualifies for hedge accounting if it meets all the following effectiveness requirements:

- There is 'an economic relationship' between the hedged item and the hedging instrument.
- The effect of credit risk does not 'dominate the value changes' that result from that economic relationship.
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Group hedges and the quantity of the hedging instrument that the Group uses to hedge that quantity of hedged item.

Hedges that meet all the qualifying criteria for hedge accounting are recorded as cash flow hedges.

Cash flow hedges

Any gains or losses arising from changes in the fair value of derivatives is taken directly to profit or loss, except for the effective portion of cash flow hedges, which is recognized in OCI and later reclassified to profit or loss when the hedge item affects profit or loss.

For any other cash flow hedges, the amount accumulated in OCI is reclassified to profit or loss as a reclassification adjustment in the same period or periods during which the hedged cash flows affect profit or loss.

Notes to the consolidated financial statements (continued)

In the case that the cash flow hedge is discontinued, the amount accumulated in other comprehensive income must remain in other comprehensive income accumulated if the covered cash flows are still expected to occur. Otherwise, the amount will be immediately reclassified to profit or loss as a reclassification adjustment. After discontinuation, once the hedged cash flows are given, any amount that remains in other comprehensive accumulated results must be recorded considering the nature of the underlying transaction.

(vi) Fair value measurement -

The Group measures financial instruments such as derivatives, and equity investment, at fair value at each balance sheet date.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- In the principal market for the asset or liability, or
- In the absence of a principal market, in the most advantageous market for the asset or liability.

The principal or the most advantageous market must be accessible by the Group.

The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorized within the fair value accounting hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognized in the financial statements at fair value on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

Notes to the consolidated financial statements (continued)

The Group's management determines the policies and procedures for recurring and non-recurring fair value measurements.

At each reporting date, the Financial Management analyzes the changes in the values of the assets and liabilities that must be measured or determined on a recurring and non-recurring basis according to the Group's accounting policies. For this analysis, Management contrasts the main variables used in the latest assessments made with updated information available from valuations included in contracts and other relevant documents.

Management also compares the changes in the fair value of each asset and liability with the relevant external sources to determine whether the change is reasonable.

For purposes of disclosure of fair value, the Group has determined classes of assets and liabilities based on the inherent nature, characteristics and risks of each asset and liability, and the level of the fair value accounting hierarchy as explained above.

2.3.3 Foreign currencies -

The functional and presentation currency for the consolidated financial statements of the Group is soles, which is also the functional currency for its subsidiaries.

Transactions and balances

Transactions in foreign currencies are initially recorded at their respective functional currency spot rates at the date the transaction first qualifies for recognition.

Monetary assets and liabilities denominated in foreign currencies are translated at the functional currency spot rates of exchange at the reporting date. Differences arising on settlement or translation of monetary items are recognized in profit or loss.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transactions.

2.3.4 Inventories -

Inventories are valued at the lower of cost and net realizable value. Costs incurred in bringing each product to its present location and conditions are accounted for as follows:

Raw materials and supplies

- Purchase cost determined using the weighted average method.

Finished goods and work in progress

- Cost of direct materials and supplies, services provided by third parties, direct labor and a proportion of manufacturing overheads based on normal operating capacity, excluding borrowing costs and exchange currency differences.

Inventory in transit

- Purchase cost.

Notes to the consolidated financial statements (continued)

Net realizable value is the estimated selling price in the ordinary course of business, less estimated cost of completion and the estimated costs necessary to make the sale.

2.3.5 Borrowing costs -

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalized as part of the cost of the respective asset. All other borrowing costs are expensed in the period in which they occur. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

Where the funds used to finance a project form part of general borrowings, the amount capitalized is calculated using a weighted average of rates applicable to relevant general borrowings of the Group during the period. All other borrowing costs are recognized in the consolidated statement of profit or loss in the period in which they are incurred.

2.3.6 Leases -

The Group assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Group as a lessee:

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognizes lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

i) Right of use assets

The Group recognizes right-of-use assets at the commencement date of the lease (the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets, unless the ownership of the leased asset transfers to the Group at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset. The leased assets correspond to motorized vehicles whose useful life is 5 years.

The right-of-use assets are subject to impairment assessment. Refer to accounting policies in section 2.3.12.

ii) Lease liabilities

At the commencement date of the lease, the Group recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. Variable lease payments that do not depend on an index or a rate are recognized as expenses in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the assessment of an option to purchase the underlying asset, a change in the amounts expected to be paid under residual value guarantee or changes to future payments resulting from a change in an index or rate used to determine such lease payments

The Group's lease liabilities are included in "lease liabilities" in the consolidated statement of financial position.

iii) Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to its short-term leases of machinery and equipment (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value.

Notes to the consolidated financial statements (continued)

Group as a lessor:

Leases in which the Group does not transfer substantially all the risks and rewards of ownership of an asset are classified as operating leases. Rental income is accounted for on a straight-line basis over the lease terms and is included in other income in the statement of profit or loss due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized over the lease term on the same basis as rental income. Contingent rents are recognized as revenue in the period in which they are earned.

2.3.7 Property, plant and equipment -

Property, plant and equipment is stated at cost, net of accumulated depreciation and/or accumulated impairment losses, if any. Such cost includes the cost of replacing component parts of the property, plant and equipment and borrowing costs for long-term construction projects if the recognition criteria are met (see note 2.3.5). The capitalized value of a finance lease is also included within property, plant and equipment. When significant parts of plant and equipment are required to be replaced at intervals, the Group recognizes such parts as individual assets with specific useful lives and depreciates them separately based on their specific useful lives. Likewise, when a major inspection is performed, its cost is recognized in the carrying amount of the plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognized in profit or loss as incurred.

The present value of the expected cost for the decommissioning of an asset after its use is included in the cost of the respective asset if the recognition criteria for a provision are met. Refer to significant accounting judgments, estimates and assumptions (note 3) and quarry rehabilitation cost provisions (note 15).

Depreciation of assets is determined using the straight-line method over the estimated useful lives of such assets as follows:

	Years
Buildings and other constructions:	
Administrative facilities	Between 20 and 51
Main production structures	Between 20 and 56
Minor production structures	Between 20 and 35
Machinery and equipment:	
Mills and horizontal furnaces	Between 24 and 45
Vertical furnaces, crushers and grinders	Between 23 and 36
Electricity facilities and other minors	Between 10 and 35
Furniture and fixtures	10
Transportation units:	
Heavy units	Between 5 and 15
Light units	Between 5 and 10
Computer equipment	Between 3 and 10
Tools	Between 5 and 10

The asset's residual value, useful lives and methods of depreciation are reviewed at each reporting period and adjusted prospectively if appropriate.

An item of property, plant and equipment and any significant part initially recognized is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the consolidated statement of profit or loss when the asset is derecognized.

Notes to the consolidated financial statements (continued)

2.3.8 Mining concessions -

Mining concessions correspond to the exploration rights in areas of interest acquired. Mining concessions are stated at cost, net of accumulated amortization and/or accumulated impairment losses, if any, and are presented within the "Property, plant and equipment" caption of consolidated statement of financial position. Those mining concessions are amortized following the straight-line method. In the event the Group abandons the concession, the costs associated are written-off in the consolidated statement of profit or loss.

As of December 31, 2021 and 2020, mining concessions of the Group correspond to areas that contain raw material necessary for cement production.

2.3.9 Quarry development costs and stripping costs -

Quarry development costs -

Quarry development costs incurred are stated at cost and are the next step in development of quarries after exploration and evaluation stage. Quarry development costs are, upon commencement of the production phase, presented net of accumulated amortization and/or accumulated impairment losses, if any, and are presented within the property, plant and equipment caption. The amortization is calculated using the straight-line method based on useful life of the quarry to which it relates. Expenditures that significantly increase the economic life of the quarry under exploitation are capitalized.

Stripping costs -

Stripping costs incurred in the development of a mine before production commences are capitalized as part of mine development costs and subsequently amortized over the life of the mine on a units-of-production basis, using the proved reserves.

Stripping costs incurred subsequently during the production phase of its operation are recorded as part of cost of production.

2.3.10 Intangible assets

Intangible assets acquired separately are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is their fair value at the date of acquisition. Following initial recognition, intangible assets are carried at cost less any amortization and accumulated impairment losses. Internally generated intangibles, excluding capitalized development costs, are not capitalized and the related expenditure is reflected in profit or loss in the period in which the expenditure is incurred.

The useful lives of intangible assets are assessed as either finite or indefinite.

Intangible assets with finite lives are amortized over the economic useful life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at least at the end of each reporting period. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are considered to modify the amortization period or method, as appropriate, and are treated as changes in accounting estimates. The amortization expense on intangible assets with finite lives is recognized in the statement of profit or loss in the expense category that is consistent with the function of the intangible assets.

The Group's intangible assets with finite useful lives are amortized in an average term of ten years.

Notes to the consolidated financial statements (continued)

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually, either individually or at the cash-generating unit level. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable. If not, the change in useful life from indefinite to finite is made on a prospective basis. As of December 31, 2021 and 2020, the Company maintains as intangible assets with an indefinite useful the fair value of a brand acquired in 2018.

Any gain or loss arising upon derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the statement of profit or loss.

Exploration and evaluation assets -

Exploration and evaluation activity involve the search for mineral resources, the determination of technical feasibility and the assessment of commercial viability of an identified resource. Exploration and evaluation activity include:

- Researching and analyzing historical exploration data.
- Gathering exploration data through geophysical studies.
- Exploratory drilling and sampling.
- Determining and examining the volume and grade of the resource.
- Surveying transportation and infrastructure requirements.
- Conducting market and finance studies.

License costs paid in connection with a right to explore in an existing exploration area, are capitalized and amortized over the term of the license.

Once the legal right to explore has been acquired, exploration and evaluation costs are charged to the consolidated statement of profit or loss, unless management concludes that a future economic benefit is more likely than not to be realized, in which case such costs are capitalized. These costs include directly attributable employee remuneration, materials and fuel used, surveying costs, drilling costs and payments made to contractors.

In evaluating if costs meet the criteria to be capitalized, several different sources of information are used, including the nature of the assets, extension of the explored area and results of sampling, among others. The information that is used to determine the probability of future benefits depends on the extent of exploration and evaluation that has been performed.

Exploration and evaluation costs are capitalized when the exploration and evaluation activity is within an area of interest for which it is expected that the costs will be recouped by future exploitation and active and significant operations in relation to the area are continuing or planned for the future.

The main estimates and assumptions the Group uses to determine whether it is likely that future exploitation will result in future economic benefits include: expected operational costs, committed capital expenditures, expected mineral prices and mineral resources found. For this purpose, the future economic benefit of the project can reasonably be regarded as assured when mine-site exploration is being conducted to confirm resources, mine-site exploration is being conducted to convert resources to reserves or when the Group is conducting a feasibility study, based on supporting geological information.

Notes to the consolidated financial statements (continued)

As the capitalized exploration and evaluation costs asset is not available for use, it is not amortized. These exploration costs are transferred to mine development assets once the work completed to date supports the future development of the property and such development receives appropriate approvals. In this phase, the exploration costs are amortized in accordance with the estimated useful life of the mining property from the time the commercial exploitation of the reserves begins. All capitalized exploration and evaluation costs are monitored for indications of impairment. Where a potential impairment is indicated, assessment is performed for each area of interest in conjunction with the group of operating assets (representing a cash generating unit) to which the exploration is attributed.

Exploration areas in which resources have been discovered but require major capital expenditure before production can begin, are continually evaluated to ensure that commercial quantities of resources exist or to ensure that additional exploration work are under way or planned. To the extent that capitalized expenditure is no longer expected to be recovered it is charged to the consolidated statement of profit or loss. The Group assesses at each reporting date whether there is an indication that exploration and evaluation assets may be impaired. The following facts and circumstances are considered in this assessment:

- (i) the period for which the entity has the right to explore in the specific area has expired during the period or will expire in the near future, and is not expected to be renewed.
- (ii) substantive expenditure on further exploration for and evaluation of mineral resources in the specific area is neither budgeted nor planned.
- (iii) exploration for and evaluation of mineral resources in the specific area have not led to the discovery of commercially viable quantities of mineral resources and the entity has decided to discontinue such activities in the specific area.
- (iv) sufficient data exists to indicate that, although development in the specific area is likely to proceed, the carrying amount of the exploration and evaluation asset is unlikely to be recovered in full through successful development or by sale.

2.3.11 Ore reserve and resource estimates -

Ore reserves are estimates of the amount of ore that can be economically and legally extracted from the Group's mining properties and concessions. The Group estimates its ore reserves and mineral resources, based on information compiled by appropriately qualified persons relating to the geological data on the size, depth and shape of the ore body, and requires complex geological judgments to interpret the data. The estimation of recoverable reserves is based upon factors such as estimates of foreign exchange rates, commodity prices, future capital requirements, and production costs along with geological assumptions and judgments made in estimating the size and grade of the ore body. Changes in the reserve or resource estimates may impact upon the carrying value of exploration and evaluation assets, provision for quarry rehabilitation and depreciation and amortization charges.

2.3.12 Impairment of non-financial assets -

The Group assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required (goodwill and Intangible assets with indefinite useful lives), the Group estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating unit's (CGU) fair value less costs of disposal and its value in use and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

Notes to the consolidated financial statements (continued)

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs of disposal, recent market transactions are considered. If no such transactions can be identified, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded companies or other available fair value indicators.

The Group supports its impairment calculation by using detailed budgets and forecast calculations, which are prepared separately for each of the Group's CGUs to which the individual assets are allocated.

Impairment losses of continuing operations, including impairment on inventories, are recognized in the consolidated statement of profit or loss in expense categories consistent with the function of the impaired asset.

In addition, an assessment is made at each reporting date to determine whether there is any indication that previously recognized impairment losses may no longer exist or have decreased. If such an indication exists, the Group estimates the asset's or CGU's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the consolidated statement of profit or loss.

Exploration and evaluation assets are tested for impairment annually as of December 31, either individually or at the cash-generating unit level, as appropriate, and when circumstances indicate that the carrying value may be impaired.

2.3.13 Provisions -

General -

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. When the Group expects some or all of a provision to be reimbursed, for example under an insurance contract, the reimbursement is recognized as a separate asset but only when the reimbursement is virtually certain. The expense relating to any provision is presented in profit or loss net of any reimbursement. If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects where appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognized as finance cost in the consolidated statement of profit or loss.

Quarry rehabilitation provision -

The Group records the present value of estimated costs of legal and constructive obligations required to restore operating locations in the period in which the obligation is incurred. Quarry rehabilitation costs are provided at the present value of expected costs to settle the obligation using estimated cash flows and are recognized as part of the cost of that particular asset. The cash flows are discounted at a current risk-free rate. The unwinding of the discount is expensed as incurred and recognized in the consolidated statement of profit or loss as a finance cost. The estimated future costs of quarry rehabilitation are reviewed annually and adjusted as appropriate. Changes in the estimated future costs or in the discount rate applied are added to or deducted from the cost of the asset.

Notes to the consolidated financial statements (continued)

Environmental expenditures and liabilities -

Environmental expenditures that relate to current or future revenues are expensed or capitalized as appropriate. Expenditures that relate to an existing condition caused by past operations and do not contribute to current or future earnings are expensed.

Liabilities for environmental costs are recognized when a clean-up is probable, and the associated costs can be reliably estimated. Generally, the timing of recognition of these provisions coincides with the commitment to a formal plan of action or, if earlier, on divestment or on closure of inactive sites.

The amount recognized is the best estimate of the expenditure required. Where the liability will not be settled for a number of years, the amount recognized is the present value of the estimated future expenditure.

2.3.14 Employees benefits -

The Group has short-term obligations for employee benefits including salaries, severance contributions, legal bonuses, performance bonuses and profit sharing. These obligations are recorded monthly on an accrual basis.

Additionally, the Group has a long-term incentive plan for key management. This benefit is settled in cash, measured on the salary of each officer and upon fulfilling certain conditions such as years of experience within the Group and permanency. The Group recognizes the long-term obligation at its present value at the end of the reporting period using the projected credit unit method. To calculate the present value of these long-term obligations the Group uses a government bond discount rate at the date of the consolidated financial statements. This liability is annually reviewed on the date of the consolidated financial statements, and the accrual updates and the effect of changes in discount rates are recognized in the consolidated statement of profit or loss, until the liability is extinguished.

2.3.15 Revenue recognition -

The group is dedicated to the production and trading of cement, blocks, concrete and quicklime, as well as trade of construction supplies. These goods are sold in contracts with customers. The Group has concluded that it is principal in its sales agreements because it controls the goods or services before transferring to the customer.

Revenue is measured at the fair value of the consideration received or receivable, considering contractually defined terms of payment and excluding taxes or duties.

The following specific recognition criteria must also be met before revenue is recognized:

Sales of goods -

Revenue from sale of goods is recognized at the point in time when control of the asset is transferred to the customer, generally on delivery of the goods.

Notes to the consolidated financial statements (continued)

The Group considers whether there are other promises in the contract that are separate performance obligations to which a portion of the transaction price needs to be allocated. In determining the transaction price for the sale of goods, the Group considers the effects of variable consideration, the existence of significant financing components, noncash consideration, and consideration payable to the customer (if any).

Rendering of services -

In the business segments cement, quicklime, concrete, blocks and construction supplies, the Group provides transportation services. These services are sold together with the sale of the goods to the customer.

Transportation services are satisfied when the transport service is concluded, which coincides with the moment of delivery of the goods to the customers.

Operating lease income -

Income from operating lease of land and office was recognized on a monthly accrual basis during the term of the lease.

Interest income -

For all financial instruments measured at amortized cost and interest-bearing financial assets, interest income is recorded using the effective interest rate (EIR). EIR is the rate that exactly discounts the estimated future cash payments or receipts over the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset or liability. Interest income is included in finance income in the consolidated statement of profit or loss.

2.3.16 Taxes -

Current income tax -

Current income tax assets and liabilities are measured at the amount expected to be recovered from or paid to the tax authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted, at the reporting date in Peru, where the Group operates and generates taxable income.

Current income tax relating to items recognized directly in equity is recognized in equity and not in the consolidated statement of profit or loss. Management periodically evaluates positions taken in the tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate.

Deferred tax -

Deferred tax is provided using the balance sheet method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date.

Notes to the consolidated financial statements (continued)

Deferred tax liabilities are recognized for all taxable temporary differences, except in respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, the carry forward of unused tax credits and unused tax losses. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilized, except in respect of deductible temporary differences associated with investments in subsidiaries, where deferred assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Unrecognized deferred tax assets are re-assessed at each reporting date and are recognized to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax related to items recognized outside profit or loss is recognized outside profit or loss. Deferred tax items are recognized in correlation to the underlying transaction either in OCI or directly in equity.

Deferred tax assets and deferred tax liabilities are offset if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Mining royalties -

Mining royalties are accounted when they have the characteristics of an income tax. This is considered to be the case when they are imposed under government authority and the amount payable is based on taxable net income, rather than based on quantity produced or as a percentage of revenue, after adjustment for temporary differences. For such arrangements, current and deferred tax is provided on the same basis as described above for income tax. Obligations arising from royalty arrangements that do not satisfy these criteria are recognized as current provisions and included in results of the year.

2.3.17 Investment shares held in treasury -

Own equity instruments which are reacquired (treasury shares) are recognized at cost and deducted from equity. No gain or loss is recognized in the consolidated statement of profit or loss on the purchase, sale, issue or cancellation of the Group's own equity instruments.

2.3.18 Business combinations and goodwill -

A business consists of inputs and processes applied to those inputs that have the ability to contribute to the creation of outputs. Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, which is measured at acquisition date fair value, and the amount of any non-controlling interests in the acquiree. For each business combination, the Group elects whether to measure the non-controlling interests in the acquiree at fair value or at the proportionate share of the acquiree's identifiable net assets. Acquisition-related costs are expensed as incurred and included in administrative expenses of the consolidated statement of profit or loss.

When the Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date.

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. Contingent consideration classified as equity is not remeasured and its subsequent settlement is accounted for within equity. Contingent consideration classified as an asset or liability that is a financial instrument and within the scope of IFRS 9 Financial Instruments, is measured at fair value with the changes in fair value recognized in the statement of profit or loss in accordance with IFRS 9. Other contingent consideration that is not within the scope of IFRS 9 is measured at fair value at each reporting date with changes in fair value recognized in profit or loss.

Goodwill

Goodwill is the excess of the aggregate of the consideration transferred on the assets acquisitions over the fair value of the acquire assets.

Goodwill is initially measured at cost (being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests and any previous interest held over the net identifiable assets acquired and liabilities assumed). If the reassessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

The Group perform impairment tests of goodwill annually. The impairment of goodwill is determined estimating the recoverable amount of the cash generating units related to it. When the recoverable amount of the cash generating units is lower than the carrying value, an impairment is recognized. Impairment related to goodwill cannot be reversed in future periods.

Notes to the consolidated financial statements (continued)

2.3.19 New amended standards and interpretations –

The Group applied for the first-time certain standards and amendments, which are effective for annual periods beginning on or after January 1, 2021. The Group has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective.

Amendments to IFRS 7, IFRS 9, IFRS 4, IFRS 16 and IAS 39, The amendments provide temporary reliefs which addresses the financial reporting effects when an interbank offered rate (IBOR) is replaced with an alternative nearly risk-free interest rate (RFR). The amendments include the following practical expedients:

- A practical expedient to require contractual changes, or changes to cash flows that are directly required by the reform, to be treated as changes to a floating interest rate, equivalent to a movement in a market rate of interest.
- Permit changes required by IBOR reform to be made to hedge designations and hedge documentation without the hedging relationship being discontinued.
- Provide temporary relief to entities from having to meet the separately identifiable requirement when an RFR instrument is designated as a hedge of a risk component.

These amendments had no impact on the consolidated financial statements of the Group.

Amendments to IFRS 16 Covid-19-Related Rent Concessions beyond 30 June 2021 On May 28, 2020, the IASB issued a COVID-19-Related Rent Concessions related amendment to IFRS 16 Leases. The amendment provides relief to lessees from applying IFRS 16 guidance on lease modification accounting for rent concessions arising as a direct consequence of the COVID-19 the pandemic. As a practical expedient, a lessee may elect not to assess whether a COVID-19 related rent concession from a lessor is a lease modification. A lessee that makes this election accounts for any change in lease payments resulting from the COVID-19 related rent concession the same way it would account for the change under IFRS 16, if the change were not a lease modification.

The amendment was intended to apply until June 30, 2021, but as the impact of the pandemic is continuing, on March 31, 2021, the IASB extended the period of application of the expedient until to June 30, 2022. The amendment applies to annual reporting periods beginning on or after April 1, 2021. Early application is permitted. This amendment had no impact on the Group's consolidated financial statements.

Notes to the consolidated financial statements (continued)

3. Significant accounting judgments, estimates and assumptions

The preparation of the Group's consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

The key assumptions concerning the future and other key sources of estimation uncertainty at the reporting date, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are described below. The Group based its assumptions and estimates on parameters available when the consolidated financial statements were prepared. Existing circumstances and assumptions about future developments, however, may change due to market changes or circumstances arising beyond the control of the Group. Such changes are reflected in the assumptions when they occur. The most significant estimate considered by the Company's Management in relation to the consolidated financial statements refers to the evaluation of the impairment of long-lived assets, see notes 2.3.2, 2.3.12, 10 and 11.

4. Standards issued but not yet effective

The standards and interpretations relevant to the Group, that are issued, but not yet effective, up to the date of issuance of the financial statements are disclosed below. The Group intends to adopt these standards, if applicable, when they become effective:

Amendments to IAS 1: Classification of Liabilities as Current or Non-current In January 2020, the IASB issued amendments to paragraphs 69 to 76 of IAS 1 to specify the requirements for classifying liabilities as current or non-current. The amendments clarify:

- What is meant by a right to defer settlement
- That a right to defer must exist at the end of the reporting period
- That classification is unaffected by the likelihood that an entity will exercise its deferral right
- That only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification.

The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and must be applied retrospectively. The Group is currently assessing the impact the amendments will have on current practice and whether existing loan agreements may require renegotiation.

Property, Plant and Equipment: Proceeds before Intended Use – Amendments to IAS 16 In May 2020, the IASB issued Property, Plant and Equipment — Proceeds before Intended Use, which prohibits entities deducting from the cost of an item of property, plant and equipment, any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 and must be applied retrospectively to items of property, plant and equipment made available for use on or after the beginning of the earliest period presented when the entity first applies the amendment.

This amendment has not had a material impact on the Group.

Notes to the consolidated financial statements (continued)

Onerous contracts - Costs of fulfilling a contract - Amendments to IAS 37 In May 2020, the IASB issued amendments to IAS 37 to specify which costs an entity should include when assessing whether a contract is onerous or loss-making.

The amendments apply a “directly related cost approach”. Costs that relate directly to a contract to provide goods or services include both incremental costs and an allocation of costs directly related to contract activities. General and administrative costs are not directly related to a contract and are excluded unless they are explicitly charged to the counterparty under the contract.

The amendments are effective for annual periods beginning on or after January 1, 2022. The Group will apply these amendments to contracts for which it has not yet fulfilled all of its obligations at the beginning of the annual period in which it first applies the amendments.

This amendment is not expected to have a material impact on the Group.

IFRS 9 Financial Instruments – Fees in the ‘10 per cent’ test for derecognition of financial liabilities As part of its 2018-2020 annual improvements to IFRS standards process the IASB issued an amendment to IFRS 9. The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other’s behalf. An entity applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.

The amendment is effective for annual reporting periods beginning on or after January 1, 2022 with earlier adoption permitted. The Group will apply the amendments to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment.

This amendment is not expected to have a material impact on the Group.

Definition of Accounting Estimates - Amendments to IAS 8

In February 2021, the IASB issued amendments to IAS 8, in which it introduces a definition of ‘accounting estimates’. The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, they clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual reporting periods beginning on or after January 1, 2023 and apply to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted as long as this fact is disclosed. The amendments are not expected to have a material impact on the Group.

Notes to the consolidated financial statements (continued)

Disclosure of Accounting Policies - Amendments to IAS 1 and IFRS Practice Statement 2

In February 2021, the IASB issued amendments to IAS 1 and IFRS Practice Statement 2 Making Materiality Judgements, in which it provides guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments aim to help entities provide accounting policy disclosures that are more useful by replacing the requirement for entities to disclose their 'significant' accounting policies with a requirement to disclose their 'material' accounting policies and adding guidance on how entities apply the concept of materiality in making decisions about accounting policy disclosures. The amendments to IAS 1 are applicable for annual periods beginning on or after January 1, 2023 with earlier application permitted. Since the amendments to the Practice Statement 2 provide non-mandatory guidance on the application of the definition of material to accounting policy information, an effective date for these amendments is not necessary. The Group is currently assessing the impact of the amendments to determine the impact they will have on the Group's accounting policy disclosures.

5. Transactions in foreign currency

Transactions in foreign currency take place at the open-market exchange rates published by the Superintendence of Banks, Insurance and Pension Funds Administration. As of December 31, 2021 the exchange rates for transactions in United States dollars, published by this institution, were S/3.975 for purchase and S/3.998 for sale (S/3.618 for purchase and S/3.624 for sale as of December 31, 2020).

As of December 31, 2021 and 2020, the Group had the following assets and liabilities in United States dollars:

	2021	2020
	US\$(000)	US\$(000)
Assets		
Cash and cash equivalents	51,343	15,356
Advances to suppliers for work in progress	9,210	4,242
Trade and other receivables	4,946	4,587
	<u>65,499</u>	<u>24,185</u>
Liabilities		
Trade and other payables	(10,356)	(11,314)
Interest-bearing loans and borrowings	(149,612)	(149,612)
	<u>(159,968)</u>	<u>(160,926)</u>
Cross currency swap position	132,000	150,000
Net monetary position	<u>37,531</u>	<u>13,259</u>

Notes to the consolidated financial statements (continued)

As of December 31, 2021 and 2020, the Group has cash currency hedging agreements for its bonds (denominated in US dollars), see note 16. Of the US\$132,000,000 and US\$150,000,000 shown in the swap position as of December 31, 2021 and 2020, respectively, there are underlying liabilities in the amount of US\$131,612,000 and the difference of US\$ 388,000 and US\$18,388,000 is maintained as derivative financial instruments at fair value through profit or loss.

During 2021, the net loss originated by the exchange difference was approximately S/7,086,000 (the net loss from exchange difference amounted to S/9,831,000 during 2020 and net gain from exchange difference amounted to S/729,000 during 2019). All these results are presented in the caption "(Loss) gain from exchange difference, net" of the consolidated statement of income.

6. Cash and cash equivalents

(a) This caption was made up as follows:

	2021	2020
	S/(000)	S/(000)
Cash on hand	273	177
Cash at banks (b)	225,629	22,510
Short-term deposits (c)	47,500	286,225
	273,402	308,912

(b) Cash at banks is denominated in local and foreign currency and U.S. dollars, is deposited in local and foreign bank are freely available. The demand deposits interest yield is based on daily bank deposit rates.

(c) The short-term deposits held in domestic banks were freely available and earned interest at the respective short-term market rates and original maturity less than three months.

Notes to the consolidated financial statements (continued)

7. Trade and other receivables

- (a) This caption was made up as follows:

	Current		Non-current	
	2021 S/(000)	2020 S/(000)	2021 S/(000)	2020 S/(000)
Trade receivables (b)	91,072	73,366	-	-
Other accounts receivable	5,940	1,913	-	-
Accounts receivable from Parent company and affiliates, note 27	1,314	2,212	-	-
Funds restricted to tax payments	1,314	346	-	-
Loans granted	1,066	1,624	83	1,688
Other receivables from sale of fixed assets	937	1,781	-	-
Interest receivable	636	1,375	-	-
Loans to employees	610	357	-	-
Allowance for expected credit losses (d) and (e)	(5,539)	(5,324)	-	-
Financial assets classified as receivables (e)	97,350	77,650	83	1,688
Value-added tax credit	5,368	6,443	2,673	3,319
Other accounts receivable (c)	-	-	38,242	-
Tax refund receivable	-	319	9,242	9,242
Allowance for expected credit losses (d)	-	-	(9,034)	(9,034)
Non-financial assets classified as receivables	5,368	6,762	41,123	3,527
	102,718	84,412	41,206	5,215

- (b) Trade account receivables have current maturity (30 to 90 days) and those overdue bear interest.
- (c) On March 22, 2021, the Company received Tax Court Resolution N° 00905-4-21 that declares the calculation of Mining Royalty should be based on gross sale of the final product (cement) for the years 2008 and 2009. This is an opposite position to what is established by the Constitutional Court in the STC Exp. N° 1043-2013-PA/TC that declares founded the writ of protection presented by the Company and its right to calculate the Mining Royalty exclusively based on the value of the mining component, without considering in any way the value of the final products derived from industrial and manufacturing processes.

Notes to the consolidated financial statements (continued)

The Company has made, under protest, partial payments of the debts arbitrarily placed in collection. These payments as of December 31, 2021 amount to approximately S/38,242,000 and are presented in the caption "Miscellaneous receivables, net", non-current assets. To date, the Company has initiated the corresponding legal actions to recover said payments and in the opinion of Management and its external legal advisors, it has a high probability of obtaining a favorable result.

- (d) The movement of the allowance for expected credit losses is as follows:

	2021	2020	2019
	S/(000)	S/(000)	S/(000)
Opening balance	14,358	12,781	11,329
Additions, note 22	563	1,582	1,452
Recoveries	(348)	(5)	-
Ending balance	14,573	14,358	12,781

As of December 31, 2021, the additions include S/563,000 related to the provision for expected credit losses for trade receivables (S/1,582,000 as of December 31, 2020), which are presented in the caption "selling and distribution expenses" on the consolidated income statement, see notes 22.

Notes to the consolidated financial statements (continued)

(e) The aging analysis of trade and other accounts receivable as of December 31, 2021 and 2020, is as follows:

As of December 31, 2021

	Total	Neither past due nor impaired	Past due but not impaired				
			< 30 days	30-60 days	61-90 days	91-120 days	> 120 days
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
Expected credit loss rate	5.4%	0.0%	0.9%	1.7%	3.7%	-	76.5%
Carrying amount 2021	102,972	65,314	21,233	6,112	3,672	-	6,641
Expected credit loss	5,539	28	190	105	136	-	5,080

As of December 31, 2020

	Total	Neither past due nor impaired	Past due but not impaired				
			< 30 days	30-60 days	61-90 days	91-120 days	> 120 days
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
Expected credit loss rate	6.3%	0.2%	10.8%	1.4%	4.2%	-	61.2%
Carrying amount 2020	84,662	68,044	1,943	5,665	1,134	-	7,876
Expected credit loss	5,324	167	209	79	48	-	4,821

Notes to the consolidated financial statements (continued)

8. Inventories

(a) This caption is made up as follows:

	2021 S/(000)	2020 S/(000)
Goods and finished products	25,304	12,877
Work in progress	135,008	114,246
Raw materials	247,939	157,107
Packages and packing	7,466	3,614
Fuel	3,498	2,896
Spare parts and supplies	199,870	179,354
Inventory in transit	9,149	10,220
	628,234	480,314
Less - Provision for inventory obsolescence (b)	(23,052)	(19,704)
	605,182	460,610

(b) Movement in the provision for inventory obsolescence value is set forth below:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Opening balance	19,704	17,253	14,975
Additions	3,374	3,635	2,498
Recoveries	(26)	(1,184)	(220)
Final balance	23,052	19,704	17,253

9. Financial investment designated at fair value through OCI

(a) Movement in financial investment designated at fair value through OCI is as follow:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Beginning balance	692	18,224	26,883
Contribution of investment shares	1,779	-	-
Fair value change recorded in other comprehensive income	(1,995)	(17,532)	(8,659)
Ending balance	476	692	18,224

(b) As of December 31, 2021 and 2020, corresponds to 2,481,397 and 9,148,373 investment shares of Fossal S.A.A. These shares represent 8.40% and 7.76% of equity of Fossal S.A.A., respectively.

The main asset held by Fossal S.A.A. corresponded to its investment in the company Fosfatos del Pacífico S.A., a pre-operational company that has a diatomite extraction concession and is dedicated to the Fosfatos Project (a project for the exploitation and sale of phosphate rock). The Board of Directors of the company Fosfatos del Pacífico S.A. held on December 30, 2020, considering the longer time it will take for the renewal of the Environmental Impact Study (EIA) of the project and that the current international prices of phosphate rock are lower than the sales prices originally estimated at the beginning of the project, agreed to make the accounting provision due to the total devaluation of the assets related to the Phosphate Project.

The Company has recognized a charge in other comprehensive income for S/1,995,000 related to updating the fair value of the financial investment maintained in Fossal S.A.A. during 2021 (S/17,532,000 and S/8,659,000 during 2020 and 2019 respectively).

Notes to the consolidated financial statements (continued)

10. Property, plant and equipment

(a) The composition and movement in this caption as of the date of the consolidated statement of financial position is presented below:

	Mining concessions (b)	Mine development costs (b)	Land	Buildings and other construction	Machinery, equipment and related spare parts	Furniture and accessories	Transportation units	Computer equipment and tools	Quarry rehabilitation costs	Capitalized interests	Work in progress and units in transit	Total
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
Cost												
As of January 1, 2020	76,135	51,705	251,655	684,338	1,667,042	32,839	123,568	50,951	1,515	64,904	47,449	3,052,101
Additions	19	2,316	-	535	8,298	197	282	1,166	7,775	-	30,644	51,232
Disposals	(261)	(5)	-	(307)	(7,803)	(54)	(12,502)	(3)	-	-	(144)	(21,079)
Transfers, note 11	-	(41)	535	5,976	26,608	141	1,761	531	-	-	(40,218)	(4,707)
As of December 31, 2020	75,893	53,975	252,190	690,542	1,694,145	33,123	113,109	52,645	9,290	64,904	37,731	3,077,547
Additions	21	3,435	4,254	(98)	16,160	191	7,523	3,731	(260)	103	53,120	88,180
Disposals	-	-	-	(7)	(33,176)	(22,786)	(10,583)	(23,105)	-	-	(136)	(89,793)
Transfers, note 11	-	592	108	2,648	20,526	178	3,302	1,157	-	-	(28,575)	(64)
As of December 31, 2021	75,914	58,002	256,552	693,085	1,697,655	10,706	113,351	34,428	9,030	65,007	62,140	3,075,870
Accumulated depreciation												
As of January 1, 2020	12,184	10,071	-	121,196	556,147	29,380	83,227	38,812	99	5,978	-	857,094
Additions	72	196	-	18,693	95,325	723	8,357	3,537	1,517	1,521	-	129,941
Disposals	-	-	-	(32)	(7,282)	(54)	(10,952)	(1)	-	-	-	(18,321)
As of December 31, 2020	12,256	10,267	-	139,857	644,190	30,049	80,632	42,348	1,616	7,499	-	968,714
Additions	72	217	-	18,605	93,581	589	7,350	3,198	766	1,522	-	125,900
Disposals	-	-	-	(7)	(32,317)	(22,767)	(9,819)	(23,090)	-	-	-	(88,000)
As of December 31, 2021	12,328	10,484	-	158,455	705,454	7,871	78,163	22,456	2,382	9,021	-	1,006,614
Impairment (b)												
As of December 31, 2020	42,859	24,048	-	13,578	12,424	201	26	454	-	-	735	94,325
As of December 31, 2021	42,859	24,048	-	13,578	12,424	201	26	454	-	-	735	94,325
Net book value												
As of December 31, 2020	20,778	19,660	252,190	537,107	1,037,531	2,873	32,451	9,843	7,674	57,405	36,996	2,014,508
As of December 31, 2021	20,727	23,470	256,552	521,052	979,777	2,634	35,162	11,518	6,648	55,986	61,405	1,974,931

Notes to the consolidated financial statements (continued)

- (b) Mining concessions mainly include net acquisition costs of S/15,488,000 related to coal concessions acquired through a purchase option executed from 2011 to 2013. The caption also includes some concessions acquired by the Group for exploration activities related to the cement business.

In previous years' Management recognized a full impairment related to the total net book value of a closed zinc mining unit which included concession costs, development costs and related facilities and equipment. From this impairment estimate, S/42,859,000 corresponds to concession costs. According to the Management's expectation the recovery amount of this zinc mining unit is zero.

- (c) The Group has assessed the recoverable amount of its remaining long-term assets and did not find indicators of an impairment for these assets as of December 31, 2021 and 2020.
- (d) Work in progress included in property, plant and equipment as of December 31, 2021 and 2020 is mainly related to complementary facilities of the cement plants.
- (e) As of December 31, 2021, the Group maintains accounts payable related to the acquisition of property, plant and equipment for S/7,615,000 (S/4,830,000 as of December 31, 2020), see note 14.

Notes to the consolidated financial statements (continued)

11. Intangibles

(a) The composition and movement of this caption as of the date of the consolidated statement of financial position is presented below:

	IT applications S/(000)	Finite life intangible (c) S/(000)	Indefinite life intangible (c) S/(000)	Exploration cost and mining evaluation (b) S/(000)	Total S/(000)
Cost					
As of January 1, 2020	25,145	24,543	1,975	48,726	100,389
Additions	4,954	-	-	270	5,224
Disposals	(1)	-	-	-	(1)
Transfers, note 10	4,173	-	-	534	4,707
As of December 31, 2020	34,271	24,543	1,975	49,530	110,319
Additions	7,152	-	-	1,739	8,891
Disposals	-	-	-	(54)	(54)
Transfers and reclassifications, note 10	-	-	-	64	64
As of December 31, 2021	41,423	24,543	1,975	51,279	119,220
Accumulated amortization					
As of January 1, 2020	9,176	3,256	71	7,051	19,554
Additions	4,168	2,454	-	1,034	7,656
As of December 31, 2020	13,344	5,710	71	8,085	27,210
Additions	4,681	2,455	-	965	8,101
Disposals	-	-	-	(54)	(54)
As of December 31, 2021	18,025	8,165	71	8,996	35,257
Impairment (b)					
At of January 1, 2020	-	-	-	33,469	33,469
As of December 31, 2020	-	-	-	33,469	33,469
As of December 31, 2021	-	-	-	33,469	33,469
Net Carrying Value					
As of December 31, 2020	20,927	18,833	1,904	7,976	49,640
As of December 31, 2021	23,398	16,378	1,904	8,814	50,494

- (b) As of December 31, 2021 and 2020, the exploration and evaluation assets include mainly capital expenditures related to the coal project and to other minor projects related to the cement business.
- (c) During the year 2018, the Group acquired brand and other intangibles for an amount of S/25,152,000 from a third party, which were recorded using the acquisition method reflecting their fair values at the acquisition date.
- (d) As of December 31, 2021 and 2020, the Group evaluated the conditions of use of the projects related to the exploration and mining evaluation costs and its other intangibles, not finding any indicators of impairment in said assets

Notes to the consolidated financial statements (continued)

12. Goodwill

As of December 31, 2021 and 2020, the amount of goodwill amounts to S/4,459,000, respectively, from the acquisition of assets made by the subsidiary Distribuidora Norte Pacasmayo S.R.L.

The Group has assessed the recoverable amount of goodwill held using the value in use method and cash flow projections approved by management for a medium-term projection period, cash flows beyond this period have been extrapolated using a rate consistent with long-term growth with the Peruvian economy and has determined that there is no impairment at December 31, 2021 and 2020.

13. Leases

The Group maintains lease contracts with third parties, mainly a contract for the lease of trucks for a term of 5 years. The annual incremental interest rate used for the initial recognition of the right-of-use asset and the lease liability ranges between 5.2 and 6.2 percent.

The Group also leases certain minor equipment for less than 12 months, the Group has decided to apply the recognition exemption for short term leases (less than 12 months) and for leases of low value assets. The expense for this type of lease amounted to S/1,419,000 for the twelve-month period ended December 31, 2021 (2020: S/1,869,000) and was recognized in the "Administrative Expenses" caption of the interim condensed consolidated statement of profit or loss.

The movement of the right of use assets recognized by the Group is shown below:

	Transportation units S/(000)	Other S/(000)	Total S/(000)
Cost -			
Balance as of January 1, 2020	-	109	109
Additions	7,504	-	7,504
Sales and/or retirement	-	(71)	(71)
Balance as of December 31, 2020	7,504	38	7,542
Additions	217	-	217
Sales and/or retirement	-	(3)	(3)
Balance as of December 31, 2021	7,721	35	7,756
Accumulated depreciation -			
Balance as of January 1, 2020	-	63	63
Additions	1,501	33	1,534
Sales and/or retirement	-	(61)	(61)
Balance as of December 31, 2020	1,501	35	1,536
Additions	1,552	-	1,552
Balance as of December 31, 2021	3,053	35	3,088
Net book value			
As of December 31, 2020	6,003	3	6,006
As of December 31, 2021	4,668	-	4,668

Notes to the consolidated financial statements (continued)

The movement of the lease liabilities recognized by the Group is shown below:

	2021	2020
	S/(000)	S/(000)
Balance as of January 1	6,633	57
Additions	217	7,504
Financial interest expenses	383	409
Dues payments	(2,419)	(1,669)
Sales and disposals	-	(19)
Others	1,015	351
Balance as of December 31	5,829	6,633
Maturity		
Current portion	1,856	1,531
Non-current portion	3,973	5,102
Balance as of December 31	5,829	6,633

The future cash disbursements in relation to lease liabilities have been disclosed in note 30.

14. Trade and other payables

This caption is made up as follows:

	2021	2020
	S/(000)	S/(000)
Trade payables	111,336	83,754
Interest payable	29,871	26,322
Remuneration payable	20,835	18,102
Advances from customers	14,668	14,880
Dividends payable, note 18(g)	9,550	7,686
Taxes and contributions	8,638	10,478
Accounts payable related to the acquisition of property, plant and equipment, note 10(e)	7,615	4,830
Hedge finance cost payable	6,213	6,381
Board of Directors' fees	5,615	5,061
Guarantee deposits	4,645	4,289
Account payable to the principal and affiliates, note 27	143	1,559
Other accounts payable	8,425	4,534
	227,554	187,876

Trade accounts payable result from the purchases of material, services and supplies for the Group's operations, and mainly correspond to invoices payable to domestic suppliers. Trade payables are non-interest bearing and are normally settled on 60 to 120 days term.

Notes to the consolidated financial statements (continued)

Other payables are non-interest bearing and have an average term of 3 months.

Interest payable is normally settled semiannually throughout the financial year.

15. Provisions

This caption is made up as follows:

	Workers' profit-sharing S/(000)	Long-term incentive plan S/(000)	Quarry Rehabilitation provision S/(000)	Provision of legal contingencies S/(000)	Total S/(000)
At January 1, 2020	13,903	8,514	1,829	1,915	26,161
Additions, note 23	9,513	5,759	7,775	1,175	24,222
Exchange difference	-	-	728	-	728
Unwinding of discounts, note 26	-	343	84	-	427
Payments and advances	(14,036)	(2,526)	(255)	-	(16,817)
At December 31, 2020	9,380	12,090	10,161	3,090	34,721
Current portion	9,380	-	-	-	9,380
Non-current portion	-	12,090	10,161	3,090	25,341
	9,380	12,090	10,161	3,090	34,721
At January 1, 2021	9,380	12,090	10,161	3,090	34,721
Additions, note 23	25,165	9,763	-	-	34,928
Exchange difference	-	-	1,060	-	1,060
Unwinding of discounts, note 26	-	660	75	-	735
Change in estimate	-	-	(260)	-	(260)
Payments and advances	(10,276)	-	-	-	(10,276)
At December 31, 2021	24,269	22,513	11,036	3,090	60,908
Current portion	24,269	-	-	-	24,269
Non-current portion	-	22,513	11,036	3,090	36,639
	24,269	22,513	11,036	3,090	60,908

Workers' profit sharing -

In accordance with Peruvian legislation, the Group is obliged to pay between 8% and 10% of annual taxable income. Distributions to employees under the plan are based 50% on the number of days that each employee worked during the preceding year and 50% on proportionate annual salary levels.

Notes to the consolidated financial statements (continued)

Long-term incentive plan -

In 2011, the Group implemented a compensation plan for its key management. This long-term benefit is payable in cash, based on the salary of each officer and depends on the years of service of each officer in the Group. According to the latest plan update, the executive would receive the equivalent of an annual salary for each year of service beginning to accrue from 2019. This benefit accrues and accumulates for each officer and is payable in two moments: the first payment will be made on the sixth year since the creation of this bonus plan, and the last payment at the end of the ninth year from the creation of the plan. If the executive decides to voluntarily leave the Group before a scheduled distribution, they will not receive this compensation. The Group used the Projected Unit Credit Method to determine the present value of this deferred obligation and the related current deferred cost, considering the expected increases in salary base and the corresponding current government bond discount rate (risk-free rate).

Quarry Rehabilitation provision -

As of December 31, 2021 and 2020, it corresponds to the provision for the future costs of rehabilitating the quarries exploited in Company's operations. The provision has been created based on studies made by internal specialists. Management believes that the assumptions used, based on current economic environment, are a reasonable basis upon which to estimate the future liability. These estimates are reviewed regularly to consider any material change to the assumptions. However, actual quarry rehabilitation costs will ultimately depend upon future market prices for the necessary decommissioning works required to reflect future economic conditions.

Future cash flows have been estimated based on financial budgets approved by Management. The range of the risk-free discount rate in dollars used in the calculation of the provision as of December 31, 2021 was from 0.12 to 1.94 and the risk-free discount rate in dollars used in the calculation of the provision as of December 31 of 2020 was from 0.06 to 1.65

Management expects to incur a significant part of this obligation in the medium and long-term. The Group estimates that this liability is sufficient according to the current environmental protection laws approved by the Ministry of Energy and Mines.

Notes to the consolidated financial statements (continued)

16. Financial obligations

- (a) This caption is made up as follows:

	Currency	Nominal interest rate %	Maturity	2021 S/(000)	2020 S/(000)
Short-term promissory notes (b)					
Banco de Crédito del Perú	US\$	1.80%	July 8, 2022	71,964	
Banco de Crédito del Perú	US\$	2.20%	July 8, 2021	-	65,232
Banco de Crédito del Perú	S/	2.62%	January 10, 2022	79,500	79,500
Banco de Crédito del Perú	S/	2.62%	January 10, 2022	79,500	79,500
Banco de Crédito del Perú	S/	1.55%	December 23, 2022	110,000	-
Banco de Crédito del Perú	S/	1.55%	December 23, 2022	110,000	-
				<u>450,964</u>	<u>224,232</u>
Senior Notes (c)					
Principal, net of issuance costs	US\$	4.50%	February 8, 2023	525,420	475,491
Principal, net of issuance costs	S/	6.69%	February 1, 2029	259,563	259,502
Principal, net of issuance costs	S/	6.84%	February 1, 2034	309,408	309,359
				<u>1,094,391</u>	<u>1,044,352</u>
Maturity					
Current portion				450,964	65,232
Non-current portion				<u>1,094,391</u>	<u>1,203,352</u>
				<u>1,545,355</u>	<u>1,268,584</u>

- (b) Short-term promissory notes -

As of December 31, 2021 and 2020, the Company maintains two loans of S/79,500,000 each with maturity in January 2022 and with an annual effective interest rate of 2.62 percent, which have been paid with the corporate loan mentioned in section (d). Also, as of December 31, 2021, the Company maintains a loan of US\$18,000,000 with maturity in July 2022 and at an effective annual interest rate of 1.80 percent.

On July 1, 2021, the Company acquired two medium-term notes with Banco de Credito del Peru S.A. for S/110,000,000 each, with a maturity date of December 23, 2022 and an effective annual interest rate of 1.55 percent.

Notes to the consolidated financial statements (continued)

(c) Senior Notes in US dollars -

The General Shareholder's Meeting held on January 7, 2013, approved that the Company complete a financing transaction. In connection with this, the Board of Directors' Meeting held on January 24, 2013, agreed to issue Senior Notes through a private offering under Rule 144A and Regulation S of the U.S. Securities Act of 1933. Also it was agreed to list these securities on the Ireland Stock Exchange. Consequently, on February 1, 2013, the Company issued Senior Bonds with a face value of US\$300,000,000, with a nominal annual interest rate of 4.50%, and maturity in 2023, obtaining total net proceeds of US\$293,646,000 (S/762,067,000). The Company has used part of the net proceeds from the offering to prepay certain of its existing debt and the difference has been used in capital expenditures in connection with its cement business. The Senior Notes are guaranteed by the following Company's subsidiaries: Cementos Selva S.A., Distribuidora Norte Pacasmayo S.R.L., Empresa de Transmisión Guadalupe S.A.C., Dinospelva Iquitos S.A.C and Calizas del Norte S.A.C. (on liquidation).

The Board of Directors' Meeting held on November 26, 2018, approved the repurchase of the senior notes in US dollars. As a result, the Company acquired senior notes for an amount of US\$168,388,000. Consequently, the senior notes balance in US dollars was US\$131,162,000, in periods 2018, 2019, 2020 and 2021. To finance this acquisition, the Company obtained medium-term promissory notes from Banco de Crédito del Perú (bridge loans) for a total of S/580,769,000, which were canceled with the issue of senior notes in Soles in January 2019, as explained below.

On the other hand, as a consequence of the purchase of senior notes issued in United States dollars, the Company's Management considers that it was not necessary to continue with all of the derivative financial instruments to hedge those liabilities. For this reason, during December 2018, the Company settled US\$150,000,000 of a total of US\$300,000,000. The loss obtained from this settlement amounted to S/34,887,000, which was presented in cumulative net loss on settlement of derivative financial instruments caption from consolidated statement of profit and loss for the year ended December 31, 2018. As of December 31, 2021 and 2020, the Company has hedged cash flow contracts to reduce the foreign currency risk of corporate bonds, which are in US dollars, see note 30.

Senior Notes in Soles

The General Shareholders' Meeting held on January 8, 2019, approved the issuance of senior notes in soles in the local market up to the maximum amount of S/1,000,000,000 through the Second Corporate Bonds Program of Pacasmayo, whose purpose was to settle the mid-term loans described in previous paragraph. On January 31, 2019, senior notes were issued for: i) S/260,000,000 at a rate of 6.688 percent per year and maturity of 10 years and; ii) S/310,000,000 at a rate of 6.844 percent per year and maturity of 15 years.

Senior Notes in soles issued in 2019 are surety guaranteed by the following Company's subsidiaries: Cementos Selva S.A., Distribuidora Norte Pacasmayo S.R.L., Empresa de Transmisión Guadalupe S.A.C. and Dinospelva Iquitos S.A.C.

Notes to the consolidated financial statements (continued)

Financial covenants

The financial covenants related to the Senior Notes issued in US dollars and soles state that if the Company and its guarantor subsidiaries issue debt or equity instruments, merges with another company or dispose or rents significant assets, the senior notes will activate the following covenants, calculated based on the Company and Guarantee Subsidiaries annual consolidated financial statements:

- The fixed charge covenant ratio would be at least 2.5 to 1.
- The consolidated debt-to-EBITDA ratio would be no greater than 3.5 to 1.

As of December 31, 2021 and 2020, senior notes generated interest that has been recognized in the consolidated statement of profit or loss for S/63,333,000 and S/60,857,000 respectively, see note 26.

(d) Medium-term Corporate Loan under “Club deal” modality:

On August 6, 2021, the Company established the conditions of a medium-term corporate loan under “Club Deal” modality with Banco de Crédito del Perú S.A. and Scotiabank Perú S.A.A. The loan amounts to S/860,000,000 that will allow the payment of all the financial obligations that the Company maintains with maturity until February 2023 and will be disbursed based on the maturity of each of these obligations. The first disbursement amounts to S/159,000,000, was made in January 2022 and was used to pay the loan mentioned in section (b). The loan conditions include a grace / availability period of 18 months from August 6 and a payment term of 7 years from the last disbursement, which is estimated for February 2023. Since that date, the loan will be paid in 22 equal quarterly installments and has an annual interest rate of 5.82 percent.

As part of the loan conditions, the Company would assume the following obligations:

I. Comply with the following financial safeguards:

- a. Debt Ratio (Financial Debt / EBITDA) $\leq 3.50x$
- b. Debt Service Coverage Ratio (FCSD / SD) $> 1.15x$
- c. Debt Service Coverage Ratio (EBITDA / SD) $= 1.50x$

These financial safeguards will be calculated and verified at the end of each calendar quarter, considering the information of consolidated financial statements of the Company for the last 12 months, prepared in accordance with International Financial Reporting Standards - IFRS.

II. It maintains the following main obligations to do:

- a. Subordinate any obligation the Company had or may have to this loan.
- b. Maintain the loan with a status equal to other senior financing of the Company.
- c. Keep assets in good condition and properly insured.
- d. Maintain all licenses, authorizations, concessions, permits, titles and rights required by government authorities.

III. It maintains the following obligations not to do:

- a. Refrain from paying dividends, reducing capital stock or any other distribution to its shareholders if this event make the Company not comply with the obligations assumed.
- b. That the Company and its subsidiaries participate in processes of liquidation, transformation, corporate reorganization, acquisition of companies, merger or spin-off.
- c. Transfer, sell, alienate, donate or give in usufruct, lease, give in fiduciary domain, encumber their assets, income flows and / or collection rights.
- d. Grant financing, personal or real guarantees in favor of third parties.

Notes to the consolidated financial statements (continued)

17. Deferred income tax assets and liabilities

The following is the composition of the caption according to the items that originated it:

	As of January 1, 2020 S/(000)	Effect on profit or loss S/(000)	Effect on OCI S/(000)	Additions Leases S/(000)	Additions to quarry rehabilitation provision S/(000)	As of December 31, 2020 S/(000)	Effect on profit or loss S/(000)	Effect on OCI S/(000)	As of December 31, 2021 S/(000)
Movement of deferred income tax assets:									
Deferred income tax assets									
Provision of discounts and bonuses to customers	2,032	425	-	-	-	2,457	(230)	-	2,227
Provision for vacations	1,729	(159)	-	-	-	1,570	335	-	1,905
Effect of tax-loss carry forward	2,614	6,656	-	-	-	9,270	(7,559)	-	1,711
Allowance for expected credit losses for trade receivables	832	625	-	-	-	1,457	76	-	1,533
Allowance for expected credit losses for other receivables	974	-	-	-	-	974	-	-	974
Lease liabilities	14	(131)	-	1,009	-	892	(87)	14	819
Legal claim contingency	-	461	-	-	-	461	-	-	461
Estimate for devaluation of spare parts and supplies	-	431	-	-	-	431	1	-	432
Effect of differences between book and tax bases of fixed assets and in the depreciation rates used for book purposes	198	29	-	-	-	227	73	-	300
Effect of differences between book and tax bases of inventories	922	(867)	-	-	-	55	-	-	55
Other	375	(312)	-	-	-	63	555	(14)	604
	<u>9,690</u>	<u>7,158</u>	<u>-</u>	<u>1,009</u>	<u>-</u>	<u>17,857</u>	<u>(6,836)</u>	<u>-</u>	<u>11,021</u>
Deferred income tax liabilities									
Effect of differences between book and tax bases of fixed assets and in the depreciation rates used for book purposes	(2,259)	829	-	-	-	(1,430)	486	-	(944)
Right of use assets	(17)	217	-	(1,009)	-	(809)	178	(17)	(648)
Other	5	(5)	-	-	-	-	-	17	17
	<u>(2,271)</u>	<u>1,041</u>	<u>-</u>	<u>(1,009)</u>	<u>-</u>	<u>(2,239)</u>	<u>664</u>	<u>-</u>	<u>(1,575)</u>
Total deferred income tax assets	<u>7,419</u>	<u>8,199</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>15,618</u>	<u>(6,172)</u>	<u>-</u>	<u>9,446</u>
Movement of deferred income tax liabilities:									
Deferred income tax assets									
Impairment on brine project assets									
Salmueras	17,087	476	-	-	-	17,563	255	-	17,818
Impairment of mining assets	7,123	(207)	-	-	-	6,916	(212)	-	6,704
Long-term incentive plan	2,511	1,055	-	-	-	3,566	3,075	-	6,641
Financial instruments designated at fair value through OCI	879	-	5,172	-	-	6,051	-	589	6,640

Provision for spare parts and supplies obsolescence	4,963	418	-	-	-	5,381	327	-	5,708
Provision for vacations	3,071	187	-	-	-	3,258	423	-	3,681
Quarry rehabilitation provision	539	(52)	-	-	2,294	2,781	(55)	-	2,726
Legal claim contingency	-	(140)	-	1,205	-	1,065	(135)	-	930
Allowance for expected credit losses for trade receivables	101	-	-	-	-	101	534	-	635
Lease liabilities	-	450	-	-	-	450	-	-	450
Other	349	(74)	-	-	-	275	53	-	328
	<u>36,623</u>	<u>2,113</u>	<u>5,172</u>	<u>1,205</u>	<u>2,294</u>	<u>47,407</u>	<u>4,265</u>	<u>589</u>	<u>52,261</u>
Deferred income tax liabilities									
Effect of differences between book and tax bases of fixed assets and in the depreciation rates	(177,448)	(12,802)	-	-	(2,294)	(192,544)	2,366	-	(190,178)
Net gain on cash flow hedge	(3,219)	(220)	487	-	-	(2,952)	1,684	(6,146)	(7,414)
Effect of costs of issuance of senior notes	(1,010)	240	-	-	-	(770)	(1,915)	-	(2,685)
Right of use assets	-	242	-	(1,205)	-	(963)	217	-	(746)
Other	(45)	3	-	-	-	(42)	-	-	(42)
	<u>(181,722)</u>	<u>(12,537)</u>	<u>487</u>	<u>(1,205)</u>	<u>(2,294)</u>	<u>(197,271)</u>	<u>2,352</u>	<u>(6,146)</u>	<u>(201,065)</u>
Total deferred income tax liabilities, net									
	<u>(145,099)</u>	<u>(10,424)</u>	<u>5,659</u>	<u>-</u>	<u>-</u>	<u>(149,864)</u>	<u>6,617</u>	<u>(5,557)</u>	<u>(148,804)</u>
		<u>(2,225)</u>	<u>5,659</u>				<u>445</u>	<u>(5,557)</u>	

Notes to the consolidated financial statements (continued)

The Group offsets tax assets and liabilities if and only if it has a legally enforceable right to set off current tax assets and current tax liabilities, and the tax assets and deferred tax liabilities relate to income taxes levied by the same tax authority.

A reconciliation between tax expenses and the product of the accounting profit multiplied by Peruvian tax rate for the years 2021, 2020 and 2019 is as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Accounting profit before income tax	224,110	85,898	194,353
At statutory income tax rate of 29.5%	(66,112)	(25,340)	(57,334)
Permanent differences			
Non-deductible expenses, net	(4,070)	(1,596)	(4,181)
Effect of tax-loss carry forward non-recognized	(758)	(1,068)	(791)
At the effective income tax rate of 32% in 2021 (2020: 33% and 2019: 32%)	(70,940)	(28,004)	(62,306)

The income tax expenses shown for the years ended December 31, 2021, 2020 and 2019 are:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Consolidated statement of profit or loss			
Current	(71,385)	(25,779)	(41,709)
Deferred	445	(2,225)	(20,597)
	(70,940)	(28,004)	(62,306)

The income tax recorded directly to other comprehensive income represents a loss of S/5,557,000 during the year 2021, a gain of S/5,659,000 and S/3,308,000 during the years 2020 and 2019, respectively.

The composition of the deferred income tax related to the items recognized in the consolidated statement of other comprehensive income and equity during the year, as follow:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Tax effect on unrealized gain on available-for-sale financial asset	589	5,172	2,554
Tax effect on unrealized gain (loss) on hedging derivative financial asset	(6,146)	487	754
Total deferred income tax in OCI	(5,557)	5,659	3,308

As of December 31, 2021, 2020 and 2019, it is not necessary to recognize deferred tax liability for taxes that would be payable on the unremitted earnings of the Group's subsidiaries. The Group has determined that the timing differences will be reversed by means of dividends to be received in the future that, according to the tax rules in effect in Peru, are not subject to income tax.

Notes to the consolidated financial statements (continued)

As of December 31, 2021, certain subsidiaries of the Group have tax loss carryforwards of S/24,085,000 (2020: S/22,230,000). These tax loss carryforwards do not expire, are related to subsidiaries that have a history of losses for some time and cannot be used to offset future taxable profits of other Group subsidiaries. No deferred assets have been recognized in relation to these tax loss carryforwards, since there are no possibilities of tax planning opportunities or other evidence of recovery in the near future.

For information purposes, the temporary difference associated with investments in subsidiaries, would generate an aggregate deferred tax liability amounting to S/83,079,000 (2020: S/80,357,000), which should not be recognized in the consolidated financial statements as it is not expected to reverse in the foreseeable future and the Company is in control of such reversal.

18. Equity

(a) Capital stock -

As of December 31, 2021 and 2020, share capital is represented by 423,868,449 authorized common shares subscribed and fully paid, with a nominal value of one Sol per share. As from December 31, 2021 from the total outstanding common shares; 34,252,841 are listed in the New York Stock Exchange and 389,615,608 in the Lima Stock Exchange. As of December 31, 2020, 31,728,741 common shares were listed in the New York Stock Exchange and 392,139,708 in the Lima Stock Exchange.

(b) Investment shares -

Investment shares do not have voting rights or participate in shareholder's meetings or the appointment of directors. Investment shares confer upon the holders thereof the right to participate in dividends distributed according to their nominal value, in the same manner as common shares. Investment shares also confer the holders thereof the right to:

- (i) maintain the current proportion of the investment shares in the case of capital increase by new contributions;
- (ii) increase the number of investment shares upon capitalization of retained earnings, revaluation surplus or other reserves that do not represent cash contributions;
- (iii) participate in the distribution of the assets resulting from liquidation of the Company in the same manner as common shares; and,
- (iv) redeem the investment shares in case of a merger and/or change of business activity of the Company.

As of December 31, 2021 and 2020, the Company has 40,278,894 investment shares subscribed and fully paid, with a nominal value of one sol per share.

Notes to the consolidated financial statements (continued)

(c) Treasury shares -

As of December 31, 2021 and 2020, the Company maintains 36,040,497 investment shares held in treasury amounting to S/121,258,000.

(d) Additional paid-in capital -

As of December 31, 2021 and 2020, the additional capital amounts to S/432,779,000 and arises mainly as a result of the excess of total proceeds obtained versus par value in the issuance of 111,484,000 common shares and 928,000 investment shares corresponding to a public offering of American Depositary Shares (ADS) registered with the New York Stock Exchange and Lima Stock Exchange on 2012.

(e) Legal reserve -

Provisions of the General Corporation Law require that a minimum of 10 per cent of the distributable earnings for each period, after deducting the income tax, be transferred to a legal reserve until such is equal to 20 per cent of the capital. This legal reserve can offset losses or can be capitalized, and in both cases, there is the obligation to replenish it.

(f) Other accumulated comprehensive results -

This reserve records fair value changes on available-for-sale financial assets and the unrealized results on cash flow hedge.

(g) Distributions made and proposed –

	2021	2020	2019
Approval date by Board of Directors	April 29, 2021	November 16, 2020	November 18, 2019
Declared dividends per share to be paid in cash S/.	0.790000	0.23000	0.36000
Declared dividends S/(000):	338,204	98,465	154,119

As of December 31, 2021 and 2020, dividends payable amount to S/9,550,000 and S/7,686,000, respectively, see note 14. During year 2019, in order to comply with Peruvian law requirements S/280,000, respectively corresponding to dividends payable aged greater than ten years were transferred from “Dividends payable” caption to “Legal reserve” caption in the consolidated statement of changes in equity.

Notes to the consolidated financial statements (continued)

19. Sales of goods

This caption is made up as follows:

	As of December 31, 2021						
	Cement	Concrete and mortar	Precast	Quicklime	Construction supplies	Other	Total
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
Segments							
Sale of cement, concrete, mortar and precast	1,534,867	213,565	36,055	-	-	-	1,784,487
Sale of construction supplies	-	-	-	-	113,905	-	113,905
Sale of quicklime	-	-	-	39,141	-	-	39,141
Sale of other	-	-	-	-	-	234	234
	1,534,867	213,565	36,055	39,141	113,905	234	1,937,767

Moment of the revenue recognition

Goods transferred at a point in time	1,534,867	213,565	36,055	39,141	113,905	234	1,937,767

	As of December 31, 2020						
	Cement	Concrete and mortar	Precast	Quicklime	Construction supplies	Other	Total
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
Segments							
Sale of cement, concrete, mortar and precast	1,023,907	126,135	35,144	-	-	-	1,185,186
Sale of construction supplies	-	-	-	-	78,192	-	78,192
Sale of quicklime	-	-	-	32,473	-	-	32,473
Sale of other	-	-	-	-	-	483	483
	1,023,907	126,135	35,144	32,473	78,192	483	1,296,334

Moment of the revenue recognition

Goods transferred at a point in time	1,023,907	126,135	35,144	32,473	78,192	483	1,296,334

Notes to the consolidated financial statements (continued)

	As of December 31, 2019						
	Cement	Concrete and mortar	Precast	Quicklime	Construction supplies	Other	Total
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
Segments							
Sale of cement, concrete, mortar and precast	1,065,857	200,417	25,909	-	-	-	1,292,183
Sale of construction supplies	-	-	-	-	64,076	-	64,076
Sale of quicklime	-	-	-	36,109	-	-	36,109
Sale of other	-	-	-	-	-	333	333
	<u>1,065,857</u>	<u>200,417</u>	<u>25,909</u>	<u>36,109</u>	<u>64,076</u>	<u>333</u>	<u>1,392,701</u>
Moment of the revenue recognition							
Goods transferred at a point in time	1,065,857	200,417	25,909	36,109	64,076	333	1,392,701

For all segments, performance obligations are met at the time of delivery of the goods and the terms of payment are usually between 30 and 90 days from the date of dispatch.

Notes to the consolidated financial statements (continued)

20. Cost of sales

This caption is made up as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Beginning balance of goods and finished products, note 8(a)	12,877	22,133	16,832
Beginning balance of work in progress, note 8(a)	114,246	166,999	133,972
Consumption of miscellaneous supplies	566,781	295,688	284,298
Maintenance and third-party services	242,412	147,282	211,251
Shipping costs	196,064	113,054	123,989
Depreciation and amortization	118,998	122,541	115,245
Personnel expenses, note 23(b)	113,634	89,805	101,185
Costs of packaging	71,580	45,032	44,416
Other manufacturing expenses	102,056	45,637	63,750
Ending balance of goods and finished products, note 8(a)	(25,304)	(12,877)	(22,133)
Ending balance of work in progress, note 8(a)	(135,008)	(114,246)	(166,999)
	<u>1,378,336</u>	<u>921,048</u>	<u>905,806</u>

21. Administrative expenses

This caption is made up as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Personnel expenses, note 23(b)	96,891	76,291	84,359
Third-party services	59,896	48,713	53,407
Depreciation and amortization	16,569	16,626	14,573
Donations	9,067	9,188	8,796
Board of Directors compensation	6,397	5,992	6,696
Taxes	5,563	5,262	4,980
Consumption of supplies	1,686	1,297	1,671
	<u>196,069</u>	<u>163,369</u>	<u>174,482</u>

Notes to the consolidated financial statements (continued)

22. Selling and distribution expenses

This caption is made up as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Personnel expenses, note 23(b)	33,867	26,283	26,818
Third-party services	9,733	7,326	8,636
Advertising and promotion	5,637	3,285	6,981
Allowance for expected credit losses, note 7(d)	563	1,582	1,452
Other	1,720	1,677	646
	<u>51,520</u>	<u>40,153</u>	<u>44,533</u>

23. Employee benefits expenses

(a) Employee benefits expenses are made up as follow:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Wages and salaries	138,754	115,630	128,809
Social contributions	28,853	26,085	25,468
Workers 'profit sharing, note 15	25,165	9,513	15,169
Legal bonuses	19,629	17,413	16,837
Vacations	18,040	16,301	15,461
Long-term compensation, note 15	9,763	5,759	6,523
Cessation payments	2,203	858	2,044
Training	1,422	476	860
Other	563	344	1,191
	<u>244,392</u>	<u>192,379</u>	<u>212,362</u>

(b) Employee benefits expenses are allocated as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Cost of sales, note 20	113,634	89,805	101,185
Administrative expenses, note 21	96,891	76,291	84,359
Selling and distribution expenses, note 22	33,867	26,283	26,818
	<u>244,392</u>	<u>192,379</u>	<u>212,362</u>

Notes to the consolidated financial statements (continued)

24. Other operating income (expense), net

(a) This caption is made up as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Rentals to third parties	2,328	649	-
Net gain (loss) on disposal of property, plant and equipment and intangible	1,775	2,591	(1,846)
Income from land rental and office lease, note 27	1,639	1,859	722
Recovery of expenses	491	1,166	525
Income from management and administrative services provided to related parties, note 27	305	834	1,744
Write-off for disasters	-	-	(357)
Expenses to counteract the COVID-19 effect, note 1.1	-	(2,642)	-
Other, net	(130)	(111)	1,857
	<u>6,408</u>	<u>4,346</u>	<u>2,645</u>

25. Finance income

This caption is made up as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Tax interest	1,015	-	-
Interest on accounts receivable	898	204	715
Interest on term deposits	834	2,243	1,014
Other finance income	144	529	847
	<u>2,891</u>	<u>2,976</u>	<u>2,576</u>

Notes to the consolidated financial statements (continued)

26. Finance costs

This caption is made up as follows:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Interest on senior notes, note 16 (c)	63,333	60,857	56,081
Finance cost on cross currency swaps	15,046	16,144	14,958
Interest on promissory notes	7,326	8,298	5,537
Counterparty credit risk in cross currency swaps	848	542	-
Expenses for the purchase and amortization of issuance costs of senior notes	815	816	807
Interest on lease liabilities	383	409	-
Interest for bank overdraft	-	802	-
Commission for prepayment of loans	-	325	-
Other	479	74	145
Total interest expense	88,230	88,267	77,528
Unwinding of discount of provisions, note 15	735	427	458
Total finance costs	88,965	88,694	77,986

Notes to the consolidated financial statements (continued)

27. Related party disclosure

Transactions with related entities -

During 2021, 2020 and 2019, the Company carried out the following transactions with its parent company Inversiones ASPI S.A. and its affiliates:

	2021 S/(000)	2020 S/(000)	2019 S/(000)
Income			
Inversiones ASPI S.A. (ASPI)			
Income from office lease	20	17	12
Fees for management and administrative services	98	88	544
Compañía Minera Ares S.A.C. (Ares)			
Income from land lease, note 29	1,230	1,303	344
Income from office lease	332	478	323
Fossal S.A.A. (Fossal)			
Income from office lease	18	19	15
Fees for management and administrative services	52	48	40
Fosfatos del Pacífico S.A. (Fospac)			
Income from office lease	19	24	28
Fees for management and administrative services	155	698	1,160
Asociación Sumac Tarpuy			
Income from office lease	20	18	-
Expense			
Security services provided by Compañía Minera Ares	2,836	1,912	1,989
Loans			
Loans to Fossal S.A.A.	(14,252)	-	-
Loans to Fosfatos del Pacífico S.A.	(2,869)	-	-
Loan collection from Fossal S.A.A.	14,252	-	-
Loan collection from Fosfatos del Pacífico S.A.	2,869	-	-

As a result of these transactions, the Company had the following rights and obligations as of December 31, 2021 and 2020:

	2021		2020	
	Accounts receivable S/(000)	Accounts payable S/(000)	Accounts receivable S/(000)	Accounts payable S/(000)
Fosfatos del Pacífico S.A.	1,039	37	1,449	-
Compañía Minera Ares S.A.C.	199	-	678	1,348
Fossal S.A.	12	-	-	-
Inversiones ASPI S.A.	-	105	-	211
Other	64	1	85	-
	<u>1,314</u>	<u>143</u>	<u>2,212</u>	<u>1,559</u>

Notes to the consolidated financial statements (continued)

Terms and conditions of transactions with related parties -

Outstanding balances with related parties at the year-end are unsecured and interest free and settlement occurs in cash. For the years ended as of December 31, 2021, 2020 and 2019, the Group has not recorded allowance for expected credit losses relating to amounts owed by related parties. This assessment is undertaken each financial year through examining the financial position of the related party and the market in which the related party operates.

Compensation of key management personnel of the Group –

The compensation paid to key management personnel includes expenses for profit-sharing, compensation and other concepts for members of the Board of Directors and the key management. As of December 31, 2021, the total short-term compensation amounted to S/22,678,000 (2020: S/21,859,000 and 2019: S/23,692,000) and the total long-term compensation amounted to S/9,763,000 (2020: S/5,759,000 and 2019: S/6,523,000), and there were no post-employment or contract termination benefits or share-payments.

28. Earnings per share (EPS)

Basic and diluted earnings per share amounts are calculated by dividing the profit for the year by the weighted average number of common shares and investment shares outstanding during the year.

The calculation of basic and diluted earnings per share is shown below:

	2021	2020	2019
	S/(000)	S/(000)	S/(000)
Numerator			
Net profit attributable to ordinary equity holders of the Parent	153,170	57,894	132,047
Denominator			
Weighted average number of common and investment shares (thousands of shares)	428,107	428,107	428,107
Basic and diluted profit for common and investment shares	0.36	0.14	0.31

The Group has no dilutive potential ordinary shares as of December 31, 2021, 2020 and 2019.

There have been no other transactions involving common shares or investment shares between the reporting date and the date of the authorization of these consolidated financial statements.

29. Commitments and contingencies

Operating lease commitments – Group as lessor

As of December 31, 2021, 2020 and 2019, the Group, as lessor, has a land lease with Compañía Minera Ares S.A.C. a related party of Inversiones ASPI S.A. This lease is annually renewable, and provided an annual rent of S/1,230,000, S/1,303,000 and S/344,000, respectively; see note 27.

Capital commitments

As of 31 December 2021 and 2020, the Group had no significant capital commitments.

Usufruct Concessions

In December 2013, the Company signed an agreement with a third party, related to the use of the Virrilá concession, to carry out other non-metallic mining activities related to cement production. This agreement has a term of maturity of 30 years, with fixed annual payments of US\$600,000 for the first three years and variables to the rest of the contract. The related expense as of December 31, 2021, 2020 and 2019 amounted to S/7,280,000, S/5,918,000 and S/7,039,000 respectively, and was recognized as part of the cost of inventory production. As part of this agreement, the Company is required to pay an equivalent amount to S/ 4.5 each for each metric ton of calcareous extracted that is indexed by inflation after the first year of exploitation; the annual royalty may not be less than the equivalent to 850,000 metric tons since the beginning of the fourth year of production.

The Company signed with two third parties in October 2007, an agreement related to usufruct of the Bayovar 4 concession for an indefinite period to extract seashells and other minerals. As consequence, the Group made payments amounting to US\$250,000 for each third party for the first five years and variable payments for the rest of the contract. The related expense as of December 31, 2021 and 2020 amounted to S/1,687,000 and S/1,547,000, respectively, and were recognized as part of the cost of inventory production. As part of this agreement, the Company is required to pay an equivalent amount to US\$5.1 to each third party for every metric ton of calcareous extracted, with the minimum production level for the calculation of 20,000 metric tons every six months since the beginning of the sixth year of production.

Mining royalty

According with the Royalty Mining Law in force since October 1, 2011, the royalty for the exploitation of metallic and nonmetallic resources is payable on a quarterly basis in an amount equal to the greater of: (i) an amount determined in accordance with a statutory scale of rates based on operating profit margin that is applied to the quarterly operating profit, adjusted by certain items, and (ii) 1% of net sales, in each case during the applicable quarter. These amounts are estimated based on the unconsolidated financial statements of Cementos Pacasmayo S.A.A. and the subsidiaries affected by this mining royalty, prepared in accordance with IFRS. Mining royalty payments will be deductible for income tax purposes in the fiscal year in which such payments are made.

Mining royalty expense paid to the Peruvian Government for 2021, 2020 and 2019 amounted to S/990,000, S/555,000 and S/1,012,000 and, respectively, and is recognized as part of the cost of inventory production.

Notes to the consolidated financial statements (continued)**Tax situation**

The Company is subject to Peruvian tax law. As of December 31, 2021, 2020 and 2019, the income tax rate is 29.5 percent of the taxable profit after deducting employee participation, which is calculated at a rate of 8 to 10 percent of the taxable income.

For purposes of determining income tax, transfer pricing transactions with related companies and companies resident in territories with low or no taxation, must be supported with documentation and information on the valuation methods used and the criteria considered for determination. Based on the operations of the Group, Management and its legal advisors believe that as a result of the application of these standards will not result in significant contingencies for the Group as of December 31, 2021 and 2020.

The tax authority has the power to review and, if applicable, correct the income tax calculated by each company in the four years after the year of filing the tax return.

It should be noted that of January 1, 2019, a series of tax benefits for Loreto region was eliminated, eliminating the tax refund of the Value Added Tax and the exemption of the Value Added Tax for the importation of goods that are destined for consumption in the Amazon.

The statements of income tax and Value added tax corresponding to the years indicated in the attached table are subject to review by the tax authorities:

Entity	Years open to review by Tax Authority	
	Income tax	Value-added tax
Cementos Pacasmayo S.A.A.	2017-2021	Dec. 2017-2021
Cementos Selva S.A.	2017-2021	Dec. 2017-2021
Distribuidora Norte Pacasmayo S.R.L.	2017-2021	Dec. 2017-2021
Empresa de Transmisión Guadalupe S.A.C.	2017-2021	Dec. 2017-2021
Salmueras Sudamericanas S.A.	2017-2021	Dec. 2017-2021
Calizas del Norte S.A.C. (on liquidation)	2017-2021	Dec. 2017-2021
Soluciones Takay S.A.C.	2019-2021	May to Dec.2019-.2021

Due to possible interpretations that the tax authority may give to legislation in effect, it is not possible to determine whether or not any of the tax audits will result in increased liabilities for the Group. For that reason, tax or surcharge that could arise from future tax audits would be applied to the income of the period in which it is determined. However, in management's opinion and legal advisors, any possible additional payment of taxes would not have a material effect on the consolidated financial statements as of December 31, 2021 and 2020.

Notes to the consolidated financial statements (continued)

Environmental matters

The Group's exploration and exploitation activities are subject to environmental protection standards.

Environmental remediation -

Law No. 28271 regulates environmental liabilities in mining activities. This Law has the objectives of ruling the identification of mining activity's environmental liabilities and financing the remediation of the affected areas. According to this law, environmental liabilities refer to the impact caused to the environment by abandoned or inactive mining operations.

In compliance with the above-mentioned laws, the Group presented environmental impact studies (EIS), declaration of environmental studies (DES) and Environmental Adaptation and Management Programs (EAMP) for its mining concessions.

Notes to the consolidated financial statements (continued)

The Peruvian authorities approved the EIS and EAMP presented by the Group for its mining concessions and exploration projects. A detail of plans and related expenses approved is presented as follows:

Project unit	Resource	Resolution Number	Year of approval	Program approved	Operating year expense		
					2021 S/(000)	2020 S/(000)	2019 S/(000)
Rioja	Limestone	RD186-2014-PRODUCE/DVMYPE-I/DIGGAM	2014	EIA	713	315	244
Tembladera	Limestone	RD304-18-PRODUCE/DVMYPE-I/DIGAAMI	2018	PAMA	298	237	189
					<u>1,011</u>	<u>552</u>	<u>433</u>

As of December 31, 2021 and 2020, the Group had no liabilities related to environmental remediation expenses because all were liquid before the end of the year.

Quarry rehabilitation provision -

Additionally, Law No. 28090 regulates the obligations and procedures that must be met by the holders of mining activities for the preparation, filing and implementation of Quarries Closure Plans, as well as the establishment of the corresponding environmental guarantees to secure fulfillment of the investments that this includes, subject to the principles of protection, preservation and recovery of the environment. In connection with this obligation, as of December 31, 2021 and 2020, the Group maintains a provision for the closing of the quarries exploited in operations amounting to S/11,036,000 and S/10,161,000, respectively. The Group believes that this liability is adequate to meet the current environmental protection laws approved by the Ministry of Energy and Mines, refer to note 15.

Notes to the consolidated financial statements (continued)

Legal claim contingency

The Group has received claims from third parties in relation with its operations which in aggregate represent S/3,963,000. From this total amount, S/3,367,000 corresponded to labor claims from former employees; and S/596,000 is related to the tax assessments received from the tax administration corresponding to the 2009 tax period, which was reviewed by the tax authority during 2012.

Management expects that these claims will be resolved within the next five years based on prior experience; however, the Group cannot assure that these claims will be resolved within this period because the authorities do not have a maximum term to resolve cases. The Group has been advised by its legal counsel that it is only possible, but not probable, that these actions will succeed.

30. Financial risk management, objectives and policies

The Group's main financial liabilities comprise loans and borrowings, trade payables and other payables. The main purpose of these financial liabilities is to finance the Group's operations. The Group's main financial assets include cash and short-term deposits and trade and other receivables that derive directly from its operations. The Group also holds financial instruments designated at fair value through OCI cash flow hedges instruments and derivative financial instruments at fair value through profit or loss.

The Group is exposed to market risk, credit risk and liquidity risk. The Group's senior management oversees the management of these risks. The Group's senior management is supported by financial management that advises on financial risks and the appropriate financial risk governance framework for the Group. The financial management provides assurance to the Group's senior management that the Group's financial risk-taking activities are governed by appropriate policies and procedures and that financial risks are identified, measured and managed in accordance with the Group's policies and risk objectives.

Management reviews and agrees policies for managing each of these risks, which are summarized below.

Market risk -

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprise three types of risk: interest rate risk, currency risk and other price risk, such as equity price risk and commodity risk. Financial instruments affected by market risk include deposits, financial obligations, financial instruments designated at fair value through OCI and derivative financial instruments.

The sensitivity analyses shown in the following sections relate to the Group's consolidated position as of December 31, 2021 and 2020. The sensitivity analyses have been prepared on the basis that the amount of net debts and the proportion of financial instruments in foreign currencies are all constant and on the basis of the hedge designations in place as of December 31, 2021 and 2020.

Notes to the consolidated financial statements (continued)

Interest rate risk -

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

As of December 31, 2021 and 2020, all of the Group's borrowings are at a fixed rate of interest; consequently, the management evaluated that it is not relevant to do an interest rate sensitivity analysis.

Foreign currency risk -

Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Group's exposure to the risk of changes in foreign exchange relates primarily to the Group's operating activities (when revenue or expense is denominated in a different currency from the Group's functional currency).

The Group hedges its exposure to fluctuations on the translation into soles of its Senior Notes which are denominated in US dollars, by using cross currency swaps contracts, see note 31(a).

Foreign currency sensitivity

The following table demonstrates the sensitivity to a reasonably possible change in the US dollar exchange rate, with all other variables held constant. The impact on the Group's profit before income tax is due to changes in the fair value of monetary assets and liabilities.

	Change in US\$ rate	Effect on consolidated profit before tax
2021	%	S/(000)
U.S. Dollar		
	+5	7,502
	+10	15,005
	-5	(7,502)
	-10	(15,005)
2020	Change in US\$ rate	Effect on consolidated profit before tax
U.S. Dollar	%	S/(000)
	+5	2,403
	+10	4,806
	-5	(2,403)
	-10	(4,806)

Equity price risk -

The Group's listed equity securities measured at level three of the fair value hierarchy are susceptible to market price risk arising from uncertainties about future values of the investment securities, see note 31.

Notes to the consolidated financial statements (continued)

Credit risk -

Credit risk is the risk that counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. The Group is exposed to a credit risk from its operating activities (primarily for trade receivables) and from its financing activities, including deposits with banks and financial institutions, foreign exchange transactions and other financial instruments.

Trade receivables

Customer credit risk is managed by each business unit subject to the Group's established policy, procedures and control relating to customer credit risk management. Credit quality of the customer is assessed, and individual credit limits are defined in accordance with this assessment. Outstanding customer receivables are regularly monitored and any shipments to major customers are generally covered by letters of credit. As of December 31, 2021 and 2020, the Group had 7 and 6 customers, that owed the Group more than S/3,000,000 each accounting for approximately 46% and 47% of all trade receivables outstanding, respectively. There were 22 and 16 customers with balances greater than S/700,000 and less than S/3,000,000, which accounted for approximately 34% and 30% of the total trade receivables, respectively. The evaluation for allowance for expected credit losses is updated at the date of the consolidated financial statements and individually for the main customers. This calculation is based on actual historical data incurred.

The maximum exposure to credit risk at the reporting date is the carrying value of each class of financial assets disclosed in note 7. The Group does not hold collateral as security.

Cash deposits and hedging derivative financial instruments or at fair value through profit or loss-

Credit risk from balances with banks and financial institutions is managed by the Group's treasury department in accordance with the Group's policy. Investments of surplus funds are made only with approved counterparties of first level. The limits are set to minimize the concentration of risks and therefore mitigate financial loss through potential counterparty's failure to make payments. As of December 31, 2021 and 2020, the Group's maximum exposure to credit risk for the components of carrying amounts as showed in note 6. The Group's maximum exposure relating to financial derivative instruments is noted in the liquidity table therefore.

Liquidity risk -

The Group monitors its risk of shortage of funds using a recurring liquidity planning tool.

The Group's objective is to maintain a balance between continuity of funding and flexibility through the use of bank loans and debentures of long term. Access to sources of funding is sufficiently available and debt maturing within 12 months can be rolled over under the same conditions with existing lenders, if this is necessary.

As of December 31, 2021 and 2020 no portion of Senior Notes will mature in less than one year.

Notes to the consolidated financial statements (continued)

The table below summarizes the maturity profile of the Group's financial liabilities based on contractual undiscounted payments:

	Less than 3 months	3 to 12 months	1 to 5 years	More than 5 years	Total
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
As of December 31, 2021					
Interest-bearing loans adjusted by hedge	159,000	291,964	414,290	570,000	1,435,254
Lease liabilities	465	1,391	3,973	-	5,829
Interest	31,255	35,147	166,252	154,851	387,505
Hedge finance cost payable	7,821	7,821	7,821	-	23,463
Trade and other payables	175,975	42,941	-	-	218,916
As of December 31, 2020					
Interest-bearing loans adjusted by hedge	-	65,232	572,993	570,000	1,208,225
Lease liabilities	383	1,148	5,102	-	6,633
Interest	30,033	35,056	186,607	193,454	445,150
Hedge finance cost payable	8,032	8,032	24,096	-	40,160
Trade and other payables	142,253	38,235	-	-	180,488

The disclosed financial derivative instruments in the table below are the gross undiscounted cash flows. However, those amounts may be settled gross or net. The following table shows the corresponding reconciliation to those amounts to their carrying amounts:

	Less than 3 months	3 to 12 months	1 to 5 years	Total
	S/(000)	S/(000)	S/(000)	S/(000)
As of December 31, 2021				
Inflows	-	-	125,537	125,537
Outflows	(1,703)	(7,908)	(7,992)	(17,603)
Net	(1,703)	(7,908)	117,545	107,934
Discounted at the applicable interbank rates	(1,695)	(7,716)	116,012	106,601
As of December 31, 2020				
Inflows	-	-	75,936	75,936
Outflows	(1,750)	(8,112)	(24,551)	(34,413)
Net	(1,750)	(8,112)	51,385	41,523
Discounted at the applicable interbank rates	(1,743)	(7,929)	51,919	42,247

Notes to the consolidated financial statements (continued)

Changes in liabilities arising from financing activities:

	Balance as of January 1,	Distribution of dividends	Finance cost on cross currency swaps	Cash inflow	Cash outflow	Movement of foreign currency	Amortization of costs of issuance of senior notes	Balance as of December 31
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
2021								
Hedge finance cost payable	6,381	-	15,046	-	(15,214)	-	-	6,213
Dividends payable	7,686	338,204	-	481	(336,821)	-	-	9,550
Interest-bearing loans	1,268,584	-	-	220,000	-	55,955	816	1,545,355
2020								
Hedge finance cost payable	5,922	-	16,144	-	(15,685)	-	-	6,381
Dividends payable	52,523	98,465	-	321	(143,623)	-	-	7,686
Interest-bearing loans	1,101,904	-	-	862,191	(745,384)	49,056	817	1,268,584

Notes to the consolidated financial statements (continued)

Capital management -

For the purpose of the Group's capital management, capital includes capital stock, investment shares, additional paid-in capital and all other equity reserves attributable to the equity holders of the Company. The primary objective of the Group's capital management is to maximize the shareholders' value.

In order to achieve this overall objective, the Group's capital management, among other things, aims to ensure that it meets financial covenants attached to the interest-bearing loans and borrowings that define capital structure requirements. Breaches in meeting the financial covenants would permit the creditors to immediately call the senior notes. There have been no breaches in the financial covenants of Senior Notes in the current period.

The Group manages its capital structure and adjusts it in light of changes in economic conditions and the requirements of the financial covenants. To maintain or adjust the capital structure, the Group may adjust the dividend payment to shareholders, return capital to shareholders or issue new shares.

No changes were made in the objectives, policies or processes for managing capital during the years ended December 31, 2021 and 2020.

31. Fair value financial assets and liabilities

Financial assets -

Except derivative financial instruments and financial instruments designated at fair value through other comprehensive income, all financial assets which included cash and cash equivalents and trade and other receivables are classified in the category of loans and receivables, are which non-derivative financial assets carried at amortized cost, held to maturity, and generate a fixed or variable interest income for the Group. The carrying value may be affected by changes in the credit risk of the counterparties.

Financial liabilities -

All financial liabilities of the Group including trade and other payables and interest-bearing loans and borrowings are classified as loans and borrowings and are carried at amortized cost.

(a) Derivative financial instruments -

Derivates asset of hedging -

Foreign currency risk -

As of December 31, 2021 and 2020, the Company maintains cross currency swaps agreements for a notional amount of US\$132,000,000 and US\$150,000,000, respectively, with maturity in 2023 and an average rate of 2.97%. Of this total, US\$131,612,000 have been designated as hedging instruments for Senior notes that are denominated in U.S. dollars, with the intention of reducing the foreign exchange risk.

The cash flow hedge of the expected future payments was assessed to be highly effective and an resulted in unrealized gain of S/20,836,000 for the year 2021 (unrealized loss of S/1,652,000 during 2020). The amounts retained in other comprehensive income of 2021 are expected to mature and affect the consolidated statement of profit or loss in 2023, the year of its liquidation.

Notes to the consolidated financial statements (continued)

Assets (liabilities) from financial instruments at fair value through profit or loss -

As of December 31, 2021 and 2020 the Company held cross currency swaps that do not have an underlying relationship for amounts to US\$388,000 and US\$18,388,000 respectively. The effect on profit or loss of the change on their fair value amounts was a gain of S/589,000 and S/5,337,000 as of December 31, 2021 and 2020 respectively). In January 2021, derivative financial instruments at fair value through profit or loss were settled in the amount of US\$18,000,000, the result was a net loss amounting to S/1,569,000 presented in "Accumulated net loss on settlement of derivative financial instruments at fair value through profit or loss" caption in the consolidated statement of profit or loss.

(b) Fair values and fair value accounting hierarchy -

Set out below is a comparison of the carrying amounts and fair values of financial instruments as of December 31, 2021 and 2020, as well as the fair value accounting hierarchy. The dates of valuations at fair value were as of December 31, 2021 and 2020, respectively.

	Carrying amount		Fair value		Fair value hierarchy
	2021	2020	2021	2020	2021/2020
	S/(000)	S/(000)	S/(000)	S/(000)	
Financial assets					
Cash and cash equivalents	273,402	308,912	273,402	308,912	Level 1
Trade and other receivables	143,924	89,627	143,924	89,627	Level 2
Derivatives financial assets – Cross currency swaps	106,601	42,247	106,601	42,247	Level 2
Financial investment at fair value through other comprehensive income	476	692	476	692	Level 3
Total financial assets	524,403	441,478	524,403	441,478	
Financial liabilities					
Trade and other payables	227,554	187,876	227,554	187,876	Level 2
Senior notes	1,094,391	1,044,352	1,119,035	1,118,492	Level 1
Promissory notes	450,964	224,232	447,558	221,607	Level 2
Total financial liabilities	1,772,909	1,456,460	1,794,147	1,527,975	

All financial instruments for which fair value is recognized or disclosed are categorized within the fair value hierarchy, based on the lowest level input that is significant to the fair value measurement as a whole. The fair value hierarchies are those described in note 2.3.2 (vi).

Notes to the consolidated financial statements (continued)

For assets and liabilities that are recognized at fair value on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy. As of December 31, 2021 and 2020, there were no transfers between the fair value hierarchies.

Management assessed that cash and term deposits; trade and other receivables and other current liabilities approximate their carrying amounts largely due to the short-term maturities of these instruments.

The following methods and assumptions were used to estimate the fair values:

- The fair value of cross currency swaps is measured by using valuation techniques where inputs are based on market data and present value calculations. The models incorporate various inputs, including the credit quality of counterparties, foreign exchange, forward rates and interest rate curves.

A credit valuation adjustment (CVA) is applied to the “Over-The-Counter” derivative exposures to consider the counterparty’s risk of default when measuring the fair value of the derivative. CVA is the mark-to market cost of protection required to hedge credit risk from counterparties in this type of derivatives portfolio. CVA is calculated by multiplying the probability of default (PD), the loss given default (LGD) and the expected exposure (EE) at the time of default.

A debit valuation adjustment (DVA) is applied to incorporate the Group’s own credit risk in the fair value of derivatives (that is the risk that the Group might default on its contractual obligations), using the same methodology as for CVA.
- The fair value of the quoted senior notes is based on the current quotations value at the reporting date.
- The fair value of fixed rate promissory note it is calculated using the results of cash flow discounted at the average indebtedness rates effective as of the date of estimation.

Notes to the consolidated financial statements (continued)

- The fair value of financial instruments designated at fair value through other comprehensive income has been determined using the income approach/discounted cash flow method. The quantitative information about the significant unobservable inputs used in level 3 fair value measurements as of December 31, 2021 and 2020 are described as follows:

As of December 31, 2021	Weighted average	Fair value sensitivity
Earning growth factor	3.79%	5% increase or decrease in the factor would result in an increase (decrease) in fair value of S/289,055,000 and (S/293,389,000), respectively.
WACC discount rate	9.02%	10% increase or decrease in the discount rate would result in an (decrease) increase in fair value at (S/217,435,000) and S/315,534,000, respectively.

As of December 31, 2020	Weighted average	Fair value sensitivity
Earning growth factor	3.79%	5% increase or decrease in the factor would result in an increase (decrease) in fair value of S/131,580,000 and (S/456,870,000), respectively.
WACC discount rate	8.53%	10% increase or decrease in the discount rate would result in an increase (decrease) in fair value at (S/390,352,000) and S/169,179,000, respectively.

Notes to the consolidated financial statements (continued)

32. Segment information

For management purposes, the Group is organized into business units based on their products and activities and have three reportable segments as follows:

- Production and marketing of cement, concrete and blocks in the northern region of Peru.
- Sale of construction supplies (steel rebar and building materials) in the northern region of Peru.
- Production and marketing of quicklime in the northern region of Peru.

No operating segments have been aggregated to form the above reportable operating segments.

Management monitors the profit before income tax of each business unit separately for the purpose of making decisions about resource allocation and performance assessment. Segment performance is evaluated based on profit before income tax and is measured consistently with profit before income tax in the consolidated financial statements.

Transfer prices between operating segments are on an arm's length basis in a manner similar to transactions with third parties.

	Revenues from external customers	Gross profit margin	Administrative expenses	Selling and distribution expenses	Other operating income, net	Finance income	Finance cost	Net loss on settlement of derivate financial instruments	(Loss) gain from exchange difference, net	Profit before income tax	Income tax expense	Profit for the year
	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)	S/(000)
2021												
Cement, concrete, mortar and blocks	1,784,487	550,816	(191,132)	(50,223)	6,358	2,874	(88,961)	(980)	(6,987)	221,765	(70,198)	151,567
Construction supplies	113,905	3,501	(2,675)	(703)	47	17	(3)	-	(30)	154	(49)	105
Quicklime	39,141	5,651	(1,099)	(289)	-	-	-	-	(85)	4,178	(1,322)	2,856
Other (*)	234	(537)	(1,163)	(305)	3	-	(1)	-	16	(1,987)	629	(1,358)
Consolidated	1,937,767	559,431	(196,069)	(51,520)	6,408	2,891	(88,965)	(980)	(7,086)	224,110	(70,940)	153,170
2020												
Cement, concrete, mortar and blocks	1,185,186	367,456	(157,491)	(38,708)	4,204	2,951	(88,569)	5,337	(9,352)	85,828	(27,981)	57,847
Construction supplies	78,192	3,014	(2,862)	(703)	154	26	(130)	-	(404)	(905)	295	(610)
Quicklime	32,473	5,012	(1,493)	(367)	-	-	-	-	(88)	3,064	(999)	2,065
Other (*)	483	(196)	(1,523)	(375)	(12)	(1)	5	-	13	(2,089)	681	(1,408)
Consolidated	1,296,334	375,286	(163,369)	(40,153)	4,346	2,976	(88,694)	5,337	(9,831)	85,898	(28,004)	57,894
2019												
Cement, concrete, mortar and blocks	1,292,183	481,037	(167,503)	(42,752)	2,701	2,553	(77,947)	(1,491)	718	197,316	(63,256)	134,060
Construction supplies	64,076	2,232	(1,745)	(445)	(25)	23	(37)	-	6	9	(3)	6
Quicklime	36,109	3,545	(1,745)	(445)	-	-	-	-	4	1,359	(436)	923
Other (*)	333	81	(3,489)	(891)	(31)	-	(2)	-	1	(4,331)	1,389	(2,942)
Consolidated	1,392,701	486,895	(174,482)	(44,533)	2,645	2,576	(77,986)	(1,491)	729	194,353	(62,306)	132,047

(*) The "other" segment includes activities that do not meet the threshold for disclosure under IFRS 8.13 and represent non-material operations of the Group (including brine projects).

Notes to the consolidated financial statements (continued)

	Segment assets S/(000)	Other assets (*) S/(000)	Total assets S/(000)	Operating liabilities S/(000)	Capital expenditure (**) S/(000)	Depreciation and amortization S/(000)	Provision of inventory net realizable value and obsolescence S/(000)
2021							
Cement, concrete and blocks	2,940,888	106,280	3,047,168	1,930,140	97,288	(128,522)	(3,374)
Construction supplies	42,578	-	42,578	75,633	-	(1,102)	-
Quicklime	79,383	-	79,383	-	-	(5,199)	-
Other	31,846	797	32,643	194	-	(744)	-
Consolidated	3,094,695	107,077	3,201,772	2,005,967	97,288	(135,567)	(3,374)
2020							
Cement, concrete and blocks	2,806,803	37,068	2,843,871	1,590,105	63,960	(131,877)	(3,635)
Construction supplies	51,225	-	51,225	58,517	-	(767)	-
Quicklime	83,621	-	83,621	-	-	(5,741)	-
Other	31,696	5,871	37,567	107	-	(782)	-
Consolidated	2,973,345	42,939	3,016,284	1,648,729	63,960	(139,167)	(3,635)
2019							
Cement, concrete and blocks	2,714,888	-	2,714,888	1,409,598	87,086	(122,911)	(2,498)
Construction supplies	51,376	-	51,376	99,934	-	(879)	-
Quicklime	93,812	-	93,812	-	-	(5,820)	-
Other	53,258	18,224	71,482	375	-	(208)	-
Consolidated	2,913,334	18,224	2,931,558	1,509,907	87,086	(129,818)	(2,498)

(*) As of December 31, 2021, corresponds to the financial investment designated at fair value through OCI for S/476,000 and fair value of derivative financial instruments ("cross currency swap") for S/106,601,000. As of December 31, 2020 corresponds to the financial investment designated at fair value through OCI for approximately S/692,000 and the fair value of derivative financial instruments ("cross currency swap") for S/42,247,000. The fair value of derivative financial instruments of hedging is allocated to the segment of cement, and the financial investment designated at fair value through OCI and fair value of derivative financial instrument at fair value through profit or loss are not assigned to any segment.

(**) Capital expenditure consists of S/97,288,000 and S/63,960,000 during the years ended as of December 31, 2021 and 2020, respectively, and are related to additions of property, plant and equipment, intangible and other minor non-current assets.

Geographic information

As of December 31, 2021 and 2020, all non-current assets are located in Peru and all revenues are from clients located in the north region of the country.

I. NAME, PURPOSE, REGISTERED OFFICE, DURATION, DATE OF
COMMENCEMENT OF ACTIVITIES

FIRST ARTICLE. CEMENTOS PACASMAYO S.A.A. is a company organized under the form of a publicly held company, subject to the General Law of Companies, to the Law of Securities Market and other applicable provisions.

The company shall be named “CEMENTOS PACASMAYO SOCIEDAD ANONIMA ABIERTA” or its abbreviation “CEMENTOS PACASMAYO S.A.A.”

SECOND ARTICLE. The purpose of the Company preparing and manufacturing cements, lime, aggregates, blocks and cement bricks, concrete pre-mix and other construction material, its derivatives and similar, including its trading and sale in the Republic of Peru and abroad. The company may also carry out all kinds of mining activities such as prospecting, exploration, development, exploitation, merchandising, benefit and transport; as well as any activity related with goods transport service in general, materials and hazardous wastes, including chemical supplies and controlled goods; and execute and subscribe all acts and suitable contracts for the fulfillment of its purpose, including activities to acquire, sell, build, lease and manage real and personal property and perform all civil and commercial activities that are convenient, including its participation in other companies in the Republic of Peru and abroad.

THIRD ARTICLE. The address of the Company shall be in the province and department of Lima. The Company may establish agencies, branch offices and offices in any place in the Republic of Peru and/or abroad, by Board of Directors' resolution.

FOURTH ARTICLE. The duration of the Company shall be perpetual, having commenced activities December 10th 1998.

II. CAPITAL STOCK AND SHARES

FIFTH ARTICLE. The capital Stock of the company is S/. 423,868,449 (four hundred twenty-three million, eight hundred sixty-eight thousand, four hundred forty-nine and 00/100 Soles) represented by 423,868,449 shares with a nominal value of S/. 1.00 (One and 00/100 Sol), each of them fully subscribed and totally paid.

SIXTH ARTICLE. The liability of each shareholder shall be limited to the amount of his contribution according to the nominal value of the shares of which he is holder.

SEVENTH ARTICLE. The shares are nominal and will have titles that shall be recorded in certificates or account entries. One sole title can represent one or more shares of one owner or joint owners.

The certificates shall be signed with a handwritten or electronic signature by two directors and will include the following:

A. The name of the company, its capital stock, domicile, and duration, the date of the public deed of incorporation and the Notary before whom it was issued, as well as the information of its registration in the Public Registry.

- B. The name of the shareholder, the issuance date, the serial number, the number and the class of shares it represents and the number each share bears.
- C. The nominal value per share, the amount paid and subsequent payments that are made on account of their nominal value or the statement that the shares are totally paid.
- D. Liens or charges that could have been established on the share.

Provisional Certificates of Shares or Subscription Records may be issued, under the terms of Article 87 of the General Corporations Law as a result of capital increases agreed by the Company, subject to the applicable laws.

The account entries shall be made according to the applicable law.

EIGHT ARTICLE. The company shall recognize as owner of each share whoever appears as such in the “Registry of Shares” to be kept by the Company. Also registered, shall be the consecutive transfers of shares and the establishment of real rights or court measures that could affect the same. Each entry in the “Registry of Shares” must be handwritten, electronic and / or digitally signed.

When there is a legal action concerning the ownership of the shares, the Company shall admit the exercise of the rights of shareholders to the person to be considered as holder, pursuant to provisions of foregoing paragraph, except if otherwise ordered by court mandate. “

NINTH ARTICLE. There are no limitations, restrictions or priorities in a transfer of shares.

The Company shall not recognize agreements between shareholders containing limitations, restrictions or priorities to a free transfer of shares.

TENTH ARTICLE. The preferential right of shareholders to subscribe increase of capital stock with new contributions is incorporated to a security, called certificate of preferential subscription or by a notation on account, both freely transferable.

Shareholders cannot exercise this shareholder’s right if they are in default in dividends payable and their shares will not be calculated to establish the prorated participation in preferential right.

There is no preferential right of subscription in an increase of capital stock by conversion of obligations into shares, in the case of articles 103 and 259 of the General Law of Companies, or in cases of reorganization of companies stipulated in above mentioned law.

The General Shareholders’ Meeting can decide that shareholders do not have preferential right of subscription who are believed to fall under cases established in article 259 of the General Law of Companies, provided requirements provided in said article are met.

The content of a certificate of preferential subscription, and its exercise and procedure of subscription, is ruled by legal provisions on this subject matter stipulated in the General Law of Companies and in the Law of Securities Market and provisions established by the General Meeting, or otherwise by the Board of Directors.

ELEVENTH ARTICLE. Each share gives right to a vote, except for election of Board of Director purposes, when it will be subject to provision of article 164 of the General Law of Companies. Each share is indivisible and cannot be represented but by one person only.

Always when by inheritance or any other title or right, legal or contractual, a number of natural persons acquire the joint property of one or more shares, they shall designate, among the co-owners, one among them to exercise the rights of shareholder, certifying in writing such designation, either through private or public instrument.

In case of disability, impairment or inconvenience of all the co-owners, they shall designate an common attorney that will exercise their rights, certifying in writing such appointment and indicating whether the term is fixed or indefinite.

All such designations referred to in his article shall be accredited and notified to the Company, and shall be considered valid before the Company until a revocation has been notified.

TWELFTH ARTICLE. In the case of loss or destruction of the titles representing the shares, the issue of new titles will be completed, after procedures determined by law and upon the guaranties that the Board of Directors shall deem convenient. The cost shall be charged to the applicant.

THIRTEENTH ARTICLE. Any shareholder for the fact of so being, is subject to the Bylaws of the Company and resolutions of the General Shareholders' Meeting and the Board of Directors, adopted pursuant to this same Bylaws.

III. CORPORATE BODIES

FOURTEENTH ARTICLE. The company bodies are: the General Shareholders' Meeting, the Board of Directors, and Management.

IV. GENERAL SHAREHOLDERS MEETINGS

FIFTEENTH ARTICLE. The General Shareholders' Meeting is the supreme body of the company, and decides on any of the matters proper of its competence.

SIXTEENTH ARTICLE. The General Shareholders' Meeting shall be called to meet in person or remotely.

The General Meeting of Shareholders will meet in person at the place of the corporate domicile or at the place indicated in the call. At the written request of shareholders representing no less than three-fourths of the shares subscribed with the right to vote or by resolution of the Board of Directors by unanimous vote of the attendees, the General Meeting of Shareholders may be held in a different place, either in the country or abroad, within the limits of the Peruvian Corporations Act and this Bylaws.

Shareholders may attend and / or participate the General Shareholders' Meeting in a remote manner through written, electronic, telematic or any other means that allow communication and guarantee of their identity or that of their representative accordingly, as well as to express their opinion and will, within the limits of the Peruvian Corporations Act, this Bylaws and the provisions issued by the Superintendence of the Stock Exchange for issuers of securities registered in the Public Registry of the Stock Exchange.

The participation in a remote General Shareholders Meeting through written, electronic, telematic or any other means will be considered to determine the quorum established in articles twenty-fourth and twenty-fifth.

The Board of Directors is empowered to determine the procedure to establish the quorum and for shareholders to attend and / or participate and exercise their vote in a remote manner, including the possibility of establishing remote voting by electronic or postal means and setting the requirements and formalities for its exercise, within the limits of the Peruvian Corporations Act, this Bylaws and the provisions issued by the Superintendence of the Stock Exchange for issuers of securities registered in the Public Registry of the Stock Exchange.

SEVENTEENTH ARTICLE. The General Shareholders' Meeting will meet at least once a year within the first three months following the end of each annual fiscal year; this meeting is called the Annual Mandatory General Shareholders' Meeting.

EIGHTEENTH ARTICLE. The General Shareholders' Meeting will meet in any place when decided by the Board of Directors or requested by notary means by a number of shareholders representing at least five percent of subscribed shares with right to vote.

NINETEENTH ARTICLE. The Board of Directors gives notice of Shareholders' Meetings through a published notice once in the Official Gazette "El Peruano", and in one of major circulation newspaper of

Lima at least twenty-five calendar days in advance to the date the Annual Mandatory Shareholders' Meeting is to be held and when any other General Shareholders' Meeting is to be held.

The notice may also contain the date in which a General Shareholders' Meeting will be held in second or third call. In this case, between one and the next call, not less than three and no more than ten calendar days must pass.

The notice shall specify the date, time and place where the meeting will be held and the subject matters to be discussed

TWENTIETH ARTICLE. When a General Shareholders' Meeting is not held if more than half an hour has passed and there is no quorum, or is not held for any other reason, a second call shall be made, unless the latter has been provided for in the notice referred to in foregoing article

The second call shall be made within the next thirty-calendar days to the date the Meeting was not held upon de first call, and the third call within an equal term from the second, with the same requirements of the notice specified in the first call.

TWENTY FIRST ARTICLE. A General Shareholders' Meeting can be held without need of prior notice provided all shareholders present or represented, represent all shares subscribed with right to vote and record their unanimous consent to meet and discuss the matters proposed in the Book of Minutes.

TWENTY SECOND ARTICLE. Entitled to attend a General Shareholders' Meeting, with voice and vote, are the holders of shares with right to vote registered in the Registry of Shares, ten calendar days previous to the meeting.

Also entitled to attend a General Shareholders' Meeting are, with voice not vote, the Directors and Managers of the Company that are not shareholders.

By invitation, Attorneys, Auditors and Officers of the Company, not being shareholders, may attend a General Shareholders' Meeting, as well as individuals determined by the Meeting, all of which will have voice but not vote.

The Shareholders may exercise their right to information through any electronic, postal, written or telephone means made available by the Company."

TWENTY THIRD ARTICLE. Shareholders can be represented by a proxy in General Meetings.

The representation shall be notified by simple letter, electronic means, postal or any other means of communication that can issue a written certification, understanding that the representation is for each General Meeting, except when the Power of Attorney is granted through a Public Instrument.

The powers need to be registered with the Company until to the day before the Meeting is held. Any person can represent one or several shareholders.

TWENTY FOURTH ARTICLE. A General Meeting to be hold in first call, the requirement is that the attendance, personal or through proxies or attorneys in fact, of shareholders represent at least fifty percent of subscribed shares with right to vote.

For the second or third call, the attendance of any number of subscribed shares with right to vote shall suffice. The exception to the provision in this article is stipulated in the next article.

TWENTY FIFTH ARTICLE. A General Shareholders' Meeting that will discuss the increase or reduction of the capital stock, the issue of obligations, transformation, merge, split off, reorganization or dissolution of the corporation, the resolution to sell, in one only act, the assets whose book value exceeds fifty percent of the capital stock of the company, and in general, any modification of the Bylaws, requires, for the first call, the attendance, personal or through proxies or attorneys in fact, of shareholders represent at least fifty percent of subscribed shares with right to vote.

For the second call, it will suffice the representation of at least twenty-five percent of subscribed shares with right to vote,

In the event this quorum is not reached in second call, the General Meeting will be held in third call, when any number of subscribed shares with right to vote shall suffice.

TWENTY SIXTH ARTICLE. The General Shareholders' Meeting shall be chaired by the President and in his absence, by the Vice-president.

If both are absent, it shall be presided by whoever is representing the greater number of shares, and when two or more meet these same conditions, then it will be by lot.

The Company Manager shall act as Secretary or, in his absence or impairment, then the person who the General Meeting will appoint in each case.

TWENTY SEVENTH ARTICLE. The Annual Mandatory General Shareholders' Meeting shall:

- A. Discuss the corporate management and economic results of previous fiscal year, expressed in the financial statements for such period.
- B. Decide on the application of company profits, if any,
- C. Choose when necessary, the members of the Board of Directors and fix their remuneration.
- D. Designate or delegate upon the Board the appointment of external auditors, when required,
- E. Decide on other proper matters pursuant to these Bylaws and any other specified in the call.

TWENTY EIGHTH ARTICLE. The General Shareholders' Meeting also shall:

- A. Remove the members of the Board at any time and without need to express cause, and choose who are to replace them,
- B. Amend the Bylaws,
- C. Increase or reduce the capital stock,
- D. Issue obligations,
- E. Agree the sale, in one single action, of assets whose book value exceeds fifty percent of the company capital stock,
- F. Agree on investigations, audits or balances,
- G. Transform, merge, split off, reorganize, dissolve and liquidate the company,
- H. Decide on any kind of matters, provided the law or the Bylaws agree an intervention, and in any other matter that requires a corporate interest.

TWENTY NINTH ARTICLE. The resolutions of a General Shareholders' Meeting shall be adopted by absolute majority of subscribed shares with right to vote representing such majority.

THIRTIETH ARTICLE. The right to vote shall not be exercised by shareholders that:

- A. Are late in paying their contributions to the company. The shares that are not entitled to exercise their right to vote shall not be accounted for to complete quorum or to establish a majority vote.
- B. Have, in the matters submitted to the General Meeting, on their own right or third party right, a conflict of interest with the company. The shares that are not entitled to exercise their right to vote shall not be accounted for to complete quorum or to establish a majority vote.

THIRTY FIRST ARTICLE. At the request of shareholders representing not less than twenty-five percent of subscribed shares with right to vote, the General Meeting may be adjourned only once, for not less than three days and no more than five calendar days, and without need of a new call, for the discussion and vote of matters upon which the shareholders so requesting it, deemed not being sufficiently informed.

Any number of meetings in which the Meeting is eventually held, shall be deemed as only one, and a single minutes shall be draw up.

THIRTY SECOND ARTICLE. The resolutions of the General Meeting shall be recorded in the minutes draw up in a special book, certified according to Law, and kept by the company manager.

The minutes of each General Meeting will meet the requirements established by law and must be signed by hand, electronic and / or digital signature by the corresponding parties.”

THIRTY THIRD ARTICLE. When under any circumstance, the minutes of a General Shareholders’ Meeting cannot be draw up in respective book; a special document shall be issued, with the same formalities and requirements, specified in foregoing article.

The text of the special document shall be adhere or transcribed timely, in the book of minutes.

THIRTY FOURTH ARTICLE. The General Shareholders’ Meeting established, subject to provisions set forth in these Bylaws, legally represents all the shareholders of the company, and its resolutions bind them all, including dissidents and those not attending the meeting.

V. BOARD OF DIRECTORS

THIRTY FIFTH ARTICLE. The Board of Directors is the executive body of resolutions adopted by the General Shareholders’ Meeting, exercises the authority and rights concerning the representation, management and administration of the company; and it is under their competence to decide any business that by law or by these Bylaws are not expressly reserved to the General Shareholders’ Meeting. The Board can meet within or outside the company premises.

The Board shall be formed by a minimum of 7 (seven) members and a maximum of 11 (eleven) members. Before the election, The General Shareholders’ Meeting shall decide on the number of Directors to elect for the applicable period.

In addition, the Board can have a minimum of 3 (three) Alternate Directors and a maximum of 5 (five) Alternate Directors that shall be elected by the General Shareholders’ Meeting, in the same way as the Regular Directors and rule over them all legal and statutory provisions applicable to regular members when attending in their stead.

Alternate Directors may attend any Board meeting. The President of the Board shall designate the Alternate Director or Directors that will replace the Regular Director, as applicable, on a definite fashion in a case of vacancy, or on a temporary fashion in the event of absence or impediment. The simple vacancy, absence or impediment of a regular member fully validates the acting of the alternate member who replaces him.

THIRTY SIXTH ARTICLE. For the purposes of election of the Board, and Alternate Directors, each share gives right to as many votes as directors need to be elected, and each shareholder can accumulate his votes in behalf of one person only or distribute it among various.

Directors will be proclaimed when they obtain a greater number of votes, following the order of these. When two or more persons obtain an equal number of votes and all of them cannot be part of the Board because the fixed number of directors according to these Bylaws will not allow it, it will be decided by lot, who among them shall become member of the Board.

This article is not applicable when the directors are elected unanimously.

THIRTY SEVENTH ARTICLE.

The office of Director ends:

- A. By resignation, death, illness, civil impairment or another cause that definitely prevents him to exercise his functions,
- B. When the General Shareholders' Meeting so agrees, in the form provided for in sub item A) of article twentieth.

THIRTY EIGHTH ARTICLE. In the case of vacancy from office of any of the Directors, while a new election shall take place by the General Shareholders' Meeting, the Board shall designate the Alternate Director that will replace him on a definite manner.

In case there is a vacancy of Directors in a number such that the Board cannot meet validly, the regular

Directors will assume ad interim the administration and shall call promptly a General Shareholders' Meeting, to elect the missing Directors.

THIRTY NINTH ARTICLE. The Directors will elect among them, a President, who will chair their meetings, and the General Shareholders' Meetings, and a Vice-president, who will exercise the same functions in the case of absence or impediment of the former.

When neither the President of the Board nor the Vice-president attend, the meeting shall chaired by the oldest Director.

Acting as the Secretary of the meeting shall be the Manager of the company or, in his absence, the person that in each case is designated by the Company.

Company Attorneys, Auditors and Officers of the Company, may attend the Board Meeting, at the invitation of the latter, all of which will have voice but not vote.

FORTIETH ARTICLE. The Directors will be appointed for three (3) year-long periods, except for appointments made to complete a term. The Directors can be reelected by one or more additional periods.

The Board may appoint one or more Directors to resolve or execute certain acts. The delegation may be made to act individually or, if two or more Directors, to serve as Committee.

The position of Director is remunerated. The Annual Mandatory Shareholders' Meeting will set the fixed remuneration of the Board when ruling on corporate management and economic performance of the previous year expressed in the individual annual audited financial statements. The fixed remuneration corresponding to the President of the Board will be twice the remuneration that corresponds to any other director. As part of the directors' remuneration, an additional remuneration to the diet provided to each director may be granted to the Directors that participate in one or more committees, according to the work they undertake at such committees. The total amount of the additional payment corresponding to all Directors shall not exceed the total amount of fixed compensation corresponding to all Directors.

The term of the Board ends when the Annual Mandatory Meeting resolves on the balance of the previous fiscal year and the election of a new Board, but Directors will continue in position, although having concluded the term, until a new election is held, and the elected members have accepted the office.

FORTY FIRST ARTICLE. The President of the Board, or whoever performs his office, shall call a meeting whenever deemed necessary or when any Director or the General Manager so requests it. The Board should gather at least four times a year.

The meetings of the Board are called by the President or the person he designates, by means of notices with acknowledgment of receipt that shall be addressed to the domicile of each Director, with at least three day notice from the date of the meeting.

The notices shall be delivered by registered mail, facsimile, telex, or any other means, assuring its receipt, and shall clearly specify the place, day and time the meeting will take place, and the matters to be discussed therein.

Any Director may submit for consideration of the Board, the matters deemed of interest for the company, although these may not be included among the matters set in the notice, and resolve about them in cases when all the members of the Board are present.

FORTY SECOND ARTICLE. A call to a meeting will not be necessary when all Directors are present, and register in the Book of Minutes, their unanimous consent to hold a meeting without prior notice, and to discuss matters that are expressly proposed to them; the meeting can be held immediately.

FORTY THIRD ARTICLE. A meeting of the Board is held with the attendance of half the number of the members plus one. If the number of members is an odd number, then the attendance required of the number of Directors is equal to the full number immediately higher than half of it.

Meeting of the Board where members are not present can be held through written electronic

means or other nature that will allow communication and ensure the authenticity of the resolution, except if any one Director is opposed to use this procedure.

FORTY FOURTH ARTICLE. Each Director has one vote.

A resolution of the Board shall be adopted by the favorable vote of the absolute majority of Directors attending. In case of a tie, the President shall have the casting vote.

FORTY FIFTH ARTICLE. A Director, who in any matter has an interest contrary to the company's shall state so to the Board, and not participate in the discussion and resolution concerning such matter. The impeded Director shall be deemed present for quorum purposes, but his vote shall not be calculated to establish the majority of the votes,

FORTY SIXTH ARTICLE. The resolutions of the meetings of the Board shall be registered in the minutes in the Book of Minutes, or in separate pages with the use of a mechanical system, certified according to law, to be kept by the Secretary of the Company. The minutes must be signed by hand, electronic and / or digital signature.

All Directors are entitled to have their votes and their grounds be registered when they so consider convenient; which can be done in respective minutes, or through a notary letter.

FORTY SEVENTH ARTICLE. The Board has the power of legal representation and of the necessary management for the administration and steering of the company with the limitations provided by law and the Bylaws.

The main duties and powers of the Board are:

- A) Conduct and control each and all the company business and activities,
- B) Regulate their own operation,
- C) Organize the company offices and determine their expenses,
- D) Name and remove the General Manager, the Managers, Attorneys, representatives and any other officer on company service, delegate upon them the authority deemed convenient, specify their obligations and remunerations, grant them bonuses, when considered applicable, limit and revoke their powers previously delegated and establish all the rules and regulations believed necessary for the good provision of services of the company.
- E) Dispose onerously, exchange, purchase, sell, promise to purchase and give promise of sale of real property, as well as establish mortgage upon them, according to common law or under the conditions required by commercial banks or other public promotional institutions and other credit institutions, according to their laws and regulations, or pursuant to other special laws.
- F) Pledge assets, whether common, industrial, and mercantile or of any other nature, according to common laws, or according to special laws, whatever these may be.

- G) Obtain and grant mutual loans, credits in checking accounts, advance or overdrafts, documentary credits, advance in checking accounts and other similar operations, with or without guarantee.
- H) Open branch offices, agencies or offices of the company deemed necessary, and reform them or close them.
- I) Waive the domicile jurisdiction.
- J) Propose to the General Shareholders' Meeting the resolutions deemed convenient for the corporate interests.
- K) Submit annually to the Mandatory Shareholders' Meeting, the General Balance and the Annual Report of the fiscal year.
- L) Render accounts
- M) Grant general or special powers to complete one or several acts referred to in foregoing sub items, except those referred in foregoing sub items K) and L), modify or renew them.
- N) Delegate all or some of the powers, except those referred in foregoing sub items K) and L).
- O) Review, approve any other type of contracts required to fulfill corporate purposes that exceeds the powers of Management.
- P) Ensure compliance of legal and statutory provisions, as well as the resolutions of the General Meeting, being authorize to dictate and modify in-house regulations,
- Q) Discuss and resolve all the other matters that according to these Bylaws are not submitted to resolutions by the General Shareholders' Meeting.

VI. MANAGEMENT

FORTY EIGHTH ARTICLE. The Company will have one General Manager who will be appointed by the Board of Directors.

The General Manager is in charge of the administration of the Company.

The General Management may be the responsibility of a natural or a legal person, when a legal person is named Manager, immediately one or more natural persons representing the legal person shall be named for this purpose.

FORTY NINTH ARTICLE. The General Management is responsible of:

- A) Organizing the internal system of the Company.
- B) Conduct all the business activities of the Company, in order to maintain it in optimum conditions of productive technique, of administrative, commercial and financial efficiency, safety, legal efficiency and validity, economic profitability and technological progress. For this, he is authorized to execute actions and regular contracts concerning the corporate purpose, as well as the work, the Board and the General Shareholders' Meeting shall entrust upon him.
- C) Responding for the existence, regularity and authenticity of the books that the law orders the company to keep and issue the correspondence of the same.
- D) Name and remove officers or technicians of high responsibility and high remuneration, determining their obligations and remunerations, as well as employees and workers that are required, promote them, change their functions and set their remunerations.
- E) Represent the Company before any kind of authorities, whether political, administrative, fiscal, municipal or legal, with general and special powers of articles 74 and 75 of the Civil Procedural Code. Consequently, the Manager is authorized to conduct all the acts of disposal of substantive and procedural law and, in particular, to sue, counterclaim, respond to suits and counterclaims, abandon proceedings, acquiesce the claim, compromise, submit to arbitration controversial issues, substitute or delegate procedural representation, and for all the other acts required by law.
- F) Account for the course and condition of Corporate Business when the Board so requests.
- G) Order payments and collection

- H) Jointly with another Manager or Company Attorney, he is authorized to agree and verify credit operations deemed necessary; open, close and manage checking, deposit or credit accounts, in local or foreign currency, within or outside the country, deposit, draw and acknowledge statements or contest them; enter into credit agreements in checking accounts, with or without guarantee, for the product of the same be applied to paying obligations of the company or be deposited in its accounts, complete any kind of operations concerning bills of exchange, checks, promissory notes, warrants, letters or orders of credit, invoices or other commercial or bank documents, whether to order or to bearer, the same that he will draw, subscribe, accept, reaccept, ratify, extend, endorse, whether as guarantee, collection, discount, or fee simple, guarantee, cancel and negotiate and order a protest, as applicable and deemed convenient; request credits through notes, promissory notes or checking account, in local or foreign currency, for the product of the same be applied to paying obligations of the company or be deposited in its accounts; rent safe deposit boxes, use them and terminate the rent; register and acquire trademarks, register, obtain and buy patents; and endorse freight bills and bills of lading.
- I) Exercise the other functions that the Board may entrust upon him, as well as to conduct administrative actions deemed necessary or convenient to fulfill the corporate purposes, as well as to exercise any other authority according to the nature of his office and that are not in opposition with statements by these Bylaws.

FIFTIETH ARTICLE. The Board may also name one or more Managers and Assistant Managers that will have the authority agreed to in their respective appointments or in by separate acts.

VII. INDEMNIFICATION FOR DIRECTORS AND GENERAL MANAGER

FIFTY FIRST ARTICLE. The company will take responsibility for all reasonable expenses in which the Board or the general manager may incur, as well as the damages they are obliged to pay regarding any action, trial or procedure in which they may have been part for being Director or general manager, except those in which is it determined by judicial or arbitral definitive statement that may have been caused as a result of agreements or acts against the law or the bylaws, or for wishful misconduct, abuse of authority or gross negligence, in which case, the involved Director or general manager will remain obliged to refund the company, all the expenses incurred by the company.

VIII. FINANCIAL STATEMENTS AND PROFIT APPLICATION

FIFTY SECOND ARTICLE. Within a maximum term of eighty calendar days after December 31st of each year, the Board shall prepare the Annual Report and the Financial Statements of the Company at

December 31 of the previous year, according to provisions set forth by the General Law of Companies and the General Accounting Plan, as well as a proposal for the application of the profits; these documents shall be submitted for the approval of the Annual Mandatory General Shareholders' Meeting.

The Financial Statements shall be signed by the Accountant and countersigned by the President of the Board or the General Manager, or the legal representative duly authorized for this purpose.

FIFTY THIRD ARTICLE. The General Shareholders' Meeting may agree, prior approval of applicable Financial Statements, the distribution of provisional dividends from net gains of the annual fiscal year, provided the Company has no accumulated losses.

The profits resulting from Annual Financial Statements, after discounting all expenses, making corrections and having deduced the necessary amount to create a reserve fund or reserves to be created according to law, shall be applied as follows:

- A. Remuneration of the Board.
- B. The remaining amount, should the Board decide so, shall be capitalized the amount agreed by the Meeting. IN this case, the shares issued in terms of capitalization shall be delivered to shareholders proportionally to the nominal value of the shares they possess, and if by virtue of the number of shares possessed by each shareholder, the distribution among them of the shares so issued are not exactly possible, the shareholders will compensate among them the differences or, if this is not convenient, it will be adjudicated by lot among them, the remaining shares that cannot be fully distributed, in order to respect the principle of indivisibility of each share.

C. Of the remaining, the General Meeting shall agree the amount to establish a special fund or voluntary reserve.

D. The final balance that may still remain shall be distributed as dividend among the shareholders.

IX. CORPORATE DISSOLUTION AND LIQUIDATION

FIFTY FOURTH ARTICLE. If a case of liquidation arises, the General Shareholders' Meeting that resolves on the liquidation, shall designate the natural persons or legal persons that will take charge; during the liquidation period the regulations of these Bylaws shall be observed wherever applicable, those stipulated by the General Law of Companies, the Code of Commerce, in other applicable laws and in the Regulations of the Mercantile Registry and the resolutions of the General Meetings.

FIFTY FIFTH ARTICLE. If after having paid the debts of the Company there is a remaining balance, this should be distributed pro rata among all shareholders proportionately to the nominal capital representing the shares they possess.

Further, once the liquidation is completed, the shareholders shall designate the person or entity that will keep the books and the documents of the Company.

X. DISPUTE RESOLUTION

FIFTY SIXTH ARTICLE. Any dispute, disagreement or conflict arising between shareholders, between shareholders and the Company, or between the Company and its Directors during the existence or dissolution process of the Company, in connection to their rights or obligations or in connection to the interpretation, application, validity or compliance with this By-laws or in connection with any agreement adopted by the Company's General Shareholders' Meetings or Board of Directors' meetings, which have not been resolved through direct negotiation and in amicable terms between the parties, or by means of mediation or conciliation, within thirty (30) business days from the notification to one of the parties, the parties agree to waive their rights to solve any dispute, disagreement or conflict within the competent courts of their domiciles and agree that all disputes, disagreements or conflicts will be settled by arbitration at law, except for those disputes which shall be ventilated under a specific jurisdiction as mandated by law, in which case the Peruvian Arbitration Law (Legislative Decree No. 1071), or any law amending or replacing it, shall be applied as well as the additional provisions established for such effects.

The arbitration will be held in Lima, Perú and in Spanish language according to the agreements in this clause. For all the matters not provided herein, the arbitration shall be organized and conducted in accordance with the provisions set forth in the Rules and Regulations of the Arbitration Center of the American Chamber of Commerce of Perú (AmCham Perú). - *Cámara de Comercio Americana del Perú*

The Tribunal shall consist of three (03) arbitrators, following the rules below for their designation:

(a) The party requesting the arbitration shall submit the first request to the Arbitration Center of AmCham Perú indicating the name of the person designated as first arbitrator, and inviting the opposing party, in turn, to designate the second arbitrator. The Arbitration Center of AmCham Perú shall submit a copy of the first request to the opposing party.

(b) Five calendar days after receiving the copy of the request referred to in letter (a) above, the opposing party shall indicate the name of the person designated as second arbitrator. If the opposing party fails to designate an arbitrator within the stated term, the Arbitration Center of AmCham Perú shall designate the second arbitrator.

(c) Five calendar days after the designation of the second arbitration pursuant to the provisions in (b), both parties shall, mutually agree, on the person who will serve as third arbitrator, who will chair the Tribunal. In

the event that the parties fail to reach an agreement, the Arbitration Center of AmCham Perú shall designate the Chair of the Tribunal upon the request of either of the parties.

The Tribunal shall decide by majority on the subject matter of the arbitration. For this purpose, the Tribunal shall issue an arbitration award and the reasons therefore in writing within the term set in the By-laws and Regulations of the Arbitration Center of AmCham Perú. The arbitration award shall be final, binding upon the parties and unappealable, unless otherwise provided in the applicable rules.

In addition, the arbitration award shall determine the manner to confront the expenses related to the arbitration

SUMMARY OF TERMS OF MEDIUM-TERM CORPORATE LOAN UNDER CLUB DEAL MODALITY WITH BANCO DE CREDITO DEL PERU S.A. AND SCOTIABANK PERU S.A.A.

On September 13, 2021, the board of directors of Cementos Pacasmayo S.A.A. (hereinafter, the “Company”) approved the execution of a medium-term loan contract with Scotiabank Perú S.A.A. (hereinafter “Scotiabank”) and Banco de Crédito del Perú (hereinafter “BCP”) in order to pay its short-term financial debt (with BCP) and the payment of the “4.50% Senior Notes due 2023”.

On November 29, 2021, the Company, Scotiabank and BCP entered into the Medium-term Loan Contract of an amount of PEN 860'000,000.00.

The following are the key characteristics of the loan:

Execution Date: November 29, 2021

Term: 7 years with the Loan Schedule

Currency: Soles (S/)

Principal Amount: S/ 860,000,000 (BCP: S/430,000,000; Scotiabank: S/430,000,000)

Interest Rate: 5.82%

Interest Payment Dates: Quarterly

Prepayments: The Company may make prepayments of no less than S/ 10,000,000 with a commission of 1.5% per year with a limit of 3%

Priority: Pari passu with all other debts of the Company

Principal restrictions and covenants: (i) Debt Service Coverage Ratio (EBITDA/Debt Service) greater than or equal to 1.50x; (ii) Debt Service Coverage Ratio (Debt Service Cash Flow/Debt service) greater than or equal to 1.15; (iii) Financial Debt Ratio (Financial Debt/EBITDA) less than or equal to 3.50x. Ratios to be measured quarterly on the basis of the Company's consolidated financial statements as of March, June, September and December every year.

SUMMARY OF PRINCIPAL TERMS
EQUIPMENT AND ENGINEERING SUPPLY CONTRACT

On November 24, 2021, the board of directors of Cementos Pacasmayo S.A.A. (hereinafter, the “Company”) approved the execution of the supply contract with FLSMIDTH A/S (hereinafter “FLS”), due to FLS’s standing, the reliability of its equipment and its technical expertise and support.

Therefore, on November 29, 2021, the Company and FLS entered into the Equipment and Engineering Supply Contract No. 2020-0211/2021 for a new Pyro Line located at the Company’s cement plant.

The parties agreed that FLS would supply the equipment and engineering for the construction of a new pyro line having a capacity of 2,000 metric tons of Portland cement clinker per day, located at the Company’s cement plant in Pacasmayo, Peru.

FLS, as the supplier, undertook the following obligations:

- Deliver the engineering according to FLS’s design and layout standards in accordance with the Delivery Schedule;
- Deliver the equipment according to FLS’s design in accordance with the Delivery Schedule and provide all necessary technical documents, including manuals, projects, designs, plans related to the supply, operation and maintenance of the Equipment.
- Fulfill FLS’s performance guarantees for the Equipment.
- Fulfill FLS’s warranty period for 12 months starting at the earliest of (i) date of acceptance certificate or (ii) 36 months after the effective date of contract.

The Company, as the buyer, undertook the following obligations:

- Pay the contract price EUR 19’254,150.00 (Nineteen million two hundred fifty-four thousand one hundred fifty EUR).
- Take delivery of the supply.
- Obtain permits by the country required for the parties’ fulfillment of its obligations.
- Conduct start-up and commissioning, including performance tests of the Equipment.

SUMMARY OF PRINCIPAL TERMS
CONSTRUCTION AND ASSEMBLY CONTRACT

On October 22, 2021, the board of directors of Cementos Pacasmayo S.A.A. (hereinafter, the “Company”) approved the increase in production capacity of its cement plant located in Pacasmayo through the construction of a new pyro line of clinker.

On November 12, 2021, the Company issued invitations to initiate the tendering process for the construction of the new pyro line. For bidding purposes, the Company provided referential drawings and other documents. On February 16, 2022, the Company awarded the contract to Ingeniería y Construcción Sigdo Koppers Perú S.A.C. (hereinafter, “SK”).

On February 16, 2022, the Company and SK entered into the Construction and Assembly Contract No. 2020-0019/2022 for the construction and assembly of the new pyro line of clinker located at the Company’s cement plant in Pacasmayo, Peru.

SK, as the contractor, undertook the following obligations:

- Complete the scope of work, which includes all the building works, erection of metal structures, electromechanical equipment assembly, piping installation and installation of all other equipment supplied by the vendor, FLSMIDTH A/S, in accordance with the technical specifications, drawings, plans and other documents provided by the Company.
- Execution of the project as a fast track, under a combined method of time and material for the direct costs and lump sum for indirect costs duly approved by the Company.
- Conduct the pre-commissioning of the equipment supplied by FLSMIDTH A/S.
- Issue and provide a performance bond (carta fianza de fiel cumplimiento) equivalent to 10% of the contract price, valid for the duration of the contractual term until the execution of the Final Certificate of Acceptance.
- Issue and provide a works performance bond (carta fianza de buena ejecución) equivalent to 10% of the contractual price, valid for a period of two years from the execution of the Final Certificate of Acceptance.
- Fulfill the contractor’s civil liability warranty for a period of five years from the execution of the Final Certificate of Acceptance.

The Company, as the owner, undertook the following obligations:

- Pay the contract price PEN 66’083,227.61 (Sixty-six million eighty-three thousand two hundred twenty-seven with 61/100 PEN).
- Provide access to the job site at the Company’s cement plant in Pacasmayo, Peru.
- Provide the technical specifications, civil, mechanical and electric engineering, drawings, plans and other required documents.
- Obtain the building license and other required permits.
- Conduct start-up and commissioning.

The parties agreed that the Contract shall remain in force until the execution of the Final Certificate of Acceptance. The Contract’s timeline started on March 1, 2022 with the preparatory activities until April 18, 2023 with the pre-commissioning of the equipment, in accordance with the Project Schedule.

LIST OF SUBSIDIARIES

Subsidiary*	Jurisdiction of Incorporation	Name Under Which the Subsidiary Does Business
Cementos Selva S.A.C.	Perú	
Distribuidora Norte Pacasmayo S.R.L.	Perú	Dino
Dinoselva Iquitos S.A.C.	Perú	Dino Selva
Calizas del Norte S.A.C. En Liquidación ¹	Perú	
Empresa de Transmisión Guadalupe S.A.C.	Perú	
Salmueras Sudamericanas S.A.	Perú	
Acuícola Los Paiches S.A.C.	Perú	
Soluciones Takay S.A.C.	Perú	
150Krea	United States	

* All subsidiaries are wholly owned, directly or indirectly, by Cementos Pacasmayo S.A.A., except for Salmueras Sudamericanas S.A. in which Cemento Pacasmayo S.A.A. holds a 74.9% interest.

¹ As of December 31, 2021, it was on the process of liquidation, which finished in February 2022.

CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Humberto Nadal Del Carpio, certify that:

1. I have reviewed this annual report on Form 20-F (the “report”) of Cementos Pacasmayo S.A.A. (the “Company”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made therein, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Company’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company’s internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting; and
5. The Company’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company’s auditors and the audit committee of the Company’s board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting.

Date: April 28, 2022

/s/ Humberto Nadal Del Carpio
Humberto Nadal Del Carpio
Chief Executive Officer

CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Manuel Ferreyros Peña, certify that:

1. I have reviewed this annual report on Form 20-F (the “report”) of Cementos Pacasmayo S.A.A. (the “Company”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made therein, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;
4. The Company’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the Company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Company’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Company’s internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting; and
5. The Company’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company’s auditors and the audit committee of the Company’s board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting.

Date: April 28, 2022

/s/ Manuel Ferreyros Peña

Manuel Ferreyros Peña
Chief Financial Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE U.S. SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Cementos Pacasmayo S.A.A. (the “Company”) on Form 20-F for the fiscal year ended December 31, 2021, as filed with the U.S. Securities and Exchange Commission on the date hereof (the “Report”), I, Humberto Nadal Del Carpio, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the U.S. Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (i) the Report fully complies with the requirements of Section 13(a) or 15(d) of the U.S. Securities Exchange Act of 1934; and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 28, 2022

/s/ Humberto Nadal Del Carpio

Humberto Nadal Del Carpio
Chief Executive Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE U.S. SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Cementos Pacasmayo S.A.A. (the “Company”) on Form 20-F for the fiscal year ended December 31, 2021, as filed with the U.S. Securities and Exchange Commission on the date hereof (the “Report”), I, Manuel Ferreyros Peña, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the U.S. Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (i) the Report fully complies with the requirements of Section 13(a) or 15(d) of the U.S. Securities Exchange Act of 1934; and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 28, 2022

/s/ Manuel Ferreyros Peña

Manuel Ferreyros Peña
Chief Executive Officer

CEMENTOS PACASMAYO S.A.A.
Technical Report Summary (TRS)
Tembladera Quarry
and
Pacasmayo Cement Plant
20-F 229.601 (Item 601)

January 2021



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1. Executive Summary

Cementos Pacasmayo S.A.A (CPSAA) is a Peruvian company, whose corporate purpose is the production of cement and other products associated with the construction sector. This Technical Report Summary summarizes a Pre-feasibility study of the Tembladera quarry located in the Cajamarca Region and the cement plant located in La Libertad Regional. Cementos Pacasmayo company's qualified persons prepared this Report to support disclosure of limestone Resources and Reserves.

1.1. Location and access

The Tembladera quarry contains limestone, which is the main raw material for cement production. This quarry is located in the Yonan district of Contumaza province in Cajamarca Region. There is an access road to this quarry from Lima to Trujillo. The Pacasmayo plant is located in Pacasmayo city and it is located, 60 km from Tembladera quarry, 666Km from Panamericana Norte and 120 km from Trujillo city.

1.2. Climate

The quarry has the semi-arid climate characteristic of the region of the Andean lower level of northern Peru. Precipitation ranges from minimum values of 0mm from June to September, to a maximum value of 26.3 mm in March. Temperatures throughout the year vary between 20°C from July to August, and 25°C in March. The maximum temperature is 27°C on average, but it can go up to 29°C (January - April). Minimum temperatures are around 15-17°C (July - September).

In the cement plant in Pacasmayo, the annual average temperature varies between 16.5 and 25.0°C. The monthly average temperature varies between 19 and 25°C. The annual relative humidity averages at 85%.

1.3. History

Tembladera quarry is a limestone deposit, which is sourced for different types of cement for construction. The deposit is owned by Cementos Pacasmayo S.A.A.

In 2002, the National Institute of Cadastre and Mining Claims gave to Cementos Pacasmayo S.A.A., the title of non-metallic pile called "Acumulación Tembladera", which goes back in time to the date of the oldest claim "North N° 1" granted by the Mining Regional Office of Cajamarca by Ministerial Resolution N° 267, dated June 30, 1950, in favor of Cementos Portland del Norte S.A., starting operations as Cementos Pacasmayo S.A.A. from 1957 to 2013.

In 2013, the Calizas del Norte S.A.C. company (CALNOR) started activities in January 2014 until May 2016. The Tembladera quarry was without operations from June to September 2016. Afterwards, Cementos Pacasmayo hired San Martin Contratistas Generales S.A. company for limestone production activities since October 2016 to date.

The most significant recent exploration activity was a drilling campaign in March 2007. MINTEC, a consulting company, was hired to create the 3D model of the deposit and the estimation of Mineral Resources.

In 2019, another campaign of 8 diamond drill holes was carried out, to confirm the Resources and the Reserves of the Eastern area of the Deposit. Interpretation of the information obtained was used to prepare a new geological model. Cementos Pacasmayo oversaw the interpretation.

1.4. Geological environment and mineralization

The deposit is contained within the so-called Cajamarca Formation, which belongs to the Upper Cretaceous (Turonian floor, around 90 MA). This formation overlies the Quilquiñan Group and underlies the Celendin Formation.

Sedimentary rocks corresponding to the Cajamarca Formation and the Upper Cretaceous Celendin Formation outcrop in the area.

On the other hand, the Cajamarca Formation is composed of thin limestones, well stratified, in strata of thin layers, with a coloration that goes from dark gray to light. It has a thickness or power of 230 meters.

1.5. Exploration

Exploration activities at the Tembladera quarry were carried out in 2007 and 2019. The first diamond drilling campaign was carried out in 2007 with 31 drill holes. During 2007, the company DCR Ingenieros S.R.Ltda determined the geotechnical guidelines of the Tembladera quarry and grouped them into 7 geotechnical zones. In 2019, the second diamond drilling campaign was carried out with 8 drill holes. In the same year, Walsh Peru S.A. carried out a hydrogeological study of the Tembladera quarry.

During 2021, Cementos Pacasmayo did not perform any exploration activity in the Tembladera quarry. The update of Hydrogeological studies in the Tembladera quarry was made; however, the works were office work. Likewise, the update of geotechnical studies on the stability of the pit slope and the waste disposal in the quarry. Those works involved sample collection and sample analysis to determine the rock strength, density, and other properties.

1.6. Sample preparation, analysis and security

Cementos Pacasmayo has implemented procedures for sample preparation, tests and security of the information on its operations. The cement plants and the operations had implemented the ISO 9001 standard since 2015. The certification of this standard is renewed annually by means of an external audit.

In the geology area, the methods are used to analyze the main chemical components in the limestone using the XRF technique and other analytical methods. In the cement plant, the raw materials for the production of clinker and cement are analyzed. The A.S.T.M. and the Peruvian Technical Standards are used as references. The laboratory in the cement plant has properly calibrated equipment and a periodic maintenance plan.

During 2021, and as part of the QAQC activities, Cementos Pacasmayo hired the independent company Wiracocha Mining Services S.R.L., a company specialized in QAQC, for an audit of the results and update of the quality protocol, its work included a resampling in the drill holes of the previous campaign. This company carried out the field and office work from September to October 2021.

The results obtained conclude that the sample analysis for Limestone used in the geological model and the estimation of Resources and Reserves, obtained in the laboratory of Cementos Pacasmayo in Pacasmayo plant has a confidence higher than 95%.

At the Pacasmayo plant, the sampling and data verification plan applies to the processes of receiving raw materials, crushing of raw materials, coal grinding, crude grinding, clinkerization and cement grinding. Additionally, it is applied to the lime production, lime grinding and lime dispatch.

Cementos Pacasmayo S.A.A. had implemented QAQC protocols for the development of the exploration and production activities in the Tembladera quarry and in the Pacasmayo plant to ensure the quality of the information that allows the estimation of Resources and Reserves of the limestone deposit.

1.7. Data verification

Concerning geological activities, CPSAA has a data verification area for the geological database. This area has as its main function, the verification of data to be used in the estimation of mineral Resources and Reserves. For the appropriate administration of information, internal protocols have been implemented that are subject to internal audits. The stages within the verification activities made in the geology area are the data collection, the administration and validation of data received from internal areas and external laboratories, data tracking through the confirmation of custody chains and finally, validation of data in the information base that will allow the development of the Resources and Reserves model.

For data verification activities at the cement plant, the PDCA (Plan, Do, Check and Act) methodology is used. This is applied to the technical information received from the company's internal and external customers. The quality control laboratory compares the results with national and international laboratories as part of the verification procedures.

1.8. Mineral processing and metallurgical tests

Cementos Pacasmayo has procedures for the development of products at the laboratory level and its scaling at the industrial level, as well as its own procedures for the preparation, review, issuance and control of laboratory test reports. Cementos Pacasmayo has a Research and Development laboratory located in the Pacasmayo plant to evaluate technical aspects in cement plants and quarries.

To have a representative sample of its raw materials and cement at the Pacasmayo plant, Cementos Pacasmayo performs the analysis of its samples in its internal Research and Development Laboratory located at the plant.

An important percentage of Research and Development activities are focused on evaluating different ratios between clinker-mineral additions providing the best functional characteristics to our products and at the same time balancing the benefits generated for the company. Another objective is to identify other additions that can substitute for clinker: slag, pozzolana, fly ash, calcined clays, etc., to reduce its environmental footprint and the cost of cement production.

The Research Laboratory issues technical reports following the criteria of international standards to the operations area which evaluates the convenience of industrial implementation of the tests and validating what is reported at the laboratory level.

1.9. Estimation of Resources and Mineral Reserves

Qualified person (QP) has estimated limestone Resources and Reserves for this property. For the evaluation, the information from exploration activities from previous years has been used, and is the database for the Resources and Reserves model.

The limestone Resources are presented in Table 1. The Resource estimation considered the quality restrictions of limestone received in Pacasmayo cement plant, limits of the concessions, accessibility to the Resources and legal restrictions of the mining concessions, economic factors and modifying factors.

The minimum quality accepted is 48.6% CaO to be used as raw material for production and considering the sale prices of cement at the Pacasmayo plant, the economic evaluation used for Reserve evaluation is shown in Chapter 19 and considers the same criteria used for the estimation of Reserves.

Table 1 Mineral Resources (exclusive of Reserves) of Tembladera quarry

	Resources	Tonnes M	CaO (%)	MgO (%)	Al ₂ O ₃ (%)	SiO ₂ (%)	SO ₃ (%)
Limestone	Measured	128.29	49.31	1.81	1.84	4.82	0.31
	Indicated	37.64	50.23	1.70	1.47	3.96	0.19
	Measured + Indicated	165.93	49.52	1.79	1.76	4.63	0.28
	Inferred	74.24	50.34	0.31	1.63	3.92	1.45

For Reserve estimation, the Resources and the quality criteria, modifying factors and limestone production costs were considered. The mining method used is open pit. The economic results are shown in Chapter 19.

Table 2 Mineral Reserves of Tembladera quarry

	Reserves	Tonnes M	CaO (%)	MgO (%)	Al ₂ O ₃ (%)	SiO ₂ (%)	SO ₃ (%)
Limestone	Proven	66.52	49.75	1.53	1.53	4.50	0.36
	Probable	10.47	49.64	1.53	1.56	4.91	0.28
	Total	76.99	49.74	1.53	1.53	4.56	0.35

1.10. Processing Plant & Infrastructure

Cement production considers the stages of raw material extraction, grinding and homogenization, clinkerization, cement grinding, silo storage and packaging, loading and transportation. Cement is moved through conveyor belts to packing systems to be packed in bags and then loaded onto trucks operated by third parties for distribution.

Figure 1 Pacasmayo plant process block diagram



The raw materials and additions are considered for cement production at Pacasmayo plant. The raw materials for cement production are limestone, sand, iron, clay and coal. The mixture of these raw materials is crude which is fed to the calcination kiln to produce clinker.

The limestone represents 78.54 % by weight of the raw material. Anthracite coal is also used as part of raw material to produce clinker.

Clinker and additional materials are used to produce cement. The additions used in cement production are slag, pozzolana, gypsum and limestone. Currently, the cement plant in Pacasmayo has a Clinker/Cement factor of 0.72.

The Pacasmayo plant has an electrical substation with a capacity of 105 MVA, the electric power is supplied from the national grid.

Cementos Pacasmayo has implemented a preventive and corrective maintenance plan to keep cement production uninterrupted.

Cementos Pacasmayo maintains operational efficiency to control costs and operating margins, and makes efforts to diversify energy sources and ensure supply when possible.

1.11. Market studies

The Peruvian Cement Market is geographically segmented by regions: northern, central and southern region and every region is served by different companies, most of which are cement producers.

The main companies that supply the cement market in Peru are Cementos Pacasmayo S.A.A., UNACEM, Cemento Yura, Cementos Selva. There are also companies that import cement or clinker, such as Cemento Inka, Cemento Nacional, and Cemex, among others.

The companies that commercialized cement in Peru follow the Peruvian Technical Standards associated with - technical specifications for cement.

Portland Cement is subdivided into Type I and Type V. Portland Cement is subdivided into Type ICO, Type IL, Type IP and Type I (PM); and finally, Hydraulic Cements specified by performance are Type GU, Type MS (MH), Type HS, Type HE, Type MH and Type LH.

Cementos Pacasmayo, being the leading company in the production and sale of cement in the Northern Region, has a market share in the following cities: Cajamarca, Chiclayo, Chimbote, Jaén, Pacasmayo, Piura, Rioja, Tarapoto, Trujillo, Tumbes, Yurimaguas and Iquitos. Cementos Pacasmayo also has a Market Share above 90% in the northern region of the country.

Annual cement shipments at the national scale for the year 2021 reached a total of 12.5 million tonnes, while total cement shipments at the Pacasmayo plant for 2021 were 1,970.9 thousand tonnes. Pacasmayo plant meets almost 50% of the cement demand in the Northern Region of the country and its cement shipments represent more than 54.4% of the three cement plant's overall shipments.

1.12. Capital and operating costs & Economic Analysis

This document presents the cash flow analysis and an economic evaluation of the project based on the current operating costs of the cement plant in Pacasmayo and using information from the Tembladera quarry for limestone production.

The economic analysis uses the economic assumptions listed in Chapter 19. The main variables considered in the economic model for the sensitivity analysis were cement price, production cost and CapEx.

For the economic analysis of Reserves, the free cash flow is constructed, which does not incorporate the financing structure, since the latter is considered in the weighted average cost of capital of the company (WACC) for discounting future cash flows. The following financial parameters were calculated:

- 30-year mine life
- Average plant throughput for cement production: 2.33 million tonnes per year over the 30-year projection.
- Average sales price: 498.1 soles per ton of cement, an average of the 30-year projection, at nominal values.
- Revenues: 1,275.1 million soles, an average of the 30-year projection.
- Average cash production cost: 371.0 soles per ton of cement, an average of the 30-year projection, at nominal values.

The cash flow of the project is presented in Table 3 below. The NPV at a discount rate of 9.87% is 779.6 million soles.

Sensitivity analysis was also made to show the influence of changes in prices, OpEx and CapEx on NPV.

Figure 2 Graph of slopes of the variables on the Economic Value

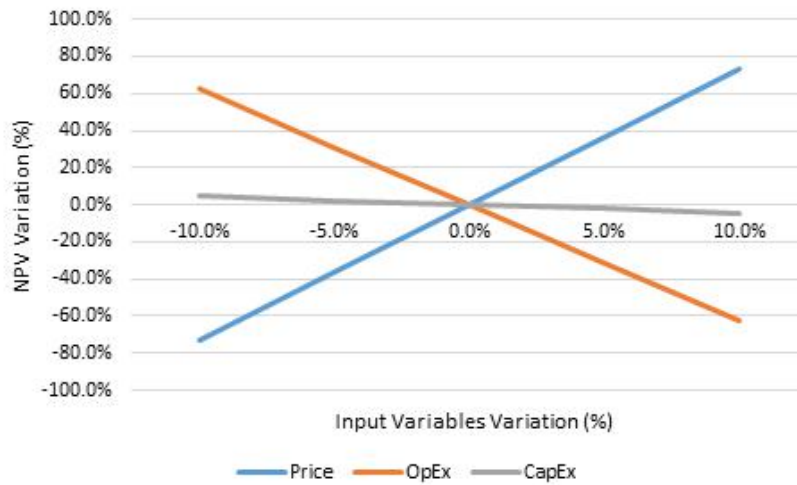
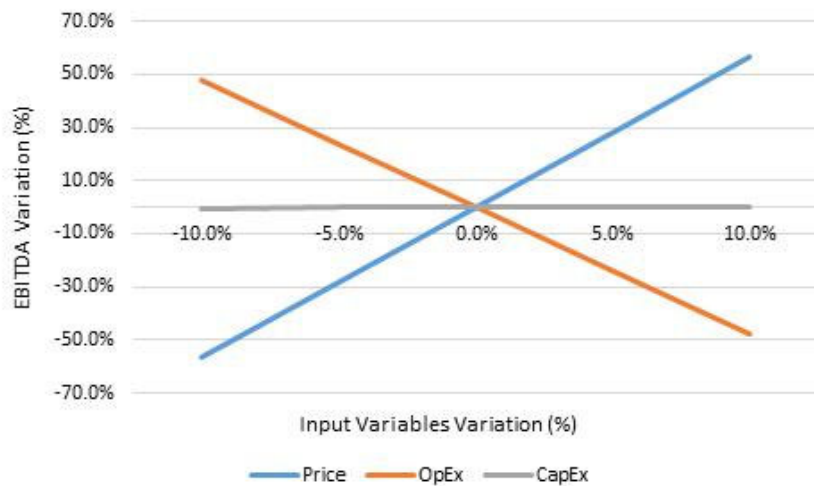


Figure 3 Sensitivity of EBITDA



About Mineral Resources, to demonstrate their economic viability or profitability, an economic analysis there was developed. The same criteria were used for the Reserves (see point 19.2.1) and Resources estimation. The Resources are significantly more than the Reserves; perpetuity is included at the end of the 30-year projection.

The results are NPV of 954.0 million soles at a discount rate of 9.87%. A life of mine (LOM) of 63 years with an average plant throughput of 2.33 million tons per year during the 30-year forecast. The average sales price for the 30-year forecast is 498.1 soles per ton of cement at nominal values, and average revenues are 1,275.1 million soles per year. The average cash production cost for the 30-year forecast is 371.0 soles per ton of cement at nominal values.

1.13. Adjacent properties

The Acumulación Tembladera property shares borders with private properties. No mining activities are being performed on these properties. The mining concession (EAGLE 1) overlaps with the Acumulación Tembladera property by 46.43 hectares; however, Cementos Pacasmayo owns the surface property; consequently, this concession does not restrict the Cementos Pacasmayo's activities in the current exploitation areas. Eagle 1 does not interfere with Cementos Pacasmayo S.A.A.'s operations, Resources or Reserve estimates. Also Julissa A concession does not interfere with the area of the mining rights in the Cementos Pacasmayo S.A.A. concession.

1.14. Conclusions

- From a legal point of view, Cementos Pacasmayo S.A.A. has the ownership of the mining properties for the exploration, development and production of limestone to supply the cement plants for normal production during the life of the quarry.
- Cementos Pacasmayo S.A.A. has been complying with international ISO-9001 (Quality) standards since 2015 and has implemented Quality Assurance and Quality Control (QAQC). The controls are applied for the construction of the Geological Model, Resource Estimation and Reserves Estimation.
- Cementos Pacasmayo S.A.A. has a quality assurance system in its operations that includes sample preparation methods, procedures, analysis and security, which comply with the best practices in the industry.
- Updated geotechnical studies and geotechnical design evaluated are stable since the analyses show safety factors greater than the minimum acceptable.
- The information verification and validation processes are carried out following the procedures indicated in the information flows. The validated information is congruent with the one that generated the geological models, which are the fundamental basis for the estimation of Resources.
- The geological modeling of the limestone deposit is consistent with the relationship between the information and the geological model.
- The Reserves estimations consider the risk factors and modifying factors. The main variable is the CaO content which is very stable in the deposit, also there are along with other secondary variables that determine the quality of the Reserves.
- In the process of calculating Reserves and in the production plans of the quarry, these variables have been adequately considered in the mining plan, properly sequenced and with blending processes. There are sufficient proven and probable Reserves for the next 30 years.
- Table 4 shows the Mineral Resources of the Tembladera quarry and categories. Likewise, the Mineral Reserves are shown in Table 5 and categories.

Table 4 Resource Categorization (exclusive of Reserves) at the Tembladera quarry

	Resources	Tonnes M	CaO (%)	MgO (%)	Al ₂ O ₃ (%)	SiO ₂ (%)	SO ₃ (%)
Limestone	Measured	128.29	49.31	1.81	1.84	4.82	0.31
	Indicated	37.64	50.23	1.70	1.47	3.96	0.19
	Measured + Indicated	165.93	49.52	1.79	1.76	4.63	0.28
	Inferred	74.24	50.34	0.31	1.63	3.92	1.45

Table 5 Mineral Reserves expressed in millions of tonnes

	Reserves	Tonnes M	CaO (%)	MgO (%)	Al ₂ O ₃ (%)	SiO ₂ (%)	SO ₃ (%)
Limestone	Proven	66.52	49.75	1.53	1.53	4.50	0.36
	Probable	10.47	49.64	1.53	1.56	4.91	0.28
	Total	76.99	49.74	1.53	1.53	4.56	0.35

- The cement plant located in Pacasmayo has equipment and facilities available for cement production using limestone from the Tembladera quarry and other necessary materials. An additional kiln is expected to be installed for clinker production which should be in full production by 2024.
- The Health, Safety and Environment area is in charge of supervising compliance with the Company's corporate policies and the various legal requirements of the national regulatory bodies by all company areas.
- Through its Social Responsibility area, Cementos Pacasmayo S.A.A. has generated relationships of trust with the communities surrounding its operations, which have a solid relationship with our communities, identifying their primary needs in health, education, urban development, and local development.
- In 2021, due to COVID 19 pandemic, CPSAA had been limited in some face-to-face meetings with stakeholders that did not affect our good relationship.
- The operation in Tembladera quarry and Pacasmayo plant, with regards to infrastructure, is technically and economically feasible due to the life of the quarry.
- The sensitivity analysis shows that the operation is economically robust.

1.15. Recommendations

- Maintain the QAQC program for exploration, development and production activities associated with cement production.
- It is recommended to extend the geological studies in more detail, including diamond drilling towards the east side of the open pit, this will allow recategorization of the Inferred Resources.
- Carry out geotechnical and hydrogeological studies to update the pit design associated with the mining method.
- It is recommended to perform density tests for limestone in the next studies at the Tembladera quarry.
- For future diamond drilling campaigns evaluate the rock density for each limestone horizon.
- Evaluate the presence of andesitic dykes within the production zone. These represent inert material during production.

2. Introduction

2.1. Participants

This technical summary report (TRS) was prepared by Cementos Pacasmayo's qualified persons (QP's), who according to their qualifications and experience developed the chapters based on their expertise. Likewise, the aforementioned QP's used Company's information sources, information validated and approved by the competent authorities in Peru and public information sources. Table 6 indicates the qualified professionals who participated in the preparation of this document as well as the chapters and information under their responsibility.

Marco Carrasco, who holds the position of Project Manager of Cementos Pacasmayo, is QP certified by the Mining and Metallurgical Society of America (MMSA) of the United States. He acted as Project Manager, whose primary role was compiled the information received from the QPs of each chapter to have an integrated document. Each QP is responsible for the section they wrote.

2.2. Terms of Reference

This technical report summary was prepared as an exhibit to support disclosure of mineral Resources and Reserves by Cementos Pacasmayo. This report summarizes the results of the Prefeasibility study of the "Acumulación Tembladera" property for the production of limestone using open pit mining methods. The report is effective December 31, 2021.

The limestone extracted from the Acumulación Tembladera property supplies raw material for the Pacasmayo plant where cement is produced and is located in the city of the same name. The annual cement production is 2.33 million tonnes per year (mtpy). Actual operating costs have been considered for the estimates and used as a basis for economic projections within the economic analysis. This technical report summary estimates Resources and Reserves according to the regulations published in Securities Exchange Commission (SEC) Form 20-F and under subpart 1300 of Regulation S-K.

The report was prepared by the qualified persons listed in Table 6 using available studies and, in some cases (see Chapter 25), relying on information provided by Cementos Pacasmayo, the registrant.

Table 6 List of Cementos Pacasmayo S.A.A. Professionals

Item	Chapter	First and Last Names	Job Position	Profession
0	Compiled all	Marco Carrasco (*)	Project Manager	Chemical Engineer
1	Executive summary	All QPs (**)		
2	Introduction	All QPs (**)		
3	Property description	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
4	Accessibility, climate, local Resources, infrastructure and physiography	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
5	History	Jorge Vega	Mining Projects Superintendent	Mining Engineering
5	History	Jhonson Rodríguez	Senior Geologist	Geological Engineer
6	Geological setting, mineralization, and deposit	Jhonson Rodríguez	Senior Geologist	Geological Engineer
7	Exploration	Jhonson Rodríguez	Senior Geologist	Geological Engineer
8	Sample preparation, analyses, and security	Jhonson Rodríguez	Senior Geologist	Geological Engineer
8	Sample preparation, analyses, and security	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer
9	Data verification	Jhonson Rodríguez	Senior Geologist	Geological Engineer
9	Data verification	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer
10	Mineral processing and metallurgical testing	Gabriel Mansilla	R&D and Quality Assurance Superintendent	Chemical Engineer
11	Mineral resource estimates	Jason Gamio	Modeler	Geological Engineer
12	Mineral reserve estimates	Jason Gamio	Modeler	Geological Engineer
13	Mining methods	Jorge Vega	Mining Projects Superintendent	Mining Engineering
14	Processing and recovery methods	Mario Alva	Operations Manager	Electronic Engineer
15	Infrastructure	Jorge Vega	Mining Projects Superintendent	Mining Engineering
16	Market studies	Jason Gamio	Modeler	Geological Engineer
17	Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
18	Capital and operating costs	Jason Gamio	Modeler	Geological Engineer
19	Economic analysis	Jason Gamio	Modeler	Geological Engineer
20	Adjacent properties	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
21	Other relevant data and information	All QPs (**)		
22	Interpretation and conclusions	All QPs (**)		
23	Recommendations	All QPs (**)		
24	References	All QPs (**)		
25	Reliance on information provided by the registrant	All QPs (**)		

(*) Marco Carrasco, who holds the position of Project Manager of Cementos Pacasmayo compiled the information received from the QPs of each chapter to have an integrated report. Each QP is responsible for the section they wrote.

(**) Ricardo del Carpio, Jorge Vega, Jhonson Rodríguez, Gabriel Mansilla, Jason Gamio and Mario Alva

2.3. Conventions

Unless otherwise indicated in the report, all currencies are in soles and all measurements and units are in the metric system. The Acumulación Tembladera property is located within the boundaries of the WGS84 two-dimensional geographic coordinate reference system, in the UTM 17S (Universal Transverse Mercator) zone. All coordinates referenced in this report and in the accompanying figures, tables, maps and sections are provided in the WGS84 coordinate system, UTM 17S zone, unless otherwise indicated.

2.4. Previous Work and Sources of Information

The information used is sufficient to allow this TRS to be completed with the level of detail required by Regulation S-K subpart 1300. The information used included actual information from Cementos Pacasmayo's operations, information submitted to and approved by the corresponding authorities and public information in organizations specialized in the cement industry. The list of sources of information is presented in Chapter 24 of this report.

2.5. Details of QP Personal Inspection

The QP's who developed this document was unable to visit the Tembladera quarry and the Pacasmayo plant periodically during 2021 due to COVID-19 pandemic restrictions. Instead, the QPs worked with on-site staff using virtual tools to gain first-hand knowledge of the quarry and cement plant. The virtual meetings included verifying parameters of the limestone and cement production.

Table 7 QP's field visit

Item	First and Last Names	Job Position	Profession	Field visit
1	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer	No visits were made due to COVID-19. Coordination was made with operations personnel using virtual tools.
2	Jorge Vega	Mining Projects Superintendent	Mining Engineering	The last visit to the Tembladera quarry and Pacasmayo plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
3	Jhonson Rodríguez	Senior Geologist	Geological Engineer	The last visit to the Tembladera quarry and Pacasmayo plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
4	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer	Pacasmayo Plant, all year as part of his duties.
5	Jason Gamio	Modeler	Geological Engineer	The last visit to the Tembladera quarry and Pacasmayo plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
6	Mario Alva	Operations Manager	Electronic Engineer	No visits were made due to COVID-19. Coordination was made with operations personnel using virtual tools.

3. Property description

3.1. Tembladera quarry

We refer to the non-metallic mining concession called Acumulación Tembladera. The mentioned mining property is located in the area of Tembladera, in the district of Yonan, province of Contumaza, Cajamarca region.

The quarry is located 60 km from the Pacasmayo district, Pacasmayo province, La Libertad region, where the cement plant is located. Consider the UTM coordinate of the center of the circle of the Acumulación Tembladera as follows:

Table 8 Central coordinates of the Acumulación Tembladera property

North	East	Radius	Zone
706744.79	9198636.74	5,000.00	17

The area of the property is 3,390.97 hectares and is shown in Figure 4. The mining rights (the mining concession Title) are granted by INGEMENT (Geological Mining and Metallurgic Institute) of the Energy and Quarries Sector by means of a Presidential Resolution. In the particular case of the Acumulación Tembladera, the Director's Resolution N° 01989-2002-INACC/J the State Organization that granted that title was the National Institute of Concessions and Mining Cadastre (Instituto Nacional de Concesiones y Catastro). Cementos Pacasmayo S.A.A has surface rights for the operation area in the Tembladera quarry.

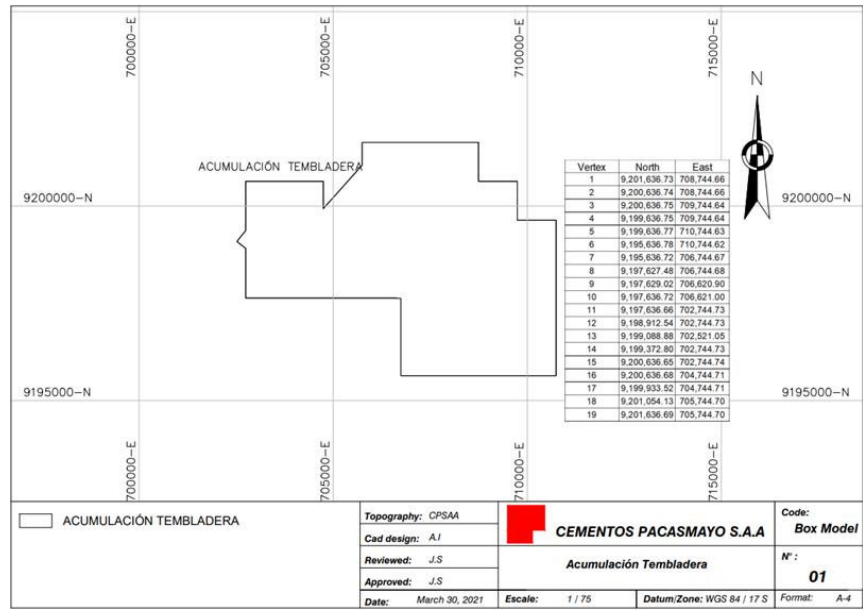
The mineral rights were issued based on the General Mining Law (DS-014-92-EM) and its Regulation D.L 020-2020-EM.

The property is in the name of Cementos Pacasmayo S.A.A., is also registered with the name Acumulación Tembladera, and with type of substance NON-METALLIC.

Cementos Pacasmayo S.A.A. pays the right of validity for the concession of Acumulación Tembladera with unique code 010001801L. These payments must be made from the first business day of January to June 30 of every year.

Cementos Pacasmayo S.A.A. pays royalties to the State according to regulations established by the Authority in Law N° 28258 and its amendment N° 29788, for the property called Acumulación Tembladera.

Figure 4 Acumulación Tembladera Concession



3.2. Pacasmayo Cement Plant

The cement plant property is located in the Pacasmayo District, Pacasmayo Province, La Libertad Region. It is located at Kilometer 666 of the Panamericana Norte.

The property is shown in the Figure 5 and Table 9 shows the UTM coordinates of the center of the circle of the Pacasmayo plant:

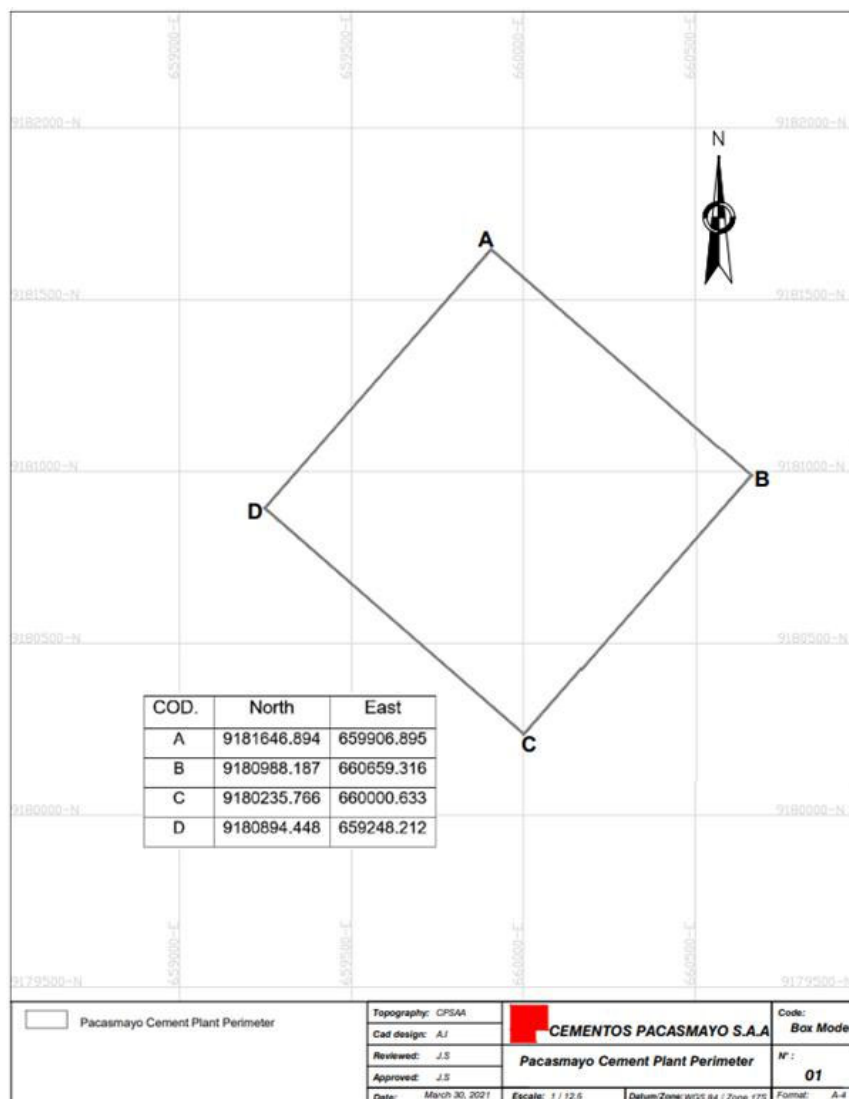
Table 9 Central cordintes of the Pacasmayo cement plant

North	East	Radius	Zone
659953.76	9180941.32	700.00	17

The area of the property is 86.7 hectares. The property is registered in the National Superintendency of Public Registries (Superintendencia Nacional de los Registros Públicos – SUNARP) under the registration number 11004542 in registry zone No. V TRUJILLO BASE, Registry Office San Pedro de Lloc.

Cementos Pacasmayo S.A.A. pays taxes to the State according to that established by the Municipal Authority, for the Pacasmayo plant.

Figure 5 Pacasmayo plant map



4. Accessibility, climate, local Resources, infrastructure and physiography

4.1. Tembladera quarry

This chapter describes the accessibility, climate, local Resources, and infrastructure for the Tembladera quarry and Pacasmayo plant. Information obtained from technical and environmental studies prepared by specialized companies and approved by the authorities is used.

Topography

Tembladera is located between 500 and 1000 masl; the topography shows steep surfaces and abrupt slopes. Drainage is dendritic and controlled by structural features; all the streams are affluent of the Jequetepeque River.

Access

The main access by land. The journey from the city of Lima to the Tembladera quarry is as follows: Lima – Pacasmayo (666 km), Pacasmayo – Ciudad de Dios (14.3 km), Ciudad de Dios – Tembladera (50 km) and Tembladera – Checkpoint (0.8 km), for a total of 747.1 km.

By air route is as follows: Lima – Trujillo in 1 hour flight, and from Trujillo to Tembladera quarry by land route for a journey of 2 hours.

Another alternative by air route is as follows: Lima – Chiclayo, in approx. 1:15 hrs. flight, and from Chiclayo to Tembladera by land route with a journey of 2.5 hrs.

Climate

The Tembladera quarry is located in the western slope of the Andes Mountains range of the Cajamarca Region, the climatic characteristics of semi-arid areas that involve the region of the lower Andean floor of northern Peru.

The source of meteorological information is administered by the National Service of Meteorology and Hydrology, SENAMHI. The precipitation corresponding to the Monte Grande Meteorological Station reports as minimum values 0 mm from June to September and maximum values of 26.3 mm in March, that regime is due to the dry and wet periods of the year. A total annual precipitation of 64.6 mm has been possible to establish.

Temperature

The average monthly temperature fluctuates from 20 °C in July and August, and to 25 °C in March. The monthly thermal amplitude is less than 4 °C. The maximum average temperatures fluctuate from 27 °C, (but it is possible to go up) to 29 °C (January – April), and the minimum temperatures fluctuate from 15 – 17 °C (July - September).

Physiography

The study area is located in northern Peru between the transition of the coast and the mountain range, a region characterized by hilly mountainous relief, cut by rivers and streams creating cultivated valleys and watercourses, where the current morpho-dynamic processes show a moderate to low activity, except during the periods of El Niño Phenomenon. The property groups physiographic units into three morphological classes: plains, mountains and hills and one class originated by human activity.

Local Resources

The personnel of the quarry are divided into Cementos Pacasmayo S.A.A. personnel and Contractor personnel.. Additionally, the quarry is located 5 kilometres from the Tembladera town, where there are local resources for a population as housing, schools, hotels, electrical infrastructure, water supply, internet access, etc. and access to the Tembladera quarry by pickup trucks and buses of the contractor company.

The national grid is the source of energy for the Tembladera quarry. A water channel supplies the Tembladera quarry with this resource, which is authorized by the National Water Authority (ANA).

4.2. Pacasmayo plant

Geomorphology

The area is located in the alluvial pampas, with elevations fluctuating between 25 and 100 m.a.s.l., consisting of extensive variety of conglomerate material that represent ancient dejection cones of the Copinsnique, Jequetepeque, Las Viejas, Zaña, and Reque rivers. In general, these pampas are desert-like and are practically free of crops; they are equal to the high terraces created by the rivers in the area.

The continuity of these pampas is interrupted by the trenches eroded by the modern rivers. It is common to find minor terraces on the flanks of the valleys, especially in the inland sectors, such as the Jequetepeque valley.

Coastal Morphology: The coastal morphology consists of an almost continuous line of ravines, interrupted only by the narrow valleys of the main rivers. The ravines are from 20 to 50 metres high, almost vertical, constituted of conglomerate material belonging to the ancient dejection cones. The beaches are very narrow.

Access

The main access is by land. The journey from the city of Lima to Pacasmayo (682km). By air route is as follows. Lima – Trujillo, 1 hour flight, and by land route 1.5 hours from Trujillo to Pacasmayo. Another alternative by air route is Lima – Chiclayo, 1 hour flight and from Chiclayo to Pacasmayo 1.5 hours by land route.

Climate

Temperature: This coastal zone has average annual temperatures between 16.5 and 25.0 °C. The average monthly temperature fluctuates from 19 to 25 °C, data registered in situ at the Meteorological Station of Cementos Pacasmayo S.A.A.

Precipitation: The precipitations of the zones are very low during the most part of the year, having an annual average of less than 10 mm.

The Relative Humidity is 85% as an annual average.

Atmospheric Pressure: The atmospheric pressure fluctuates from 1017 hPa to 1013 hPa in the period of November 2006, with a daily average of 1009 hPa. These pressure values are related to the influence of the South Pacific Anticyclone.

Cloudiness and sunshine: The cloudiness, generally, in the Pacasmayo area the sky dawn covered with 7/8 high stratus clouds, and at midday it varies to semi-covered with stratus cumulus, cumulus, cirruscumulus and Cirrus, in other words, with medium and high clouds with 5/8 cloudiness.

Sunshine is high at midday in summer, with an average of 7 hours of solar rays per day. In the winter, the sunshine decreases to 3.5 hours of solar rays, although it is worth noting that there are clouds that allow the diffuse radiation to pass through.

Physiography

The cement plant area is located in the alluvial pampas, which are along the entire Peruvian coastline, a continuous and uninterrupted strip-, the area of influence of the study has some characteristics a little different and these are:

The Pampas that have elevations between 25 and 100 m.a.s.l., consisting of extensive variety of conglomerate material that represent ancient dejection cones of the Copinsnique, Jequetepeque, Las Viejas, Zaña and Reque rivers. In general, these pampas are desert-like and practically free of crops; they are equal to the high terraces created by the rivers in the area.

The coastal morphology consists of an almost continuous line of ravines, interrupted only by the narrow valleys of the main rivers. The ravines are from 20 to 50 metres high, almost vertical, and constitute of conglomerate material belonging to the ancient dejection cones. The beaches are very narrow.

Local Resources

The personnel of the plant are divided into Cementos Pacasmayo S.A.A. personnel and contractor personnel. Additionally, the cement plant is located next to Pacasmayo town, most of the personel live in Pacasmayo and they are taken from Pacasmayo to the cement plant in buses provided by Cementos Pacasmayo.

Electricity is supplied by the national grid and there is a contract with Electro Perú, which supplies energy through a 60 KV transmission line.

Water supply at the Pacasmayo plant is provided by a groundwater well.

5. History

5.1. Tembladera quarry

Tembladera quarry is a limestone deposit suitable for different types of cement; the deposit is owned by Cementos Pacasmayo S.A.A.

By means of Director's Resolution No. 01989-2002-INACC/J dated on November 4, 2002, the National Institute of Cadastre and Mining Concessions granted to Cementos Pacasmayo S.A.A., the title of the non-metallic accumulation concession called "Acumulación Tembladera" with code No. 01-00018-01-L, whose antiquity goes back to the date of its oldest integral concession: "Norte No. 1" granted by the Regional Mining Headquarters of Cajamarca by Ministerial Resolution No. 267 of June 30, 1950, in favor of Cementos Portland del Norte S.A., starting operations as Cementos Pacasmayo S.A. from 1957 to 2013, the year in which Calizas del Norte S.A.C.(CALNOR) was constituted. CALNOR started activities from January 2014 to May 2016. San Martin Contratistas Generales S.A. started activities from October 2016 to the present.

In March 2007, MINTEC Consulting company was hired by Cementos Pacasmayo to perform the 3D modeling of the deposit and a preliminary estimation of the mineral Resources. The geological information was obtained from 31 diamond drillings.

The samples obtained were analyzed in internal and external laboratories to obtain the content of CaO, MgO, Al₂O₃, SiO₂, Fe₂O₃, SO₃, Cl and CO₃.

With the information generated, the geological interpretation was made and the structures which control or dominate the the deposit were defined. The geological model was completed by Cementos Pacasmayo's QPs in the MineSight software from vertical sections.

In 2019, a campaign of 8 diamond drill holes was carried out to confirm the Resources and Reserves of the east area of the deposit. With the interpretation of information obtained, a new geological model was prepared. Cementos Pacasmayo oversaw the interpretation and the geological modeling.

6. Geological setting, mineralization, and deposit

6.1. Regional geology

The strata of the district of Yonan, province of Contumaza, Cajamarca region consists of Cretaceous Age sedimentary strata of the Quilquiñán Group, Cajamarca Formation, Celendín Formation, and Recent Quaternary Deposits.

Quilquiñán Group (Ks-q).

The Quilquiñán Group is composed of the Romirón and Coñor formations which together are represented by 100 to 200 m. of shales and marls with some calcareous intercalations.

The Quilquiñán Group overlies the Pulluicana Group and underlies the Cajamarca Formation. Both contacts are concordant. It varies from a thickness of 120 m., in the Chongoyape quadrangle, to a known maximum of 281 m. in the Tembladera area (Cerro de Chapén). The group consists of dark gray friable shales and bluish marls in thin layers weathering to dark brown or reddish brown. The Quilquiñán Group is fossiliferous and contains a varied fauna of ammonites, lamellibranchs and echinoidea. BENAVIDES V., (1956) dated it to the Late Cenomanian-Early Turonian interval because of its ammonite content.

Cajamarca Formation (Ks-c).

The Cajamarca Formation is composed of 100 to 400 m. of limestone whose main outcrops are located in the Cutervo, Chota and Celendín quadrangles. The Cajamarca Formation is characterized by regular and uniform stratification and grayish or whitish colors.

The formation is limited by concordant contacts with the Celendín Formation in the upper part and with the Quilquiñán Group at the base. In both cases these are sharp contacts with abrupt lithology changes. The Cajamarca Formation has a fairly uniform lithology throughout the region. It consists of a thin, pure, light brown limestone weathering to whitish or light gray. The limestone is well stratified in thin to medium layers.

A nearly complete section at Tembladera (Cerro de Chapén) is 111 m thick. (BENAVIDES V., 1956). The Cajamarca Formation is characterized by the content of *Coilopoceras newelli* BENAVIDES, from the late Turonian (BENAVIDES, V. 1956); therefore it correlates with the upper part of the Jumasha Formation, from other parts of northern and central Peru.

Celendín Formation (Ks-ce).

The Celendín Formation outcrops only in the Cutervo, Chota and Celendín quadrangles generating a relief of hollows and low terrains characterized by yellowish and brownish tones produced by weathering. The formation concordantly overlies the Cajamarca Formation. The Celendín Formation is composed of thin layers of clayey nodular limestone, intercalated with marls and shales. In general, the marls and shales predominate over the limestones. The ammonites contained in the Celendín Formation indicate that the unit belongs to the Coniacian and early Santonian (BENAVIDES, B. 1956). The Celendín Formation correlates with other outcrops of the same unit in the north and center of the country and with the top of the Chota Formation in the Selva region.

Recent Quaternary Deposits.

Along the coastal strip and the Andean foothills, there are abundant alluvial and fluvial deposits made up of conglomerates, gravels, sands, silts, etc. forming the floors of the valleys and ravines located between San Pedro de Lloc, and Motupe, where the main population centers and farming areas of the area are located.(Source: Bulletin No. 38 Series A. National Geological Chart by John Wilson - 1,984).

Table 10 Regional stratigraphic column

ERATHEM	SYSTEM	SERIES	FLATS	STRATIGRAPHIC UNITS		INTRUSIVE ROCKS
CENOZOIC	QUATERNARY	RECENT		Fluvial, alluvial and eolian deposits	Qr-al Qr-e Qr-fl	
				Disc. Ang		
	TERTIARY	LOWER		Volcanic Llama	Ti-vll	Andesite T-ag Quartz porphyritic T-pc Dacite T-da
MESOZOIC		UPPER				Adamellite ad Granodiorite gd Tonalite tn Monzonite mz
	CRETACEOUS	MIDDLE	Turonian	Cajamarca Formation	Km-c	
				Quilquiñan Group	Km-q	
			Cenomanian	Pullulcane Group	Km-p	
			Albian	Pariatambo Formation	Km-pa	
				Inca Chulec Formation	Km-ich	
		LOWER	Aptian Neoconian	Disc. Por	Ki-g	
				Goyllarisquiza Group		
	JURASSIC	UPPER		Disc. Por	J-vo	
		MIDDLE				
	LOWER			Disc. Ang		
PALEOZOIC	ORDOVICIAN			Salas Formation	Pl-s	

6.2. Local Geology

The Tembladera quarry hosts a limestone deposit with a grade suitable for cement production. The deposit is contained within the so-called Cajamarca Formation, belonging to the Upper Cretaceous (Turonian floor, around 90 MA). This formation overlies the Quilquiñan Group and underlies the Celendin Formation.

Sedimentary rocks corresponding to the Cajamarca Formation and the Upper Cretaceous Celendin Formation outcrop in the area as described below. This formation overlies the Quilquiñan Group, and underlies the Celendin Formation.

Mesozoic

Quilquiñan Group (Ks-q).

Composed by a thin stratification of marly shales, thin layers of marly limestones, and marl nodules in thin layers, dark brown in color, it is not mineable. This formation is the limit of the Cajamarca Fm. limestones. Which represents the oldest rocks in the area, they are found outcropping in the northern part of the area of the quarry.

Cajamarca formation (Ks-c)

Composed of thin limestones, well stratified, in strata of thin layers, with a color ranging from dark to light gray, these limestones are mined for cement production because they meet quality standards. This formation lies concordant with the Quilquiñan group. The average strike of these strata is N 75° W and dip varies from sub-horizontal to 50°. It has a thickness or power of 230 meters.

Celendin formation (Ks-ce)

It presents an interstratification of thin layers of light gray limestones, cream to dark brown nodular marly limestones and shales. This formation outcrops on the south-central side of the quarry, in a reduced area, with a thickness of 35 meters, which underlies concordant to the Cajamarca Fm. These types of limestones were considered as waste rock for not complying with the quality standards.

Cenozoic

In the quarry, intrusions of andesitic dikes of plutonic formation can be found, which intrude longitudinally in very localized areas of the limestone deposit rock mass. These dykes present aphanitic to porphyritic texture, with some plagioclase crystals visible in greenish gray to whitish matrix, showing moderate to high alteration, moderate poly directional fracturing degree.

Quaternary Deposits

Along the Andean foothills there are abundant alluvial and fluvial deposits made up of conglomerates, gravels, silty sands, etc. In the Tembladera quarry area, these deposits are restricted to the Jequetepeque riverbeds, stream mouths and some terraces.

Table 11 Local stratigraphic column of the Tembladera quarry

System	Series	Stratigraphic Unit		Intrusive rocks		Lithologic Description
Quaternary	Recent	Fluvial Deposit	Qr-fl			Fluvial origin
		Alluvial Deposit	Qr-al			Alluvial origin
Tertiary	Lower			Andesite	T-an	Intrusion of andesitic dykes longitudinally into the deposit rock mass.
Cretaceous	Upper	Celendin Formation	Ks-ce			Thin layers of clayey nodular limestone, interbedded with marls and lutites.
		Cajamarca Formation	Ks-c			Limestone of marine origin of whitish to light gray color.
		Quilquiñan Group	Ks-q			Lutites and marls with some calcareous intercalations.

6.3. Characteristics of the deposit

Table 12 shows the main characteristics of the deposit.

Table 12 Characteristics of the Tembladera deposit

Quarry	Average Width (m)	Total Length (m)	Thickness (m)	Average depth (m)		Continuity
				Top Elevation	Lower elevation	
Tembladera	800	1900	230	720	420	It is a sedimentary deposit whose continuity is controlled by a folded structure (syncline) whose limits are marked by its flanks.

Figure 6 Geological Section of the Tembladera quarry



7. Exploration

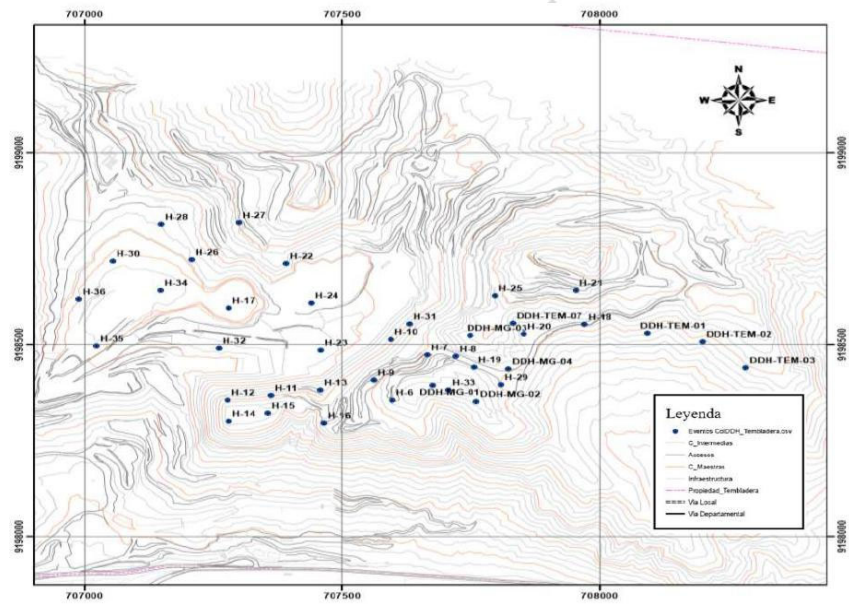
7.1. Drilling

Cementos Pascamayo's exploration activities at the Tembladera quarry property involve drilling to adequately characterize the geology.

Table 13 Drilling campaigns in Tembladera quarry

Drilling Campaign	Date	N° of holes	Hole Type
1	2007	31	Drill Hole
2	2019	8	Drill Hole

Figure 7 Tembladera quarry, drilling hole location map



7.2. Hydrogeology

In 2021, Cementos Pacasmayo hired Magma Consulting S.A.C., a company with experience in mining activities, to update the hydrogeology through hydrogeological surveys. The previous hydrogeological study was developed by the company Walsh Perú S.A. As part of Magma Consulting's portfolio, it provides support services in geological studies, geological risk, geophysics, geotechnical investigation, geotechnical design, and geomechanics.

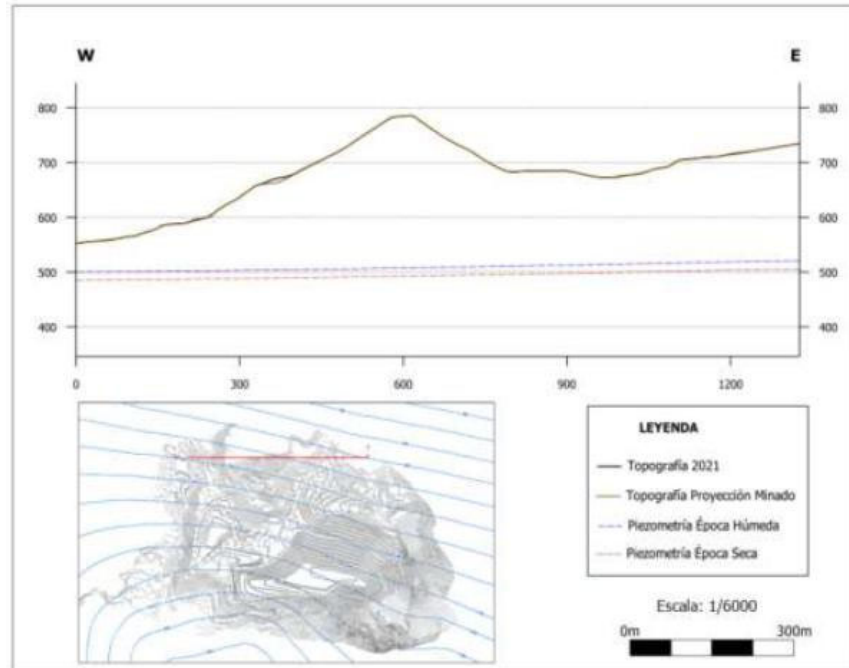
The technical basis for updating the hydrogeological studies was the research developed by Walsh Peru S.A. during 2019.

The scope of this work was to interpret the hydrogeological environment, the morphology of the basin, lithology, piezometric levels, recharge and discharge zones.

The hydrogeological study included the evaluation of 5 piezometers. Magma Consulting S.A.C identified that the piezometers need maintenance to be operational for the measurement of groundwater flows.

According to Magma Consulting S.A.C. the groundwater is 300 m above the current topographic elevation. Figure 8 obtained from the updated hydrogeological study shows the topography of the quarry and the water table level.

Figure 8 Water level at the Tembladera quarry



The update study evaluated the inventories of piezometers, surface water flows and inventory of natural springs (Walsh Perú S.A., 2009)

The water quality assessment considered 10 monitoring points. The evaluation included the analysis of EC, TDS, S, pH, T comparing the results obtained in 2009 and 2021.

The monitoring point PMA-12 does not present flowing surface water, indicating that the seasons of the year during the 2009 investigation is different from 2021.

7.3. Geotechnical studies

During 2021, Cementos Pacasmayo updated the geotechnical studies of the Tembladera quarry.

Cementos Pacasmayo S.A.A. hired Magma Consulting S.A.C. to carry out the “Geomechanical/Geotechnical Study of Tembladera quarry”.

The general objective of the study was to establish the maximum and minimum slope bank angles and inter-bank angles based on stability and kinematic analysis. Likewise, the specific objectives were:

- To carry out a geotechnical geological field research based on, geomechanical mapping, logging of existing geotechnical boreholes, in situ testing.
- Determine lithological and structural characteristics.
- Identify relevant structures that can affect slope design.
- Perform laboratory tests to determine the physical and strength characteristics of the rock.

In 2007, the DCR Ingenieros S.R.Ltda. determined the geotechnical guidelines that grouped the area into seven geotechnical zones. For the SW, SSW and S, the final slopes will have a total height of approximately 80 m. For the E, NE, N and NW sectors, the final slopes will have a greater total height, approximately 270 m.

Table 14 DCR Ingenieros S.R.Ltda geotechnical zones

Zone	Slope Angle (°)	Bank Slope Angle (°)
1	48	70
2	48	60
3	43	60
4	37	52
5	45	70
6	43	65
7	45	70

In February of this year, the mine planning area of CPSAA has prepared the “Long-term mining plan for the Tembladera quarry”, which has contemplated substantial optimizations and updates, as well as the update of the geomechanical-geotechnical study associated with the mining plan for the final pit design.

Magma Consulting’s field investigation work was carried out in two stages. The first stage included preliminary works such as mobilization of personnel, medical examinations, induction talks, equipment transfer, etc.

This work was carried out from July 1 to July 6, 2021, following all the procedures and standards provided by Cementos Pacasmayo S.A.A.

The second stage was the geomechanical field research which was developed between July 7 and 21, 2021 and considered the execution of geological and geotechnical mapping, execution of sixty-seven (67) geomechanical stations, geotechnical logging of eight (8) diamond drill holes, execution of eighty-seven (87) point load tests, and twenty-two (22) tilt tests.

Based on the geological model of Cementos Pacasmayo S.A.A. and the results of the geotechnical geological mapping performed by Magma Consulting S.A.C. for the geotechnical study, it was determined that the final slopes are mainly composed of limestone rocks of the Cajamarca Formation. Therefore, the Cajamarca Formation was subdivided into 3 sub-units; Cajamarca A, Cajamarca B and Cajamarca C.

During the geotechnical field research, an insitu testing campaign was undertaken to obtain the resistance of the intact rock and the resistance of the discontinuities. The tests consisted of Point Load Test (PLT) and tilt tests.

Table 15 Tilt Test Results

Drill	Geotechnical unit	N° of samples	Deep	Average (°)
H-10	UG-B/UG-C	6	22.63 - 122.54	35
H-21	UG-C	3	50.2 - 180.85	35
H-29	UG-C	3	124.4 - 239.60	32
H-33	UG-B/UG-C	5	7.33 - 302.20	34
DDH-TEM-01	Dyke/UG-B/UG-C	3	92.85 - 108.70	35
DDH-TEM-02	UG-C	3	53.1 - 76.4	354

After that rock samples were collected and taken to the rock mechanics laboratory of Geomecánica Latina S.A. (hereinafter, GEOMEC). GEOMEC is a laboratory located in the city of Lima, with vast experience in the sector and certified by INACAL (National Institute of Quality).

Magma Consulting S.A.C performed dry and saturated density, apparent porosity and absorption tests to determine the physical properties of the rocks that outcrop in the study area, following the guidelines described in the standards (ASTM D-6473/ D-2937).

Table 16 Physical Properties of Rocks

Sample Code	CTR1	CTR7	CTR9	CTR10
Lithology	Fine limestone	Andesite	Coarse limestone	Fine limestone
Geotechnical unit	UG-A	Dyke	UG-C	UG-A
Dry density (gr/cm3)	2.60	2.70	2.61	2.63
Wet density (gr/cm3)	2.61	2.72	2.62	2.64
Specific gravity (KN/m3)	25.59	26.67	25.71	25.94
Moisture	0.22	0.36	0.41	0.20
Porosity	0.62	1.02	1.12	0.56

Magma Consulting S.A.C conducted tests to estimate the unconfined compressive strength of the intact rock. Seven (07) simple compressive strength tests were performed on each of the samples of the rock outcrops in the area following the procedures described in ASTM D-7012/ D-2938 standards.

Table 17 Simple compressive strength

Sample Code	CTR1	CTR2	CTR3	CTR6	CTR7	CTR8	CTR10
Lithology	Fine limestone	Coarse limestone	Coarse limestone	Fine limestone	Andesite	Andesite	Fine limestone
Geotechnical unit	UG-A	UG-C	UG-C	UG-A	Dyke	Dyke	UG-A
Point load (kN)	91.69	147.29	83.22	127.88	272.99	67.23	109.35
UCS (MPa)	66.82	107.34	60.64	93.01	198.94	48.99	79.69
Time (s)	111.6	194.9	100.2	161.1	376.0	74.6	134.5
Scale (ISRM)	High	Very High	High	High	Very High	Moderate	High

To evaluate the behavior of stresses and deformations in the rock mass, the elastic constants test was carried out to calculate Young's modulus (E) and Poisson's ratio (v); these values will be used for the calculation of excavations. Four (4) elastic constants tests have been carried out. This test follows the procedures described in ASTM D-7012/ D-3148.

Table 18 Summary of Elastic Constants

Sample	CTR1	CTR2	CTR3	CTR6
Lithology	Fine limestone	Coarse limestone	Coarse limestone	Fine limestone
Geotechnical unit	UG-A	UG-C	UG-C	UG-A
Young's modulus (E)	28.23	27.14	36.69	35.59
Young's module (GPa)	36.85	35.25	42.71	32.05
Poisson's ratio "v"	0.17	0.17	0.16	0.15

The summary results of the rock mass quality are presented in Table 19.

Table 19 Rock mass quality summary

Type of investigation	Geotechnical unit	UCS in Situ (Mpa)	RMR	Type	Scale (RMR)	GSI
Geomechanical Mapping	Cajamarca A	52.52	60	III-A	Fair Rock A	55
	Cajamarca B	74.01	62	II	Good Rock	57
	Cajamarca C	85.17	62	II	Good Rock	57
	Dyke	116.62	64	II	Good Rock	59
	Quilquiñan	57.52	45	III-B	Fair Rock B	40
Geotechnical Logging	Cajamarca A	-	65	II	Good Rock	65
	Cajamarca B	42.59	62	II	Good Rock	62
	Cajamarca C	73.56	66	II	Good Rock	66
	Dyke	101.93	54	III-A	Fair Rock A	54
	Quilquiñan	64.89	65	II	Good Rock	65

According to the current conditions identified in the Tembladera quarry, the evaluation of the physical stability concludes that the structure is stable for static and pseudo-static loading conditions, with safety factors that are above the minimum recommended for operating conditions; Additionally, ten structural domains designated as Blocks were identified. According to the structural analysis performed in the domains, Block 01, Block 02, Block 03 and Block 04 located to the north, similar discontinuity systems predominate, where one of the discontinuities is stratification. In the domains located to the south, Block 07, Block 08, Block 09 and Block 10 show discontinuity systems different from those to the north. Block 05 and Block 06 are located to the east and show a variation in the stratification directions.

Finally, the geotechnical design criteria determine a single bench height of 10 m, inter-ramp angles (IRA) varying between 35° and 45°, with sidewalk widths ranging from 5.04 m to 6.40 m. The bank angle (BFA) is between 47° and 70°. The bench angle (BFA) is between 47° and 70°.

The conclusions of the geomechanical study obtained were as follows:

- The design evaluated in this study is stable, since the analyses show safety factors greater than the minimum acceptable.
- At the structural level, the main control is formed by the dip of the Cajamarca Formation limestone strata.
- At the intact rock level, the main strength control is the texture of the Cajamarca Formation limestones.
- The rock massifs are mainly cut by reverse faults resulting from compressional tectonics, the location of these faults gives different degrees of fracturing to the rock massifs.
- There are andesitic dikes, some of which have been emplaced along faults.
- The formations present in the study area are mainly the Cajamarca Formation of the Upper Cretaceous and the Quilquiñán Group of the Middle Cretaceous.
- The study area is located in a zone of Cretaceous folded rocks.
- The most important structural element in the study area is a WNW-ESE syncline, which defines the strike and dip of the stratification of the calcareous packages.
- The characterization of the materials carried out in this study was consistent with the characterization carried out by DCR Ingenieros S.R.Ltda. in 2007.
- The area is characterized by a dry climate, with sporadic rainfall from January to March.
- Dry conditions were observed on the slopes because there was no evidence of water holes or humidity during the visit.

8. Sample preparation, analyses, and security

This Chapter describes the preparation, analysis and security of the samples used for the geology, quarry, and cement plant operations.

8.1. Geology and quarry

Cementos Pacasmayo S.A.A. has implemented international standards in all its operations such as quarries and plants. The ISO 9001 standard has been implemented and certified since 2015. The certification is renewed annually through an external audit.

The SSOMASIG area (Security, Occupational Health, Environment and Management Systems), is part of the team that determines and gives the necessary support for the maintenance of the ISO 9001 (Quality) and the scope is in all the company's activities.

Table 20 shows the list of protocols for quality assurance and quality control.

Table 20 Protocols of the Geology area

Activity	Protocol	Code	Review
Sample preparation methods	DRILLING WITNESS CUTTING	OM-GL-PRT-0021	R0
	SAMPLE PREPARATION FOR PHYSICOCHEMICAL ANALYSIS	OM-GL-PRT-0022	R0
	SAMPLE SELECTION FOR GEOMECHANICAL ANALYSIS	OM-GL-PRT-0036	R0
Quality control procedures	DRILLING INITIATION AND SUPERVISION	OM-GL-PRT-0005	R0
	TOPOGRAPHY AND MEASUREMENT OF DRILL HOLE DEVIATIONS	OM-GL-PRT-0007	R0
	SAMPLE RECOVERY	OM-GL-PRT-0008	R0
	SURVEY AND DELIVERY OF COLLARS	OM-GL-PRT-0009	R0
	RECEIPT AND STANDARDIZATION OF DRILLING CORES	OM-GL-PRT-0012	R0
	PHOTOGRAPHIC RECORD	OM-GL-PRT-0013	R0
	PHOTOGRAPHY OF TEST PITS	OM-GL-PRT-0014	R0
	GEOLOGICAL LOGGING	OM-GL-PRT-0015	R0
	LOGGING OF TEST PITS	OM-GL-PRT-0016	R0
	GEOTECHNICAL LOGGING	OM-GL-PRT-0017	R0
	SAMPLING IN TEST PITS	OM-GL-PRT-0018	R0
	FIELD-QUARRY SAMPLING	OM-GL-PRT-0029	R0
	ORE STOCK SAMPLING	OM-GL-PRT-0030	R0
	BLASTHOLE SAMPLING	OM-GL-PRT-0032	R0
	SAMPLE ANALYSIS FOR DENSITY	OM-GL-PRT-0020	R0
	QAQC PROGRAM	OM-GL-PRT-0023	R0
	ORE CONTROL	OM-GL-PRT-0035	R0
	ORE CONTROL POLYGON FIELD MARKING		
	ORE CONTROL PLAN		
Security	TRANSPORT OF CORES	OM-GL-PRT-0010	R0
	TRANSPORT OF SAMPLES TO THE LABORATORY	OM-GL-PRT-0024	R0
	REGISTRATION AND SHIPMENT OF MATERIAL	OM-GL-PRT-0031	R0
	CORE-SHACK STORAGE	OM-GL-PRT-0034	R0
	DATA ASSAYS INPUT - DATASHED	OM-GL-PRT-0027	R0
	CHANNELING OF GEOLOGICAL INFORMATION	OM-GL-PRT-0028	R0
	DATABASE MANAGEMENT	OM-GL-PRT-0025	R0
Others	PROGRAMMING OF COLLARS	OM-GL-PRT-0001	R0
	PROGRAMMING OF TEST PITS	OM-GL-PRT-0002	R0
	PREPARATION OF DRILLING RIGS	OM-GL-PRT-0003	R0
	INSTALLATION OF DRILLING MACHINE	OM-GL-PRT-0004	R0
	PREPARATION OF TEST PITS	OM-GL-PRT-0006	R0
	HOLE ENDING	OM-GL-PRT-0011	R0
	REPORT WRITING - FIELD VISIT	OM-GL-PRT-0026	R0
	LIMESTONE MATERIAL MOVEMENT REPORT AND LOG - SGCP	OM-GL-PRT-0033	R0

8.1.1. Preparation of samples, procedures, assays and laboratories

Samples obtained from the drill holes are placed in holders to be duly coded, cut, bagged and sent to the laboratory at the Pacasmayo plant and are occasionally sent to an external laboratory following the company's procedures.

Certimin S.A. is used as an external laboratory for chemical analysis. Certimin S.A. is a Peruvian laboratory that is certified in ISO 9001, ISO 14001, ISO 45001, NTP-ISO/IEC 17025 Accreditation, and has a membership in ASTM. This laboratory has modern facilities for the development of mining services associated with the cement industry and technical support in the geochemical field for national and international companies.

For the limestone samples, the laboratory analyses evaluate CaO, MgO, Al₂O₃, SiO₂, Fe₂O₃, SO₃ and Cl. Once received in the laboratory, the properties of the limestone to be used in cement production are analyzed. The Samples from the 2019 campaign were sent to Certimin S.A. Table 21 shows the methods used for limestone analysis.

Table 21 Methods of analysis for the limestone from the Pacasmayo plant laboratory

Analytical	Method used	Description
Various elements	P-CC-P-15	Limestone samples from Pacasmayo Plant - Analysis by X-ray equipment.
% Moisture	P-CC-P-03	Limestone samples from Pacasmayo Plant - X-ray analysis.
LOI	P-CC-P-03	Limestone samples from Pacasmayo Plant - Chemical Analysis of Crude and Raw Materials.

8.1.2. Quality Assurance Actions

Based on the information and samples from the 2019 drilling campaign where limestone samples were obtained, this year Cementos Pacasmayo S.A.A. performed an audit for the validation of results as part of the quality assurance and quality control (QAQC) activities. For this purpose, it hired the Wiracocha Mining Services S. R.L., who conducted a re-sampling of a group of drill holes executed in Tembladera quarry in the past. Also, the work included the revision of the QAQC program. The samples and controls of this program were analyzed at Certimin S.A., an external laboratory.

The analysis of the results obtained for the different samples and controls inserted show a confidence level, with an acceptable bias that are within the standards of the sampling theory, which guarantees the accuracy of the results in the initial sampling, so it is concluded that both the preparation and analysis of the samples obtained initially in the laboratory of Cementos Pacasmayo S.A.A., has reliable processes and procedures.

8.1.3. Quality Plan

Cementos Pacasmayo S.A.A. has implemented QAQC protocols for the development of exploration and exploitation activities in the Tembladera quarry to ensure the quality of the information that allows the estimation of Resources and Reserves of the deposit.

The quality plan implemented by Cementos Pacasmayo for the quarries includes the insertion of blanks, duplicates and standards, in order to control the precision, accuracy and contamination in the samples.

Table 22 Quality Plan of the Tembladera quarry

Blanks	Duplicates	Standards	Remark
1 control sample for each batch of 20 samples.	2 control sample for each batch of 20 samples.	1 control sample for each batch of 20 samples.	Cementos Pacasmayo protocol "OM-GL-PRT-0023-R0".

8.1.4. Sample security

Cementos Pacasmayo S.A.A. has implemented QAQC protocols for the development of exploration and production activities in the Tembladera quarry in order to ensure the quality of the information that allows the estimation of Resources and Reserves of the deposit.

Cementos Pacasmayo S.A.A has a specific area for the storage of the samples obtained during the drilling campaigns; the samples are properly stored to preserve their quality.

Figure 9 Photographic record of core shack



The necessary materials for storage and transport of the samples were implemented. Sampling cards were also implemented with information on the name of the project, name of the borehole to be sampled, date of sampling, sampling interval, sampling manager, sampling and type of sample or control sample.

All samples were labeled, and a photographic record is available. The photographic record of each sampling bag is made together with the weighing of the sample.

8.1.5. Chain of custody

Cementos Pacasmayo has implemented actions to ensure the physical security of samples, data, and associated records; the traceability of the sample from its generation to its analysis and subsequent conservation of rejects and pulps. At the Tembladera quarry, core samples are duly stored in the coresack.

Figure 10 Photographic record of the sampling intervals



8.1.6. Qualified person's opinion on quarry QAQC

In the author's opinion, Cementos Pacasmayo has been complying with the international standards of ISO-9001 (Quality) since 2015 and implemented Quality Assurance and Quality Control (QAQC). Cementos Pacasmayo S.A.A. has used a QAQC check program comprising blank, standard and duplicate samples. The QAQC shipping rate used complies with accepted industry standards for insertion rates, as well, the actual sample storage areas and procedures are consistent with industry standards.

Protocols in the different exploration and production processes are strictly complied with. There is information on sample preparation methods, quality control measures, sample security, and these results are accurate and free of significant error. The information in this report is adequate for use in the construction of the Geological Model, Resource Estimation and Reserve Estimation.

8.2. Pacasmayo plant

8.2.1. Samples preparation, procedures, assays and laboratories

Cementos Pacasmayo S.A.A. has a quality control plan for each of its operations that is part of the quality system.

As part of the quality control plan (P-CC-D-03 VE02 Quality control - cement and lime), samples of raw materials such as limestone, sand, clay, and iron are evaluated in the laboratory at the Pacasmayo plant, where they are analyzed to determine the chemical composition of each material for cement production.

The procedures applied are the chemical analysis of raw materials and crude, sampling of clinker, slag and pozzolana, physical testing of cement, chemical analysis by wet route for clinker and cement, preparation of coal samples, physical testing for additions, analyses, and operating procedures in the X-ray area, which are based on ASTM, NTP (Peruvian Technical Standard) and ISO standards.

8.2.1.1. Raw materials sample preparation

For preparation of samples, it is considered the collection and preparation of samples procedure, which consists of primary and secondary crushing, and reduction of the sample by the quartering method, then the sample is pulverized in the ring mill.

8.2.1.2. Analysis of Laboratory

The laboratory at Pacasmayo plant has implemented the ISO 9001 standard; also, it has calibrated equipment, with a calibration and maintenance program established by the laboratory area. The main equipment in the laboratory at Pacasmayo plant are the XRF fluorescence equipment and the compressive strength press, which are maintained annually.

The tests for air content, fineness, autoclave expansion, compressive strength and setting time, and vicat are made for all types of cements. The autoclave contraction, 14-days mortar expansion, 6-months sulfates expansion, SO_3 , MgO , loss on ignition, insoluble residue, and C_3A and $2\text{C}_3\text{A} + \text{C}_4\text{AF}$ tests only apply to some specific cements.

8.2.2. Quality Assurance Actions

The sampling plan P-CC-D-04 VE04 Sampling plan and frequency of tests and data verification applies to the processes of raw material reception, raw material crushing, coal milling, raw meal milling, clinkerization, cement milling, lime production, lime milling and lime dispatch.

Table 23 shows the tests and frequency for each stage of the process.

Table 23 Tests and frequency for each stage of the process

Stage	Tests	Frequency
Receiving raw materials	Chemical analysis by X-ray, granulometry and humidity.	2 samples per hour up to 1 time per day.
Crushing raw materials	Chemical analysis by X-ray.	2 samples by shift or depending on the material.
Coal grinding	Chemical analysis by X-ray, humidity, calorific value and proximate analysis.	1 to 2 samples per shift.
Crude grinding	Chemical analysis for X-ray, Humidity, R70 and R170.	Each 1 hour up to 2 hours.
Clinkerization	Chemical analysis by X-ray.	Each hour up to 2 hours.
Cement and other grinding	Chemical analysis by X-ray, pozzolana, IAP pozzolana, IAP Slag, Blaine, R325, R450, loss on ignition, insoluble residue and chemical/physical tests.	Each 1 hour up to 1 time per shift.
Packaging of cement	X-ray, PF and R.I. Chemical analysis.	2 samples per shift.

8.2.2.1. Finished Product Control

The controls for finished products include tests, frequency and a person in charge. The tests made are magnesium oxide, sulfur trioxide, loss on calcination, insoluble residue, expansion in autoclave, blaine, compressive strength.

8.2.2.2. Control of non-conforming product

The non-conforming products must be identified, documented, evaluated, controlled, separated and disposed of, in order to prevent their non provided use or delivery, according to that established in the procedure. The treatment that can be given to a non-conforming product is reprocessing, reclassification of the material, acceptance by authorized personnel, acceptance by concession of the client and controlled dosage.

8.2.2.3. Validation of Silos

It applies to all products manufactured at the Pacasmayo plant, with the objective of ensuring that the cement dispatched complies with the requirements established in the Technical Specifications and Requirements of the Technical Standards.

8.2.2.4. Density

The density analysis in raw materials of coarse materials (crushed) is determined in a recipient of known volume (bulk density), the material is added in a recipient previously tared, is compacted smoothly, is made level and is weighed on a precision balance. The values are reported in weight/volume. For cement, fine materials are analyzed through the Le Chatelier bottle, whose value is used for the quality certificate issued to the customers.

8.2.2.5. Quality Assurance (QA) and Quality Control (QC)

The QAQC program contains methods that are applied to regulate the quality of the samples obtained in the operations of receiving minerals, cement grinding, crude grinding, crude feed, clinker production, raw material for crude and coal grinding by Cementos Pacasmayo S.A.A.'s personnel in this section, to obtain the quality control results.

The main procedures used for quality control are:

- P-CC-PCC-04, Quality control parameters – Raw Materials, limestone input.
- G-ASC-EST-01, Pozzolana technical specification.
- G-ASC-EST-02, Slag technical specification.
- P-CC-PCC-02, Quality control parameters in the receiving minerals in the plant.
- P-CC-PCC-03, Quality control parameters – Cement.
- P-PRD-PCC-01, Quality control parameters – Crude grinding to Kiln 2 and Kiln 3.

- P-PRD-PCC-02, Quality control parameters – Crude feed to Kiln 2 and Kiln 3.
- P-PRD-PCC-03, Quality control parameters – Clinker production.
- P-CC-PCC-05, Quality control parameters – Raw material for crude.
- P-CC-PCC-06, Quality control parameters – Coal grinding.

8.2.2.6. Quality Plan

The quality plan implemented by Cementos Pacasmayo for the cement plants includes the insertion of blanks, duplicates and standards, in order to control the precision, accuracy and pollution in the samples.

Table 24 Quality Plan of Pacasmayo cement plant

Blanks	Duplicates	Standard	Comment
02	2937 per year	11 for cement (NIST) 05 for coal	Blanks only apply by performing spot checks by Classical methods.

8.2.2.7. Quality control parameters

The control parameters of the materials received at the Pacasmayo plant are:

Table 25 Quality control parameters for materials received at the Pacasmayo cement plant

Materials	Content analysis
Limestone	CaO, S, Al ₂ O ₃ , MgO and humidity.
Others	Fe ₂ O ₃ , SO ₃ , Humidity, Al ₂ O ₃ , SiO ₂ , Humidity and Pozzolanic activity index, Slag activity index grade 120 (7 days), Slag activity index grade 120 (28 days), caloric value, ash, humidity, S and Cl.

Likewise, the quality control parameter for coal grinding is humidity and for Clinker it is free lime, C₃S, C₃A and liter weight (bulk density), depending on the type. In the case of C₃S and C₃A, stoichiometric formulas accepted in the cement industry are used.

The cement quality control parameters are: SO₃, MgO, Free Lime, Chlorides, Insoluble Residue, Loss on ignition R-325, Specific surface, Compressive strength at day 1, Compressive strength at day 3, Compressive strength at day 7, Compressive strength at day 28, Initial setting time, and Final setting time.

8.2.3. Security of the samples

Cementos Pacasmayo S.A.A. has implemented QAQC protocols for the development of cement production activities at the Pacasmayo plant, to ensure the quality of the information that allows the Estimation of the Resources and Reserves of the deposit.

Sample preparation methods are Sample collection and preparation, Clinker, slag and pozzolan sampling and Coal sample preparation.

The testing procedures are: Chemical analysis of crude and raw materials, analysis by X-ray equipment, X-ray laboratory operation, physical tests for additions, physical chemical analysis for coal samples, physical tests for cement, wet testing of clinker and cement, and quality plan.

Likewise, the control parameters are raw material parameters, pozzolana, slag, mineral reception parameters, clinker production parameters, raw material parameters for crude; crude feed parameters, crude milling parameters, coal milling parameters and cement milling parameters.

8.2.4. Qualified Person's Opinion on cement plant QAQC

Cementos Pacasmayo S.A.A. has a Quality Assurance, Research and Development area that ensures compliance with the requirements for finished products specified in Peruvian technical standards, which are traceable to the standards of the American Society for Testing and Materials (ASTM).

For quality assurance, the control parameters have been defined from the raw materials, products in process and finished products. Compliance with the requirements based on indicators of the quality assurance management system for the 2021 period is 0% of nonconforming products in the market. Likewise, the level of customer satisfaction (D-COM-P-01 VE09 Customer satisfaction) is 80%.

In this sense, in the author's opinion, the quality assurance system at the Pacasmayo plant, which includes preparation methods, procedures, analysis and security, complies with the best practices in the industry, thus ensuring that the end customer has confidence in the quality level of the products marketed by Cementos Pacasmayo.

9. Data verification

This Chapter shows the data verification activities for the geology, quarry and cement plant areas.

9.1. Geology and quarry

9.1.1. Data Verification procedure

CPSAA has an area specialized in the compilation, verification and standardization of information for the geological database. Its main function is the validation of the data to be used in the estimation of mineral Resources and Reserves. For the proper management of the information, internal protocols have been implemented, which are subject to internal audits and are supported by the DataShed software.

9.1.2. Data collection

The Data collection applies to exploration activities. For diamond drilling, the process flow for planning and executing drilling, survey methods for reporting drill collars and ddh / verification of the quality of information and recovery process of the core information. In addition, for geological sampling activities, the processes flowsheet, validation and consistency of sample information, sample preparation and testing, density, registration process and digital photographic storage are used.

9.1.3. Management and Validation of Database

The stages for management and validation of database are the recovery, processing and storage of the database, which includes database development process flow, information standardization and integration process, information storage strategy, appropriate database technology, structure and practicality of the database system that allows a fast and flexible access and input of information, and validation of chemical results, which includes the QAQC report.

9.1.4. Tracking Data

The consistency between the database records and the original registry was verified by the QPs in 2021. No differences were detected between the database and the log files. A digital copy of all records is kept as a pdf file. Digital certificates support the chemical analysis data.

The collection of the information considered the following: Drill collars, Survey, Lithology, Samples and Assays. The data is collected on the DataShed software.

9.1.5. Validation of Data

Collar, Survey, Lithology and chemical analysis data were imported and processed with DataShed software.

The results indicated that the database had adequate integrity for Resource estimation. This software verifies that the data entered from each sample or reported by the external laboratory is correct for input into the Resource model.

The team followed the defined processes for information flows to support Resource and Reserve estimation. The qualified person followed the same process as a means of verifying and validating. It has been found that the validated information is congruent in the interpretations of the same, with which the fundamental base geological models were generated for the estimation of the Resources.

No findings have been found that could invalidate the estimation of the Resources and Reserves of the unit.

9.2. Pacasmayo plant

The Quality Control Plan contemplates the following aspects: PDCA cycle, customer, person in charge, activities, risks, control methods, monitoring, measurement, analysis, evaluation and documentary evidence.

The PDCA cycle is:

- Plan, during this stage the following activities are considered: determination of characteristics of raw materials, product in process and finished product, elaboration of control and matrices parameters and determination of activities and results assurance program.
- Do, during this stage the following activities are considered: verification and compliance with the requirements and matrices, sampling and preparation.

- Check, during this stage the following activities are considered: chemical analysis by XRF, chemical analysis, physical analyses, recording of results, taking action on non-conformities.
- Act, during this stage the following activity is considered, acting to improve.
- The Quality Assurance Plan is applied to the following customers: production, quarry, provisions chain and external customer.

9.2.1. Data verification procedures

The XRF analysis, chemical analysis and physical analysis are made to verify the results of the samples, as part of the Quality Control Plan.

The data resulting from these three types of analysis are recorded and evaluated - to determine whether or not they comply with the technical specifications.

Data verification procedures include internal audits, check lists, statistical tables, reports, validation of data, certificates, interlaboratory test reports and compliance with quality protocols.

9.2.2. Data validation

Cementos Pacasmayo S.A.A. through its quality assurance and control area participates in evaluations with international laboratories such as CCRL/ASTM (Concrete and Cement Reference Laboratory), which is an international reference laboratory for construction materials, and Xamtec of Colombia, an international interlaboratory, in order to report reliable data.

The Quality Control laboratories endorse their analysis methods by participating in interlaboratory analysis programs, which compare the results with national and foreign laboratories. The methods of analysis compared are X-ray fluorescence (XRF) and the physical cement tests, which are the methods used to control cement quality. In all the results of these interlaboratory programs, the companies always obtain the best results for each test.

9.2.3. Qualified Person's Opinion on cement plant

In the author's opinion, the methodologies used for collecting and processing data at the cement plant are accurate and free of important errors. The information can be used within the models' construction and estimates for cement production. Considering that the analyses of the main chemical components and physical properties of the raw materials and final products are made in external laboratories, the quality of the information is adequate for preparing mineral resource and reserve estimates.

10. Mineral processing and metallurgical testing

10.1. Nature of Testing Program

Cementos Pacasmayo S.A.A. has a Quality Assurance and Research and Development area. The objective of these areas is to develop, evaluate and research procedures for the development of products at laboratory level and their scaling up to industrial level. Another objective is to identify other additions that can substitute for clinker: slag, pozzolana, fly ash, calcined clays, etc., to reduce their environmental footprint and the cost of cement production.

They have also implemented their own procedures for the preparation, review, issuance and control of test reports associated with cement production.

The laboratory at Pacasmayo plant has implemented the ISO 9001 standard; Cementos Pacasmayo has implemented a Research and Development laboratory located at the Pacasmayo plant to evaluate technical aspects in cement plants and quarries.

Cementos Pacasmayo applies the procedures:

- P-ID-P-04 Preparation of raw materials.
- P-ID-P-05 Sampling of cement and raw materials.
- P-ID-P-13 Input, storage and disposal of samples.

For its operations at the Pacasmayo plant to have a representative sample of its raw materials and cement, Cementos Pacasmayo performs the analysis of its samples in its internal Research and Development Laboratory located at the Pacasmayo plant.

A permanent control is carried out with other laboratories to give greater reliability to the results. Likewise, interlaboratory reports are issued with external laboratories such as CCRL (Cement and Concrete Reference Laboratory), which is a reference laboratory for construction materials at international level, and Xamtec from Colombia, an internal interlaboratory.

An important percentage of Research and Development activities are focused on evaluating different ratios between clinker-mineral additions that provide the best functional characteristics to our products and at the same time keep balance with the benefits generated for the company. Whether it is a requirement or an own initiative oriented to supply any previously identified need, the laboratory tests are developed with the objective to generate an operational benefit to the company.

The R&D Laboratory located at the Pacasmayo plant provides analysis and research services to all of the company's cement plants.

10.2. Cement Manufacturing Test Results

At the Pacasmayo plant, the studies conducted in the Research and Development Laboratory and the Quality Control area include: reduction of the clinker/cement factor, substitution of slag for pozzolan, and substitution of fossil fuels for rice husks, the latter at the Rioja plant. The clinker/cement factor of the main cements with additions is 0.72.

The substitution of slag from blast furnace by natural pozzolanic materials was also analyzed, with the objective of improving the company's carbon footprint and reducing operating costs. The main test was the analysis of pozzolanic activity at laboratory level and subsequently at industrial level. By 2022, the objective is to further reduce slag consumption and further reduce CO₂.

10.3. Adequacy of the Test Data

The Research Laboratory issues technical reports following the criteria of international standards to the operations area, which evaluates the convenience of industrially implementing the tests and validating what has been reported at laboratory level.

The reliability in the veracity and the adequacy of the data reported by the area, is based on the technical competition of the area's collaborators, which is regularly evaluated through different internal and external interlaboratory programs.

11. Mineral Resources estimates

The geological model was developed and structured using Leapfrog software. The model solids were generated considering the lithology of the deposit based on the geological characteristics and its quality.

Due to the nature of the deposit and its stratified nature and occurrence, the geological model was interpreted with the help of 56 E-W cross sections and 82 N-S sections, spaced every 20 meters.

Additionally, in the interpretation with the sectioning, a structural analysis has been considered defining a main NE-SW fault system whose effect on the terrain has been reflected in the displacement of blocks related to fault jumps of normal and inverse nature.

The geochemical analysis of the samples from the diamond drilling campaigns was performed by the geologists of Cementos Pacasmayo S.A.A., which has allowed grouping the calcareous stratigraphic sequence into 15 lithological groups or domains, establishing the following sequence to be considered in the geological modeling.

The lithological units have been grouped by assigning a numerical code to each, in the mining software, to simplify the modeling. Table 26 shows the lithological units with their respective Mine Sight code and numerical code.

Table 26 Lithologic units of the Tembladera quarry geological model

Lithologic Units	Mine Sight Code ITEM (USO)	Numeric Code (CUSO)
01 CALIZA MARGOSA	CM G	1
02 CALIZA IMPURA MARGOSA A	CIMA	2
03 MARGA DE ARENISCA	MGA R	3
04 CALIZA IMPURA MARGOSA B	CIMB	4
05 CALIZA TIPO I	C TI	5
06 CALIZA TIPO I	C TI	6
07 CALIZA CAL	CA L	7
08 CALIZA TIPO I	C TI	8
09 CALIZA ADICION	CA DI	9
10 CALIZA TIPO I	C TI	10
11 CALIZA ADICION	CA DI	11
12 CALIZA TIPO I	C TI	12
13 CALIZA CAL	CA L	13
14 CALIZA TIPO I	C TI	14
15 CALIZA ADICION	CA DI	15
16 DIQUES	DQ	16

*CALIZA means limestone.

The main criteria used for geological modeling are the lithological and quality aspects.

The lithological criteria are based on the macroscopic physical characteristics, such as color, texture, hardness, etc., of the calcareous rocks.

In relation to the quality criteria, the main reference is the content of calcium oxide (CaO) as the main oxide, and of economic interest, as well as the concentration of oxides and secondary elements and/or contaminants were also considered in classifying the type of rocks oriented to the final product.

In the Tembladera quarry, the referential cut off of the oxides that determine the classification of the final products of calcareous rock is shown in Table 27.

Table 27 Pacasmayo plant material restrictions

		Limestone Type I	Limestone Type V	Limestone Type Cal	Limestone Type Addition
Al ₂ O ₃ (%)	Min.	0	0	0	0
	Max.	2.50	1.30	0	0
	Target	1.50	0.80	0	0
CaO (%)	Min.	48.60	50.50	51.10	41.00
	Max.	0	0	0	0
	Target	50.20	52.00	52.50	44.00
MgO (%)	Min.	0	0	0	0
	Max.	2.50	2.50	0	2.50
	Target	1.50	1.50	0	1.50
SO ₃ (%)	Min.	0	0	0	0
	Max.	0.35	0.35	0	1.10
	Target	0.25	0.25	0	0.50
SiO ₂ (%)	Min.	0	0	0	0
	Max.	0	0	2.00	0
	Target	0	0	1.50	0

The construction of the block model was configured based on the dimensions and spatial distribution of the bodies containing the material of economic interest.

Table 28 shows the characteristics of the block model (coordinates in UTM units).

Table 28 Characteristics of the block model

	Minimum (m)	Maximum (m)	Size (m)	Number
X	706700	708700	10	200
Y	9197800	9199200	10	140
Z	350	900	10	55

11.1. Data base

A total of 396 samples from 39 diamond drill holes were used for the resource estimation:

The data is managed in a DataShed database software from where it is extracted and then loaded and used in MineSight software.

11.2. Density

The density data for the estimation of the limestone Resources of the Tembladera quarry as of December 2021, were taken from the historical data of sampling results carried out in the first drilling campaigns, the density varies between 2.69 and 2.72 t/m³

11.3. Compositing

In general, each geological unit is estimated from the information of the composites belonging to that unit, the composites should not cross “hard” boundaries between different geological units, in this case units were established according to the quality.

The objective of compositing is to have uniform grades in each initial core, to reconstitute the grade profile of each drillhole. This means that when compositing we must be careful that the composites preserve the original nature of the sample. The calculated values considered in the compositing were for the SiO₂, Al₂O₃, CaO, MgO and SO₃.

Composites were made at different lengths to determine the optimum compositing size. The optimum value was 10 m. This size, which best fits the nature of the original sample, was included in the resource estimation process.

In addition, the length of the composites is considered based on an exact multiple of the height of the blocks used to model the deposit and is also matched to the bench height to be processed.

11.4. Basic statistics of the data (Assay – Composites)

Table 29 shows the results of the basic statistics of the main oxides as CaO, SiO₂, MgO, Al₂O₃ and SO₃, for the original data and for the composited data. The statistical analysis was performed for each defined body with the interpretation of deposit quality, which were also taken as criteria for modeling and estimation.

Table 29 shows the statistics for “Limestone Cal” as this is the one of greatest economic interest due to its CaO content and the main one in the estimation of Resources and Reserves.

Table 29 Limestone Cal statistics

Components	Origen	Valid	Rejected	Minimum	Maximum	Mean	Std. Devn.	Variance	Co. Of Variation
CaO	Assay	945	0	42.99	54.84	52.37	1.35	1.82	0.03
	Composito	186	0	48.03	54.04	52.33	0.83	0.70	0.02
SiO ₂	Assay	943	2	0.01	11.35	1.66	1.22	1.48	0.73
	Composito	186	0	0.11	6.17	1.58	0.82	0.66	0.52
MgO	Assay	945	0	0.19	5.79	1.47	0.80	0.64	0.54
	Composito	186	0	0.34	3.68	1.46	0.55	0.30	0.38
Al ₂ O ₃	Assay	941	4	0.01	3.99	0.64	0.43	0.19	0.68
	Composito	186	0	0.09	2.31	0.60	0.29	0.09	0.49
SO ₃	Assay	916	29	0.01	1.03	0.19	0.13	0.02	0.68
	Composito	179	7	0.01	0.50	0.18	0.11	0.01	0.61

11.5. Extreme values

Extreme values are those analysis results that are not representative of the unit being studied and are those that are above the mean plus twice the standard deviation.

In the analysis of the extreme values in the laboratory results for the calcareous lithologic units that are being estimated, no deviation has been found, all the results are coherent and representative of the levels to which they correspond.

11.5.1. Mineral Resources classification

The parameters for Resource classification used by Cementos Pacasmayo S.A.A. were obtained from the experience of calculating the optimum drilling grid for sampling by geostatistical methods. Additionally, the variographic analysis was considered taking as reference the variogram range. After considering all these, resource classification was based on the following criteria:

- Measured Resource: 1/3 of the distance of the variogram range.
- Indicated Resource: 2/3 of the distance of the variogram range.
- Inferred Resource: The total distance of the variogram range.

From this basic configuration, several configurations have been defined, taking into account the number of holes and the average search distance. Other factors used for Resource estimation are the maximum number of composites used per block and the number of drill holes for each block, as shown in Table 25.

11.6. Variogram Analysis

The variographic analysis considered the composited data for each level corresponding to each body of economic interest of the Tembladera quarry; the variographic structures found indicate preferential directions in the correlation of the results, which allows us to analyze the spatial behavior of the variables, mainly of the CaO variable.

This has allowed us to obtain resulting experimental variographic structures that reflect the maximum distance or maximum range and the way in which one point has influence on another point at different distances.

Table 30 Variogram modeling parameters

Type of Variogram Model	Spherical
Nugget effect	0.2
Total Sill	1
Range	150 and 510

11.7. Interpolation

The Ordinary Kriging Interpolation (OK) method was used for the main CaO variable, of Inverse Distance (ID2) for the secondary variables (Oxides, see Table 33) and Nearest Neighbor (NN) for validations, defining parameters for each estimator. Tables 31 and 32 show the main parameters used to define the interpolations of the main CaO variable of the CAL limestone layer and of the secondary variables, respectively.

The interpolations were performed in 3 consecutive processes.

- The first with a search radius of 1/3 the range of the variogram.
- The second with a search radius of 2/3 the range of the variogram.
- Finally, the third one considering the maximum range of the variogram.

Regarding the number of composites, we used a minimum of 2 per block and 5 as maximum, for the first interpolation and a minimum of 1 per block for the second and third pass with 3 and 5 as maximum, respectively.

Additionally, a maximum of 02 composites were considered for each borehole taken in the interpolation.

Table 31 Estimation Parameters Secondary Variables

Comment	Pass 1	Pass 2	Pass 3
Search dist. Block on Model -X	150	300	750
Search dist. Block on Model -Y	120	240	750
Search dist. Block on Model -Z	70	80	80
Max distance accept data	150	300	900
Min # comps per Block	2	1	1
Max # comps per Block	5	3	5
Min # comps per hole	2	2	2
Variable Model	SI13	SI13	SI13
Variable comp	SIO2	SIO2	SIO2
Pass	PASS1	PASS2	PASS3
Distance along major	30	60	90
Distance along minor	175	350	525
Distance along vert	85	170	260
ROT	0	0	0
DIPN	75	75	75
DIPE	45	45	45
Limiting Variable model	RT13	RT13	RT13
Code model	13	13	13
Limiting Variable composite	CUSO	CUSO	CUSO

Table 32 Estimation Parameters CaO

Comment	Pass 01	Pass 02	Pass 03
Search dis. Block on Model -X	150	300	750
Search dis. Block on Model -Y	120	240	750
Search dis. Block on Model -Z	70	80	80
Max distance accept data	150	300	900
Min # comps a Block	2	1	1
Max # comps a Block	5	3	5
Min # comps per hole	2	2	2
Variable Model	CA13	CA13	CA13
Variable comp	CAO	CAO	CAO
Variable Pass	PSC13	PSC13	PSC13
Pass 1	PASS1	PASS2	PASS3
Store Distance	DIC13	DIC13	DIC13
Store max # comp	NCC13	NCC13	NCC13
Store max # drillholes	NDC13	NDC13	NDC13
Store krigage variance	SDC13	SDC13	SDC13
Distance along major	30	60	90
Distance along minor	175	350	525
Distance along vert	85	170	260
ROT	0	0	0
DIPN	75	75	75
DIPE	45	45	45
Limiting Variable model	RT13	RT13	RT13
Codigo model	13	13	13
Limiting Variable composite	CUSO	CUSO	CUSO
File variogram	allvar. var	allvar. var	allvar. var

The geological modeling of the limestone deposit of the Tembladera quarry has been modeled considering the quality and geological characteristics of the calcareous horizons, such interpretation was made based on the diamond drill holes carried out in the drilling campaigns, the relationship between the information and the geological model is consistent.

11.8. Resources estimation

Resource estimates are effective December 31, 2021. All Resources are estimated as quantities at cement plant. For the estimation of Resources, the content of CaO was considered, in addition to the content of impurities. The impurities are restrictions determined by the cement production plant. Table 33 shows the quantity of Resources and the average values of their quality.

Table 33 Resource Categorization (exclusive of Reserves) at the Tembladera quarry

	Resources	TonnesM	CaO (%)	MgO (%)	Al ₂ O ₃ (%)	SiO ₂ (%)	SO ₃ (%)
Limestone	Measured	128.29	49.31	1.81	1.84	4.82	0.31
	Indicated	37.64	50.23	1.70	1.47	3.96	0.19
	Measured + Indicated	165.93	49.52	1.79	1.76	4.63	0.28
	Inferred	74.24	50.34	0.31	1.63	3.92	1.45

11.8.1. Cut-off

For the determination of Resources, the costs of extraction, transportation, cement processing and cement dispatch were considered. The costs are based on actual sources of current operations in Cementos Pacasmayo S.A.A. and the selling price of cement (332.3 S/. x t). Chapter 18 and 19 shows the costs and prices for the determination of Mineral Resources. The main factor for the determination of Resources is quality. The cut off can be seen in Table 27. The Tembladera quarry is a sedimentary deposit in that sense the model for the estimation of Resources has considered the Tembladera quarry as a unit, whose limestone production is carried out by 10 m banks.

11.8.2. Reasonable Prospects of Economic Extraction

The mineral resource evaluation has considered other modifying factors such as limestone production costs, cement sales prices, environmental and social viability at our operations.

Although the Resources study considers different limestone horizons, it is necessary to further the geological knowledge of the quarry associated to the presence of andesitic dykes which constitute contaminating structures of the economic material.

From the environmental and social point of view, Cementos Pacasmayo has been developing activities in Peru for more than 60 years and is recognized as a Peruvian company with a high reputation. Therefore is expected that the environmental and social viability will continue.

It is necessary and important to complement the geological study on the east side of the pit (in production) to possibly reclassify the Inferred Resources.

The information that supports the estimation of the quarry's Resources is consistent, which allows obtaining a robust resource model.

11.9. Qualified Person's Opinion

The geological modeling of the limestone deposit of the Tembladera quarry has been modeled considering the quality and geological characteristics of the calcareous horizons, such interpretation was made based on the diamond drill holes carried out in the drilling campaigns, the relationship between the information and the geological model is consistent.

The Tembladera quarry resource estimate has been developed following the best standards in the mining industry.

12. Mineral Reserves estimates

The total estimated Mineral Reserves in the Tembladera quarry are 76.99 M tonnes which are detailed in Table 35 in their different categories.

In the periodic update of the Reserves of the Tembladera quarry, the Reserves produced within the update of the Resources and Reserves models are taken into account, along with any new factor “modifying factors” or the change and entry of any new information if it had been generated.

The Resources and Reserves estimated in the deposit present as the main variable, the calcium oxide (CaO) content. It is a stable variable in the deposit, which develops in specific ranges depending on the lithological domain, and are characterized according to the strata or horizons as they were deposited, with varying degrees of concentration.

The estimated Mineral Resources between measured and indicated reach 166 M with a CaO grade of 49.52%. In the quarry with the last drilling campaign, inferred Resources were categorized as 74.24 M. with a CaO grade of 50.34%.

Based on the Resources model, the Reserves model was also updated with which the new design of the production pit was made and elaborated.

The Reserves calculated in the limestone deposit reach 66.52 M of proven Reserves with 49.75% of CaO and 10.47 M of probable Reserves with 49.64% of CaO with a total of 76.99 M of Reserves that support the mining plans for its production and the supply to Cementos Pacasmayo S.A.A. plants.

A LOM of 30 years has been calculated for the quarry. This based on the estimated Reserves and the plant’s limestone consumption projection for the following years, provided by the management and financial control area, and is incremental until 2051 and fixed consumption thereafter.

12.1. Criteria for Mineral Reserves determination

The criteria used for the determination of Mineral Reserves are described below.

12.1.1. Run of Mine (ROM) determination criteria

ROM is all material produced in the quarry that complies with the specifications and will be sent to the plant for cement production. For determining ROM tonnage, dilution is considered negligible. The recovery in the quarry was assumed to be 100%.

12.1.2. Cement plant recovery

The limestone received at the Pacasmayo plant is properly stored and then mixed with other raw materials to obtain the crude (kiln feed). The use of limestone in the formulation of the crude is an average of 78.54%. After the crude is obtained, it is fed to the calcination kiln to obtain clinker. Finally, the clinker is mixed with additions to obtain cement.

12.2. Reserves estimation methodology

For the determination of the Mineral Reserves, the costs of extraction, transportation and cement processing, including the quality restrictions of the raw material, were considered. The costs are based on actual sources from the current operations of Cementos Pacasmayo S.A.A. in Tembladera quarry and Pacasmayo plant. Chapter 18 shows the costs to determine the Mineral Reserves.

- Proven and Probable Reserves are derived from Measured and Indicated Resources respectively.
- Proven and Probable Reserves are within the pit designed for the Tembladera quarry.
- Reserves are those for which economic viability has been demonstrated by estimating capital costs, operating costs and cash flow analysis.
- Cementos Pacasmayo S.A.A. has permits for limestone production at the Tembladera quarry.
- The effective date of the Reserve estimate is December 31, 2021.
- The Reserve estimate is the final product placed in the Pacasmayo plant.

12.3. Reserves estimation

The quality restrictions for limestone at the Pacasmayo cement plant are shown in Table 34.

Table 34 Pacasmayo cement plant material restrictions

		Limestone Type I	Limestone Type V	Limestone Type Cal	Limestone Type Adición
Al ₂ O ₃ (%)	Mím.	0	0	0	0
	Max.	2.50	1.30	0	0
	Target	1.50	0.80	0	0
CaO (%)	Mím	48.60	50.50	51.10	41.00
	Max	0	0	0	0
	Target	50.20	52.00	52.50	44.00
MgO (%)	Mím	0	0	0	0
	Max	2.50	2.50	0	2.50
	Target	1.50	1.50	0	1.50
SO ₃ (%)	Mím	0	0	0	0
	Max	0.35	0.35	0	1.10
	Target	0.25	0.25	0	0.50
SiO ₂ (%)	Mím	0	0	0	0
	Max	0	0	2.00	0
	Target	0	0	1.50	0

From the quality point of view, the cut-off grade for limestone is 48.5% CaO and from the economic point of view, the results are shown in Chapter 19.

The economic analysis for the estimation of Mineral Resources and Reserves is presented in Chapter 19. Reserves are expressed in millions of tonnes and are shown in Table 35.

Table 35 Mineral Reserves expressed in millions of tonnes

	Reserves	Tonnes	CaO	MgO	Al ₂ O ₃	SiO ₂	SO ₃
		M	(%)	(%)	(%)	(%)	(%)
Limestone	Proven	66.52	49.75	1.53	1.53	4.50	0.36
	Probable	10.47	49.64	1.53	1.56	4.91	0.28
	Total	76.99	49.74	1.53	1.53	4.56	0.35

The Reserves calculated for the quarry from the Mineral Resources consider the risk factors and modifying factors within which the quality factors are considered as the most sensitive ones that by their nature can affect the Reserves. Although the main variable is CaO, which is very stable in the deposit, there are others that determine the quality of the Reserves and could even affect the process if they are not adequately controlled, such as the SO₃ content.

In the process of calculating Reserves, and in the quarry production plans, these variables have been adequately considered in the mining plan; properly sequenced, and with blending processes.

13. Mining methods

Cementos Pacasmayo S.A.A. is the current owner of the Tembladera quarry. The production of the quarry has been outsourced to a specialized contractor, San Martin Contratistas Generales S.A., who conducts limestone mining activities. Cementos Pacasmayo S.A.A. supervises the quarry to verify the activities and production according to the requirements of the Cement plant.

In 2021, Cementos Pacasmayo S.A.A. carried out geotechnical and hydrogeological studies at the Tembladera quarry to understand the rock mass and hydrology, respectively.

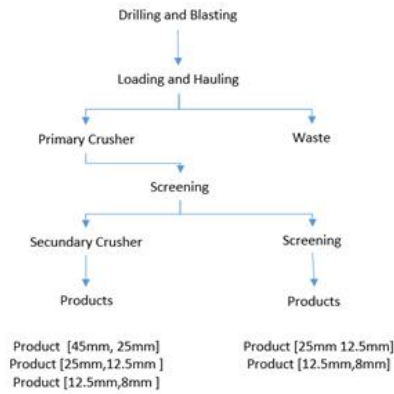
13.1. Mining Methods and Equipment

The mining method is open pit mining, which consists of mining in a series of benches with pit expansion possible both vertically and laterally. At Tembladera, mining generally proceeds top-down with a height of 10 metres and no more than 3 working benches open simultaneously. The materials are loaded by 3 excavators and transported to the primary crusher or waste dump by 10 dump trucks.

The transported material passes through the primary crusher, which reduces the fragments to a size of less than 4". The crushed limestone is accumulated in 2 piles to separate the products and/or ease the following secondary crushing operation, which is generally carried out for limestone lime-type, bringing the granulometry of that limestone to less than 45 mm.

The secondary crusher only processes limestone destined for lime production, after which the product is screened using meshes of size 24 mm, 12 mm and 8 mm. The two coarse products are used for lime and the fine product is used as raw material for Type V cement.

Figure 11 Tembladera quarry mining sequence



The mining of lime at the Tembladera quarry includes the following unit operations:

- **Drilling**

Drilling is mainly done with 2 hydraulic drills with a third one on standby and used if necessary. The work is done in two 12-hour shifts with 20 effective hours and 4.0 hours of operational and non-operational delays.

- **Blasting**

The Blasting fragments the rock to a suitable size for efficient loading, hauling and crushing operations. The operation mainly uses Examon P as the blasting agent, and non-electric detonators are used to mitigate vibration and sound. The power factor fluctuates from 0.15 to 0.46 kg explosive/tonne depending on the type of material.

- **Loading and hauling**

After blasting, the Quality Control staff delimits the zones according to the results of blast hole sampling to define the material destinations. The excavators then load the material into the trucks, which transport it to the assigned destination (waste dump or crusher).

- **Crushing**

The purpose of crushing is to reduce the size of the rock as a result of blasting to the size required by the plant. The quarry has 2 types of crushers:

Primary Crusher

The Primary crusher is used to reduce the ROM limestone to sizes less than 4" at an average crushing rate of 700,000 tonnes/day. After the primary crushing, the material is separated in two hoppers depending on the type of material and its granulometry.

Secondary Crusher

The secondary crusher reduces limestone sizes further to less than 45 mm at an average of 130 tonnes per hour. The limestone then passes through screens and is classified into 3 sizes of 45mm-25mm, 25mm-12.5mm and 12.5mm-8mm.

The main equipment used to carry out mining activities at the Tembladera quarry are shown in Table 36.

Table 36 Equipment of the Tembladera quarry

Equipment	Quantity	Function	Description
Pickup van and Bus	6	Personnel Transportation	Personnel and material transport units.
Tanker truck, Lucañeraire, Lubricator truck, Mobile crane, Compressor, Welding machine, Ambulance and Fuel Tanker Truck.	10	Auxiliary equipment	Auxiliary equipment to ensure the operability of quarry equipment and personnel.
Track Drill N°8 and N°9	1	Drilling	These machines are used to drill holes for blasting.
Primary Crusher	1	Material Crushing	This equipment allows to reduce the particulate size from 12" to 4".
Secondary Crusher	1	Material Crushing	This equipment allows to reduce the particulate size from 4" to 12.5mm and also to classify it by size.
Motor grader, Compactor	2	Track maintenance	Equipment used for track maintenance.
Caterpillar tractor	1	Material Loading and Stacking	Equipment used to move the fragmented material resulting from blasting.
Front Loader and Excavator	6	Material Loading and Stacking	Material handling equipment.
Dump truck	13	Material hauling	Equipment for conveying material from the production areas to the primary crusher. Their capacity is 15 m ³ .
Hydraulic Hammer	1	Breaking banks	Equipment used to reduce the fragment size greater than 12" in the primary crusher.

13.2. Geotechnical aspects

Cementos Pacasmayo prepared a geomechanical study in 2007 to evaluate the characteristics of the Tembladera quarry's mining areas. Currently, a new geomechanical study is being prepared with a specialized company to evaluate new areas and to subsequently plan the limestone exploitation for the following years. The summary results of the 2007 geomechanical study are presented below.

Geomechanical parameter / Geotechnical zonification

The stability study prepared by DCR Ingenieros S.R. Ltda in 2007 was used until 2020. The slope stability study established 7 zones within the deposit. For the period from 2021 and onwards, the update made by Magma Consulting S.A.C. shown in Tables 37 and 38 will be applied.

Table 37 Parameters of design according to geotechnical zonification

Zone	Bench Slope (°)	Interramps (°)
1	70	48
2	60	48
3	60	43
4	52	37
5	70	45
6	65	43
7	70	45

Table 38 Reviewed Safety Factor 2021

Section	Description	Safety factor	
		Static	Pseudo-static K=0.09g
S-1	Global Fault	3.53	3.30
S-2	Global Fault	3.26	3.00
S-3	Global Fault	2.89	2.58
S-4	Global Fault	2.91	2.57
S-5	Global Fault	3.12	2.78
S-6	Global Fault	3.44	3.09
S-7	Global Fault	3.33	2.98
S-8	Global Fault	4.89	4.40

13.3. Hydrological aspects

As mentioned in Chapter 7 of the hydrogeological study conducted by Magma Consulting S.A. and based on the hydrogeological interpretation, basin morphology, lithology, piezometric levels, recharge and discharge zones, and piezometry, groundwater is at a depth of 300 m with respect to the topographic elevation of the Tembladera quarry.

13.4. Other Mine Design and Planning Parameters

The limestone production achieved as of December 2021 is 1,629,895 tonnes and 92,465 tonnes of waste rock was removed, which gives a stripping ratio of 0.06. Based on the plant requirements and sales projection for the next 30 years, the pit design parameters for the Tembladera quarry are presented in Table 39.

Table 39 Summary of Tembladera quarry design parameters

Description	Value
Interramp slope angle	variable between 35° and 45
Bench slope angle insitu	variable between 47° and 70
Bench height	10 meters
Safety bench	5.04 to 6.40 meters
Width of ramps	12.0 meters (including safety berm and curb and gutter
Safety wall height	1.30m
Ramp gradient	10% to 12%

13.5. Annual Production Rate

Considering that the cement plant demands an average annual production of 2.33 million tonnes per year of limestone, the plan for the following 30 years is shown in Table 40.

13.6. Mining Plan

The proposed mining plan for the next 30 years is presented in Table 40.

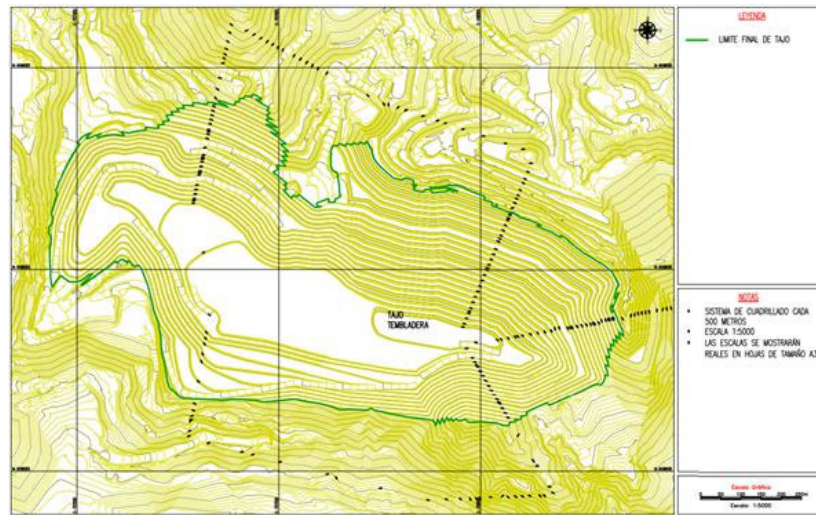
Table 40 Mining plan for the next years

Year	Year	Tonnes	CaO	MgO	SO ₃	Al ₂ O ₃	SiO ₂
1	2022	1,708,599	50.65	1.49	0.15	1.29	3.76
2	2023	2,104,657	50.03	1.51	0.20	1.47	4.45
3	2024	2,367,369	49.74	1.60	0.18	1.52	4.70
4	2025	2,409,946	49.63	1.65	0.35	1.54	4.57
5	2026	2,453,374	49.68	1.63	0.20	1.56	4.64
6	2027	2,497,671	49.70	1.27	0.28	1.69	4.90
7	2028	2,542,854	49.89	1.47	0.34	1.45	4.54
8	2029	2,588,941	49.69	1.54	0.27	1.57	4.74
9	2030	2,597,100	49.66	1.33	0.37	1.74	4.90
10	2031	2,602,827	49.35	1.35	0.34	1.77	5.20
11	2032	2,608,668	49.65	1.51	0.35	1.29	4.81
12	2033	2,614,626	49.83	1.50	0.35	1.28	4.32
13	2034	2,620,704	49.30	1.57	0.41	1.55	4.75
14	2035	2,626,903	49.31	1.60	0.38	1.59	4.64
15	2036	2,633,226	50.41	1.43	0.32	1.26	3.70
16	2037	2,639,675	50.12	1.49	0.42	1.32	4.16
17	2038	2,646,253	49.90	1.66	0.41	1.35	4.20
18	2039	2,652,963	49.66	1.78	0.36	1.56	4.32
19	2040	2,659,808	49.92	1.49	0.39	1.41	4.47
20	2041	2,666,789	49.21	1.63	0.42	1.76	5.14
21	2042	2,673,909	49.93	1.54	0.40	1.55	4.37
22	2043	2,675,355	49.39	1.60	0.39	1.74	4.93
23	2044	2,675,355	49.68	1.46	0.38	1.66	4.48
24	2045	2,675,355	49.53	1.66	0.40	1.67	4.82
25	2046	2,675,355	50.37	1.39	0.42	1.33	3.82
26	2047	2,675,355	49.78	1.57	0.37	1.56	4.58
27	2048	2,675,355	49.81	1.53	0.38	1.61	4.37
28	2049	2,675,355	49.91	1.52	0.39	1.36	4.55
29	2050	2,675,355	49.60	1.62	0.39	1.61	4.53
30	2051	2,675,355	49.16	1.60	0.39	1.87	5.09
Total general		76,995,054	49.74	1.53	0.35	1.53	4.56

In the same period of 30 years, the removal of waste rock will be a stripping average of 0.11 tonnes of waste rock/limestone, according to the mine plan.

Figure 12 shows the final pit for the life of the quarry.

Figure 12 Tembladera quarry final pit



13.7. Life of Mine

The life of the Tembladera quarry is 30 years.

13.8. Staff

Cementos Pacasmayo personnel develop its operations at the Tembladera quarry with its staff and contractors.

14. Processing and recovery methods

14.1. Process plant

The cement production involves the following stages:

Receiving raw materials: the limestone is produced from the Tembladera quarry, as described in Chapter 13. The other raw materials are obtained from third party companies and in the case of clay, it is obtained from our own quarry on the Señor de los Milagros de Pacasmayo property.

Grinding and homogenization: once the limestone is received at the plant, it is mixed with clay, sand and iron. The mixture must comply with the quality standards to be sent to a storage silo from where it is fed the preheater of the clinker kiln.

Clinkerization: the blend is heated at a temperature of approximately 1,450 Celsius degrees in rotary kilns whose product is clinker. The clinker is then cooled at a temperature of approximately 200 Celsius degrees and is stored in a silo or in an open-air yard.

Cement grinding: after being cooled, the clinker, together with the additions, is entered into a mill to obtain a fine powder called cement.

Storage in silos: after passing through the mills, the cement is transferred on conveyor belts and stored in concrete silos to preserve its quality until distribution.

Packaging, loading and transportation: the cement is moved through conveyor belts and pneumatic conveyors to bagging systems to be packed into bags and then loaded to the trucks operated by third parties for distribution.

14.2. Raw materials for the cement production

At the Pacasmayo plant, the following raw materials and additions are used in the production of cement.

Raw materials

Limestone: a material composed largely of calcium carbonate, is used as raw material and also as additive in the production of cement.

Sand: inert material composed basically of crystalline silica, aluminum and alkalis, such as potassium and sodium.

Iron: inert material composed basically of iron oxide (Fe_2O_3).

Clay: inert material composed basically of silicon, aluminum and a low proportion of alkalis such as potassium and sodium.

Coal: a solid, black or dark brown mineral that contains essentially carbon, as well as small amounts of hydrogen, oxygen and nitrogen.

Crude: the artificial mixture of limestone, clay, sand and iron, which is used to produce clinker.

Clinker: product obtained during the calcination of the mixture of limestone, sand, clays and iron.

Fossil fuel

Bunker oil: fuel used as an energy source in the calcining kiln.

Additions

Slag: artificial pozzolanic material that can set in contact with water and can develop compressive strength.

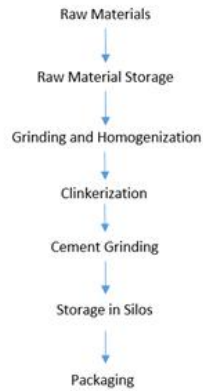
Pozzolan: materials containing silica and/or alumina, which can be of natural or artificial origin.

Gypsum: material composed of calcium sulfate hydrates. When gypsum is mixed with the clinker, it allows for better control of the setting time when the cement initiates the hydration reactions. The mineral gypsum may contain crystalline silica.

14.3. Flow sheet

Figure 13 shows the flow sheet for the cement production at the cement plant.

Figure 13 Pacasmayo plant process block diagram



14.4. Main equipment

Table 41 below shows the design and production capacities for clinker and cement.

Table 41 Main equipment in Pacasmayo plant

Equipment	Product	Capacity of production	Unit
Kiln	Clinker I-V	140,040	tonnes/month
Mill	Crude Type I-V	241,200	tonnes/month
	Cement	295,200	
	Coal	20,160	
Bagging system	Cement	10,400	bags/hour

14.5. Material balance cement plant

The following section presents information on the material balance at Pacasmayo plant for cement production.

14.5.1. Material balance

Table 42 shows the balance of crude production, while Table 43 shows the material balance of clinker production at the Pacasmayo plant considering the use of limestone obtained from the Tembladera quarry, clay, sand, and iron as part of the raw material for the production of clinker. Table 44 shows the balance for cement production considering the additions used for the mixture with clinker and consequently, cement production.

Table 42 Balance for crude production

Raw material	Annual quantity (tonnes/year)	Dosage
Limestone	1,154,837	78.5%
Others	315,482	21.4%
Crude	1,470,319	100%

Table 43 Balance for clinker production

Raw Material	Annual quantity (tonne/year)
Crude Type I, Crude Type V and Coal*	1,469,522
Clinker Type I and Clinker TypeV	879,079

*Crude includes coal.

*Additionally, clinker imported during 2021 amounted to a total of 542,922 tonnes.

Table 44 Balance para producción de cemento.

Raw Material	Annual quantity (tonnes/year)	Dosage
Clinker	1,427,247	72.4%
Additions	542,243	27.5%
Cement	1,969,490	100%

*The amount of limestone used as an addition was 254,317 tonnes per year.

14.6. Process losses

Losses in the cement production process associated with the raw material (limestone) are 0.44%.

14.7. Water consumption

Pacasmayo plant has a water treatment plant (PETAT) for the kiln cooling system during clinker production. The cooling water is used in the clinker and cement grinding processes. It is also used to irrigate green areas and accesses.

14.8. Fossil fuel consumption

Liquid fuels are used for the various engines in the operation. Table 45 shows the consumption of liquid fuels used at the Pacasmayo plant.

Table 45 Fuel consumption in Pacasmayo plant

Fuel	Consumption	Description
Diésel	221,691 (gal/year)	P. Cal 41.2 Gj/t
Oil 6	795,411 (gal/year)	P. Cal 43.7 Gj/t

14.9. Electric power consumption

The Pacasmayo plant has an electrical substation with a capacity of 105 MVA, which is supplied by the national grid.

14.10. Maintenance Plan

Cementos Pacasmayo has implemented a preventive and corrective maintenance plan with the purpose of not interrupting cement production.

Cementos Pacasmayo maintains the operational efficiency to control costs and operating margins. Cementos Pacasmayo has initiatives to diversify the energy sources and secure the supply when possible

14.11. Staff

Cementos Pacasmayo personnel develop its operations at the Pacasmayo plant with its staff and contractors.

15. Infrastructure

15.1. Tembladera quarry

The quarry consumes electrical energy supplied by the national electricity system through Hidrandina S.A. company. The supply is aerial with medium voltage of 2.3 KV. The Tembladera quarry has electricity sub-stations located in coordinates UTM 707345 E and 9197947 N, it occupies a surface area of 1,062 m².

The supply of liquid fuels to the Tembladera quarry is through a contractor.

The water is used to water the roads, limestone in loads, demolition, vegetation and for consumption and sanitary facilities.

The Tembladera quarry has the following facilities:

- DME 01 waste dump
- DME 05 waste dump
- Low grade stockpile

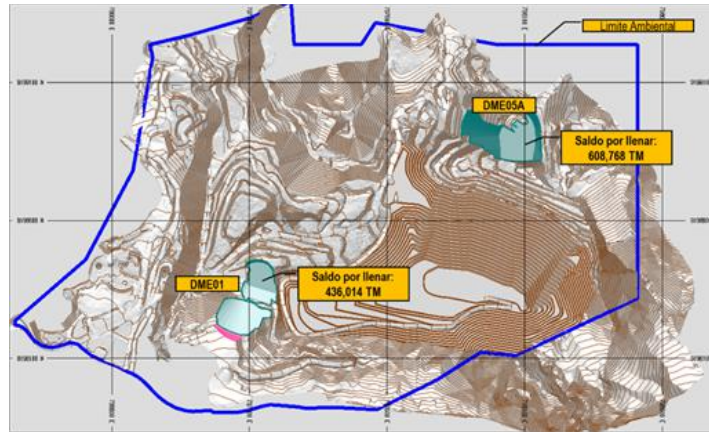
DME 01 Dump

The current elevation of the upper platform of the DME-1 dump is 535 meters above sea level. To ensure the physical stability of this dump and increase its storage volume, it has been designed to reach an upper platform elevation of 545 meters above sea level at a slope of 2.5H:1V.

DME 05A Deposit

To ensure the physical stability of this future dump, it has been deemed convenient to maintain the upper platform at 740 masl at a slope of 2.5H:1V.

Figure 14 DME05A y DME01



Low grade stockpile

The design has a low-grade stockpile with a slope angle of 35° and a berm width of 10m with a minimum elevation of 532 masl and a maximum elevation of 580 masl, reaching a capacity of 1 M m³.

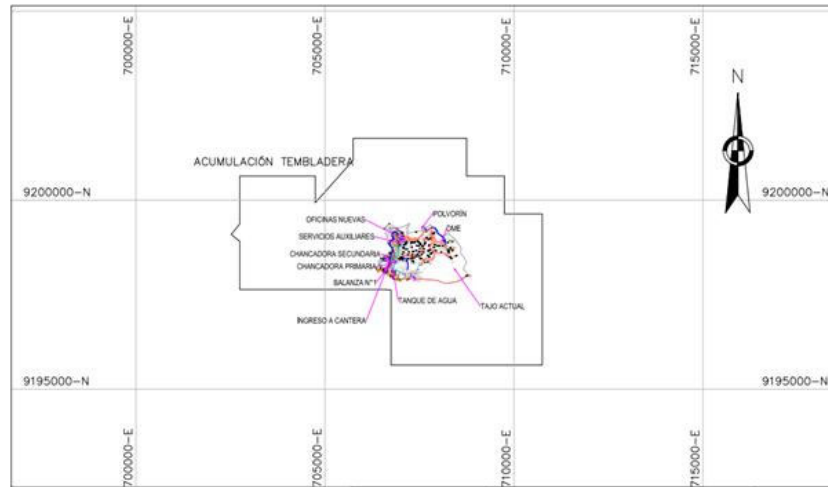
The auxiliary facilities at the Tembladera quarry are administrative offices, explosives storage, key yard, power house, crushers and the auxiliary service facilities are interconnected to the electrical system of the Central-North system for power supply.

There are also additional facilities at the Tembladera quarry, as described in Table 46.

Table 46 Tembladera quarry Facilities

Facility	Area m ²
Offices	972
Explosives warehouse 2-3	156
Truck Scale N°2	65
Loading Tunnel	78
Ore Belt N°4, 5 and 6	195
Meteorological Station	17
Septic Well	8
Recreational Complex	4,362

Figure 15 Mining Facilities



15.2. Pacasmayo plant

Electricity is supplied by the national grid and there is a contract with Electro Perú, which supplies energy through two 60 KV transmission line. There is also a sub-station with three power transformers of 30, 37.5 and 37.5 MVA at ONAF, equivalent to 28.8 MW, 36 MW and 36 MW of active power, respectively.

The Pacasmayo plant is supplied with fuel by a contractor and has a fuel tank for regular vehicle fueling.

Water supply at the Pacasmayo plant is provided by a groundwater well.

16. Market Studies

Cementos Pacasmayo is a leading company in the cement production and other construction materials in the north of Peru. The following chapter describes the cement market as well as the macro and microeconomic factors that define it.

For the description of the cement market in Peru, public information has been collected from different sources, such as the Central Reserve Bank of Peru (BCRP), National Institute of Statistics and Informatics (INEI), Association of Cement Producers (ASOCEM), Ministry of Housing, Construction and Sanitation, Superintendency of Tax Administration and the Peruvian Construction Chamber. In addition to this information, this chapter also relies on statistics provided by the company, CPSAA, to provide a better understanding of its specific market.

16.1. The cement market in Peru

The Peruvian cement market is geographically segmented by regions: north region, central region and south region. Diverse companies supply each region. Figure 16 is an illustration of the Peruvian map and of its 3 regions, according to the segmentation of cement market, where each region is the main area of influence of domestic cement companies.

Figure 16 Segmentation of the cement market in Peru



The main companies which deal with the cement market in Peru are: Cementos Pacasmayo S.A.A., UNION Andina de Cementos S.A.A., Yura S.A. and Cementos Selva S.A. Additionally, there are companies that import cement or clinker, such as Caliza Cemento Inca S.A., Distribuidora Cemento Nacional S.A.C., CEMEX Perú S.A., Cal & Cemento Sur S.A., amongst others.

Table 47 shows the cement shipments at domestic level (in thousand of tonnes):

Table 47 Cement shipments at domestic level (in thousands of tonnes)

	2019	2020	2021
National cement shipments	10,317.0	8,979.0	12,500.0
Overall cement shipments (CPSAA/CSSA, 3 plants)	2,613.7	2,581.4	3,625.2
Pacasmayo plant shipments	1,367.6	1,312.8	1,970.9

Sources: ASOCEM and CPSAA/CSSA.

The types of cement produced by the main cement companies of the country are Type I, Type V, Type ICO, Type IL, Type GU, Type MS (MH), Type HS, Type HE, Type MH.

It is important to mention that, according to the main requirement standards, Peruvian Technical Standards, cements are divided into five types:

- NTP 334. 009 2013. Cements Portland. Requirement. (ASTM C 150).
- NTP 334. 090 2013. Cements Portland Added. Requirements. (ASTM C595).
- NTP 334. 082 2011. Cements Portland. Performance Specification. (ASTM C1157).
- NTP 334. 050 2004. Cements Portland White. Requirements. (ASTM C150).
- NTP 334. 069 2007. Building Cements. Requirements. (ASTM C091).

Cementos Pacasmayo, only produces cement that meets the first three NTP standards.

16.2. Industry and Macroeconomic Analysis

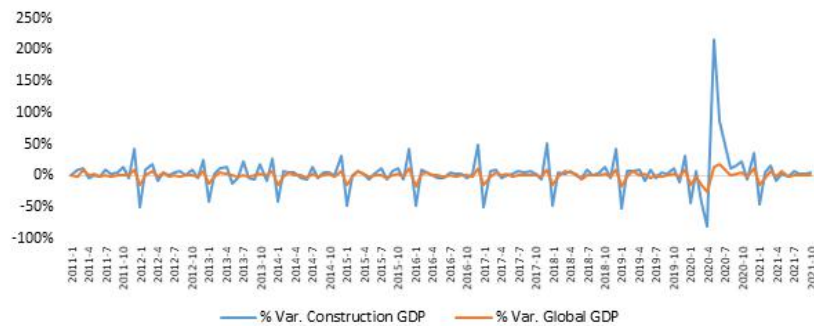
Producer and trading companies of cement compete mainly within the limits of their area of influence, which is determined by the geographical location of their plants, giving rise to segmentation of the national market. However, the north region presents a high demand potential because of the infrastructure gap, the housing deficit and a higher capillarity in terms of important adjacent cities with an urbanization level lower than in the central and south region. On the other hand, it highlights the importance of transportation in the structure of cement costs; composed primarily of raw materials, fuels and transport.

The cement market and the industry in Peru have the following characteristics:

- Base of consumers highly segmented, informal and of low Resources.
- Low costs of energy and raw materials.
- Zone of influence / distribution determined by geographical location of the plant.
- High correlation level between public and private investment, and self-construction.

The construction sector and cement industry have a behavior directly related to the Gross Domestic Product (GDP) and Private Consumption. Figure 17 shows how the GDP of the construction sector (variation % monthly) accompanies the cyclic behavior of the Global GDP (variation % monthly), showing variations of lower significance than those of the Global GDP, but in the same direction. It is also noted that, in May 2020, the GDP of the construction sector had a positive variation of more than 200% (with regards to the previous month), whilst the Global GDP was only 10%. This was due to the confinement measures given by the Government to counter the Covid-19 pandemic. This reactivation was motivated primarily by the private-construction sector consumption. Under the uncertainty conditions caused by the sanitation and economic crisis in 2020, consumers showed savings behaviors, which meant that people preferred consumption of goods for home improvement, amongst them, cement. This trend was maintained throughout 2021, even before a higher uncertainty caused by the elections and the result of elections, which was reflected in sustained growth rates of internal consumption of cement related primarily to self-construction.

Figure 17 Global GDP and Construction sector GDP MoM variation (%)



Source: INEI 2021

The cement industry is also motivated by housing sector growth, public and private investment in infrastructure, mining projects, shopping centers, construction of transportation systems, etc. Thus, one of the variables with more impact on cement industry and future demand is the infrastructure gap which remains high in the country. For the 2016 – 2025 period, the infrastructure gap is estimated at US\$ 160 billion, and this is present in the main economic sectors and services of public supply; that is: Transportation (36%), Energy (19%), Telecommunications (17%), Health (12%), Sewage System (8%), Irrigation (5%) and Education (3%). The 90% of the roads not comprised in the large national road network still remain unpaved; only 40% of schools have access to basic services such as water, electricity and sewage system. There are only 15 hospital beds for every 10,000 individuals, vs. 27 beds recommended by the WHO.

It is estimated that public investment grew 10% in 2021 and will grow 5% in 2022, as a result of the higher expenditure in reconstruction works under the Government-to-Government Agreement with United Kingdom, as well as Special Projects of Public Investments and the projects within the frame of the National Plan of Infrastructure for Competitiveness (NPIC). With regards to the Government's reconstruction plan, that it is implementing, it is expected to have a significant impact on cement sales in the north region because most of the budget is targeted at that area.

16.3. The North Region Market

Cementos Pacasmayo, a leading company in the production and sales of cement in the North Region, has market presence in the following cities: Cajamarca, Chiclayo, Chimbote, Jaén, Pacasmayo, Piura, Rioja, Tarapoto, Trujillo, Tumbes, Yurimaguas and Iquitos. The company has a Market share of over 90% in the north region of the country.

Overall shipments of Pacasmayo plant for 2021 were 1,970.9 thousand tonnes. Pacasmayo plant supplies almost 50% of the cement demand of the North Region.

Other companies with lower presence in the cement market of the North Region are:

- Wang Peng
- Quisqueya - Cemex
- Cemento Nacional
- Cemento Inka
- Cemento Tayka
- Cementos Patrón

These companies are competitors of Pacasmayo plant.

Cementos Pacasmayo S.A.A in its Pacasmayo plant produces different types of cement and it has in the National Market, different trademarks to deal with diverse segments of the market. Table 48 shows the products in Pacasmayo plant.

Table 48 Types of products of Pacasmayo Cement plant

Business Name	Use	Comment
Cemento Portland		
Cement Type I	Cement for general use.	The average result of resistance to compression is higher than the minimum requirement set forth in the technical standard NTP 334.009 / ASTM C150.
Cement Type V	For works, structures exposed to soils with high sulphate (salt residue).	The average result of resistance to compression is higher than the minimum requirement set forth in the technical standard NTP 334.009 / ASTM C150.
Qhuna Type I	For use in construction Works in general, manufacturing of bricks, sewage systems, paving stones, to lay bricks, plaster with cement, to cover with majolicas, preparation of concretes in foundations, over foundations, brake shoes, beams, columns and building roofs.	Complies with the requirements of technical standards NTP 334.009 and ASTM C 150.
Cemento Portland Added		
Cement Fortimax	Ideal for Works which require moderate h heat, for Works exposed to sulphate action and for Works near to large water sources (sea, lakes, rivers, etc.)	The average result of resistance to compression is higher than the minimum requirement set forth in technical standard NTP 334.082 / ASTM C1157.
Cement Extra Forte	Ideal for the execution of structural Works, repairs, remodelings, home applications, floors, levelings, grouts, tips, prefabricated elements of small and medium size and concrete elements which require special characteristics.	The average result of resistance to compression is higher than the minimum requirement set forth in technical standard NTP 334.090.
Cement Ultra Armado	Ideal for the execution of structural Works, elaboration of mortars for floors, leveling, grouts and tips and production of prefabricated elements of small and medium size.	The average result of resistance to compression is higher than the minimum requirement set forth in technical standard NTP 334.090 / ASTM C595.

Cement Type HE		
Cements fir Prefabrications	For construction elements.	The average result of resistance to compression is higher than the minimum requirement set forth in technical standard NTP 334.009 / ASTM C150.
Qhuna Structural		
Hydraulic Cements specified by performance		
Line Mochica MS	For structures in contact with environements and humid and salty soils.	
Line Mochica GU	Cement of general use.	
Qhuna MS	Structural elements and non-structural which are exposed to environments and humid salty soils.	Complies with the requirements set forth in standard ASTM C 1157 and NTP 334.082.

16.4. Cement price

The prices of cement in the Peruvian market vary pursuant to their type and their geographical location. The price difference of each type is explained primarily by the dosifications of raw materials and additions, whilst the variations for geographical location are caused by the freights for the distribution to the points of sale.

At domestic level, the cement price in 2020 was, on average, 541.18 S/ x t. Figure 18 shows the historic prices of cement in Peru.

Figure 18 Historic prices of cement in Peru



Source: Ministerio de Vivienda, Construcción y Saneamiento (November 2020).

Figure 18 shows the sustained growth of the price of more than 4% per year, from 2015 until 2018, it fell slightly in 2019 to climb back up again in 2020. The annual growth rate for the 2014 – 2020 period is 3.01%, which is consistent with the annual inflation rate of the target range of the Central Reserve Bank of Peru.

16.5. Current and future demand

Cement demand at the national level is met by local shipments (local production), for the most part, and by imports. In 2021, 12.50 M tonnes were shipped locally; 40% more than in the same period of 2020 (9.0 M). Imports amounted to 0.88 M tonnes during 2021; 23% above the 2020 figure (0.72 M). Thus, cement demand in 2021 is estimated at 13.3 M tonnes.

Figure 19 shows the evolution of the national demand of cement, expressed in thousand of tonnes, since 2016.

Figure 19 Evolution of the national demand of cement



Source: ASOCEM

It is noted that domestic demand has been growing, on average, at a rate of 3% per year, with the exception of 2020, which is considered an atypical year due to the adverse effects of the pandemic and the confinement measures, to then take a historic leap in 2021 with an annual increase of 38%.

According to our internal information, in terms of regional distribution, the Northern Region accounts for approximately 28% of domestic cement demand, the Central Region for 50%, and the Southern Region for 22%.

Cementos Pacasmayo's cement shipments (3 plants) reached 3,625,2 thousand tonnes in 2021, capturing a 26.8% share of total shipments in Peru and 90% in the Northern Region. This is 40.4% more than in 2020 (2,581.4 thousand tonnes). This increase in shipments takes place in a context of economic recovery, despite the Covid-19 pandemic and political instability, and is explained by the high growth rates of domestic cement consumption that have been registered since mid-2020, thanks to the self-construction sector and the high execution of investment projects.

It is expected that the positive trend remains for the internal consumption of cement at domestic level and in the north region, driven by the growth of the Peruvian economy, which is recovering at a higher rate than other countries of the region, the private-construction sector which is still one of the main driving forces of cement demand, and the Government's reconstruction plan for damages caused by El Niño, which is being executed through an agreement between the Peruvian and the British governments. This will have a positive impact on Cementos Pacasmayo's cement shipments, because most of the budget is concentrated in the company's influence zone.

From this expectation of sustained increase in demand and to optimize Clinker production lines, the Company recently decided to invest approximately US\$ 70 million for the project: Optimization of Clinker Lines at Pacasmayo Plant. This optimization will allow the company to increase the production capacity of Clinker by about 600 thousand tonnes per year, and thus, the future demand will be dealt with in a more efficient manner whilst the necessity of imported Clinker will be reduced.

Table 49 shows the projection of future demand or shipments of cement for Pacasmayo plant. These projections are based on the 2022 shipments, and a sustained growth of 2.0% per year until the maximum capacity of cement production is reached.

Table 49 Forecast of future demand for Pacasmayo cement plant

Year	Cement Shipments (Tonnes)	Variation (%)
2022P	1,905,000	
2023P	1,943,100	2.0%
2024P	1,981,962	2.0%
2025P	2,021,601	2.0%
2026P	2,062,033	2.0%
2027P	2,103,274	2.0%
2028P	2,145,339	2.0%
2029P	2,188,246	2.0%
2030P	2,232,011	2.0%
2031P	2,276,651	2.0%
2032P	2,322,184	2.0%
2033P	2,368,628	2.0%
2034P	2,416,001	2.0%
2035P	2,464,321	2.0%
2036P	2,513,607	2.0%
2037P	2,563,879	2.0%
2038P	2,615,157	2.0%
2039P	2,667,460	2.0%
2040P	2,720,809	2.0%
2041P	2,775,225	2.0%
2042P	2,830,730	2.0%
2043P	2,842,000	0.4%
2044P	2,842,000	0.0%
2045P	2,842,000	0.0%
2046P	2,842,000	0.0%
2047P	2,842,000	0.0%
2048P	2,842,000	0.0%
2049P	2,842,000	0.0%
2050P	2,842,000	0.0%
2051P	2,842,000	0.0%

17. Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups.

17.1. Environmental Aspects

Cementos Pacasmayo holds Corporate Policies, which are applied to the operations of quarries and Cement plants. Relevant policies include Safety Occupational Health Policy, Quality Policy, and Environmental Policy.

Cementos Pacasmayo S.A.A. carries out activities in Tembladera quarry and Pacasmayo plant, in that sense, according to the environmental legislation., It has an environmental authority in the industrial sector and another authority (Ministry of Energy and Mines) that issues an opinion for the Closure of quarries.

Likewise, Cementos Pacasmayo complies with the provisions of the Regulation with Superno Decree No. 033-2005-EM - Regulation of the Mine Closure Law.

17.1.1. Tembladera quarry

Tembladera quarry holds the environmental permit authorized by the Ministry of Production, dated November 08, 2018, through Directorate Resolution N° 304-2018-PRODUCE/DVMYPE-I/DGAAMI. It approved the updating of the Environmental Management Plan of the Adequation Program and Environmental Management (PAMA per its acronym in Spanish) of Tembladera quarry, this, pursuant to the Technical-Legal Report NO 979-2018-PRODUCE/DVMYPE-I/DGAAMI-DEAM and its annexes.

The updating of the Environmental Management Plan of the PAMA included the identification of potential environmental impacts for which, there were preventive, corrective and/or mitigation measures.

Additionally, it includes the environmental monitoring program taking into consideration the components of air quality, environmental noise and biological monitoring. There are 4 monitoring stations for air quality, 4 monitoring stations for environmental noise and 10 stations for biological monitoring.

In the Tembladera quarry, measurements of air quality and particulate matter parameters were considered. The results obtained in 2021 are under the environmental quality standard limit, ECA in compliance with the established Supreme Decree No. 003-2017-MINAM.

In the measurement of environmental noise, the results obtained in 2021 are under the environmental quality standard limit, ECA, complying with the established Supreme Decree N° 085-2003-PCM.

Cementos Pacasmayo complies with Peruvian legislation on Closure Plans. Under current legislation is the Regulation of Environmental Management of the Manufacturing Industry and Domestic Trade, Supreme Decree No. 017-2015-PRODUCE. This rule establishes the environmental management of the activities covered by Ministerial Resolution No. 157-2011-MINAM, table of the first update of the list of inclusion of investment projects subject to the National System of Environmental Impact Assessment (SEIA).

For the Tembladera quarry, Directorial Resolution Number 265-2016-MEM/DGAAM approved the Updating of the Closure Plan for the Tembladera quarry mining unit of Cementos Pacasmayo S.A.A., and activities associated with the approved Closure Plan were carried out during 2021.

It is important to mention that the approval of the Mine Closure Plan involves the constitution of guarantees to ensure that the owner of the mining activity complies with the obligations derived from the Mine Closure Plan, in accordance with environmental protection regulations.

The Closure Plan submitted by Cementos Pacasmayo has included the necessary measures to ensure effectiveness or consistency with the requirements necessary for the protection of public health and the environment. The initial strategy has continued with the Closure of the components of Tembladera quarry mining unit, establishing temporary, progressive, final and post-Closure activities at the end and/or closure of operations.

Environmental closure activities have included physical stability in the mine, geochemical stability, water management facilities, dismantling for the removal of equipment and machinery. Also included are infrastructure demolition, reclamation, waste disposal, landform establishment, habitat rehabilitation, revegetation and social programs.

Post-closure activities such as physical maintenance, geochemical maintenance, hydrological maintenance, and biological maintenance will be carried out, and post-closure monitoring activities include physical stability monitoring, geochemical stability monitoring, water management monitoring, biological monitoring, and social monitoring.

We have a solid relationship with our communities, and we have identified its main necessities as health, education, urban development and local development.

In this situation, we have a social investment program, which contributes to dealing with their necessities, based on good dialog and the compliance with our commitments.

The communities are high priority stakeholders. For this reason, we promote periodic meetings with their representatives and create opportunities for dialog to know their expectations. In addition, we have established public and private alliances for development projects and programs, to contribute to a better quality of life, and to strengthen our relations. During 2021, we worked in alliance with the district governments of Pacasmayo and Tembladera.

17.1.2. Cement plant in Pacasmayo

On March 09, 1998, in accordance with Oficio 217/MA.98.MITINCI.VMI.DNI, the Integral Environmental Study of the Industrial plant of Cementos Norte Pacasmayo, the environmental study was prepared by ECOLAB SRL, was approved by Ministerio de Industria, Turismo, Integración y Negociaciones Comerciales Internacionales.

In September, 2007, through Oficio 02769.2007.PRODUCE/DVI/DGI-DAAI, the Study of Environmental Impact of Production Increase of Clinker in the Cementos Pacasmayo S.A.A, plant, including the Environmental and Special Management Plans, document prepared by the Consulting company Servicios Generales de Seguridad y Ecología S.A. – SEGECO, was approved by Ministerio de la Producción.

On May 27, 2009, through Oficio No 01859.2008.PRODUCE/DVI/DGI-DAAI, the Declaration of Environmental Impact for the installation of Vertical Furnace N° 4 of Cementos Pacasmayo S.A.A., prepared by the Consulting Company Servicios Generales de Seguridad y Ecología S.A. – SEGECO, was approved by Ministerio de la Producción. The approval of the study considers the submission of the Environmental and Special Management Plans.

On December 19, 2009, through Oficio No 04971.2008.PRODUCE/DVI/DGI-DAAI, the Declaration of Environmental Impact for the installation of Mill N° 7 of Cementos Pacasmayo S.A.A., prepared by the Consulting Company Servicios Generales de Seguridad y Ecología S.A. – SEGECO, was approved by Ministerio de la Producción. The approval of the study considers the Environmental and Special Management Plans.

On October 14, 2010, through Oficio N° 6349-2010-PRODUCE/DVMYPE-I/DGI-DAAI, the Declaration of Environmental Impact for the Installation of a Mill of Lime inside its Cementos Pacasmayo S.A.A. plant located in La Libertad - DIA, prepared by the Consulting Company Servicios Generales de Seguridad y Ecología S.A. – SEGECO, was approved by Ministerio de la Producción.

On March 20, 2012, through Oficio N° 01784.2012.PRODUCE/DVMYPE-I/DGI-DAAI, the Declaration of Environmental Impact of the Project "Installation of Two Vertical Furnaces N° 5 and N° 6, prepared by the Consulting company Servicios Generales de Seguridad y Ecología S.A. – SEGECO, was approved by Ministerio de la Producción. The approval of the study considers the submission of the Environmental and Special Management Plans. The approval of environmental studies considers the submission, every six months, of the reports on environmental monitoring and the reports on progress of environmental commitments assumed.

Cementos Pacasmayo S.A.A., in compliance with current environmental legislation, performs environmental monitoring through the Analytical Laboratory - ALAB, a Peruvian company with dual accreditation by the international IAS (International Accreditation Service) and the national INACAL (National Quality Institute), both signatories of the ILAC-MRA international Mutual Recognition Agreement.

ALAB is responsible for sampling at the source and analysis in its laboratory, to present the results through reports to the Environmental Evaluation Agency - OEFA, a Peruvian state institution that is responsible for reviewing and validating the information submitted by the industrial owner.

In the Pacasmayo plant, the measurements of air quality parameters and particulate air material were considered, the results obtained in 2021 are below the environmental quality standard limit (ECA) complying with that established in the Supreme Decree No. 003-2017-MINAM.

In the measurement of environmental noise, the results obtained in 2021 are below the limit of the environmental quality standard (ECA) in compliance with that established in the Supreme Decree N°085-2003-PCM.

Regarding atmospheric emissions at the source of emissions (chimneys), the results obtained in 2021 are below the maximum permissible limit (MPL) in compliance with that established in Supreme Decree N°001-2020-MINAM.

The results of domestic effluents obtained in 2021 are below the maximum permissible limit (MPL) in compliance with that established in the Supreme Decree N°003-2010-MINAM.

Finally, in accordance with environmental regulations and according to the Regulation of Environmental Management of the Manufacturing Industry and Domestic Trade, Supreme Decree N° 017-2015-PRODUCE, companies that produce cement are required to submit Closure Plans when executing Decommissioning activities. Cementos Pacasmayo in compliance with Peruvian legislation will submit the Closure Plan in a timely manner.

17.2. Solid waste disposal

Cementos Pacasmayo S.A.A. has a Solid Waste Minimization and Disposal Plan for our production activities at the Pacasmayo plant and Tembladera quarry. Annually, our company declares the generation, storage, collection, and final disposal of hazardous and non-hazardous solid waste in compliance with environmental legislation.

In our solid waste minimization plan for 2021, we declared 48.5 tons of hazardous waste and 15.4 tons of non-hazardous waste for the Tembladera quarry. Likewise, for the Pacasmayo plant we declared 110.40 tons of hazardous waste and 555 tons of non-hazardous waste, which were disposed of in accordance with environmental legislation.

17.3. Qualified Person's Opinion

Cementos Pacasmayo S.A.A. complies with national environmental standards in the industrial sector and according to the International Standard Industrial Classification - ISIC 2694 for the non-metallic production of the Tembladera quarry where limestone, the main material for the manufacture of cement, is produced.

For the industrial and mining sector, our company specifically complies with the Environmental Management Regulations for the Manufacturing Industry and Domestic Trade. Supreme Decree No. 017-2015-PRODUCE is the rule that regulates the environmental management of the activities indicated in Ministerial Resolution No. 157-2011-MINAM and investment projects subject to the National System of Environmental Impact Assessment (SEIA), considered in Annex II of the Regulations of Law No. 27446, approved by Supreme Decree No. 019-2009-MINAM.

Cementos Pacasmayo S.A.A. reports the environmental commitments, semiannually and quarterly to the Environmental Evaluation Agency - OEFA. The monitoring is carried out through external laboratories that provide comprehensive monitoring and analysis services and have double accreditation, by the IAS and the INACAL, both signatories of the ILAC-MRA international Mutual Recognition Agreement.

Cementos Pacasmayo S.A.A. strictly complies with the protocols in the different processes in compliance with environmental legislation and reporting to the OEFA.

18. Capital and operations costs

18.1. Basis for operating and capital cost for the quarry and plant

This section presents, in a tabular manner, the operating costs of Tembladera quarry for the extraction of limestone, the main raw material used in cement production at the Pacasmayo plant. The section also contains the plant operating costs, for the cement plant where the whole industrial process to convert the raw material to cement takes place. The costs are mainly based on real historic costs which are the basis for estimating forecasted costs.

Similarly, this section reports the detail of the capital investments made in the quarry and plant, and the forecasted plan of investments, required to sustain all the activities in the quarry and plant, and to assure the supply of limestone Reserves for the production levels required to support forecasted cement sales of Pacasmayo plant.

Table 50 depicts the main components of the cost structure of Tembladera quarry and Pacasmayo plant and the sources used in their forecasts.

Table 50 Concepts about cost structure of Tembladera quarry and Pacasmayo plant

Concept	Description	Source
Quarry Operating Cost	Mineral Extraction /Exploitation, processing, fuel, Materials (Explosives), Maintenance, Insurances and Services	● Real, historic costs ● Suppliers' quotes
Quarry Operating Cost	Royalties	● Contract of mining royalty payment with regional/state entities
Quarry Operating Cost	Energy	● Historic, real costs ● Supply Contract ● Suppliers'quote
Plant Operating Cost	Fuel, Materials, Maintenance, Wages and Insurances	● Historic, real costs ● Suppliers'quote
Plant Operating Cost	Energy	● Historic, real costs ● Supply Contract ● Suppliers'quote

Being an ongoing operation, actual historical costs are the primary basis of information to estimate forecasted costs. These actual costs in some cases are maintained, and in other cases are appropriately adjusted to account for factors specific to the quarry operation, conditions and obligations stipulated in supply and concession contracts, and other macroeconomic factors that could have an indirect impact on future operating costs, such as inflation and devaluation of the local currency against the US dollar.

18.2. Capital and Operating Cost Estimates

Table 51 details the operating costs of quarry and plant for the year 2021, and 30 years of forecast.

Table 51 Operating costs forecast of quarry and plant

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050		
Extraction Costs																																	
Production Costs Quarry (M3)	2,855	3,706	4,206	3,787	4,492	4,453	4,498	3,745	3,205	3,207	3,076	2,875	2,747	2,627	2,512	2,401	2,295	2,192	2,092	2,000	1,907	1,815	1,725	1,637	1,550	1,465	1,381	1,299	1,217	1,137	1,057	978	
Current Costs Quarry (M3)	3,363	3,505	3,563	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	3,582	
Manufacturing Costs																																	
Transport Costs M3 100m	37,204	46,752	53,276	48,461	56,796	56,534	56,752	48,846	42,046	42,125	40,546	37,873	35,852	34,382	32,937	31,519	30,125	28,767	27,439	26,141	24,873	23,634	22,415	21,215	20,034	18,871	17,726	16,600	15,492	14,402	13,328	12,269	
Plant per M3 (M3 100m)	35.87	45,704	51,746	47,327	55,744	55,472	55,690	47,327	40,546	40,625	39,046	36,373	34,352	32,882	31,437	30,029	28,657	27,329	26,031	24,763	23,524	22,305	21,105	19,924	18,761	17,616	16,490	15,382	14,292	13,218	12,159		
Plant Costs M3 100m	405.13	5,372.02	5,985.81	5,475.81	6,465.81	6,426.81	6,471.81	5,475.81	4,742.81	4,750.81	4,582.81	4,309.81	4,036.81	3,763.81	3,490.81	3,217.81	2,944.81	2,671.81	2,398.81	2,125.81	1,852.81	1,579.81	1,306.81	1,033.81	760.81	487.81	214.81	101.81	50.81	25.81	12.81	6.81	
Plant per M3 (M3 100m)	4.05	53.72	59.86	54.76	64.66	64.27	64.72	54.76	47.43	47.51	45.83	43.10	41.07	39.60	38.15	36.70	35.25	33.80	32.35	30.90	29.45	28.00	26.55	25.10	23.65	22.20	20.75	19.30	17.85	16.40	14.95	13.50	
Total Quarry Costs M3 100m	112,882	147,808	167,298	152,565	174,036	174,036	174,036	152,565	134,314	134,314	131,668	124,251	116,834	109,417	101,999	94,582	87,165	79,748	72,331	64,914	57,497	50,080	42,663	35,246	27,829	20,412	12,995	5,578	2,161	819	268	100	
Plant per M3 (M3 100m)	112.88	147.81	167.30	152.57	174.04	174.04	174.04	152.57	134.31	134.31	131.67	124.25	116.83	109.42	102.00	94.58	87.17	79.75	72.33	64.91	57.50	50.08	42.66	35.25	27.83	20.41	13.00	5.58	2.16	0.82	0.27	0.10	
Plant Costs																																	
Production Costs Plant (M3)	407,124	493,806	552,125	493,124	568,806	572,125	572,125	493,124	420,806	421,125	405,124	378,806	358,125	343,124	328,125	313,124	298,125	283,124	268,125	253,124	238,125	223,124	208,125	193,124	178,125	163,124	148,125	133,124	118,125	103,124	88,125	73,124	
Current Costs Plant (M3)	574,434	602,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	610,124	
Plant Costs M3 100m	14,304	18,087	20,561	18,087	21,561	21,561	21,561	18,087	15,561	15,561	15,061	14,061	13,061	12,061	11,061	10,061	9,061	8,061	7,061	6,061	5,061	4,061	3,061	2,061	1,061	1,061	1,061	1,061	1,061	1,061	1,061	1,061	
Plant per M3 (M3 100m)	14.30	18.09	20.56	18.09	21.56	21.56	21.56	18.09	15.56	15.56	15.06	14.06	13.06	12.06	11.06	10.06	9.06	8.06	7.06	6.06	5.06	4.06	3.06	2.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	
Total Plant Costs M3 100m	521,428	511,893	572,686	511,211	590,367	593,686	593,686	511,211	436,367	436,686	420,185	392,867	371,186	359,185	349,186	339,185	329,186	319,185	309,186	299,185	289,186	279,185	269,186	259,185	249,186	239,185	229,186	219,185	209,186	199,185	189,186	179,185	
Plant per M3 (M3 100m)	521.43	511.89	572.69	511.21	590.37	593.69	593.69	511.21	436.37	436.69	420.19	392.87	371.19	359.19	349.19	339.19	329.19	319.19	309.19	299.19	289.19	279.19	269.19	259.19	249.19	239.19	229.19	219.19	209.19	199.19	189.19	179.19	
Total Quarry and Plant Costs																																	
Total Quarry Costs M3 100m	112,882	147,808	167,298	152,565	174,036	174,036	174,036	152,565	134,314	134,314	131,668	124,251	116,834	109,417	101,999	94,582	87,165	79,748	72,331	64,914	57,497	50,080	42,663	35,246	27,829	20,412	12,995	5,578	2,161	819	268	100	
Plant per M3 (M3 100m)	112.88	147.81	167.30	152.57	174.04	174.04	174.04	152.57	134.31	134.31	131.67	124.25	116.83	109.42	102.00	94.58	87.17	79.75	72.33	64.91	57.50	50.08	42.66	35.25	27.83	20.41	13.00	5.58	2.16	0.82	0.27	0.10	
Total Plant Costs M3 100m	521,428	511,893	572,686	511,211	590,367	593,686	593,686	511,211	436,367	436,686	420,185	392,867	371,186	359,185	349,186	339,185	329,186	319,185	309,186	299,185	289,186	279,185	269,186	259,185	249,186	239,185	229,186	219,185	209,186	199,185	189,186	179,185	
Plant per M3 (M3 100m)	521.43	511.89	572.69	511.21	590.37	593.69	593.69	511.21	436.37	436.69	420.19	392.87	371.19	359.19	349.19	339.19	329.19	319.19	309.19	299.19	289.19	279.19	269.19	259.19	249.19	239.19	229.19	219.19	209.19	199.19	189.19	179.19	

Table 51 shows the projection for the next 30 years, according to the production plan for 30 years of Reserves. Costs are adjusted annually by applying a 2.65% inflation rate.

Table 52 shows the detail of capital investments in the quarry and plant, by type of investment, for 1 year of historical result (2021) and 30 years of projection.

Table 52 Investment forecast in quarry and plant

Description		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Termination Quarry Investments		1'000	1,251	1,564	1,707	1,852	1,975	1,963	2,055	1,862	2,336	2,430	2,487	2,567	2,653	2,554	2,505	2,230	1,836	1,213	1,115	844	1,105	845	1,136	1,038	1,007	4,053	4,114	4,428	4,146		
Infrastructure and Studies		1'000	1,001	1,401	1,436	1,576	1,576	1,578	1,809	1,809	1,928	1,930	2,054	2,120	2,084	2,220	2,302	2,438	2,648	2,918	2,462	2,719	2,405	2,489	2,396	3,046	3,325	3,618	3,261	3,360	3,430		
Infrastructure & Equipment		1'000	620	353	320	376	329	403	403	403	482	457	513	520	547	601	580	632	662	663	605	594	712	742	750	761	803	823	863	863	906		
Infrastructure Plant Investments		1'000	105,543	101,388	94,730	10,032	37,730	36,367	17,251	10,262	36,363	37,238	10,664	24,180	13,733	23,003	14,565	20,266	26,552	26,754	14,664	14,464	17,553	14,506	16,610	10,736	10,760	10,760	11,091	12,008	10,355	10,000	
Machinery & Equipment		1'000	30,450	11,338	9,500	9,842	10,075	10,248	11,045	11,364	11,364	12,234	12,731	13,549	13,960	14,468	14,596	15,030	15,652	16,411	16,948	17,505	17,901	18,498	19,257	19,440	19,575	20,325	21,048	21,608	22,136		
Geographical		1'000	3,382	1,653	4,426	4,633	4,651	5,070	5,334	5,368	5,756	5,538	6,124	6,121	6,524	6,554	6,552	7,177	7,415	7,652	8,181	8,429	8,660	8,861	9,128	9,335	9,618	9,951	10,355	10,465	10,476		
Others		1'000	504	620	720	757	770	803	805	760	590	500	500	500	500	1,006	1,300	1,536	1,573	1,213	1,230	1,211	1,183	1,077	1,405	1,403	1,410	1,531	1,671	1,654	1,604	1,700	1,746
Total Investments		1'000	106,396	101,962	96,235	10,804	17,480	16,521	15,912	26,804	36,967	21,839	22,311	24,697	24,963	24,960	26,105	27,232	27,262	26,613	24,767	26,711	24,586	26,428	19,249	16,146	16,101	16,601	16,961	17,004	16,206	16,206	

In recent years, there have been no significant variations in investments related to maintenance and replacement of equipment in the quarry and plant to sustain operations.

As mentioned previously, the Company recently decided to invest an estimated US\$ 70 million for the project optimization of clinker lines in Pacasmayo plant and thus, optimize its installed production capacity of clinker. This investment will be made throughout 2022 and 2023 (years 1 and 2 in the forecast, respectively). This explains the higher investments in those years in Table 52. Following that, the Company's investment plan does not consider any extraordinary activity. It is the sole plan to perform the necessary replacement for the quarry support and the maintenance of operations in plant, in such a manner that the investments are kept at levels similar to those registered throughout the last years. Future investments are at nominal values and consider an annual increase of 2.65% for inflation.

The costs described in this chapter are applied to estimate the Mineral Resources and Reserves of the Tembladera quarry as part of the analysis.

18.3. Capital and Operating Cost Estimation Risks

Considering that mine production and cement plant will continue in the same geological deposit and using the same mining and industrial methods, there is little risk associated with the specific engineering estimation methods used for capital and production costs. An assessment of accuracy of estimation methods is reflected in the sensitivity analysis in Section 19.

For purposes of the Preliminary Feasibility Study completed relative to the Tembladera quarry and Pacasmayo plant, both capital and operating costs are estimated to an accuracy of +/- 25% with a contingency of 5%.

19. Economic analysis

19.1. Methodology: Discounted Cash flow (Free)

The Economic Analysis chapter describes the assumptions, parameters and methodology used to demonstrate the economic viability or profitability of extracting the mineral Reserves and Resources. That is, the pre feasibility level support for the determination of mineral Resources and Reserves, by means of a business valuation through the Discounted (Free or Economic) Cash Flow method.

In the economic the same evaluation criteria were considered for the estimation of Resources and Reserves.

For the cash flow projection, the forecast horizon is consistent with the life of the quarry, which is calculated based on the total declared Reserves and the annual exploitation of the quarry. The cash flow for each period is approximated indirectly from the EBITDA (the latter is constructed in the Profit and Loss Statement), and the corresponding adjustments are made for taxes and capital costs (CapEx).

Finally, for this economic analysis we work with the free cash flow, since it does not incorporate the capital structure, and we apply the weighted average cost of capital (WACC) for discounting said future cash flows.

19.2. Assumptions

19.2.1. General and Macroeconomic Assumptions

For the Reserves evaluation, the general and macroeconomic assumptions used for the projection of the free/economic cash flows and for the valuation are:

- Projection horizon: 30 years (2022 to 2051) according to the estimated years of quarry life.
- Annual inflation rate, 2.65%: applies equally to sales price, costs, and expenses.
- Capital cost projections were determined using a historical ratio of annual investments and maintenance costs which also considers the increase in production volume.

- The company's capital structure is being considered in the discount rate (WACC) of 9.87%, not in the cash flows.
- Income tax rate: effective rate of actual (historical) business results, 31.0% - 32.0%.
- Workers' Profit Sharing: 10%.
- Exchange rate: exchange rate is assumed to remain at 4.00 (USD/PEN).

19.2.2. Income and Cost Assumptions

- The sales price of cement, expressed as S/ x t, is the sales price from Pacasmayo plant to Distribuidora Norte Pacasmayo, placed at Pacasmayo plant; and this is lower than the sales price to the final customer in the market. This difference is explained by the distribution freight to the multiple points of sale, and by the selling expenses associated with distribution and promotion in the different commercial channels.
- The base price used in the projection is an estimate for the year 2022 (332.3 S/ x t), which has been determined based on current market conditions and cement demand for 2022, among other factors.
- Starting in 2023 (year 2 of the projection), a price escalation is applied according to an annual inflation rate of 2.65%.
- The cost of cement production, expressed as S/ x t, has been estimated for the year 2022 based on actual operating costs, the market situation of local inputs and services, plant demand for imported clinker and other factors. Cost of production for year 2022 is 302.9 S/ x t.
- In the case of imported clinker, the current cost is more than 40% above the historical average and is the result of extraordinary circumstances. In this regard, the projection, from year 2028 (year in which clinker import is restarted), assumes values more consistent with the historical average, plus an adjustment for inflation.

- Starting in 2023, a cost escalation is applied in accordance with the annual inflation rate of 2.65%.
- The volume of cement shipments grows at an annual rate of 2.0% until the maximum plant capacity is reached and is adjusted slightly for a safety factor.
- The initial stock of products in the quarry and plant is assumed to be zero.

19.3. Results of financial model

For the Reserves evaluation, the following financial parameters were calculated:

- NPV of 779.6 million soles at a discount rate of 9.87%.
- 30-year mine life
- Average plant throughput for cement production: 2.33 million tonnes per year over the 30-year projection.
- Average sales price: 498.1 soles per ton of cement, an average of the 30-year projection, at nominal values.
- Revenues: 1,275.1 million soles, an average of the 30-year projection.
- Average cash production cost: 371.0 soles per ton of cement, an average of the 30-year projection, at nominal values.

The Table 53 shows the forecast of the Profit and Loss Statement of the operation of Tembladera quarry and Pacasmayo plant.

Table 53 Profit and Loss Statemen.

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500																																																																																																																																																																																																										
Revenue	1,496	1,721	1,954	2,197	2,450	2,713	2,985	3,266	3,556	3,855	4,163	4,480	4,806	5,141	5,485	5,838	6,199	6,568	6,945	7,329	7,719	8,115	8,517	8,924	9,336	9,753	10,175	10,601	11,031	11,465	11,903	12,345	12,791	13,240	13,692	14,148	14,607	15,069	15,534	16,002	16,473	16,947	17,423	17,901	18,381	18,862	19,345	19,830	20,316	20,803	21,292	21,782	22,273	22,765	23,258	23,752	24,247	24,743	25,240	25,738	26,237	26,736	27,236	27,736	28,237	28,738	29,240	29,742	30,244	30,747	31,250	31,753	32,256	32,760	33,263	33,766	34,270	34,773	35,276	35,780	36,283	36,786	37,289	37,792	38,295	38,798	39,301	39,804	40,307	40,810	41,313	41,816	42,319	42,822	43,325	43,828	44,331	44,834	45,337	45,840	46,343	46,846	47,349	47,852	48,355	48,858	49,361	49,864	50,367	50,870	51,373	51,876	52,379	52,882	53,385	53,888	54,391	54,894	55,397	55,900	56,403	56,906	57,409	57,912	58,415	58,918	59,421	59,924	60,427	60,930	61,433	61,936	62,439	62,942	63,445	63,948	64,451	64,954	65,457	65,960	66,463	66,966	67,469	67,972	68,475	68,978	69,481	69,984	70,487	70,990	71,493	71,996	72,499	73,002	73,505	74,008	74,511	75,014	75,517	76,020	76,523	77,026	77,529	78,032	78,535	79,038	79,541	80,044	80,547	81,050	81,553	82,056	82,559	83,062	83,565	84,068	84,571	85,074	85,577	86,080	86,583	87,086	87,589	88,092	88,595	89,098	89,601	90,104	90,607	91,110	91,613	92,116	92,619	93,122	93,625	94,128	94,631	95,134	95,637	96,140	96,643	97,146	97,649	98,152	98,655	99,158	99,661	100,164	100,667	101,170	101,673	102,176	102,679	103,182	103,685	104,188	104,691	105,194	105,697	106,200	106,703	107,206	107,709	108,212	108,715	109,218	109,721	110,224	110,727	111,230	111,733	112,236	112,739	113,242	113,745	114,248	114,751	115,254	115,757	116,260	116,763	117,266	117,769	118,272	118,775	119,278	119,781	120,284	120,787	121,290	121,793	122,296	122,799	123,302	123,805	124,308	124,811	125,314	125,817	126,320	126,823	127,326	127,829	128,332	128,835	129,338	129,841	130,344	130,847	131,350	131,853	132,356	132,859	133,362	133,865	134,368	134,871	135,374	135,877	136,380	136,883	137,386	137,889	138,392	138,895	139,398	139,901	140,404	140,907	141,410	141,913	142,416	142,919	143,422	143,925	144,428	144,931	145,434	145,937	146,440	146,943	147,446	147,949	148,452	148,955	149,458	149,961	150,464	150,967	151,470	151,973	152,476	152,979	153,482	153,985	154,488	154,991	155,494	155,997	156,500	156,503	157,006	157,509	158,012	158,515	159,018	159,521	160,024	160,527	161,030	161,533	162,036	162,539	163,042	163,545	164,048	164,551	165,054	165,557	166,060	166,563	167,066	167,569	168,072	168,575	169,078	169,581	170,084	170,587	171,090	171,593	172,096	172,599	173,102	173,605	174,108	174,611	175,114	175,617	176,120	176,623	177,126	177,629	178,132	178,635	179,138	179,641	180,144	180,647	181,150	181,653	182,156	182,659	183,162	183,665	184,168	184,671	185,174	185,677	186,180	186,683	187,186	187,689	188,192	188,695	189,198	189,701	190,204	190,707	191,210	191,713	192,216	192,719	193,222	193,725	194,228	194,731	195,234	195,737	196,240	196,743	197,246	197,749	198,252	198,755	199,258	199,761	200,264	200,767	201,270	201,773	202,276	202,779	203,282	203,785	204,288	204,791	205,294	205,797	206,300	206,803	207,306	207,809	208,312	208,815	209,318	209,821	210,324	210,827	211,330	211,833	212,336	212,839	213,342	213,845	214,348	214,851	215,354	215,857	216,360	216,863	217,366	217,869	218,372	218,875	219,378	219,881	220,384	220,887	221,390	221,893	222,396	222,899	223,402	223,905	224,408	224,911	225,414	225,917	226,420	226,923	227,426	227,929	228,432	228,935	229,438	229,941	230,444	230,947	231,450	231,953	232,456	232,959	233,462	233,965	234,468	234,971	235,474	235,977	236,480	236,983	237,486	237,989	238,492	238,995	239,498	239,501	240,004	240,507	241,010	241,513	242,016	242,519	243,022	243,525	244,028	244,531	245,034	245,537	246,040	246,543	247,046	247,549	248,052	248,555	249,058	249,561	250,064	250,567	251,070	251,573	252,076	252,579	253,082	253,585	254,088	254,591	255,094	255,597	256,100	256,603	257,106	257,609	258,112	258,615	259,118	259,621	260,124	260,627	261,130	261,633	262,136	262,639	263,142	263,645	264,148	264,651	265,154	265,657	266,160	266,663	267,166	267,669	268,172	268,675	269,178	269,681	270,184	270,687	271,190	271,693	272,196	272,699	273,202	273,705	274,208	274,711	275,214	275,717	276,220	276,723	277,226	277,729	278,232	278,735	279,238	279,741	280,244	280,747	281,250	281,753	282,256	282,759	283,262	283,765	284,268	284,771	285,274	285,777	286,280	286,783	287,286	287,789	288,292	288,795	289,298	289,801	290,304	290,807	291,310	291,813	292,316	292,819	293,322	293,825	294,328	294,831	295,334	295,837	296,340	296,843	297,346	297,849	298,352	298,855	299,358	299,861	300,364	300,867	301,370	301,873	302,376	302,879	303,382	303,885	304,388	304,891	305,394	305,897	306,400	306,903	307,406	307,909	308,412	308,915	309,418	309,921	310,424	310,927	311,430	311,933	312,436	312,939	313,442	313,945	314,448	314,951	315,454	315,957	316,460	316,963	317,466	317,969	318,472	318,975	319,478	319,981	320,484	320,987	321,490	321,993	322,496	322,999	323,502	324,005	324,508	325,011	325,514	326,017	326,520	327,023	327,526	328,029	328,532	329,035	329,538	330,041	330,544	331,047	331,550	332,053	332,556	333,059	333,562	334,065	334,568	335,071	335,574	336,077	336,580	337,083	337,586	338,089	338,592	339,095	339,598	

Cement sales at Pacasmayo Plant are on average S/ 1,275 million per year (for the period 2022-2051) and the average EBITDA margin for the same period is 16.60%. In 2022, the EBITDA margin is significantly reduced due to the high cost of imported clinker and the high need for it to meet cement demand. Starting in 2023, with the partial start-up of the clinker line optimization project, the need for imported clinker is reduced, the production cost decreases, and the EBITDA margin improves.

By 2024, the optimization of the clinker line is 100% operational and Clinker imports cease, that significantly improves the EBITDA margin. Early 2025, the EBITDA margin continues to improve moderately, until shipments exceed the installed Clinker capacity and imports are resumed, bringing the EBITDA margin to 16.00% on average when the maximum cement production capacity is reached.

Table 54 shows the Free Cash Flow projection and the valuation of the cement business of Pacasmayo plant:

Table 54 Free Cash Flow and valuation

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Q1 (Visiteur) (Thousands)																																
10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
NPV	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
IRR	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Payback Period (Years)	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000

The net present value (NPV) of Pacasmayo Plant cement business amounts to more than S/ 779 million and it is made up of the sum of the discounted cash flows of each period, for the 30-year projection. It is important to mention that the discounted recovery period (of the investment for the clinker line optimization) is 5 years.

For the discount of the cash flows, the weighted average cost of capital of the company (WACC for its acronym in English) was applied.

19.4. Sensitivity Analysis

The sensitivity analysis considers a variation of +/- 5 and 10% in the variables that have the greatest impact on the NPV and EBITDA. These variables are the cement sales price, operating cost and CapEx.

Table 55 and 56 detail the sensitivity of the EBITDA and NPV to each variable, respectively, when the variables are varied independently. Figures 20 and 21 show the results of the sensitivity of NPV and EBITDA, respectively, to the three variables.

Table 55 Sensitivity analysis of the Net Present Value

Variable / Variation	-10%	-5%	0%	+5%	+10%
Price	-72.8%	-36.4%	0%	36.4%	72.8%
Cost	62.6%	31.3%	0%	-31.3%	-62.6%
CapEx	4.4%	2.2%	0%	-2.2%	-4.4%

Table 56 Sensitivity analysis of EBITDA

Variable / Variation	-10%	-5%	0%	+5%	+10%
Price	-56.6%	-28.3%	0.0%	28.3%	56.6%
Cost	47.7%	23.9%	0.0%	-23.9%	-47.7%
CapEx	-0.1%	-0.1%	0.0%	0.1%	0.1%

Figure 20 Sensitivity of Net Present Value

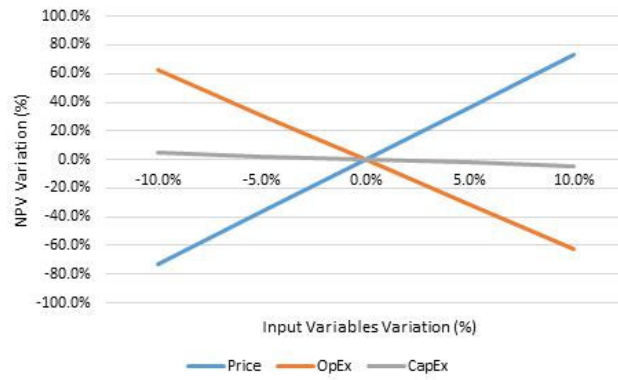
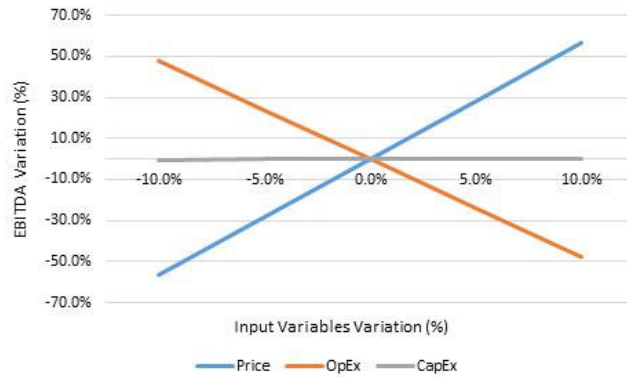


Figure 21 Sensitivity of EBITDA



Based on these results, the NPV is most sensitive to cement price, followed by operating cost, and least sensitive to the CapEx. The EBITDA, on the other hand, is as sensitive to cement price as to the cost, and shows no sensitivity towards variations to the CapEx.

19.5. Economical Analysis for Resources Evaluation

About Mineral Resources, to demonstrate their economic viability or profitability, an economic analysis there was developed. The same criteria were used for the Reserves (see point 19.2.1) and Resources estimation. The Resources are significantly more than the Reserves; perpetuity is included at the end of the 30-year projection.

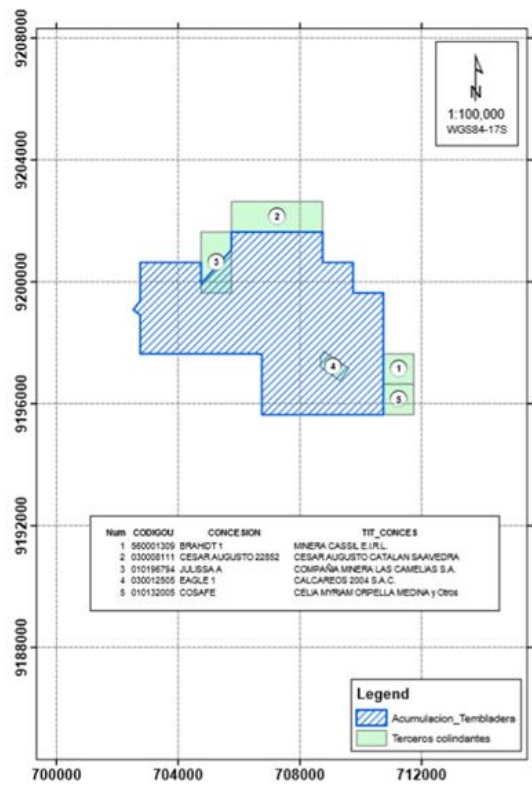
The results are NPV of 954.0 million soles at a discount rate of 9.87%. A life of mine (LOM) of 63 years with an average plant throughput of 2.33 million tons per year during the 30-year forecast. The average sales price for the 30-year forecast is 498.1 soles per ton of cement at nominal values, and average revenues are 1.275.1 million soles per year. The average cash production cost for the 30-year forecast is 371.0 soles per ton of cement at nominal values.

20. Adjacent properties

The information in this chapter was obtained from the competent authority Instituto Geológico, Minero Metalúrgico (INGEMMET) according to the document “Resumen del Derecho Minero Acumulación Tembladera”. The Eagle 1 concession overlaps with the Cementos Pacasmayo S.A.A. concession by 46.43 hectares. The Julissa A concession does not interfere with the area of the mining rights in the Cementos Pacasmayo S.A.A. concession.

Eagle 1 does not interfere with Cementos Pacasmayo S.A.A. ’s operations or Reserve estimates.

Figure 22 Concession Acumulación Tembladera and adjacent concessions.



21. Other relevant data and information

Not applicable

22. Interpretation and conclusions

- From a legal point of view, Cementos Pacasmayo S.A.A. has the ownership of the mining properties for the exploration, development and production of limestone to supply the cement plants for normal production during the life of the quarry.
- Cementos Pacasmayo S.A.A. has been complying with international ISO-9001 (Quality) standards since 2015 and has implemented Quality Assurance and Quality Control (QAQC). The controls are applied for the construction of the Geological Model, Resource Estimation and Reserves Estimation.
- Cementos Pacasmayo S.A.A. has a quality assurance system in its operations that includes sample preparation methods, procedures, analysis and security, which comply with the best practices in the industry.
- Updated geotechnical studies and geotechnical design evaluated are stable since the analyses show safety factors greater than the minimum acceptable.
- The information verification and validation processes are carried out following the procedures indicated in the information flows. The validated information is congruent with the one that generated the geological models, which are the fundamental basis for the estimation of Resources.
- The geological modeling of the limestone deposit is consistent with the relationship between the information and the geological model.
- The Reserves estimations consider the risk factors and modifying factors. The main variable is the CaO content, which is very stable in the deposit, also there are along with other secondary variables that determine the quality of the Reserves.
- In the process of calculating Reserves and in the production plans of the quarry, these variables have been adequately considered in the mining plan, properly sequenced and with blending processes. There are sufficient proven and probable Reserves for the next 30 years.

- Table 57 shows the Mineral Resources of the Tembladera quarry and categories. Likewise, the Mineral Reserves are shown in Table 58 and categories.

Table 57 Resource Categorization (exclusive of Reserves) at the Tembladera quarry

	Resources	Tonnes M	CaO (%)	MgO (%)	Al ₂ O ₃ (%)	SiO ₂ (%)	SO ₃ (%)
Limestone	Measured	128.29	49.31	1.81	1.84	4.82	0.31
	Indicated	37.64	50.23	1.70	1.47	3.96	0.19
	Measured + Indicated	165.93	49.52	1.79	1.76	4.63	0.28
	Inferred	74.24	50.34	0.31	1.63	3.92	1.45

Table 58 Mineral Reserves expressed in millions of tonnes

	Reserves	Tonnes M	CaO (%)	MgO (%)	Al ₂ O ₃ (%)	SiO ₂ (%)	SO ₃ (%)
Limestone	Proven	66.52	49.75	1.53	1.53	4.50	0.36
	Probable	10.47	49.64	1.53	1.56	4.91	0.28
	Total	76.99	49.74	1.53	1.53	4.56	0.35

- The cement plant located in Pacasmayo has equipment and facilities available for cement production using limestone from the Tembladera quarry and other necessary materials. An additional kiln is expected to be installed for clinker production, which should be in full production by 2024.
- The Health, Safety and Environment area is in charge of supervising compliance with the Company's corporate policies and the various legal requirements of the national regulatory bodies by all company areas.
- Through its Social Responsibility area, Cementos Pacasmayo S.A.A. has generated relationships of trust with the communities surrounding its operations, which have a solid relationship with our communities, identifying their primary needs in health, education, urban development, and local development.
- In 2021, due to COVID 19 pandemic, CPSAA had been limited in some face-to-face meetings with stakeholders that did not affect our good relationship.
- The operation in Tembladera quarry and Pacasmayo plant, with regards to infrastructure, is technically and economically feasible due to the life of the quarry.
- The sensitivity analysis shows that the operation is economically robust.

23. Recommendations

- Maintain the QAQC program for exploration, development and production activities associated with cement production.
- Concerning the estimation of Resources, it is recommended that it is necessary and important to complement the geological study towards the east side of the pit that is being exploited to allow recategorizing the inferred Resources that are being exploited.
- Perform geotechnical and hydrogeological studies in order to update the pit design associated with the mining method.
- Increase the number of topographic monitoring milestones in the quarry since the existing ones are insufficient.
- The installation of deep piezometers would help to better define deep water levels that could impact the operation, especially during the last years of operation.
- Perform density tests for limestone in the next studies at the Tembladera quarry.
- For future diamond drilling campaigns, evaluate the rock density for each limestone horizon.
- Evaluate the presence of andesitic dykes within the production zone. These represent inert material during production.

24. References

- BISA Ingeniería de Proyectos S.A.(2017). *Actualización del Plan de Manejo Ambiental del Programa de Adecuación y Manejo Ambiental – PAMA de la Cantera Tembladera*.
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- BISA Ingeniería de Proyectos S.A. (2017). *Actualización del Plan de Manejo Ambiental del Programa de Adecuación y Manejo Ambiental – PAMA de la Cantera Tembladera – Volumen I*
- Magma Consulting S.A.C. (2021). *Estudio Geomecánico Geotécnico Cantera Tembladera*.
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- Wiracocha Mining Services S.R.L (2021). *QAQC de Sondajes Diamantinos Cantera Tembladera 2021*.
- Walsh Perú S.A. (2016). *Actualización del Plan de Cierre de la Cantera Tembladera*.

25. Reliance on information provided by the registrant.

In preparing this report, the qualified persons relied upon data, written reports and statements provided by the registrant in accordance with 17 CFR § 229.1302(f). After careful review of the information provided, the QPs have no reason to believe that any material facts have been withheld or misstated. Cementos Pacasmayo provided the information as summarized in Table 59.

Table 59 List of Cementos Pacasmayo S.A.A. information.

Chapter	Chapter name	Information provided by CPSAA
3	Property description	Legal matters related to property rights and the authority “Instituto Geológico, Minero y Metalúrgico INGEMMET”
16	Market studies	Marketing information, ASOCEM, INEI and BCRP
17	Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups	Environmental studies and information, Community Relations and agreements with stakeholders
18	Capital and operating costs	Historical data about cost, price and investments
19	Economic analysis	Economic model, Macroeconomic trends, data, and assumptions, and interest rates
20	Adjacent properties	Legal matters related to property rights and the authority “Instituto Geológico, Minero y Metalúrgico “INGEMMET”

CEMENTOS PACASMAYO S.A.A.
Technical Report Summary (TRS)
Virrila Quarry
and
Piura Cement Plant
20-F 229.601 (Item 601)

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1. Executive summary

Cementos Pacasmayo S.A.A (CPSAA) is a Peruvian company whose corporate purpose is the production of cement and other products associated with the construction sector. This Technical Report Summary summarizes a Pre-feasibility study of the Virrila quarry and Cement Plant located in the Piura Region. Cementos Pacasmayo's internal qualified persons prepared this Report to support disclosure of seashell Resources and Reserves.

1.1. Location and access

The Virrila quarry contains seashells, the main raw material for cement production. This quarry is located in the Sechura district, of Sechura Province, in the Piura Region. There is an access road to this quarry from Lima to Piura. The Piura plant is located in Piura city, and is 192 km from Virrila quarry and 950 Km from Lima.

1.2. Climate

The quarry has a temperate and humid climate, with little rainfall, mostly between February and April. Average annual temperatures vary between 17.8 °C and 29.5 °C. The highest temperatures were recorded in January, February, and March, and the lowest in August and September.

In the Piura plant, the climate is predominantly arid and warm, with no rain for most of the year. The average maximum temperature is 31.2 °C, and the minimum is 17.7 °C. When the El Niño phenomenon occurs, there is rainfall, especially between December and June.

1.3. History

The Virrila quarry is a production stage operation on a non-metallic deposit of calcareous material from marine shells that supply raw material to the cement plant in Piura. Cementos Pacasmayo S.A.A owns the mineral deposit.

The Virrila quarry started operations on September 17, 2015. The mining contractor San Martin Contratistas Generales S.A. was in charge of the production from the start of operations until March 14, 2020. The mining contractor Posada Perú S.A.C started operations at the Virrila quarry on September 14, 2020, until December 30, 2021.

1.4. Geological environment and mineralization

Geologically, the study area is in the desert zone of Sechura and has sedimentary rocks from the Recent Quaternary.

It is composed of silty sand deposits with intercalations of medium to fine-grained sands and seashell horizons. Below the recent deposits, there are diagenetic eolian deposits in the sandy matrix with calcareous cement. Below these, there are intercalations of conglomerates with gray diatomites, intercalated with white reef sandstones, corresponding to the Talara Bedrock and the upper levels of the Zapallal Formation.

The Virrila quarry deposit is comprised of coquiniiferous portions of the Talara Tablazo that undergo lateral variations in thickness and composition of calcareous remains.

1.5. Exploration

In 2007 and 2008 exploration activities were performed to obtain geological information from the Virrila quarry that would allow the production of seashell.

In 2013, exploration activities were carried out by means of test pits in the best areas of the mining concession.

In 2019, activities and sampling in the operation area were developed to validate the Mineral Reserves in the area of operation and update the inventory.

In 2021, drilling was conducted to confirm Reserves within the operations and to know in more detail the characteristics of the deposit.

1.6. Sample preparation, analysis and security

Cementos Pacasmayo S.A.A., through its quality control group, performed quality assurance activities for the samples obtained at the Virrila deposit, applying the quality control plan, protocols, and measures necessary to get information on the seashell samples. Laboratory analyses were performed at the chemical laboratory of Piura plant and were applied for the estimation of Resources and Reserves of the deposit.

The Piura plant's Quality Assurance and Control Department has implemented a sampling and data verification plan for the following processes: raw material reception, raw mill scale, raw mill grinding, kiln feed, coal scale, coal grinding, preheater, kiln filter, clinkerization, cement grinding, mill scale, cement grinding, cement composting, packaging control, packaging-composting and by-pass.

Likewise, Cementos Pacasmayo S.A.A. has implemented QAQC protocols to develop exploration and production activities in the Virrila quarry and in the Piura plant to ensure the quality of the information that allows the estimation of Resources and Reserves of the seashell deposit.

Cementos Pacasmayo has procedures for sample preparation, testing, and information security in its operations. The cement plants and operations have implemented the ISO 9001 standard since 2015. Certification is renewed annually through an external audit.

1.7. Data Verification

CPSAA has a data verification area for the geological database relating to geological activities. This area has as its primary function the verification of data used to estimate Mineral Resources and Reserves. For the appropriate administration of information, internal protocols have been implemented which are subject to internal audits.

The stages of verification activities conducted in the geologic area are the data collection, the administration and validation of data received, data tracking through the confirmation of custody chains, and finally, validation of data in the information base that will allow the development of the Resources and Reserves model. For data verification activities at the cement plant, the PDCA (Plan, Do, Check, and Act) methodology is used, which is applied to the technical information received from the company's internal and external customers.

The quality control laboratory compares the results with national and international laboratories as part of the verification procedures.

1.8. Mineral processing and metallurgical test

Cementos Pacasmayo has procedures for developing products at the laboratory level and scaling at the industrial level: its guidelines for preparing, reviewing, insurance, and controlling laboratory test reports. Cementos Pacasmayo has a Research and Development laboratory located in the Pacasmayo plant to evaluate the technical operations of cement plants and quarries.

In order for its operations at the Piura plant to have a representative sample of its raw materials and cement, Cementos Pacasmayo performs the analysis of its samples in its internal Research and Development Laboratory located at the Pacasmayo plant.

A significant percentage of Research and Development activities are focused on evaluating different ratios between clinker-mineral additions providing the best functional characteristics to our products, and balancing the benefits generated for the company. Another objective is to identify other additions that can substitute for clinker: slag, pozzolana, fly ash, calcined clays, etc., to reduce our environmental footprint and the cost of cement production.

The clinker/cement factor of the cement with additions: ICO and MS(MH) were investigated.

For ICO cement, the clinker/cement factor was reduced by 0.67 (2019), 0.66 (2020) and 0.71 (2021). For MS(MH) cement the clinker/cement factor was 0.68 (2019), 0.68 (2020) and 0.72 (2021).

The Research Laboratory issues technical reports following the criteria of international standards to the operations area, which evaluates the convenience of implementing the tests industrially and validating what is reported at the laboratory level.

1.9. Estimation of Resources and Mineral Reserves

The qualified persons (QPs) have estimated seashell Resources and Reserves for this property. The information from exploration in the previous years has been used for the evaluation, and is the database for the Resources and Reserves model.

The seashell Resources are presented in Table 1. The Resource estimation considered the quality restrictions of seashells received in the Piura plant, limits of the concessions, accessibility to the Resources and legal limits of the mining concessions, relevant economic factors, and modifying factors.

The minimum quality accepted is 48.5% CaO to be used as raw material for cement production. Considering the sales prices of cement at the Piura plant, the economic evaluation used for Resource evaluation is shown in Chapter 19 and uses the same criteria used to estimate Reserves.

Table 1 Mineral Resources (exclusive of Reserves) in the Virrila quarry

	Resources	Tonnes M	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Measured	21.1	48.50	0.84	0.84	9.80	0.268	0.160	0.111
	Indicated	29.2	48.78	0.87	1.23	7.62	0.204	0.222	0.079
	Measured + Indicated	50.3	48.66	0.86	1.07	8.54	0.231	0.196	0.092
	Inferred	3.9	46.42	2.27	1.67	9.96	0.219	0.246	0.066

For Reserve estimation, the Resources and the quality criteria, modifying factors, and seashell production costs were considered. The economic results are shown in Chapter 19. The mining method used is open pit mining.

Table 2 Ore Reserves in the Virrila quarry

	Reserves	Tonnes M	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Proven	42.4	49.99	0.55	0.55	6.78	0.222	0.212	0.111
	Probable	2.9	47.77	0.96	0.92	9.71	0.234	0.269	0.120
	Total	45.3	49.85	0.58	0.57	6.97	0.223	0.216	0.112

1.10. Processing Plant and Infrastructure

Cement production considers the stages of raw material extraction, raw material grinding and homogenization, clinkerization, cement grinding, silo storage and packaging, loading, and transportation. Cement is moved through pneumatic conveyors to bagging systems to be packed in bags and then loaded onto trucks operated by third parties for distribution.

Figure 1 Piura plant process block diagram



The raw materials for cement production are seashells, sand, iron, clay, and coal. The mixture of these raw materials is the ground material called raw meal, which is fed to the calcining kiln to produce clinker. Seashell represents 72% by weight of the crude.

Clinker and additions are used to produce cement. The additions used in cement production are slag, pozzolana, shale, and gypsum.

Currently, the Piura cement plant has a clinker/cement ratio of 0.7.

The Piura plant has an electrical substation of 22.33 MW and uses electricity supplied from the national grid.

Cementos Pacasmayo has implemented a preventive and corrective maintenance plan to prevent interruptions in cement production.

Cementos Pacasmayo maintains operating efficiency to control costs and operating margins, and has initiatives to diversify energy sources and secure supply when possible.

1.11. Market studies

The Peruvian cement market is geographically segmented by region: northern region, central region, and southern region, and each area is served by several companies, most of which are cement producers.

The main companies that supply the Peruvian cement market are Cementos Pacasmayo, UNACEM, and Cemento Yura. Some companies import cement or clinker, such as Cemento Inka, Cemento Nacional and Cemex, among others.

Companies that market cement in Peru follow the Peruvian Technical Standards associated with cement technical specifications.

Portland cement is subdivided into Type I and Type V cement. Portland Cement is subdivided into Type ICO, Type IL, Type IP, and Type I (PM); and finally, Hydraulic Cements specified by performance are Type GU, Type MS (MH), Type HS, Type HE, Type MH, and Type LH.

Cementos Pacasmayo, being the leading company in the production and sale of cement in the Northern Region, has a market share of over 90% in the following cities: Cajamarca, Chiclayo, Chimbote, Jaén, Pacasmayo, Piura, Rioja, Tarapoto, Trujillo, Tumbes, Yurimaguas and Iquitos. Cementos Pacasmayo also has a market share of over 90% in the country's northern region.

Annual cement deliveries nationwide for the year 2021 reached 12.5 million tons, while total cement deliveries of Piura plant for 2021 were 1.3 million tons. The Piura plant serves almost 33% of the cement demand in the country's Northern Region, and its cement dispatches represent more than 36.3% of the three cement plant's overall shipments.

1.12. Capital and operating costs and Economic Analysis

This document presents the cash flow analysis and an economic evaluation of the project based on the current operating costs of the cement plant in Piura. It uses the information on the Virrila quarry for seashell production.

The economic analysis uses the economic assumptions listed in Chapter 19. The main variables considered in the economic model for the sensitivity analysis were cement price, production cost, and Capex. Some of these main assumptions are listed below here.

The free cash flow is constructed for the economic analysis, which does not incorporate the financing structure. The latter is considered in the weighted average cost of capital (WACC) to discount future cash flows. The following financial parameters were calculated:

- 30-year mine life
- Average plant throughput for cement production: 1.51 million tonnes per year over the 30-year projection.
- Average sales price: 552.9 soles per ton of cement, an average of the 30-year projection, at nominal values.
- Revenues: 861.8 million soles, an average of the 30-year projection.
- Average cash production cost: 342.3 soles per ton of cement, an average of the 30-year projection, at nominal values.

The cash flow of the project is presented in Table 3 below. The net present value at a discount rate of 9.87% is 1.281 billion Soles.

Table 3 Free Cash Flow and valuation

	2022P	2023P	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P	2034P	2035P	2036P	2037P	2038P	2039P	2040P	2041P	2042P	2043P	2044P	2045P	2046P	2047P	2048P	2049P	2050P	2051P	
FCF - valuation (Thousand \$)																															
EBIT	118,708	128,545	149,468	169,444	178,058	186,424	188,938	176,299	186,734	178,811	185,178	188,288	181,942	215,562	226,479	238,207	245,808	255,183	251,866	266,638	277,496	275,587	296,778	302,672	301,319	315,999	328,681	318,987	352,241	364,481	
(+) D&A	43,709	43,135	64,183	45,205	42,029	37,855	37,357	37,373	37,638	38,510	34,720	33,041	33,529	33,652	29,556	26,783	24,548	24,683	24,737	23,547	23,680	23,450	23,912	24,607	24,916	25,637	25,970	25,687	23,305	25,488	
(-) Taxes (18.1%)	-43,083	-50,683	-54,099	-53,728	-59,383	-63,237	-63,383	-67,583	-69,639	-69,300	-71,279	-78,328	-77,808	-83,056	-87,262	-87,923	-94,832	-97,532	-97,044	-103,884	-106,883	-106,388	-113,183	-116,581	-116,098	-123,296	-126,834	-126,743	-139,718	-139,864	
(-) CapEx	-13,330	-13,874	-12,251	-12,641	-13,604	-13,638	-13,796	-14,361	-14,156	-14,822	-15,337	-15,723	-16,140	-16,507	-17,863	-17,853	-18,394	-18,482	-19,382	-19,896	-20,423	-20,964	-21,330	-22,096	-22,478	-23,377	-23,893	-24,527	-25,176		
Free Cash Flow (to the Firm)	105,217	112,160	118,241	118,281	125,965	125,985	124,884	130,958	134,186	133,909	135,502	140,278	141,917	149,596	151,766	149,585	157,882	161,690	160,677	165,500	173,623	172,430	183,517	188,679	188,646	199,465	205,043	203,998	215,101	221,013	
WACC	9.67%																														
Economic NPV (Thousand \$)	1,241,137																														

Sensitivity analysis was also made to show the influence of changes in prices, OpEx and CapEx on NPV.

Figure 2 Sensitivity of Net Present Value

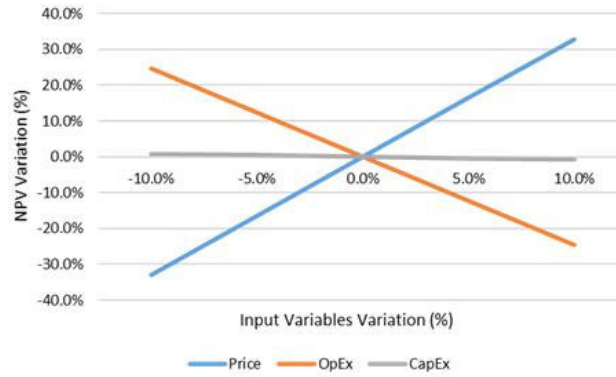
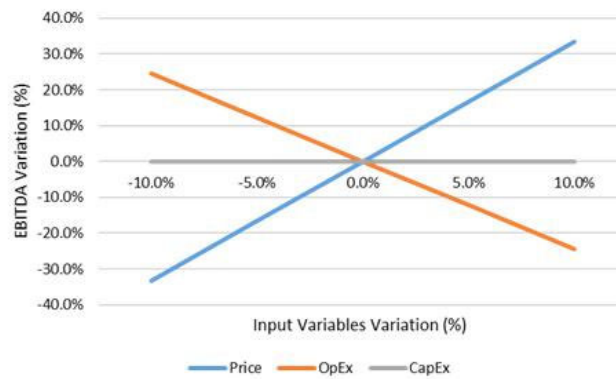


Figure 3 Sensitivity of EBITDA



About Mineral Resources, to demonstrate the economic viability or profitability, an economic analysis there was developed. The same criteria were used for the Reserves (see point 19.2.1) and Resources estimation. In addition, given the quantity of the Resources and the LOM, the forecast horizon is extended to 35 years.

The results are NPV of 1.335 billion soles at a discount rate of 9.87%. A life of mine (LOM) of 35 years with an average plant throughput of 1.51 million tons per year during the 35-year forecast. The average sales price for the 35-year forecast is 595.7 soles per ton of cement at nominal values, and average revenues are 929.6 million soles per year. The average cash production cost for the 35-year forecast is 369.1 soles per ton of cement at nominal values.

1.13. Adjacent properties

To the north of the Cementos Pacasmayo S.A.A. concession is the Bayovar N° 7 concession owned by Americas Potash Peru S.A. To the east of CPSAA's concession are concessions Virrila 12, Virrila 19, and Virrila 23 owned by Cementos Pacasmayo S.A.A. To the west are concessions Virrila 6, Virrila 9 and Virrila 14 owned by Cementos Pacasmayo S.A.A. and to the north is concession Virrila 16 owned by Cementos Pacasmayo S.A.A.

1.14. Conclusions

- From a legal viewpoint, Cementos Pacasmayo S.A.A. has mining rights for the areas of exploration, development, and production of seashell to supply the cement plants for normal production during the quarry's life. It also has an agreement with Fundación Comunal San Martín de Sechura for the right of usufruct, surface and easement for the area of operations at the Virrila quarry.
- Cementos Pacasmayo S.A.A. has been complying with international ISO-9001 (Quality) standards since 2015 and has implemented Quality Assurance and Quality Control (QAQC). The controls are applied for the construction of the Geological Model, Resource Estimation and Reserves Estimation.
- Cementos Pacasmayo S.A.A. has a quality assurance system in its operations that includes sample preparation methods, procedures, analysis and security, which comply with the best practices in the industry.
- The information verification and validation processes are carried out following the procedures indicated in the information flows. The validated information is congruent with the one that generated the geological models, which are the fundamental basis for the estimation of Resources.

- The geological modeling of the seashell deposit is consistent with the relationship between the information and the geological model.
- The Reserves estimations consider the risk factors and modifying factors. The main variable is the CaO content which is very stable in the deposit. There also are other secondary variables that determine the quality of the Reserves.
- In the process of calculating Reserves and in the production plans of the quarry, these variables have been adequately considered in the mining plan, properly sequenced, and with blending processes. There are sufficient proven and probable Reserves for the next 30 years.
- Table 4 shows the Mineral Resources of the Virrila quarry and categories. Likewise, the Mineral Reserves are shown in Table 5 and categories.

Table 4 Resource Categorization (exclusive of Reserves) at the Virrila quarry

	Resources	Tonnes M	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Measured	21.1	48.50	0.84	0.84	9.80	0.268	0.160	0.111
	Indicated	29.2	48.78	0.87	1.23	7.62	0.204	0.222	0.079
	Measured + Indicated	50.3	48.66	0.86	1.07	8.54	0.231	0.196	0.092
	Inferred	3.9	46.42	2.27	1.67	9.96	0.219	0.246	0.066

Table 5 Mineral Reserves expressed in millions of tonnes

	Reserves	Tonnes M	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Proven	42.4	49.99	0.55	0.55	6.78	0.222	0.212	0.111
	Probable	2.9	47.77	0.96	0.92	9.71	0.234	0.269	0.120
	Total	45.3	49.85	0.58	0.57	6.97	0.223	0.216	0.112

- The cement plant located in Piura has all the equipment and facilities available to produce cement, using seashells from the Virrila quarry and other necessary materials.

- The Health, Safety and Environment area is in charge of supervising compliance with the Company's corporate policies and the various legal requirements of the national regulatory bodies by all company areas.
- Through its Social Responsibility area, Cementos Pacasmayo S.A.A. has generated relationships of trust with the communities surrounding its operations, which have translated into a solid relationship with our communities, identifying their primary needs in health, education, urban development, and local development.
- In 2021, due to COVID 19 pandemic, CPSAA had been limited in some face-to-face meetings with stakeholders that did not affect our good relationship.
- The operation at the Virvila quarry and Piura plant, and related infrastructure, is technically and economically feasible due to the quarry's life. The sensitivity analysis shows that the operation is economically robust.

1.15. Recommendations

- Develop a geological exploration program surrounding the Virvila quarry to discover new coquiniferous zones and other materials related to cement production.
- Maintain the QAQC program for exploration, development and production activities associated with cement production.
- Update the geological model and standardize the information for the estimation of Resources and Reserves, considering that some areas have test pits and other drill-holes as a source of information.
- Control the stripping ratio during the operation in order to achieve a reduction in production costs.
- Perform maintenance of the piezometers in the quarry.

2. Introduction

2.1. Participants

This technical summary report (TRS) was prepared by Cementos Pacasmayo's qualified persons (QPs), who, according to their qualifications and experience, developed the chapters based on their expertise. Likewise, the aforementioned QPs used Company information sources, information validated and approved by the competent authorities in Peru, and public information sources. Table 6 indicates the qualified professionals who participated in the preparation of this document and the chapters and information under their responsibility.

Marco Carrasco, who holds the position of Project Manager of Cementos Pacasmayo, is QP certified by the Mining and Metallurgical Society of America (MMSA) of the United States. He acted as Project Manager, whose primary role was compiled the information received from the QPs of each chapter to have an integrated document. Each QP is responsible for the section they wrote.

2.2. Terms of Reference

This report summarizes the Pre-feasibility study results of the "UEA Virrila" property for the production of seashells using open-pit mining methods. This technical report summary was prepared as an exhibit to support disclosure of mineral Resources and Reserves by Cementos Pacasmayo. The information is effective December 31, 2021.

The seashell was produced from the UEA Virrila property located in the Sechura district. This property supplies raw material for the Piura plant where cement is produced. The annual cement production is 1.51 million tonnes per year (mtpy). This technical report summary estimates Resources and Reserves according to the regulations published in Securities Exchange Commission (SEC) Form 20-F and under subpart 1300 of Regulation S-K. Actual operating costs have been considered for the estimates and used as a basis for economic projections within the financial analysis.

The report was prepared by the qualified persons listed in Table 6 using available studies and, in some cases (see Chapter 25), relying on information provided by Cementos Pacasmayo, the registrant.

Table 6 List of Cementos Pacasmayo S.A.A. Professionals

Item	Chapter	First and Last Names	Job Position	Profession
0	Compiled all	Marco Carrasco (*)	Project Manager	Chemical Engineer
1	Executive summary	All QPs (**)		
2	Introduction	All QPs (**)		
3	Property description	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
4	Accessibility, climate, local Resources, infrastructure and physiography	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
5	History	Jorge Vega	Mining Projects Superintendent	Mining Engineering
5	History	Jhonson Rodríguez	Senior Geologist	Geological Engineer
6	Geological setting, mineralization, and deposit	Jhonson Rodríguez	Senior Geologist	Geological Engineer
7	Exploration	Jhonson Rodríguez	Senior Geologist	Geological Engineer
8	Sample preparation, analyses, and security	Jhonson Rodríguez	Senior Geologist	Geological Engineer
8	Sample preparation, analyses, and security	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer
9	Data verification	Jhonson Rodríguez	Senior Geologist	Geological Engineer
9	Data verification	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer
10	Mineral processing and metallurgical testing	Gabriel Mansilla	R&D and Quality Assurance Superintendent	Chemical Engineer
11	Mineral resource estimates	Jason Gamio	Modeler	Geological Engineer
12	Mineral reserve estimates	Jason Gamio	Modeler	Geological Engineer
13	Mining methods	Jorge Vega	Mining Projects Superintendent	Mining Engineering
14	Processing and recovery methods	Mario Alva	Operations Manager	Electronic Engineer
15	Infrastructure	Jorge Vega	Mining Projects Superintendent	Mining Engineering
16	Market studies	Jason Gamio	Modeler	Geological Engineer
17	Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
18	Capital and operating costs	Jason Gamio	Modeler	Geological Engineer
19	Economic analysis	Jason Gamio	Modeler	Geological Engineer
20	Adjacent properties	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
21	Other relevant data and information	All QPs (**)		
22	Interpretation and conclusions	All QPs (**)		
23	Recommendations	All QPs (**)		
24	References	All QPs (**)		
25	Reliance on information provided by the registrant	All QPs (**)		

(*) Marco Carrasco, who holds the position of Project Manager of Cementos Pacasmayo compiled the information received from the QPs of each chapter to have an integrated report. Each QP is responsible for the section they wrote.

(**) Ricardo del Carpio, Jorge Vega, Jhonson Rodríguez, Gabriel Mansilla, Jason Gamio and Mario Alva

2.3. Conventions

Unless otherwise indicated in the report, all currencies are in soles and all measurements and units are in the metric system. The UEA Virrila property is located within the boundaries of the WGS84 two-dimensional geographic coordinate reference system in the UTM 17S (Universal Transverse Mercator) zone. Unless otherwise indicated, all coordinates referenced in this report and the accompanying figures, tables, maps, and sections are provided in the WGS84 coordinate system, UTM 17S zone.

2.4. Previous Work and Sources of Information

The information used is sufficient to allow this TRS to be completed with the level of detail required by Regulation S-K subpart 1300. The information used included actual information from Cementos Pacasmayo's operations, information submitted to and approved by the corresponding authorities, and public information in organizations specialized in the cement industry. The list of sources of information is presented in Chapter 24 of this report.

2.5. Details of QP Personal Inspection

The QP's who developed this document was unable to visit the Virrila quarry and the Piuraa plant periodically during 2021 due to COVID-19 pandemic restrictions. Instead, the QPs worked with on-site staff using virtual tools to gain first-hand knowledge of the quarry and cement plant. The virtual meetings included verifying parameters of the limestone and cement production.

Table 7 QP's field visit

Item	First and Last Names	Job Position	Profession	Field visit
1	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer	The last visit to the Virrila quarry and Piura plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
2	Jorge Vega	Mining Projects Superintendent	Mining Engineering	The last visit to the Virrila quarry was in 2019 and Piura plant was in 2018. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel
3	Jhonson Rodríguez	Senior Geologist	Geological Engineer	The last visit to the Virrila quarry was in 2021. No visits were made to the Piura plant in 2021 due to COVID issues, and coordination was made with Operations personnel
4	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer	The last visit to the Virrila quarry was in 2019 and Piura plant was in 2018. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel
5	Jason Gamio	Modeler	Geological Engineer	The last visit to the Virrila quarry was in 2019 and Piura plant was in 2021. No visits were made to thenVirrila quarry in 2021 due to COVID issues, and coordination was made with Operations personnel
6	Mario Alva	Operations Manager	Electronic Engineer	Piura plant, all year as part of his duties.

3. Property description

3.1. Virrila quarry

The quarry is located in Sechura District, Sechura Province, Piura Region. It is located 192 Km from Cementos Pacasmayo S.A.A.'s Piura plant.

The Peruvian State granted the mining right to Cementos Pacasmayo S.A.A. to carry out exploration and production activities that allow non-metallic minerals found in the subsurface through mining concessions.

The mining rights registered with the authority, Instituto Geológico Minero y Metalúrgico (INGEMMET) are as follows Virrila 3, Virrila 4, Virrila 6, Virrila 7, Virrila 8, Virrila 9, Virrila 10, Virrila 11, Virrila 12, Virrila 13, Virrila 14, Virrila 15, Virrila 16, Virrila 17, Virrila 18, Virrila 19, Virrila 20, Virrila 21, Virrila 22, Virrila 23 y Bayovar N° 4. The area of the mining property is 38,226.00 Hectares.

The mining rights (the mining concession title) are granted by INGEMMET of the Energy and Mines Sector through a Presidential Resolution. It is determined to include the mining rights in the Virrila Economic-Administrative Unit (UEA).

On March 31, 2016, by Presidential Resolution No. 0147-2016-INGEMMET/PCD/PM, the competent authority granted to CPSAA the Virrila Economic-Administrative Unit (UEA), with code No. 01-00011-00-U of Cementos Pacasmayo S.A.A. These mining rights included 21 mining concessions.

Table 8 UEA Virrila Concessions

N°	Code	Name	Hectares	Material
1	010221599	Virrila 3	600.00	Non Metallic
2	010221699	Virrila 4	400.00	Non Metallic
3	010531406	Virrila 6	600.00	Non Metallic
4	010531306	Virrila 7	700.00	Non Metallic
5	010089707	Virrila 8	500.00	Non Metallic
6	010089807	Virrila 9	1000.00	Non Metallic
7	010089907	Virrila 10	1000.00	Non Metallic
8	010090007	Virrila 11	900.00	Non Metallic
9	010090107	Virrila 12	700.00	Non Metallic
10	010090207	Virrila 13	800.00	Non Metallic
11	010090307	Virrila 14	900.00	Non Metallic
12	010090407	Virrila 15	600.00	Non Metallic
13	010090507	Virrila 16	1000.00	Non Metallic
14	010090607	Virrila 17	1000.00	Non Metallic
15	010090707	Virrila 18	1000.00	Non Metallic
16	010090807	Virrila 19	1000.00	Non Metallic
17	010090907	Virrila 20	1000.00	Non Metallic
18	010091007	Virrila 21	1000.00	Non Metallic
19	010091107	Virrila 22	1000.00	Non Metallic
20	010479607	Virrila 23	200.00	Non Metallic
21	12000440Y01	Bayovar N° 4	22326.00	No Metálica

The properties described above were granted by the authority (INGEMMET) from 2000 to 2008. Table 9 shows the UTM central coordinates of the Virrila Economic Administrative Unit (UEA).

Table 9 Central coordinates of the UEA Virrila property

North	East	Radius	Zone
9350000.00	526000.00	20,000.00	17

In accordance with this, the Virrila UEA includes twenty-one (21) non-metallic mining rights with an extension of 38,226.00 hectares, in favor of Cementos Pacasmayo S.A.A., owner of said rights; located in the district of Sechura, province of Sechura and department of Piura.

Cementos Pacasmayo S.A.A. complies annually with the payments for the rights to the Virrila concessions.

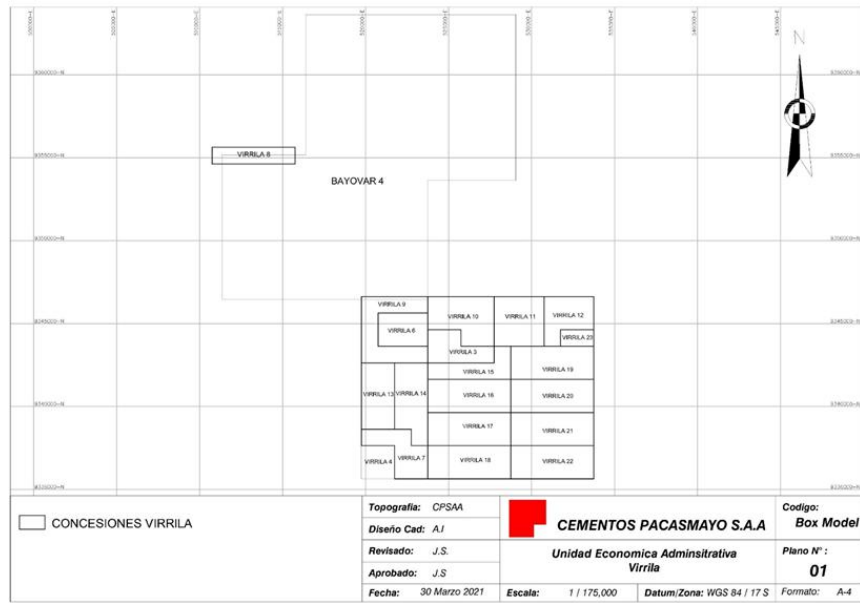
These payments must be made from the first business day of January to June 30 of each year., CPSAA provides the Financial Entities in charge of receiving the payments with the SINGLE CODE (see Table 8) of its mining rights, to comply with its obligation.

In the case of Virrila concessions, the payment is equivalent to US\$3 per hectare.

Likewise, Cementos Pacasmayo S.A.A. pays royalties to the State as established by the Authority in Law N° 28258 and its amendment N° 29788.

Cementos Pacasmayo currently has an agreement with the Fundacion Comunal San Martin de Sechura for the use of the surface land associated with the production area of the Virrila quarry. The area of usufruct, surface and easement rights held by Fundación Comunal San Martín de Sechura is 14,842.800 hectares. Superintendencia Nacional de los Registros Públicos (SUNARP).

Figure 4 UEA Virrila map



3.2. Piura Plant

The cement plant property is located in the Veintiséis de Octubre District, Piura Province, Piura Region. The Piura plant is located at kilometer 3 of the Piura highway.

The property is shown in Figure 5, and Table 10 shows the UTM coordinates of the center of the circle of the Piura plant:

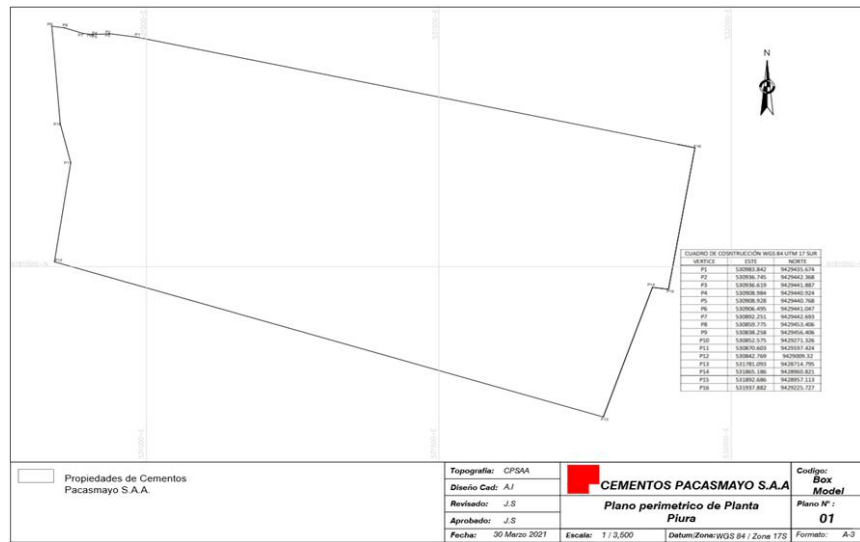
Table 10 Central coordinates of the Piura cement plant

North	East	Radius	Zone
531293.65	9429098.05	650.00	17

The area of the property is 42.28 hectares. The property is registered in the National Superintendence of Public Registries (SUNARP) under the registration numbers 11161659 and 11164329 in the registry zone No. I SEDE PIURA, Piura Registry Office.

Cementos Pacasmayo S.A.A. pays taxes to the government as established by the Municipal Authority in the case of the Piura plant.

Figure 5 Piura plant perimeter



4. Accessibility, climate, local resources, infrastructure and physiography

4.1. Virrila quarry

This chapter describes the accessibility, climate, local resources, and infrastructure for the Virrila quarry and Piura plant. Information obtained from technical and environmental studies.

Topography

The topography of the study area is homogeneous, comprising a flat relief made up of a large plain belonging to the Sechura desert.

Access

There is an access road to this quarry from Lima to Piura. The Piura plant is located in Piura city, and it is located 192 km from Virrila quarry and 950 Km from Lima.

The main access is by land. The journey from Lima to the Virrila quarry is as follows: Lima - Sechura (950 km) for a total of 15 hours.

By air, the route is as follows: Lima - Piura in 1.5 hours' flight and an additional 1 hour drive on the Panamerican Highway north.

Climate

The quarry has a temperate and wet climate, with little rainfall, mainly between February and April. Meteorological information was taken at the SENAMHI Chusis station, the closest to the quarry. According to the data from this station, the predominant wind direction is from the S and SE.

From the analysis of the information from 2010-2014, it is evident that there is rainfall in the area in March and April. The months with less precipitation are June, July, August, and September. The month of March has the highest rainfall in the years analyzed, with a monthly total of 54.11 mm.

Temperature

The highest temperature values were recorded in January, February, and March, and the lowest in August and September. Reported temperatures for 2010-2014 were evaluated, showing temperature variations between 17.8 °C and 29.5 °C on average.

Physiography

The quarry area is located in a basin where sedimentation was interrupted by tectonic movements with changes in accumulation styles until the Pliocene.

The lithostratigraphy of the area consists of Cenozoic sedimentary units corresponding to the Tertiary period that are not exposed on the surface and Quaternary deposits (Tablezo Lobitos, Quaternary deposits of ancient alluvial, recent alluvial, coastal, lacustrine, beach, and eolian origin).

Other geomorphological units outside the quarry area were identified as the estuary and floodplain.

The degree of slope of the predominant land surface is flat to slightly sloping. According to its formation and dominant material type, the plain landscape is Aeolian and Marine Plain.

Floods and tsunamis form external geodynamics. Earthquakes form internal geodynamics.

Local Resources

The quarry personnel is divided into Cementos Pacasmayo S.A.A. personnel and contractor personnel.

The quarry is located 61.7 kilometers from the town of Sechura, which has the resources of a town. Contractor personnel is transported by bus and pickup trucks for supervision personnel.

A powerhouse provides a power supply with a generator set installed.

4.2. Piura plant

The Piura plant is located in the province of Piura and region of the same name. The plant is located 192 km from the Virrila quarry.

Topography

The Piura plant area is located on the left bank of the Piura to Paita highway, 3 km from the city of Piura, and has a coastal plain topography, with thick banks of semi-compacted and compacted sands at an average depth of 0.50 m.

Climate

The Piura plant area has a predominantly arid and warm climate with no rainfall for most of the year. When the El Niño phenomenon occurs, there is rainfall, especially between December and June. The average maximum temperature is 31.2°C, and the minimum is 17.7°C.

The dry season is from May to December, and the rainy season is from January to April. The highest rainfall occurs in March, reaching a value of 448.4 mm.

The average annual relative humidity has 69.9%; the lowest value of 66.5% was recorded in February and the highest value of 74.4% in June.

Regarding wind speed data, the month with the lowest wind speed is March with 1.9 m/sec, and the month with the highest wind speed is September with 3.3 m/sec. Regarding the data on wind direction, the wind direction is predominantly from south to north.

Physiography

In the study area, the slope of the land is slightly inclined because it is covered by eolian materials made up of light gray silty sands and sands, with loose sands resulting from the transfer of alluvial and fluvial materials by the wind; these are accumulations of sands of variable thickness. It is possible to identify within the plains anthropic areas of recent works. Likewise, it is possible to distinguish the slope phase from flat to slightly inclined (0 - 4 %).

Geomorphology

The geomorphology of the Piura Region is the result of a succession of events related to processes of uplift, subsidence, erosion, sedimentation, and deformation of the materials deposited in the sedimentary basins. This scenario has identified the following geoforms: Ardisols Sands, Tablezos, Coastal Plain, Aeolian Sand Mantos.

Local Resources

Personnel at the Piura plant are divided into Cementos Pacasmayo S.A.A. personnel and contractors. Most of the personnel live in the city of Piura and travel to the cement plant in company buses or their own vehicles.

Power is supplied through the national grid. Cementos Pacasmayo has a contract with ENOSA (Electric Company), which provides power through a 60 KV transmission line.

A deep well supplies water to the Piura plant.

5. History

5.1. Virrila quarry

Virrila quarry is a seashell deposit suitable for different types of construction cement; Cementos Pacasmayo S.A.A owns the mineral deposit.

The Virrila quarry started operations on September 17, 2015. Cementos Pacasmayo hired San Martin Contratistas Generales S.A. to be the contractor in charge of production from the start of operations until March 14, 2020.

Due to the Covid-19 pandemic, operations at the Virrila quarry were suspended from March until September 2020.

After the suspension, the mining contractor Posada Perú S.A.C started operations at the Virrila quarry on September 14, 2020, until December 30, 2021.

6. Geological setting, mineralization, and deposit

6.1. Regional geology

The strata of the district of Sechura, province of Sechura, Piura region, consists of Cenozoic Age sedimentary strata of the Tablazo Talara deposit, Tablazo Lobitos deposit, Eolian deposits, Alluvial deposits and Recent deposits.

The lithostratigraphic units found in the area correspond to Quaternary-Pleistocene deposits (2.58 to 0.129 Ma). Within this category are first the tablazos, then the eolian deposits, and old alluvial deposits with little diagenesis. The tablazos were first described by T.O. BOSWORTH (1922) in the Talara - Mancora region and finally followed by the recent deposits.

Table 11 Regional stratigraphic column

ERA	SYSTEM	SERIES	STRATIGRAPHIC UNITS		INTRUSIVE ROCKS
			SEDIMENTARY	METAMORPH	
CENOZOIC	QUATERNARY	RECENT	Wind deposits	Qr-e	
			Mixed deposits The beach Lacustrine Coastal cordon	Qrm-pl	
				Qrm-la	
				Qrm-cl	
				Qr-al	
	PLEISTOCENE		Alluvial deposits	Qp-al	
			Wind deposits	Qp-e	
			Lobitos tablazo	Qp-tl	
			Talara tablazo	Qp-tt	
			---Erosional discordance---		
	TERTIARY	PLIO-CENE	Hornillos formation	Ts-ha	
			---Erosional discordance---		
			Miramar formation	Tms-mi	
			Upper Zapallal formation	Tm-zas	
			---Erosional discordance---		
	MIOCENE		Montera formation	Tm-mo	
			---Angular discordance---		
			Chira formation	Ti-chi	
			Verdun formation	Ti-ve	
			---Angular discordance---		
PALEOZOIC	LOWER		Paleozoic Zocalo	Schists with high-grade metamorphism Phyllites and quartzites with low-grade metamorphism	Pi-es Pi-fc
			---Angular discordance---		
PRECAMBRIAN			Precambrian Zocalo	Migmatites Gneisses	Pi-mg PE-gri
					Pi-gr PE-to

6.2. Local geology

Geologically, the study area corresponds to the desert zone of Sechura and is represented by sedimentary materials from the Recent Quaternary.

It is made up of silty sand deposits with intercalations of medium to fine-grained sands and seashell horizons.

Below the recent deposits, there are diagenetic eolian deposits in a sandy matrix with calcareous cement. And underneath these are intercalations of conglomerates with gray diatomites, intercalated with white reef sandstones, corresponding to the Tablazo of Talara and the upper levels of the Zapallal Formation.

Cenozoic - Tertiary (Miocene)

Zapallal Formation (Tm-zas)

This lithostratigraphic unit is an outcrop only in its upper member in the southern and northeastern part of the quarry area. It comprises compact fine sand, seashell with fragments of reef shells, and conglomerate levels of diverse lithology with gravels smaller than 2" in a sandy matrix with little cement.

It is covered by light brown eolian sand, plant remains, and some very scarce remains of calcareous fragments due to erosion of its upper levels.

Cenozoic - Quaternary (Pleistocene)

Talara Tablazo (Qp - tt)

It is a Pleistocene-raised marine terrace. It has a significant extension in the region and constitutes 95% of the total area of the quarry. Its relief is essentially flat, with slight undulations due to wind action and the crossing of small streams, which are activated only during rainy periods. Topographically, this unit develops at an average elevation of 80 meters above sea level, with a slight inclination to the SE. The calcareous deposit of the Virrila quarry is formed by coquiniferous portions of the Tablazo Talara that undergo lateral variations in thickness and composition of calcareous remains.

Cenozoic - Quaternary (Recent)

Aeolian Deposits (Qr - e)

These deposits are accumulations of fine to medium-grained sands transported from their sources of origin by the wind. They occur as small layers or stacks of 1 to 2 meters thick, and are composed of brown silty sand with fragments of reef shells, gravels and remains of roots at the deepest level. At the top, there are gray to dark brown eolian sands with few fragments of shells, reefs, gravels, and roots.

Table 12 Local stratigraphic column of the Virrila quarry

Era	System	Series	Lithostratigraphic units	Lithologic Description	
Cenozoic	Quaternary	Recent	Eolic deposits	SU	Gray to dark brown eolian sand, few fragments of seashells, gravels, remains of vegetation.
		Pleistocene	Tablazo Talara	CT	Earthy calcareous in beige to brown sandy matrix. Remnants of seashells, reefs, not very compact or loose and with some gravels.
				B1S	Fragments of bivalves, gray color, with remains of shells and presence of gravel.
				LM	Sandy silt with traces of calcareous, gray to beige color, medium dense, mostly occurring as large lenses within the CT, B1S and A1 layer.
				A1	Calcareous of fine matrix of beige to gray color, with presence of fragments of shells and reefs somewhat preserved of beige to gray color, friable or somewhat compact due to the presence of sulfates.
				A2-A	Semi-compact calcareous, with presence of coral reef and some sand.
				A2	Coral reef fragments of heterogeneous size and somewhat preserved, creamy beige to pinkish color, sometimes accompanied by a fine white calcareous matrix, friable and somewhat compact in contact with the A2-B layer.
				A2-B	Semi-compact coral reef fragments, with some gravel.
				A2-C	Fragments of coral reef, with some gravel.
				A3	Dark beige calcareous fine compact matrix with presence of voids and high magnesium, weak reaction to HCl.
				ARE	Silty sand with traces of calcareous minerals
				B1	Fine matrix calcareous, beige color with preserved seashell fragments of heterogeneous size and traces of gravels.
				B2	Sandy calcareous with remains of fragmented whitish gray shells and with presence of gravels.
				GRV	Conglomerate of sandy matrix, medium to coarse-grained, gray color, compact.
	Tertiary	Miocene	Zapallal Formation	DIA	Diatomite massive green color, semi compact.

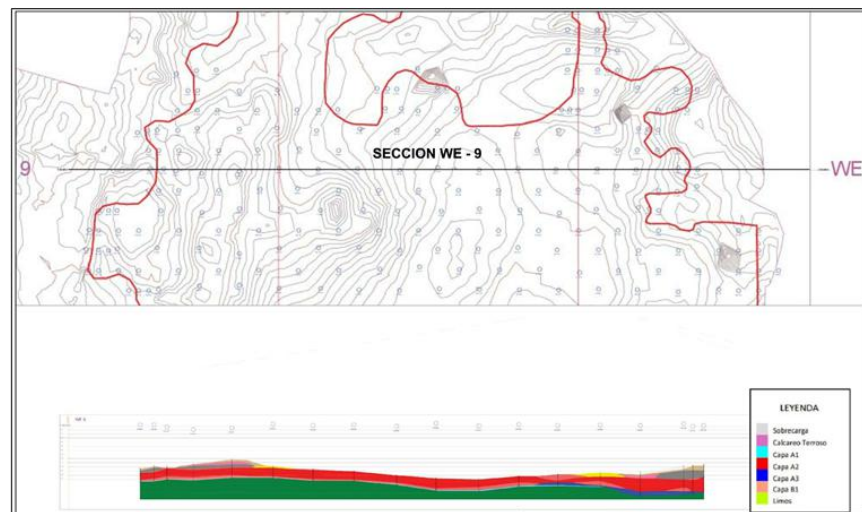
6.3. Characteristics of the deposit

Table 13 shows the characteristics of the deposit.

Table 13 Characteristics of the Virrila deposit

Quarry	Average Width (m)	Average Length (m)	Average Thickness (m)	Average depth (m)		Continuity
				Top Elevation	Lower Elevation	
Virrila	950-2000	3100-4000	7-20	37	20	Calcareous sedimentary deposit whose zones are controlled by the continuity of the quality of the strata.

Figure 6 Geological section of the Virrila quarry



7. Exploration

7.1. Drilling

During 2007 and 2008, exploration activities were performed to collect geological information from the Virrila quarry.

In 2013, exploration activities were carried out using test pits in the best areas of the concession.

In 2019, activities and sampling in the operation area were developed to validate the reserves in the area of operation and update the inventory.

During 2021, drilling was conducted to confirm Reserves within the operations. The work performed during 2021 aimed to:

- Obtain representative samples of drill core.
- Identify and recognize the lithological strata.
- Perform chemical tests to determine the qualities of the material.
- Reconfirm the volume and tonnage of the Reserves.

It is also expected that, by 2022, we will have a detailed report of the geology and laboratory results to incorporate into the Reserves model.

The drilling work was supervised by Cementos Pacasmayo S.A.A. personnel and executed by Ram Peru S.A.C.

Ram Peru S.A.C. executed the diamond drill holes of 10 m depth. The drill holes had a vertical orientation (-90°), and HQ pipe (63, 5 mm) was used.

7.2. Hydrogeology

In 2012 Cementos Pacasmayo S.A.A. hired IENDESA S.A.C. to perform a hydrogeological study at the Virrila quarry. The study was titled, "Hydrogeological Study for Water Supply to the Virrila quarry - Piura."

The geophysical study included the evaluation of 07 SEV (Electro Vertical Soundings) and established the presence of 3 layers or geoelectric horizons. The elements that compose these horizons would be sands, silts, and sandy clays intercalated and/or mixed that present some water.

The results showed that the yields oscillate between 13 to 17 l/s, and the depths range from 134.4 to 271.45 m, indicating the nappe is semi-confined in the Tertiary age sedimentary rocks.

The aquifer recharge in the sector is currently done through the exchange of subway flow from rainfall in the upper parts of the valley and the effects of the El Niño phenomenon from previous years.

The drilling of the exploratory well to a depth of 180 meters, with drilling diameters between 08" to 12", was planned from the various phases of the investigation.

In 2013 Cementos Pacasmayo S.A.A. hired DCR Ingenieros S.A. to develop a hydrological study. The study considered hydrometeorology through the information obtained in 10 pluviometric stations and five hydrological stations.

A conceptual geochemical evaluation of the calcareous material obtained from the CV1-05 test pit at a depth between 0.15 to 0.50 meters was carried out and sent to the Spectrometric Laboratory of the National Engineering University. The results were as follows:

Table 14 Net neutralization potential results

	Value	Description
pH	7.3	Hydrogen potential
% S	0.01	Percentage of sulfur with sulfide
PN	695.00	Neutralization power
PA	0.31	Acidity power
PNN	694.69	Neutralization net power

In 2015, Ram Peru S.A.C conducted drilling to obtain hydraulic test data . Lugeon tests were performed at a depth of 60 meters in fine compact sand in the first piezometer obtained. The result was a hydraulic conductivity of 1×10^{-9} cm / s, which is considered a low value according to the Table of Theoretical Values in Custodio and Llamas (1983).

The second test was Lefranc type in fine sand, at a depth of 45 to 51 meters. The results show $1,180 \times 10^{-6}$ cm/s. The lithology is composed of loose and compacted sands with a thickness of 9 meters. The results show a low permeability material.

The transmissivity parameter has been calculated with these tests, resulting in a value of 3.2×10^{-2} m² /day, which corresponds to a low transmissive material.

7.3. Geotechnical studies

In 2013 Cementos Pacasmayo S.A.A. hired DCR Ingenieros S.A. to develop a study of the geotechnical characteristics of the Virrila quarry. The study considered the execution of test pits to obtain samples and perform laboratory tests.

A total of 14 test pits were dug, reaching a minimum and maximum depth of 3.2 and 6.5 meters.

Ausenco conducted the soil mechanics tests in the geotechnical laboratory. Also, the rock mechanics and mineralogical tests were carried out in the Laboratory of the National Engineering University

Table 15 Soil mechanics laboratory test summary

Zone	Soil Pit	N° of sample	Depth	S.U.C.S	W (%)	Granulometric analysis			Atterberg Limits		
						Gravel (%)	Sand (%)	Fine (%)	LL (%)	LP (%)	IP (%)
Virrila quarry	CV1-02	MD - 01	0.1-0.4	SM	1.30	3.30	79.70	16.90	NP	NP	NP
	CV1-03	MD - 01	0.0-0.4	SM	0.80	2.50	84.80	12.70	NP	NP	NP
	CV1-04	MD - 01	0.1-0.3	SM	1.10	11.60	69.20	19.10	NP	NP	NP
	CV1-05	MD - 01	0.15-0.5	SC	1.40	17.60	43.30	39.10	34	23	11
	CV1-11	MD - 01	0.0-0.4	SC-SM	1.30	2.20	76.10	21.70	27	22	5
	CV1-13	MD - 01	0.0-0.3	GM	5.00	42.80	34.00	23.20	NP	NP	NP

Table 16 Rock mechanics laboratory tests summary

Zone	Soil Pit N°	Depth (m)	Point load test (MPa)	Simple compression test (UCS) (MPa)
Virrila quarry	CV1-09	0.7-1.4	22.69	-
	CV1-11	0.7-5.0	6.43	3.31

Based on the test pits and the results, three geotechnical units (Geotechnical Unit UG-I, Geotechnical Unit UG-II, and Geotechnical Unit UG-III) were identified.

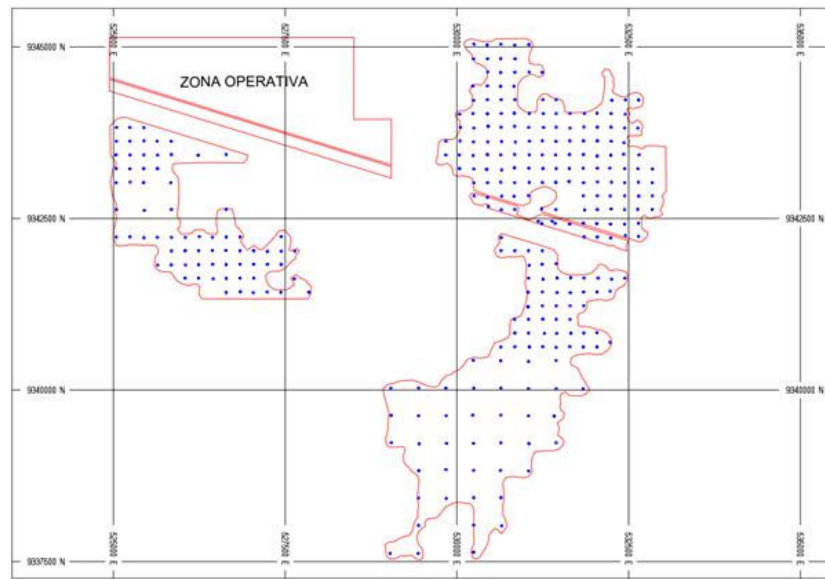
Table 17 Strength parameters

Geotechnical Unit	Specific gravity (kN/m ³)	Angle of friction (°)	Cohesion (c) (kPa)
UG-I	16	30	0
UG-II	20	26	32
UG-III	20	39	70

The study considered within the engineering analysis: design criteria and parameters, and physical stability analysis. A horizontal seismic coefficient of 0.24g was considered for the pseudo-static evaluation of the quarry; corresponding to 50% of the maximum ground acceleration, which is 0.48g (firm ground) for a return period of 475 years.

The evaluation also included hydraulic aspects, which considered information associated with the El Niño phenomenon. The assessment of extreme flows was carried out by applying the indirect method of the Soil Conservation Service – SCS.

Figure 7 Map of the location of drill holes in the Virrila quarry.



8. Sample preparation, analysis and security

This Chapter describes the preparation, analysis and security of the samples used for the geology, quarry and cement plant operations.

8.1. Geology and Quarry

Cementos Pacasmayo S.A.A. has implemented international standards in all its operations, such as quarries and plants. The ISO 9001 standard has been implemented and certified since 2015. The certification is renewed annually through an external audit.

The SSOMASIG area (Security, Occupational Health, Environment and Management Systems) is part of the team that determines and gives the necessary support for maintaining the ISO 9001 (Quality). The scope is in all the company's activities.

Table 18 shows the list of protocols for quality assurance and quality control.

Table 18 Quality protocols in the area of Geology

Activity	Protocol	Code	Review
Sample preparation methods	DRILLING WITNESS CUTTING	OM-GL-PRT-0021	R0
	SAMPLE PREPARATION FOR PHYSICOCHEMICAL ANALYSIS	OM-GL-PRT-0022	R0
	SAMPLE SELECTION FOR GEOMECHANICAL ANALYSIS	OM-GL-PRT-0036	R0
Quality control procedures	DRILLING INITIATION AND SUPERVISION	OM-GL-PRT-0005	R0
	TOPOGRAPHY AND MEASUREMENT OF DRILL HOLE DEVIATIONS	OM-GL-PRT-0007	R0
	SAMPLE RECOVERY	OM-GL-PRT-0008	R0
	SURVEY AND DELIVERY OF COLLARS	OM-GL-PRT-0009	R0
	RECEIPT AND STANDARDIZATION OF DRILLING CORES	OM-GL-PRT-0012	R0
	PHOTOGRAPHIC RECORD	OM-GL-PRT-0013	R0
	PHOTOGRAPHY OF TEST PITS	OM-GL-PRT-0014	R0
	GEOLOGICAL LOGGING	OM-GL-PRT-0015	R0
	LOGGING OF TEST PITS	OM-GL-PRT-0016	R0
	GEOTECHNICAL LOGGING	OM-GL-PRT-0017	R0
	SAMPLING IN TEST PITS	OM-GL-PRT-0018	R0
	FIELD-QUARRY SAMPLING	OM-GL-PRT-0029	R0
	ORE STOCK SAMPLING	OM-GL-PRT-0030	R0
	BLASTHOLE SAMPLING	OM-GL-PRT-0032	R0
	SAMPLE ANALYSIS FOR DENSITY	OM-GL-PRT-0020	R0
	QAQC PROGRAM	OM-GL-PRT-0023	R0
	ORE CONTROL	OM-GL-PRT-0035	R0
	ORE CONTROL POLYGON FIELD MARKING		
	ORE CONTROL PLAN		
Security	TRANSPORT OF CORES	OM-GL-PRT-0010	R0
	TRANSPORT OF SAMPLES TO THE LABORATORY	OM-GL-PRT-0024	R0
	REGISTRATION AND SHIPMENT OF MATERIAL	OM-GL-PRT-0031	R0
	CORE-SHACK STORAGE	OM-GL-PRT-0034	R0
	DATA ASSAYS INPUT – DATASHED	OM-GL-PRT-0027	R0
	CHANNELING OF GEOLOGICAL INFORMATION	OM-GL-PRT-0028	R0
Others	DATABASE MANAGEMENT	OM-GL-PRT-0025	R0
	PROGRAMMING OF COLLARS	OM-GL-PRT-0001	R0
	PROGRAMMING OF TEST PITS	OM-GL-PRT-0002	R0
	PREPARATION OF DRILLING RIGS	OM-GL-PRT-0003	R0
	INSTALLATION OF DRILLING MACHINE	OM-GL-PRT-0004	R0
	PREPARATION OF TEST PITS	OM-GL-PRT-0006	R0
	HOLE ENDING	OM-GL-PRT-0011	R0
	REPORT WRITING – FIELD VISIT	OM-GL-PRT-0026	R0
	LIMESTONE MATERIAL MOVEMENT REPORT AND LOG – SGCP	OM-GL-PRT-0033	R0

8.1.1. Preparation of samples, procedures, assays and laboratories

Samples obtained from the drill holes are placed in holders to be duly coded, cut, bagged and sent to the laboratory at the Piura plant, and are occasionally sent to an external laboratory following the company's procedures.

Certimin S.A. is used as an external laboratory for chemical analysis. This laboratory has modern facilities for developing mining services associated with the cement industry and technical support in the geochemical field for national and international companies. Certimin S.A. is a Peruvian laboratory certified in ISO 9001, ISO 14001, ISO 45001, NTP-ISO/IEC 17025 Accreditation and membership in ASTM.

The laboratory analyses performed for the samples are CaO, MgO, AlO₃, SiO₂, Fe₂O₃ and SO₃. Table 19 shows the methods used for seashell analysis.

Table 19 Methods of analysis for the seashell from the Piura plant laboratory

Analytical	Method used	Description
% Moisture	PI-CC-P-03	EXTERNAL SAMPLE PROCESSING
	PI-CC-P-09	SAMPLING AND PREPARATION OF RAW MATERIALS AND PROCESS MATERIALS
Loss on ignition	PI-CC-P-05	WET CHEMICAL ANALYSIS
Various elements	PI-CC-P-07	OPERATION OF THE FRX – ARL 9900 THERMO EQUIPMENT (CHEMICAL ANALYSIS BY X-RAY FLUORECENCE)

8.1.2. Quality Assurance Actions

Cementos Pacasmayo S.A.A., through its Quality Control unit, performed quality assurance activities for the samples obtained in the Virrila deposit, applying the quality plan, procedures, and measures necessary to obtain information from the seashell samples. The laboratory analyses were performed in the chemical laboratory of the Piura plant. The results were used for the estimation of Resources and Reserves of the deposit.

8.1.3. Quality Plan

Cementos Pacasmayo S.A.A. has implemented QAQC protocols to develop exploration and production activities in the Virrila quarry to ensure the quality of the information that allows the estimation of Resources and Reserves in the deposit.

The quality plan implemented by Cementos Pacasmayo for the quarries includes the insertion of blanks, duplicates, and standards to control the precision, accuracy, and contamination in the samples.

Table 20 Quality Plan of the Virrila quarry

Blanks	Duplicates	Standards	Remark
1 control sample for each batch of 20 samples.	2 control sample for each batch of 20 samples.	1 control sample for each batch of 20 samples.	Cementos Pacasmayo protocol "OM-GL-PRT-0023-R0".

During the 2017 drilling campaign, the QAQC control protocols were applied, and the samples obtained were sent to the Piura plant laboratory for analysis. As part of the procedure, thick Duplicate and Twin samples were inserted, representing 7.11% and 7.72% as the insertion ratio. Calcium oxide (CaO), which is the main component of the seashell for cement production, was analyzed. The quality control (CaO) results showed that the Coarse Duplicate samples presented a standard deviation of 7%, which is within the acceptable range (20%). The percentage of good samples was 96%. On the other hand, the quality control results for the Twin samples showed a standard deviation of 8%, which is below the permitted error of 30%. The percentage of acceptable samples was 98%.

Sample security

Cementos Pacasmayo S.A.A. has implemented QAQC protocols to develop exploration and production activities in the Virrila quarry to ensure the quality of the information that allows the estimation of Resources and Reserves in the deposit.

During the drilling campaigns, Cementos Pacasmayo S.A.A. had built a core shack where the samples are correctly stored to preserve their quality.

Figure 8 Photographic record of core shack



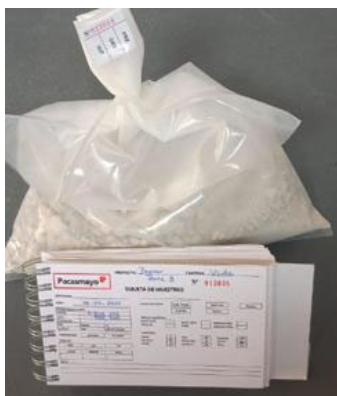
CPSAA provided the necessary materials for the storage and transport of the samples. CPSAA also implemented sampling cards with information on the name of the project, name of the borehole to be sampled, date of sampling, sampling interval, sampling manager, sampling, and type of sample or control sample.

All samples were labeled, and a photographic record is available. The photographic record of each sampling bag is made together with the weighing of the sample.

8.1.4. Chain custody

CPSAA implemented chain-of-custody systems to guarantee the physical security of the samples, data, and associated records.

Figure 9 Photographic record of the sampling intervals



8.1.5. Qualified Person's Opinion on Cement Plant QAQC

In the 'qualified person's opinion, Cementos Pacasmayo has been complying with the international standards of ISO-9001 (Quality) since 2015 and has implemented Quality Assurance and Quality Control (QAQC). Cementos Pacasmayo S.A.A. has used a QAQC check program comprising blank, standard, and duplicate samples. The actual sample storage areas and procedures are consistent with industry standards.

There is information on sample preparation methods, quality control measures, and sample security. These results are accurate and free of significant error. The protocols in the different exploration and production processes strictly comply with local and international best practices.

The sample preparation, security, and analytical procedures used to acquire the data in this report are adequate for use in the construction of the Geological Model, Resource Estimation, and Reserve Estimation.

8.2. Piura Plant

8.2.1. Samples preparation, procedures, assays and laboratories

Cementos Pacasmayo S.A.A. has a quality control plan for each of its operations as part of the corporate quality system.

The quality control plan (PI-CC-D-01/ Rev 04) describes the evaluation methods used in the Piura Plant's quality control laboratory, applied to samples of raw materials such as seashells, sand, clays, and iron ore; in-process products: raw meal, clinker, and cement; active additions: gypsum mineral, pozzolana, slag, and shells; and finished products such as MS, ICO and Type I packaged cement.

Different analytical methods are applied for the physical and chemical characterization of raw materials, products in-process, and finished products, such as classical tests, X-ray fluorescence tests, X-ray diffractometry tests, potentiometry, adiabatic calorimetry, among other analytical techniques supported by equipment designed for such specific purposes.

The analytical methods are based on guidelines described in ASTM, NTP (Peruvian Technical Standard), and ISO standards.

8.2.1.1. Raw materials sample preparation

The sample preparation consists of the collection and preparation of samples. The sample preparation procedure consists of primary and secondary crushing and reduction of the sample by the quartering method. The sample is pulverized in the ring mill.

8.2.1.2. Laboratory analysis

The Piura plant laboratory has implemented the ISO 9001 standard; it has different instrumental equipment. The annual maintenance and calibration program is applied to ensure the reliability and traceability of the measurements performed.

The major equipment is X-ray fluorescence (XRF), which is used for chemical control of the different plant processes, such as:

- Reception and entry of raw materials.
- Grinding of raw flour and coal.
- Production of clinker.
- Grinding and packaging of cement.

Also, the hydraulic press is used to determine and analyze the compressive strength of the different types of cement produced in the plant.

For all types of cement, different physical characterization tests are performed, such as air content test, Blaine fineness, autoclave expansion, compressive strength, and setting time using the Vicat needle method.

Other complementary tests are autoclave shrinkage test, expansion in the mortar at 14 days, expansion by sulfates at six months, chemical tests by the classical method to determine SO₃, MgO, and loss on ignition insoluble residue.

Quality Assurance Actions

The PI-CC-D-01/ Rev 04 sampling and data verification plan applies to all processes at Piura plant. Table 21 shows the tests and frequency for each stage of the process.

Table 21 Tests and frequency for each stage of the process

Stage	Tests	Frequency
Reception of raw materials	XRF pellets, XRF beads, moisture, RM-3in, calorific power and Cl by potentiometry	every 5 to 10 trucks
Raw mill scale	XRF bead and Cl by potentiometry	1 time per shift
Crude milling	XRF pellets, RM 170 and loss on ignition.	Every hour or up to 1 time per shift.
Kiln feeding	XRF pellets, RM 170 and loss on ignition.	Every 2 hours
Coal scale	XRF pellets, calorific power and moisture.	One coal sample per shift
Coal milling	XRF pellets, RM 230, calorific power and fine moisture.	Every 4 hours
Preheater	XRF pellets, loss to fire, calcination and volatilization.	Every 2 hours
Kiln filter	Loss on ignition, XRF beads y Cl by potentiometry.	One sample per shift
Clinkerization	XRF pellets	Every hour
Cement grinding	XRF pellets, Rm 325, RM 450, loss on ignition and cal libre	Every 15 min or 1 time per shift
Mill scale	XRF pellets for daily composting and XRF bead for daily composting	One sample per shift
Composite cement grinding	XRF pellets, Rm 325, RM 450, loss on ignition and cal libre	Every 15 min or 1 time per shift
Packaging control	RM 1/2in, RM8 and XRF pellets	every 2 hours, every 20 big bags, every 4 trucks and every 300 bags
Packaging – Composite	XRF pellets, RM 325, RM 450, loss on ignition, compressive strength, setting, autoclave expansion, density, 14-day mortar bar expansion, sulfate resistance and heat of hydration	Every 15 min or 1 time per shift
Stage	Tests	Frequency

8.2.1.3. Finished Product Control

The controls for finished products include test, frequency, and person in charge. The test made is magnesium oxide, sulfur oxide, loss on calcination, insoluble residue, expansion in an autoclave and compressive strength.

8.2.1.4. Control of non-conforming product

The non-conforming products must be identified, documented, evaluated, controlled, separated and disposed of, to prevent their non provided use or delivery, according to that established in the procedure.

The remedy for a non-conforming product is reprocessing, reclassification of the material, acceptance by authorized personnel, acceptance by the client's concession, and controlled dosage.

8.2.1.5. Validation of Silos

It applies to all products manufactured at the Piura plant to ensure that the cement dispatched complies with the technical specifications and requirements of the Technical Standards.

8.2.1.6. Density

The density analysis in raw materials (crushed) is determined in a recipient of known volume (bulk density), the material is added in a recipient previously tared, is compacted smoothly, made level and weighed on a precision balance. The values are reported in weight/volume.

For cement, fine materials are analyzed through the Le Chatelier bottle, whose value is used for the quality certificate issued to the customers.

8.2.1.7. Quality Assurance (QA) and Quality Control (QC)

The QAQC program contains methods that are applied to control the quality of the samples obtained in the operations of ore reception, raw mill balance, raw milling, kiln feed, coal balance, coal grinding, preheater, kiln filter, clinkerization, cement grinding, cement mill balance, cement grinding, cement compost grinding, packaging control and packaging-composite by Cementos Pacasmayo S.A.A. personnel. In this way quality control results are achieved.

The parameters used for quality control are:

- PI-CC-P-01, Quality Plan
- PI-CC-P-02, Physical tests for cement.
- PI-CC-P-05, Wet chemical analysis.
- PI-CC-P-06, Chemical and instrumental analysis of anthracite coal.
- PI-CC-P-07, Operation of the ARL 9900-Thermo XRF equipment.
- PI-CC-D-01, Quality Plan.
- G-ASC-EST-01, Pozzolana Technical Specification.
- G-ASC-EST-02, Slag Technical Specification.
- PI-CC-PCC-01, Incoming raw materials control parameters.
- PI-CC-PCC-02, Raw material grinding control parameters.
- PI-CC-PCC-03, Clinker Production Control Parameters.
- PI-CC-PCC-04, Coal grinding control parameters.
- PI-CC-PCC-05, Cement grinding control parameters.

8.2.1.8. Quality Plan

The quality plan implemented by Cementos Pacasmayo for the cement plants includes the insertion of standards to control the accuracy in the samples.

8.2.1.9. Quality control parameters

The quality control parameters of the materials received at the Piura plant are the following

Table 22 Quality Control Parameters for Ore Receipt

Mineral	Content analysis
Domo seashell	CaO, MgO, SO ₃ , Cl, Na ₂ O, K ₂ O y R – 3-inch Mesh
Addition seashell	SO ₃ , Cl, MgO, Na ₂ O, K ₂ O y R – 3-inch Mesh

Likewise, quality parameters are controlled in the by-products and products obtained during production to comply with the company's quality standards.

8.2.2. Security of the samples

Cementos Pacasmayo S.A.A has implemented QAQC protocols to develop cement production activities at the Piura plant to ensure the quality of the information that allows the Estimation of the Resources and Reserves of the deposit.

Sample preparation consists of sample collection and preparation for raw material, clinker, and cement.

The testing procedures are physical testing for cement, wet chemical analysis, and operation of XRF equipment.

Likewise, the control parameters are raw material parameters, pozzolana, slag, mineral reception parameters, clinker production parameters, raw material parameters for crude; crude feed parameters, crude milling parameters, coal milling parameters, and cement milling parameters.

8.2.3. Qualified Person's Opinion on cement plant QAQC

Cementos Pacasmayo S.A.A. has a Quality Assurance, Research and Development area that ensures compliance with the requirements for finished products specified in Peruvian technical standards, which are traceable to the standards of the American Society for Testing and Materials (ASTM).

The Research and Development area is located at the Pacasmayo plant, and its scope includes operations at the Piura plant.

Compliance with the requirements based on the quality assurance management system, the indicator was 0% of nonconforming products in the market. Likewise, the level of customer satisfaction (G-GH-F-03 / Rev. 03 Customer satisfaction) is 80%.

Based on the above, in the 'qualified person's opinion, the quality assurance system at the Piura plant, which includes preparation methods, procedures, analysis, and security, complies with the best practices in the industry, thus ensuring that the end customer has confidence in the level of quality of the products marketed by Cementos Pacasmayo.

9. Data verification

This Chapter shows the data verification activities for the geology, quarry, and cement plant areas.

9.1. Geology and quarry

9.1.1. Data Verification procedure

CPSAA has a specialized area in the compilation, verification, and standardization of information for the geological database. Its principal function is to validate the data to be used to estimate Mineral Resources and Reserves. Internal protocols have been implemented to correctly manage the data, subject to internal audits and supported by the DataShed software.

9.1.2. Data collection

The Data collection applies to exploration activities. For diamond drilling, the process flow for planning and execution of drillings, survey methods for reporting drill collars, and ddh / verification of the core information quality and recovery process. In addition, the processes flowsheet, validation and consistency of sample information, sample preparation and testing, density, registration process, and digital photographic storage are used for geological sampling activities.

9.1.3. Management and Validation of Database

The stages for management and validation of database are the recovery, processing, and storage of the database, which includes database development process flow, information standardization and integration process, information storage strategy, appropriate database technology, structure and practicality of the database system that allows fast and flexible access and input of information, and validation of chemical results, which includes the QAQC report.

9.1.4. Tracking Data

The QPs verified the consistency between the database records and the original registry in 2021. The QPs detected no differences between the database and the log files. A digital copy of all records is kept as a pdf file. Digital certificates support the chemical analysis data.

The information collection considered the following: Drill collars, Survey, Lithology, Samples, and Assays. The data is collected on the DataShed software.

9.1.5. Validation of Data

Collar, Survey, Lithology, and chemical analysis data were imported and processed with DataShed software.

The results indicated that the database had adequate integrity for Resource estimation. This software verifies that the data entered from each sample or reported by the external laboratory is correct for input into the Resource model.

The team followed the defined processes for information flows to support Resource and Reserve estimation. The qualified persons followed the same method to verify and validate the data. It has been found that the validated data is congruent in the same interpretations. The QPs generated the fundamental base geological models for the estimation of the Resources.

No findings have been found that could invalidate the estimation of the Resources and Reserves of the unit.

9.2. Piura plant

The Quality Control Plan contemplates the following aspects: PDCA cycle, customer, a person in charge, activities, risks, control methods, monitoring, measurement, analysis, evaluation, and documentary evidence.

The PDCA cycle is:

- Plan; during this stage, the following activities are considered: determination of characteristics of raw materials, product in-process and finished product, elaboration of control and matrices parameters, and determination of actions and results in assurance program.
- Do; during this stage, the following activities are considered: verification and compliance with the requirements and matrices, sampling, and preparation.
- Check; during this stage, the following activities are considered: chemical analysis by XRF, chemical analysis, physical analyses, recording of results, taking action on non-conformities.
- Act, during this stage, the following activity is considered, acting to improve.
- The Quality Assurance Plan is applied to the following customers: production, quarry, provisions chain, and external customer.

9.2.1. Data verification procedures

The XRF analysis, chemical analysis, and physical analysis are made to verify the results of the samples as part of the Quality Control Plan.

The data resulting from these three types of analysis are recorded and evaluated to determine whether they comply with the technical specifications.

Data verification procedures include internal audits, checklists, statistical tables, reports, data validation, certificates, interlaboratory test reports, and compliance with quality protocols.

9.2.2. Data validation

Cementos Pacasmayo S.A.A. through its quality assurance and control area participates in evaluations with international laboratories such as CCRL/ASTM (Concrete and Cement Reference Laboratory), which is an international reference laboratory for construction materials, and Xamtec of Colombia, an international interlaboratory, in order to report reliable data.

The Quality Control laboratories endorse their analysis methods by participating in interlaboratory analysis programs, which compare the results with national and foreign laboratories. The methods of analysis compared are X-ray fluorescence (XRF) and the physical cement tests, which are the methods used to control cement quality. In all the results of these interlaboratory programs, the companies always obtain the best results for each test.

9.2.3. Qualified Person's Opinion on cement plant

In the author's opinion, the methodologies used for collecting and processing data at the cement plant are accurate and free of fundamental errors. This information can be used for the model's construction and estimates for cement production.

Considering that the analyses of the main chemical components and physical properties of the raw materials and final products are made in external laboratories, the quality of the information is adequate for preparing mineral Resource and Reserve estimates.

10. Mineral processing and metallurgical testing

10.1. Nature of testing program

Cementos Pacasmayo S.A.A. has a Quality Assurance and Control unit and a Research and Development unit. The objective of these is to develop, evaluate, and research procedures for developing products at the laboratory level, and they are scaling up to the industrial level. Another objective is to identify other additions that can substitute for clinker: slag, pozzolana, fly ash, calcined clays, etc., to reduce their environmental footprint and the cost of cement production.

They have also implemented procedures for preparing, reviewing, issuing, and controlling test reports associated with cement production in the Pacasmayo and Piura plants.

The laboratory at Pacasmayo plant has implemented the ISO 9001 standard; Cementos Pacasmayo has implemented a Research and Development laboratory located at the Pacasmayo plant to evaluate technical aspects in cement plants and quarries (including the Virrila quarry).

A permanent control is carried out with other laboratories to further the results.

Likewise, interlaboratory reports are issued with external laboratories such as CCRL (Cement and Concrete Reference Laboratory), a reference laboratory for construction materials at the international level, and Xamtec from Colombia, an internal interlaboratory.

An important percentage of Research and Development activities are focused on evaluating different ratios between clinker-mineral additions that provide the best functional characteristics to our products and at the same time keep balance with the benefits generated for the company. Whether it is a requirement or an own initiative oriented to supply any previously identified need, the laboratory tests are developed continuously, seeking to generate an operational benefit to the company.

10.2. Cement Manufacturing Test Results

At the Pacasmayo plant, the studies conducted in the Research and Development Laboratory and the Quality Control area include reducing the clinker/cement factor and substituting slag for pozzolan at the Piura plant. The clinker/cement factor of the cement with additions is 0.7.

10.3. Adequacy of the Test Data

The Research Laboratory issues technical reports following the criteria of international standards to the operations area, which evaluates the convenience of industrially implementing the tests and validating what has been reported at the laboratory level.

In the opinion of the qualified persons, the reliability and integrity of the cement plant test data that underlies assumptions about cement manufacturing are high and the data is adequate to support the assumptions in this report. This opinion is based on the technical competence of the area's collaborators, which is regularly evaluated through different internal and external interlaboratory programs.

11. Mineral Resources Estimates

The geological model was developed and structured using Leapfrog software. The QPs generated the model solids, taking into account the lithology of the deposit based on the geological characteristics and its quality.

Due to the nature of the deposit in its stratified nature and occurrence, the qualified persons interpreted the geological model with the help of a set of sections parallel to the two main directions of the deposit shape, spaced every 40 meters.

Considering the conceptual model of the project and based on the fieldwork carried out by Cementos Pacasmayo's geologists, the lithological descriptions were grouped into ten horizons (Table 23).

Table 23 Lithologic units of the Virrila quarry geological model

Lithologic Units	Mine Sight Code ITEM (TLITO)	Numeric Code ITEM (CODEM)
Aeolian sand, brown to brownish color, with seashell remains.	SU	1
Earthy calcareous, creamy beige color, scarce seashells and reefs.	CT	2
Calcareous with compact shell debris	A1	3
Seashell with presence of shells and beige corals	A2	4
Massive compact beige seashell and beige corals	A3	5
Green clayey silt with intercalation of calcareous levels.	LM	6
Beige calcareous compact massive fine matrix.	A31	7
Calcareous with remains of seashells and sand with some gravels.	B1	8
Calcareous with remains of shells and abundant coarse sand and gravels.	B2	9
Green diatomite.	DIA	10

The main criterion for the geological model is the quality, supported and associated with the lithological aspect.

The lithological criteria are based on the macroscopic physical characteristics of the shell horizons and the percentage of important elements in their composition (oxides).

This analysis uses a quality cut-off of 48.5% of CaO based cement manufacturing technical specifications. In addition, other quality parameters were considered according to the technical specifications. All criteria together allowed the identification of good quality horizons, which were assigned the following codes in the CAPA item.

Table 24 shows the quality parameters for Domo seashell and Addition seashell.

Table 24 Quality Parameters for Dome and Additive seashells

		Domo Seashell	Addition Seashell
CaO (%)	Min.	48.50	NA
	Max.	-	NA
	Target	50.00	NA
MgO (%)	Min.	-	-
	Max.	2.00	2.00
	Target	1.50	1.50
SO ₃	Min.	-	-
	Max.	0.85	2.50
	Target	0.80	2.00
Cl	Min.	-	-
	Max.	0.035	0.035
	Target	0.030	0.030
Na ₂ O (%)	Min.	-	-
	Max.	0.300	0.30
	Target	0.250	0.25
K ₂ O (%)	Min.	-	-
	Max.	0.200	0.20
	Target	0.150	0.15

The block model was configured based on the dimensions and spatial distribution of the formations containing the material of economic interest.

Table 25 shows the characteristics of the model. (Coordinates in UTM units).

Table 25 Characteristics of the block model

	Minimum (m)	Maximum (m)	Size (m)	Number
X	524,800	528,400	8	450
Y	9343300	9345100	8	225
Z	20	45	0.5	50

11.1. Database

The Geological Model used 324 samples obtained from test pits and 5,369 samples obtained during production activities for resource estimation.

The data is processed and managed in Data Shed software and then used in Mine Sight software.

11.2. Density

The density data for the estimation of the seashell Resources of the Virrila quarry as of December 2021, were taken from the historical data of sampling results carried out in the first drilling campaigns. The density ranges between 1.51 and 1.89 t/m³.

11.3. Compositing

In general, each geological unit is estimated from the composite data (the composites were restricted to not cross “hard” boundaries between different geological units).

The objective of compositing is to create a distribution of grades of equal support (volumes) from the initial samples in the drill hole. Thus, when compositing, one must be careful that the composites preserve the original nature of the sample. The calculated values considered in the compositing were for the SiO₂, Al₂O₃, CaO, MgO, and SO₃.

Composites were made at different lengths to determine the optimum compositing length, resulting in compositing at 1 m as the length that best fits the nature of the original sample and is included in the resource estimation process.

In addition, the length of the deposits is considered based on an exact multiple of the height of the blocks used to model the deposit and is also matched to the bench height to be operated.

11.4. Basic statistics of the data (Assay – Composites)

Table 22 shows the results of the basic statistics of the principal oxides as CaO, SiO₂, MgO, Al₂O₃, SO₃, for the original data and the composited data.

QP performed the statistical analysis for each defined body with the interpretation of deposit quality, which were also taken as criteria for modeling and estimation.

Table 26 shows the statistics for “Horizon A2” as this is the main horizon for estimating the Reserves.

Table 26 Basic data statistics

Componentes	Origen	Valid	Rejected	Minimum	Maximum	Mean	Std. Devn.	Variance	Co. Of Variation
SiO ₂	Assay	1856	0	0	56.31	5.54	7.38	54.51	1.33
	Composite	2458	0	0	55.54	4.59	6.23	38.87	1.36
CaO	Assay	1856	0	12.92	56.77	51.58	5.63	31.68	0.11
	Composite	2458	0	15.99	56.77	51.93	4.73	22.36	0.09
MgO	Assay	1856	0	0.17	15.78	0.82	1.11	1.23	1.35
	Composite	2458	0	0.19	14.62	0.73	0.89	0.79	1.23
Na ₂ O	Assay	1856	0	0.01	1.45	0.26	0.14	0.02	0.55
	Composite	2458	0	0.04	1.25	0.24	0.11	0.01	0.47
K ₂ O	Assay	1856	30	0	0.97	0.15	0.17	0.03	1.13
	Composite	2424	34	0	0.97	0.13	0.15	0.02	1.18
SO ₃	Assay	1856	0	0.07	8.81	0.51	0.43	0.18	0.84
	Composite	2458	0	0.07	5.06	0.49	0.30	0.09	0.62
Cl	Assay	1856	2	0	0.74	0.024	0.039	0.002	1.595
	Composite	2455	3	0	0.74	0.022	0.037	0.001	1.697

11.5. Extreme values

Extreme values are considered to be those analysis results that are not representative of the unit being studied and are above the mean plus twice the standard deviation.

Of the extreme values in the laboratory results for the calcareous lithologic units that are being estimated, no deviation has been found, all the results are coherent and representative of the levels to which they correspond

11.6. Mineral Resources classification

The parameters for Resource classification used by Cementos Pacasmayo S.A.A. were obtained from the experience of calculating the optimum drilling grid for sampling by geostatistical methods. Additionally, the variographic analysis was considered taking as reference the variogram range. After considering all these, resource classification was based on the following criteria:

- Measured Resource: One regular drilling grid.
- Indicated Resource: 2 regular perforation grids.
- Inferred Resource: up to 3 grids.

Several configurations have been defined from this basic configuration, taking into account the number of drill holes and the average search distance.

11.7. Variogram Analysis

In the variogram analysis of the composited data for each level corresponding to each body of economic interest at the Virrila quarry, the variogram structures found do not show any preferential direction in the correlation. With the variogram is not possible experimental reflects the maximum distance or range and how a point influences another point at different lengths. In this sense, for the Virrila quarry, the inverse of the distance method was applied.

11.8. Interpolation

The Inverse Distance (ID2) method was used for all variables and Nearest Neighbor (NN) for validations, defining parameters for each estimator. Table 27 shows the main parameters used to define the interpolations of the main CaO variable of the A2 layer and of the secondary variables, respectively.

The interpolations were performed in 4 consecutive processes.

- The first with a search radius of 5 times the drilling grid.
- The second with a search radius of 3 times the drilling grid.
- The third with a search radius of 2 times the drilling grid and the third with a search radius of 2 times the drilling grid.
- Finally, the range corresponding to 1.5 times the drilling grid.

Regarding the number of composites, we used a minimum of 1 per block and 2 as maximum, for the two first interpolation and a minimum of 2 per block and 3 as maximum for the third and a minimum of 3 per block and 4 as maximum, respectively.

Additionally, a maximum of 1 composite were considered for each borehole taken in the interpolation.

Table 27 Estimation Parameters Secondary Variables

Comment	Pass 1	Pass 2	Pass 3	Pass 4
Distance in X direction	200	200	200	200
Distance in Y Direction	200	200	200	200
Distance in Z directions	200	200	200	200
3D Distance	200	200	200	200
Min # Comp	1	1	2	3
Max # Comp	2	2	3	4
Max # Comp DDH	1	1	1	1
Element Model IDW	CA1	CA1	CA1	CA1
Element MComp IDW	CACA	CACA	CACA	CACA
Pass in Model	PSCA1	PSCA1	PSCA1	PSCA1
Pass in comp	PASS1	PASS2	PASS3	PASS4
Dist comp	DICA1	DICA1	DICA1	DICA1
# comp for Block	NCCA1	NCCA1	NCCA1	NCCA1
# comp for DHH	NDCA1	NDCA1	NDCA1	NDCA1
Local error	SDCA1	SDCA1	SDCA1	SDCA1
Major Axis	200	120	90	60
Minor Axis	200	120	90	60
Vertical Axis	10	10	10	10
ROT	0	0	0	0
DIPN	0	0	0	0
DIPE	0	0	0	0
Body	RT1	RT1	RT1	RT1
Body code	1	1	1	1
ORE comp	CODEM	CODEM	CODEM	CODEM
Run extension	1	2	3	4
Archive 09	Tot09.dat	Tot09.dat	Tot09.dat	Tot09.dat

11.9. Resources estimation

Resource estimates are effective December 31, 2021. All Resources are estimated at cement plant. For the estimation of Resources, the analysis considered the CaO content as well as the content of impurities. The impurities are restrictions determined by the cement production plant. Table 28 shows the quantity of Resources and the average values of their quality.

Table 28 Resource Categorization (exclusive of Reserves) at the Virrila quarry

	Resources	Tonnes Mt	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Measured	21.1	48.50	0.84	0.84	9.80	0.268	0.160	0.111
	Indicated	29.2	48.78	0.87	1.23	7.62	0.204	0.222	0.079
	Measured + Indicated	50.3	48.66	0.86	1.07	8.54	0.231	0.196	0.092
	Inferred	3.9	46.42	2.27	1.67	9.96	0.219	0.246	0.066

11.9.1. Cut-off

For the determination of Resources, the costs of extraction, transportation, cement processing and cement dispatch were considered. The costs are based on actual sources of current operations in Cementos Pacasmayo S.A.A. and the selling price of cement in S/ t (at cement plant). Chapter 18 shows the costs and prices for the determination of mineral Resources. The main factor for the determination of Resources is quality. The cut off can be seen in Table 24, the Virrila quarry is a sedimentary deposit and, thus, the model for the estimation of Resources considered the Virrila quarry as a unit, whose seashell production is carried out by 12 m benches.

11.9.2. Reasonable prospects of economic extraction

The Resource estimation considers the Virrila deposit as a set of layers integrated into a single body, defined by the continuity of quality.

The definition of waste is based on the quality (CaO) as the main parameter. The waste is variable in thickness and quality throughout the deposit.

The area associated with the resource estimation is located in the central part of the UEA Virrila and away from the mining property boundaries.

On the other hand, the public road to Bayovar Bay, the transmission line owned by a third party company, and an oil supply pipeline that ends at the port of Petro Peru pass through our mining concessions. It is important to mention that these components do not interfere with the operations in the Virrila quarry nor with the estimation of seashell resources reported in this report.

The Mineral Resource evaluation has considered relevant technical and economic factors such as seashell production costs, cement sales prices, environmental and social viability at our operations.

From the environmental and social point of view, Cementos Pacasmayo has been developing activities in Peru for more than 60 years and is recognized as a Peruvian company with a high reputation, therefore, it is expected that the environmental and social viability will continue.

The economic analysis that shows the economic viability of Mineral Resources is presented in Chapter 19.

The information that supports the estimation of the quarry's Resources is consistent, which allows obtaining a robust Resource model.

It is necessary to update the geological model and standardize the information for the estimation of Resources and Reserves, considering that some areas have test pits and other drillings as a source of information. Drillings were executed in 2021, and laboratory analysis will be incorporated in the 2022 model for the new production area.

11.10. Qualified person's opinion

The geological modeling of the Virrila quarry deposit has been developed considering four zones.

Zone 1, the quality and geological characteristics of the calcareous horizons were considered the basis for the interpretation and elaboration of the model, taking into account the diamond drilling of the different drilling campaigns. The relationship between the information from the drill holes and the geological model is consistent.

The model for zones 2, 3, and 4 has been elaborated from the geological interpretation supported by different test pits campaigns.

It is essential to homogenize the criteria for interpreting the geological information so that the models that support the Resources can be standardized.

The information that supports the estimation of the quarry's Resources is consistent, allowing obtaining a robust resource model.

12. Mineral Reserves estimates

The total estimated Mineral Reserves in the Virrila quarry are 45.3 million tonnes which are detailed in Table 30 in their different categories.

In the periodic update of the Reserves of the Virrila quarry, the Reserves produced within the update of the Resource and Reserves models are taken into account. Also taken into account were any other relevant “modifying factors” (which should be evaluated), or the change and entry of any new data.

The Resources and Reserves estimation in the deposit is mainly based on the calcium oxide (CaO) content, which is a stable variable in the deposit. Its specific values depend on the lithological domain with its concentration higher in some lithologies than in others.

Based on the Resources model, the Reserves were estimated as the indicated and measured resources in the life of mine pit that supports the mining plans for production and supply of seashell to the Cementos Pacasmayo S.A.A. plants.

The QPs estimated life of mine consumption of seahell over the 30 years of mine life is based on the estimated Reserves and the projection of plant needs provided by CPSAA management and finance control department. The projected consumption increases gradually until 2027 and is constant afterwards.

Finally, a drilling campaign was carried out in 2021 to further delineate Reserves in Zone 3. The results should be analyzed and included in the next report.

12.1. Criteria for Mineral Reserves determination

The criteria used for the determination of Mineral Reserves are described below.

12.1.1. Run of Mine (ROM) determination criteria

ROM is considered to be all material produced in the quarry that complies with the specifications and will be sent to the plant for cement production. For determining ROM tonnage, dilution was considered to be negligible. The recovery in the quarry was assumed to be 100%.

12.1.2. Cement plant recovery

The seashell received at the Piura plant is properly stored and then mixed with other raw materials to obtain the crude (kiln feed). On average, the crude contains 72% seashell. After the crude is obtained, it is fed to the calcination kiln to obtain clinker. Finally, the clinker is mixed with additives to obtain cement.

12.2. Reserves estimation methodology

For the determination of the mineral Reserves, the costs of production, transportation, cement processing, and the quality restrictions of the raw material, were considered. The costs are based on actual sources from the current operations of Cementos Pacasmayo S.A.A. in Virrila quarry and Piura plant. Chapter 19 shows the economic analysis to determine the Mineral Reserves.

- Reserves meet the quality restrictions for seashell at the Piura plant (Table 31).
- Proven and Probable Reserves are derived from Measured and Indicated Resources, respectively.
- Proven and Probable Reserves are within the life-of-mine pit designed for the Virrila quarry.
- Reserves are those for which economic viability has been demonstrated by estimating capital costs, operating costs, and cash flow analysis.
- Cementos Pacasmayo S.A.A. has an agreement with the San Martin de Sechura Community associated with the Virrila concession. The agreement allows Cementos Pacasmayo to produce shell from year 2010 to year 2040.
- The effective date of the Reserve estimate is December 31, 2021.
- The point of reference is at the point of delivery to the Piura plant.

Table 29 Quality restrictions Piura plant

		Domo Seashell	Addition Seashell
CaO (%)	Min	48.50	NA
	Max	-	NA
	Target	50.00	NA
MgO (%)	Min	-	-
	Max	2.00	2.00
	Target	1.50	1.50
SO ₃	Min	-	-
	Max	0.85	2.50
	Target	0.80	2.00
Cl	Min	-	-
	Max	0.035	0.035
	Target	0.030	0.030
Na ₂ O (%)	Min	-	-
	Max	0.300	0.30
	Target	0.250	0.25
K ₂ O (%)	Min	-	-
	Max	0.200	0.20
	Target	0.150	0.15

The economic analysis that shows the economic viability of Mineral Resources and Reserves is presented in Chapter 19.

12.3. Reserves estimates

Reserves are expressed in tonnes and are shown in Table 30.

Table 30 Ore Reserves expressed in million tons

	Reserves	Tonnes M	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Proven	42.4	49.99	0.55	0.55	6.78	0.222	0.212	0.111
	Probable	2.9	47.77	0.96	0.92	9.71	0.234	0.269	0.120
	Total	45.3	49.85	0.58	0.57	6.97	0.223	0.216	0.112

The Reserves calculated for Virrila quarry from the Mineral Resources consider the risk factors and modifying factors. The quality factors are considered the most sensitive factors that, by their nature, can affect the Reserve estimates. Although the main variable is considered to be CaO, which is very stable in the deposit, there are others that determine the quality of the Reserves and could even affect the process if they are not adequately controlled, such as the Chlorine and SO₃ content.

In the process of calculating Reserves and in the quarry production plans, these variables have been adequately considered in the mining plan by proper production sequencing with blending processes.

13. Mining methods

Cementos Pacasmayo S.A.A. is the current owner of the Virrila quarry and is in charge of the seashell's production. The loading/transport of seashell has been outsourced to a contractor, Posada Peru S.A.C. Cementos Pacasmayo S.A.A. supervises the quarry to verify the activities and output according to the requirements of the Cement Plant.

In 2013, Cementos Pacasmayo S.A.A. performed a geotechnical study at the Virrila quarry to understand the rock mass.

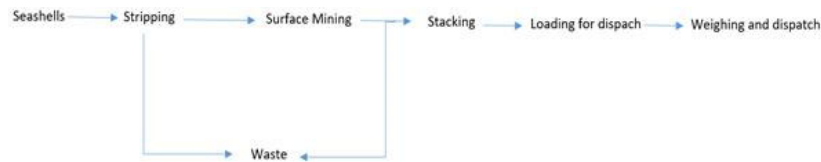
In 2015, Cementos Pacasmayo S.A.A. carried out hydrogeological studies at the Virrila quarry to understand hydrology.

13.1. Mining methods and Equipment

The mining method is open-pit mining with benches, ramps, and access roads. The main production unit is a Surface Miner. The quarry does not require explosives. Figure 10 shows the overall production process. The main production activities are:

1. Production with a surface miner;
2. Stacking;
3. Loading for dispatch; and
4. Weighing and transport.

Figure 10 Mining sequence of Virrila quarry



- **Production with surface miner**

The surface miner is used in horizontal layers of 0.25 meters deep by 3.8 meters wide. Subsequently, it is sampled to assess the quality of the seashells

- **Stockpiles**

The material is stacked using a front-end loader. The stockpiles consider the angle of repose of the material and form slopes of 37°, maximum height of 3 m, and a maximum volume of 25,000 m³ per stockpile.

- **Loading, Weighing and transport**

The dump trucks are weighed on an 80 tonnes capacity platform scale. The material is transported from Virrila quarry to Piura plant.

Table 31 shows the main equipment used to conduct production activities at the Virrila quarry.

Table 31 Mining equipment at the Virrila Quarry

Equipment	Quantity	Function	Description
Pickup van	04	Personnel Transportation	Personnel and material transport units.
Surface Miner	02	Continuous mining	Seashell production
Front Loader	04	Material Loading and Stacking	Material handling equipment.
Tanker truck	02	track watering	Auxiliary equipment to ensure the operability of quarry equipment and personnel.
Dump truck	04	Material hauling	Equipment for conveying material from the production areas to the primary crusher. Their capacity is 15 m ³ .

13.2. Geotechnical aspects

In 2013, Cementos Pacasmayo hired DCR Ingenieros S.A.C. to conduct geotechnical studies of the Virrila quarry. This serves as the basis of geotechnical assumptions used at the quarry to date. The main results are presented below.

During the study, DCR Ingenieros S.A.C noted that the lithological profile is stable when cut. With slopes between 75° to 80° of inclination, no slides or landslides occur. The stability analyses determine these conditions.

Table 32 Virrila quarry physical stability analysis summary

Typical section	Typical section	Cutting slope angle (°)	Safety factor	
			Static	Pseudo-Static
Section A-A'	7	80	2.077	1.713
Section A-A'	8	75	2.323	1.827
Section B-B'	12	75	1.897	1.490
Section B-B'	16	75	2.477	1.920

Analysis methodology

Stability analyses were performed using the Rocscience SLIDE software, version 5.014, which allows the user to perform limit equilibrium calculations.

The software used allowed engineers to search for the most critical failure surface with the lowest safety factor for a given geometry and materials.

The analysis considered the Morgenstern-Price and Spencer limit equilibrium methods, which satisfy the equilibrium of forces and moments.

It also considered that the material is homogeneous and isotropic and that plastic collapse would occur due to the progressive failure mechanism along the slip surface.

Factors of Safety

The safety factors recommended for the stability analyses are based on the recommendations of the Environmental Guide for Slope Stability of Solid Waste Deposit Slopes of the Ministry of Energy and Mines, the United States Society of Dam (USSD), and the United States Bureau of Reclamation (USBR).

According to the guidelines mentioned above, the following safety factors are considered:

- Minimum factor of safety in static conditions is 1.5.
- Minimum factor of safety in the pseudo-static condition is 1.0

Geotechnical Parameters

The geotechnical parameters used for the physical stability analysis were obtained from geotechnical field and laboratory investigations and based on a geomechanical evaluation using the RocLab program (Rocscience).

Table 33 summarizes the geotechnical parameters used in the static and pseudo-static stability analysis.

Table 33 Geotechnical properties of materials

Materials	Specific gravity (kN/m ³)	Angle of friction (ϕ°)	Cohesion (c) (kPa)
Geotechnical unit UG-I (Quaternary deposit)	16	30	0
Geotechnical unit UG-II (Very weak to weak seashell)	20	24	23
Geotechnical unit UG-III (Weak to moderately weak sandstone)	22	40	61

Due to the characteristics of the calcareous material (cemented seashell) present in the Virilla quarry, as well as the depth at which the calcareous material to be produced is present, the physical stability of the quarry's production cuts has been analyzed, considering the following typical cutting geometry:

Cutting slopes: 75° - 85°.

13.3. Hydrological Aspects

Based on the study that DRC Ingenieros S.A.C conducted in 2013, Ram Perú S.A.C drilled two piezometers in the Virilla quarry to obtain information associated with the hydraulic tests being applied to date. The main results are presented below.

Topographically, this unit is developed at a maximum elevation of 80 meters above sea level, being slightly inclined to the SE. The quarry is located on a raised Pleistocene marine terrace, higher than 60 meters above sea level; Its relief is essentially flat, with slight undulations due to wind action. Though, it is under the influence of the Piura river basin; the quarry is not at risk of flooding.

13.4. Other mine design and planning parameters

The seashell production achieved during the year 2021, using the equipment described in Table 31, is 1,424 tons of seashell, and 1,493 M tons of waste rock, which gives a stripping ratio of 1.05.

Based on the plant requirements and sales projection for the next 30 years, the pit design parameters for the Virrila quarry are presented in Table 34.

Table 34 Mine design parameters

Description	Value
Maximum pit height	12 meters
Maximum bench height	6 meters
Pit bank slope	75° to 80°
Production (t/h)	500
Net production hours	10
Surface miner production (t/d)	5,000
Number of workdays per month	25
Production per month (t.)	125,000
Number of working months per year	12
Estimated annual production (t)	1,500,000

13.5. Annual production rate

Considering that the cement plant demands an average annual production of 1.51 million tonnes per year of seashell, the plan for the following 30 years is shown in Table 35.

13.6. Mining plan

The forecasted mining plan for the next 30 years is presented in Table 35.

Table 35 Mining plan forecast

Year	Tonnes (t)	CaO	MgO	SO ₃	Cl	Na ₂ O	K ₂ O	SiO ₂
2022	1,449,625	52.62	0.668	0.436	0.02	0.258	0.107	3.463
2023	1,501,698	53	0.573	0.421	0.019	0.25	0.092	3.16
2024	1,505,361	50.2	0.576	0.533	0.085	0.217	0.224	6.269
2025	1,509,096	50.01	0.619	0.792	0.091	0.213	0.233	6.951
2026	1,512,906	51.29	0.518	0.503	0.124	0.21	0.195	4.602
2027	1,515,623	49.42	0.554	0.538	0.07	0.214	0.229	7.763
2028	1,515,623	50.25	0.468	0.562	0.233	0.22	0.216	6.594
2029	1,515,623	50.15	0.576	0.461	0.077	0.215	0.218	6.585
2030	1,515,623	51.2	0.473	0.487	0.074	0.208	0.201	5.096
2031	1,515,623	50.96	0.481	0.588	0.068	0.213	0.196	5.038
2032	1,515,623	50.93	0.468	0.517	0.109	0.219	0.209	5.761
2033	1,515,623	50	0.488	0.581	0.098	0.225	0.213	6.409
2034	1,515,623	50.51	0.5	0.556	0.072	0.211	0.209	5.689
2035	1,515,623	48.64	0.509	0.504	0.116	0.226	0.24	8.681
2036	1,515,623	50.74	0.509	0.758	0.413	0.241	0.201	4.756
2037	1,515,623	50.68	0.531	0.75	0.468	0.244	0.206	5.366
2038	1,515,623	49.02	0.507	0.547	0.169	0.229	0.237	9.105
2039	1,515,623	48.54	0.73	0.713	0.164	0.228	0.242	8.846
2040	1,515,623	48.56	0.61	0.609	0.063	0.216	0.24	9.016
2041	1,515,623	48.52	0.495	0.497	0.075	0.218	0.239	9.212
2042	1,515,623	48.71	0.619	0.619	0.061	0.222	0.239	8.522
2043	1,515,623	48.55	0.694	0.674	0.064	0.225	0.252	8.897
2044	1,515,623	49.33	0.573	0.506	0.064	0.219	0.233	8.371
2045	1,515,623	49.89	0.485	0.415	0.055	0.213	0.224	7.316
2046	1,515,623	49.61	0.54	0.507	0.192	0.225	0.22	7.176
2047	1,515,623	48.71	0.569	0.549	0.058	0.211	0.227	8.23
2048	1,515,623	48.82	0.642	0.666	0.059	0.231	0.228	7.906
2049	1,515,623	48.66	0.715	0.619	0.068	0.242	0.253	8.791
2050	1,515,623	48.52	0.802	0.61	0.058	0.224	0.236	8.645
2051	1,515,623	49.47	0.685	0.833	0.065	0.205	0.208	6.913
Total	45,369,255	49.84	0.57	0.58	0.11	0.22	0.22	6.98

In the same 30-year period, the removal of waste rock will have a stripping of 0.33 tonnes of waste rock/shell.

Figure 11 shows the final limit of the open pit, mining the total seashell reserve.

[illegible]

The Cementos Pacasmayo personnel develop its operations at the Virrila quarry with its staff and contractors.

14. Processing and recovery methods

14.1. Process Plant

The cement production process includes different stages: quarry production, reception of raw materials, raw material grinding, clinkerization, cement grinding, cement packaging, and cement dispatch.

The process begins with the reception and storage of raw materials; then, the material is fed to the raw milling stage, where the raw materials (seashells, clay, bauxite, sand, and iron ore) are mixed in specific quantities to obtain a material known as “crude.”

Piura plant has a vertical mill for the raw material grinding stage. This equipment allows pulverizing all raw materials to obtain an average fineness of less than 15% measured on a 170 µm mesh.

The crude obtained is transported to a homogenizing silo, where it is stored before feeding it to the kiln.

This stage aims to reduce the variability of the raw material mix and guarantees the uniformity of the quality of production in the clinkerization stage.

The homogenized raw material is fed into the rotary kiln. The temperature of the clinkering process reaches approximately 1450°C; the resulting product is called “clinker.”

The clinker obtained is then pulverized in a vertical mill, with small amounts of gypsum and other mineral additions (such as slag, pozzolana, and seashells). Combining different proportions of these minerals makes it possible to obtain the different types of cement marketed.

The Piura plant has two silos for special cement and one silo for Type I cement for cement storage.

There is also finished product storage (APT) for storing cement packaged in bags and big bags.

Before shipment, the quality control laboratory evaluates the cement produced for all the physical and chemical characteristics required by current technical standards. After the validation process, the Quality Assurance unit approves the cement for bulk or 42.50 kg bags.

14.2. Raw materials for the cement production

At the Piura plant, the following raw materials and additions are used to produce cement.

Raw materials

Seashell: Material composed mainly of calcium carbonate, used as raw material and as additive in cement production.

Sand: Inert material composed basically of crystalline silica, aluminum, and alkalis such as potassium and sodium.

Iron: Inert material composed basically of iron oxide (Fe_2O_3).

Clay: Inert material composed of silicon, aluminum, and a low proportion of alkalis such as potassium and sodium.

Bauxite: Material used as a source of alumina. Its primary function is an alumina corrector and melting effect in the clinkerization process.

Coal: Solid, black, or dark brown mineral that contains carbon and small amounts of hydrogen, oxygen, and nitrogen, for the most part.

Crude: Artificial mixture of seashell, clay, sand, and iron, used to produce clinker.

Clinker: Product obtained during the calcination of the mixture of seashell, sand, clays, and iron.

Fossil fuel

For the heating process of the rotary kiln, it is necessary to use fossil fuels that are easy to burn since this process starts at low temperatures. For this purpose, the Piura plant has systems that can use natural gas and DB5 diesel as complementary fuels for the clinker production process.

Additives

Slag: Artificial pozzolanic material that can be set in contact with water and develop compressive strength.

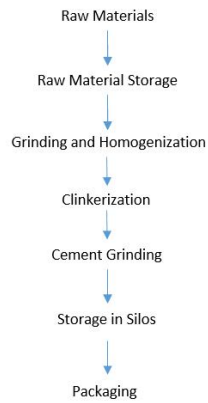
Pozzolan: Materials containing silica and/or alumina of natural or artificial origin.

Gypsum: Material composed of calcium sulfate hydrates. The mineral gypsum may contain crystalline silica. When gypsum is mixed with the clinker, it controls the setting time when the cement initiates the hydration reactions.

14.3. Flow sheet

Figure 12 shows the flow sheet for the cement production at the cement plant.

Figure 12 Piura plant process block diagram



14.4. Main equipment

Table 36 below shows the design capacities for clinker and cement production.

Table 36 Main equipment in Piura plant

Equipment	Product	Capacity of production	Unit
Kiln	Clinker I	90,000	tonnes/month
Mill	Crude I	180,000	tonnes/month
	Pulverized Coal	12,240	
	Cement	133,00	
Bagging system	Cement	6,000	bags/hour

14.5. Cement Plant Mass balance

Table 37 shows the balance of crude production. In addition, Table 38 also shows the balance for cement production considering the additions used for the mixture with clinker and, consequently, cement production.

Table 37 Balance for crude production

Raw material	Annual quantity (tonnes/year)	Dosage
Seashell	1,175,151	78.4 %
Others	324,424	21.6%
Crude	1,499,575	100 %

* Crude includes coal.

The crude is fed to the rotary kiln. The production of 0.6 tons of clinker requires one ton of crude.

Table 38 Balance para production de cement

Raw Material	Annual quantity (tonnes/year)	Dosage
Clinker	965,169	72.9 %
Additions	358,618	27.1 %
Cement	1,323,787	100 %

14.6. Process losses

Losses in the cement production process associated with the raw material (seashell) are 1.55%.

14.7. Water consumption

The Piura plant has a reverse osmosis plant for the water supply system for clinker production, which is used in the clinker and cement grinding processes. It is also used to irrigate green areas and access roads.

14.8. Fossil fuel consumption

Liquid fuels and eventually natural gas (depending on availability) are used to generate the hot gases required in the production process. Table 39 shows the consumption of liquid fuels used in Cementos Pacasmayo S.A.A. - Piura plant, based on the volumes consumed during 2021.

Table 39 Fuel Consumption for Cementos Pacasmayo S.A.A – Piura Plant

Fuel	Consumption	Description
Natural Gas	0 m3	PC: 7.8 GJ/Nm3
Diesel B5	365,258 gal	PC 41.20 GJ/t

14.9. Electric power consumption

Cementos Pacasmayo S.A.A. - Piura plant has an electrical substation with a nominal capacity of 37.50 MW, with an average off-peak energy consumption of 20.0 MW, which is supplied by the national interconnected network.

14.10. Maintenance Plan

Cementos Pacasmayo S.A.A. has initiatives to diversify energy sources and secure supply when possible. Cementos Pacasmayo has implemented a preventive and corrective maintenance plan to maintain the cement production. Cementos Pacasmayo controls operating efficiency to assure costs and operating margins. The equipment is in good condition and operational.

14.11. Staff

The Cementos Pacasmayo personnel develop its operations at the Piura plant with its staff and contractors.

15. Infrastructure

15.1. Virrila quarry

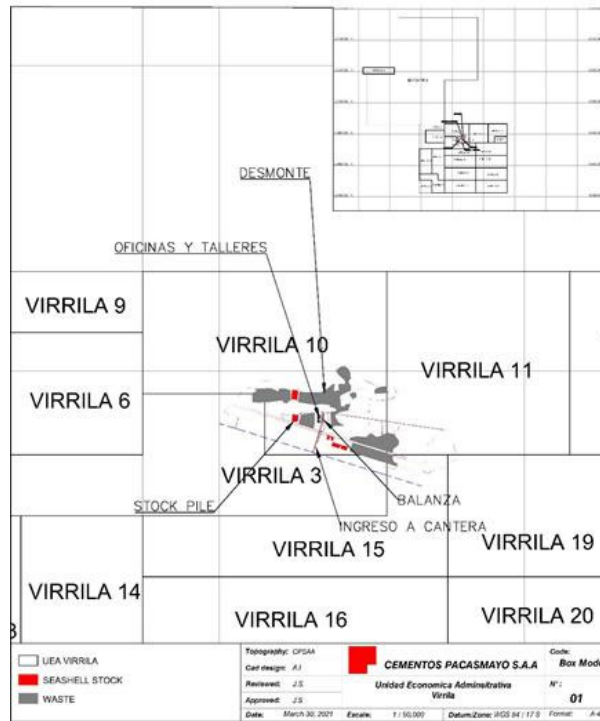
Electricity consumption during the operation stage is 100 kW-h, and a powerhouse provides the power supply with a 100 kW generator set.

The fuel is supplied by a contractor using diesel oil trucks.

Water consumption in quarry operations is for human consumption and industrial use.

The quarry has offices and workshops for minor maintenance. No explosives storage is required, no crushers are used, and there is a scale for the dispatch of seashells trucks located in an area adjacent to the offices.

Figure 13 Virrila quarry facilities



15.2. Piura plant

The Piura plant has an installed power substation of 25 MW for use in electric motors and lighting of the plant.

Power is supplied through a 60 KV transmission line from ENOSA's Piura Oeste sub-station to the plant's substation. The plant's substation is equipped with voltage transformers, protection, and energy metering equipment.

About the fuel infrastructure, there is a pipeline system for liquid fuels and natural gas.

The water supply comes from a deep well; the water is for industrial use, irrigation, and sanitary services. Drinking water which is supplied in drums, is used for human consumption.

16. Market Studies

Cementos Pacasmayo is a leading company in cement production and other construction materials in the north of Peru. The following chapter describes the cement market and the macro and microeconomic factors that define it.

For the description of the cement market in Peru, public information has been collected from different sources, such as the Central Reserve Bank of Peru (BCRP), National Institute of Statistics and Informatics (INEI), Association of Cement Producers (ASOCEM), Ministry of Housing, Construction and Sanitation, Superintendency of Tax Administration and the Peruvian Construction Chamber. In addition to this information, this chapter also relies on statistics provided by the company (CPSAA) to understand its specific market better.

16.1. The cement market in Peru

The Peruvian cement market is geographically segmented by north, central, and south regions. Diverse companies supply each area. Figure 14 illustrates the Peruvian map and its three regions, according to the segmentation of the cement market, where each part is the area of influence of domestic cement companies.

Figure 14 Segmentation of the cement market in Peru



The main companies that supply Peru's cement market are Cementos Pacasmayo S.A.A., UNION Andina de Cementos S.A.A., Yura S.A., and Cementos Selva S.A. Some companies import cement or clinker, such as Caliza Cemento Inca S.A., Distribuidora Cemento Nacional S.A.C., CEMEX Perú S.A., Cal & Cemento Sur S.A., amongst others.

Table 40 shows the cement shipments at the domestic level (in thousands of tonnes):

Table 40 Cement shipments at domestic level (in thousands of tonnes)

	2019	2020	2021
National cement shipments	10,317.0	8,979.0	12,500.0
Overall cement shipments (CPSAA/CSSA, 3 plants)	2,613.7	2,581.4	3,625.2
Piura cement plant shipments	948.0	1,007.1	1,317.5

Sources: ASOCEM and CPSAA/CSSA.

The cement produced by the main cement companies of the country is Type I, Type V, Type ICO, Type IL, Type GU, Type MS (MH), Type HS, Type HE, Type MH.

It is important to mention that, according to the main requirement standards, Peruvian Technical Standards, there are five cement types:

- NTP 334. 009 2013. Cements Portland. Requirement. (ASTM C 150).
- NTP 334. 090 2013. Cements Portland Added. Requirements. (ASTM C595).
- NTP 334. 082 2011. Cements Portland. Performance Specification. (ASTM C1157).
- NTP 334. 050 2004. Cements Portland White. Requirements. (ASTM C150).
- NTP 334. 069 2007. Building Cements. Requirements. (ASTM C091).

Cementos Pacasmayo only produces cement that meets the first three NTP standards.

16.2. Industry and Macroeconomic Analysis

Producers and trading companies of cement compete mainly within the limits of their area of influence, which is determined by the geographical location of their plants, giving rise to segmentation of the national market. However, the north region presents a high demand potential because of the infrastructure gap, the housing deficit, and a higher capillarity in terms of essential cities adjacent to one another, and with an urbanization level lower than in the central and south regions.

On the other hand, one should underline the importance of transportation in the structure of cement costs, which are composed primarily of raw materials, fuels, and transportation.

The cement market and the industry in Peru have the following characteristics:

- The base of consumers is highly segmented, informal, and of low resources.
- Low costs of energy and raw materials.
- Zone of influence/distribution determined by the geographical location of the plant.
- High correlation between public and private investment and self-construction.
- The construction sector and cement industry are directly related to the Gross Domestic Product (GDP) and Private Consumption.

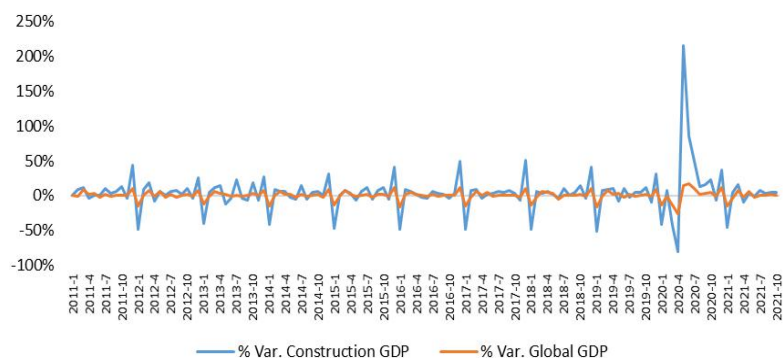
Figure 15 shows how the Global of the construction sector (variation % monthly) accompanies the cyclic behavior of the Global GDP (variation % monthly), indicating variations of lower significance than those of the Global GDP, but in the same direction.

It is also noted that, in May 2020, the GDP of the construction sector had a positive variation of more than 200% (compared to the previous month), while the Global GDP was only 10%.

This situation was due to the confinement measures given by the Government to counter the Covid-19 pandemic. This reactivation was motivated primarily by the private-construction sector's consumption. Under the uncertain conditions caused by the health and economic crisis in 2020, consumers showed savings behaviors, which meant that people preferred consumption of goods for home improvement, including cement.

This trend was maintained throughout 2021, even before a higher uncertainty caused by the elections and the result of elections, which was reflected in sustained growth rates of internal consumption of cement related primarily to self-construction.

Figure 15 Global GDP and Construction sector GDP MoM variation (%)



Source: INEI

The cement industry is also driven by housing sector growth, public and private investment in infrastructure, mining projects, shopping centers, construction of transportation systems, etc. Thus, one of the variables with more impact on the cement industry and future demand is the infrastructure gap which remains high in the country.

For the 2016 – 2025 period, the infrastructure gap is estimated at US\$ 160 billion, and this is present in the main economic sectors and services of public supply, that is, Transportation (36%), Energy (19%), Telecommunications (17%), Health (12%), Sewage System (8%), Irrigation (5%) and Education (3%).

Ninety percent of the roads not included in the extensive national road network remain without pavement; only 40% of schools have access to essential services such as water, electricity, and sewage system; there are only 15 hospital beds for every 10,000 individuals, compared to 27 beds recommended by the WHO.

It is estimated that public investment grew 10% in 2021 and will grow 5% in 2022, as a result of the higher expenditure in reconstruction works under the Government to Government Agreement with the United Kingdom, as well as Special Projects of Public Investments and the projects within the frame of the National Plan of Infrastructure for Competitiveness (NPIC).

Regarding the Government's reconstruction plan that it is implementing, it is expected to have a significant impact on cement sales in the northern region because most of the budget is targeted at that area.

16.3. The North Region Market

Cementos Pacasmayo, a leading company in the production and sales of cement in the North Region, has market presence in the following cities: Cajamarca, Chiclayo, Chimbote, Jaén, Pacasmayo, Piura, Rioja, Tarapoto, Trujillo, Tumbes, Yurimaguas and Iquitos. CPSAA has a Market share of over 90% in the country's north region.

Piura plant supplies almost 33% of the cement demand of the country's North Region. Overall shipments of the Piura plant for 2021 were 1,317.5 thousand tonnes.

Other companies with lower presence in the cement market of the North Region are:

- Wang Peng
- Quisqueya - Cemex
- Cemento Nacional
- Cemento Inka
- Cemento Tayka
- Cementos Patrón

These companies are competitors of the Piura plant.

Cementos Pacasmayo S.A.A Piura plant produces different types of cement. It has placed in the National Market other trademark products to meet the needs of diverse segments of the market. Table 41 shows the products in the Piura plant.

Table 41 Cement at Piura plant

Business Name	Use	Comment
Cemento Portland		
Cement Type I	Cement of general use.	The average result of resistance to compression is higher than the minimum requirement set forth in the technical standard NTP 334.009 / ASTM C150.

Cemento Portland Added		
Cement Fortimax	Ideal for Works which require moderate hydration heat, for Works exposed to sulphate action and for Works near to large water sources (sea, lakes, rivers, etc.)	The average result of resistance to compression is higher than the minimum requirement set forth in technical standard NTP 334.082 / ASTM C1157.
Cement Extra Forte	Ideal for the execution of structural Works, repairs, remodelings, home applications, floors, levelings, grouts, tips, prefabricated elements of small and medium size and concrete elements which require special characteristics.	The average result of resistance to compression is higher than the minimum requirement set forth in technical standard NTP 334.090.
Hydraulic Cements specified by performance		
Line Mochica MS	For structures in contact with environment and humid and salty soils.	

16.4. Cement price

The sale prices of cement in the Peruvian market vary according to their type and geographical location.

The price difference of each type is explained primarily by the dosifications of raw materials and additives. The variations for geographical location are caused by the freights for the distribution to the points of sale.

At the domestic level, the cement price in 2021 was, on average, 541.18 S/ x t. Figure 16 shows the historical prices of cement in Peru

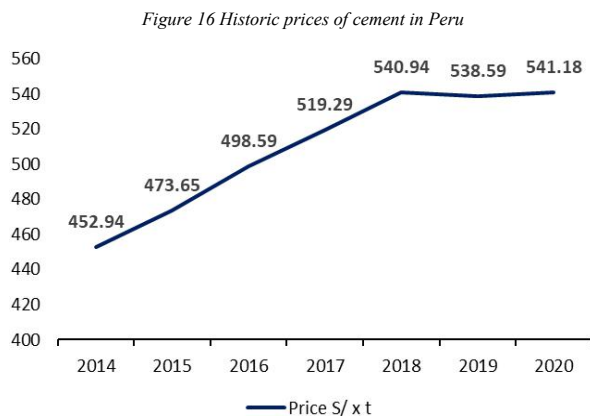


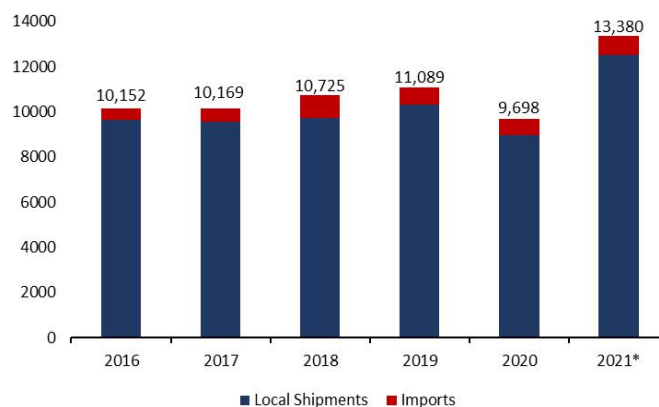
Figure 16 shows sustained growth of more than 4% per year from 2015 until 2018. It fell slightly in 2019 to climb again in 2020. The annual growth rate for the 2014 – 2020 period is 3.01%, which is consistent with the annual inflation rate of the target range of the Central Reserve Bank of Peru.

16.5. Current and future demand

Cement demand at the national level is met by local shipments (local production), for the most part, and by imports. In 2021, 12.50 M tonnes were shipped locally, 40% more than in the same period of 2020 (9.0 M). Imports amounted to 0.88 M tonnes during 2020; 23% above the 2020 figure (0.72 M). Thus, cement demand in 2021 is estimated at 13.3 M tonnes.

Figure 17 shows the evolution of the national demand for cement, expressed in thousands of tonnes, since 2016.

Figure 17 Evolution of the national demand of cement



Source: ASOCEM

The domestic demand has been growing at 3% per year, except in 2020; due to the pandemic and the confinement measures; it takes a historic leap in 2021, with an annual increase of 38%.

According to our internal information, in terms of regional distribution, the Northern Region accounts for approximately 28% of domestic cement demand, the Central Region for 50%, and the Southern Region for 22%.

Cementos Pacasmayo's cement shipments (3 plants) reached 3,625.2 thousand tonnes in 2021, capturing a 26.8% share of total shipments in Peru and 90% in the Northern Region. This is 40.4% more than in 2020 (2,581.4 thousand tonnes). This increase in shipments occurs in a context of economic recovery, despite the Covid-19 pandemic and political instability, and is explained by the high growth rates of domestic cement consumption registered since mid-2020. The key factor was the self-construction sector and the high execution of investment projects.

It is expected that the positive trend remains in the internal consumption of cement, at the domestic level and in the northern region, driven by the growth of the Peruvian economy, which is recovering at a higher rate than other countries of the region.

The private-construction sector which is still one of the main driving forces of cement demand, and the Government's reconstruction plan for damages caused by El Niño, is being executed through an agreement between the Peruvian and the British governments.

The growth of the Peruvian economy will positively impact Cementos Pacasmayo's cement shipments because most of the budget is concentrated in the company's influence zone.

Table 42 shows the projection of future demand or shipments of cement for the Piura plant.

Table 42 Forecast of future demand for Piura cement plant

Year	Cement Shipments (Tonnes)	Variation (%)
2022P	1,428,618	
2023P	1,457,190	2.0%
2024P	1,486,334	2.0%
2025P	1,516,061	2.0%
2026P	1,546,382	2.0%
2027P	1,568,000	1.4%
2028P	1,568,000	0.0%
2029P	1,568,000	0.0%
2030P	1,568,000	0.0%
2031P	1,568,000	0.0%
2032P	1,568,000	0.0%
2033P	1,568,000	0.0%
2034P	1,568,000	0.0%
2035P	1,568,000	0.0%
2036P	1,568,000	0.0%
2037P	1,568,000	0.0%
2038P	1,568,000	0.0%
2039P	1,568,000	0.0%
2040P	1,568,000	0.0%
2041P	1,568,000	0.0%
2042P	1,568,000	0.0%
2043P	1,568,000	0.0%
2044P	1,568,000	0.0%
2045P	1,568,000	0.0%
2046P	1,568,000	0.0%
2047P	1,568,000	0.0%
2048P	1,568,000	0.0%
2049P	1,568,000	0.0%
2050P	1,568,000	0.0%
2051P	1,568,000	0.0%

17. Environmental studies, permitting, and plans, negotiations, or agreements with local individual or groups.

17.1. Environmental Aspects

Cementos Pacasmayo has corporate policies applied to the operations of quarries and cement plants. Relevant policies include Safety Occupational Health Policy, Quality Policy, and Environmental Policy.

Cementos Pacasmayo S.A.A. carries out activities in Virrila quarry and Piura plant according to the environmental legislation. It has an environmental authority in the industrial sector and another authority (Ministry of Energy and Mines) that issues an opinion for the Closure of quarries.

Likewise, Cementos Pacasmayo complies with the provisions of the Regulation with Supremo Decree No. 033-2005-EM - Regulation of the Mine Closure Law.

17.1.1. Virrila quarry

The quarry has an Environmental Impact Study approved by the Ministry of Production by Directorial Resolution N° 207-2014-PRODUCE/DVMYPE-I/DGAAMI dated September 12, 2014, for the exploitation of limestone material in the non-metallic mining concessions Virrila 3, Virrila 10, Virrila 11, Virrila 12, Virrila 15, Virrila 16, Virrila 19, Virrila 20, Virrila 21, Virrila 22 and Virrila 23.

The Environmental Impact Assessment (EIA) included the identification of potential environmental impacts for which preventive and mitigation measures were defined. The mitigation plans were established in the Environmental Management Plan to be developed during the exploitation stage.

On December 12, 2016, through Directorial Resolution No 053-2016-PRODUCE/DVMYPE-I/DGAAMI, the first Sustaining Technical Report (ITS) for the Modification of the Virrila quarry Exploitation Project was approved. The modification was requested to relocate and expand auxiliary components to optimize the quarry exploitation operation.

On February 14, 2019, through Directorial Resolution No 152-2019-PRODUCE/DVMYPE-I/DGAAMI, the second Sustaining Technical Report (ITS) for the Modification of the Virrila quarry Exploitation Project was approved.

The modification was requested to modify the production area of Zone 1, modify the mining process through surface miners, execute diamond drilling as part of the confirmation of mining reserves in Zone 1, install portable fuel tanks, and modify and redistribute the administrative area.

On December 9, 2020, Directorial Resolution No 467-2020-PRODUCE/DVMYPE-I/DGAAMI, the third Sustaining Technical Report (ITS) of the Quarry Limestone Pile Design Modification Project was approved. The modification included changes to the design of piles (stock) of limestone material from the quarry, described in the Environmental Impact Study approved in 2014.

On June 10, 2021, through Directorial Resolution No 307-2021-PRODUCE/DGAAMI, the fourth Sustaining Technical Report (ITS) of the Quarry Mining Reserves Confirmation Project was approved, through which diamond drilling was carried out in the Virrila quarry, to have certainty in quality and quantity of the reserves.

Cementos Pacasmayo complies with Peruvian legislation on Closure Plans. Under current legislation is the Regulation of Environmental Management of the Manufacturing Industry and Domestic Trade, Supreme Decree No. 017-2015-PRODUCE, this rule establishes the environmental management of the activities covered by Ministerial Resolution No. 157-2011-MINAM, table of the first update of the list of inclusion of investment projects subject to the National System of Environmental Impact Assessment (SEIA).

Law No. 28090 and its Regulation approved by Supreme Decree No. 033-2005-EM establishes the closure measures for non-metallic quarries. The Directorial Resolution Number 548-2015-PRODUCE/DVMYPE-I/DIGGAM approved the Closure Plan of the mining unit Quarry Virrila.

About water management, it is essential to mention that Virrila quarry does not have any discharges. The small water consumption is only for green area irrigation and road maintenance.

The approval of the Mine Closure Plan involves the constitution of guarantees to ensure that the owner of the mining activity complies with the obligations derived from the Mine Closure Plan by environmental protection regulations.

The Closure Plan submitted by Cementos Pacasmayo has included the necessary measures to ensure effectiveness or consistency with the requirements required to protect public health and the environment. The initial strategy has continued with the components of the Virrila quarry mining unit, establishing temporary, progressive, final, and post-Closure activities at the end and/or closure of operations.

Environmental closure activities have included physical stability in the mine, geochemical stability, water management facilities, dismantling for equipment and machinery removal, infrastructure demolition, reclamation, waste disposal, landform establishment, habitat rehabilitation, and revegetation and social programs.

CPSAA will carry out Post-closure activities such as physical, geochemical, hydrological, and biological maintenance. Post-closure monitoring activities include physical stability monitoring, geochemical stability monitoring, water management monitoring, biological monitoring, and social monitoring.

Considering that the land use before mining production was a barren area typical of the coastal geography of the Piura Region, forestation activities with native species have been considered part of the post-closure activities. Likewise, CPSAA will fulfill the commitments included in the Closure Plan approved by the above authority.

CPSAA has a solid relationship with our communities. The social responsibility programs were focused on identifying its primary necessities in health, education, urban development, and local development.

In this situation, we have a social investment program that contributes to dealing with their necessities based on good dialog and compliance with our commitments.

The communities are high-priority stakeholders. For this reason, we promote periodic meetings with their representatives, and we create opportunities for dialog to know their expectations. Also, we have established public and private alliances for development projects and programs to contribute to better life quality and strengthen our relations. In 2021, CPSAA worked in partnership with the district governments of Piura and Virrila.

17.1.2. Piura plant

On May 29, 2013, according to Directorial Resolution No 008-2013-PRODUCE/DVMYPE-I/DIGGAM, the Environmental Impact Study for the Piura Cement Manufacturing Plant project was approved.

The environmental study was prepared by the consultant GEOSERVICE INGENIERIA SAC. The environmental document describes the characteristics of the project, areas of influence, physical, biological and socio-economic environment, identification of the environmental impacts generated by the activities, proposing, according to these, an Environmental Management Plan and Mitigation Measures, to reduce or control these impacts.

The approval of the environmental study considers the submission to the authority, reports on a semi-annual basis, referring to environmental monitoring report and implementation report of the environmental management plan.

On April 30, 2015, Directorial Resolution No. 113-2015- PRODUCE/DVMYPE-I/DGGAM, approved the Environmental Impact Statement of the Project Expansion of Cementos Piura plant facilities, prepared by the consultant GEOSERVICE INGENIERIA SAC. The approval of the study considers the Environmental Management Plan.

On the other hand, Cementos Pacasmayo S.A.A. submitted to the Ministry of Production a Technical Report to implement the Piura Plant Component Expansion Project, which is currently being evaluated by the environmental authority of Peru. This project contemplates the declaration of a metallic cement silo, a B5 diesel tank to generate hot gases for the cement mill, and two LPG tanks to supply the forklifts at the Piura plant.

About water management, it is essential to mention that Piura plant does not have any discharges. The small water consumption is only for green area irrigation.

Considering that the land use before cement production was a barren area typical of the coastal geography of the Piura Region, forestation activities with native species have been considered part of the post-closure activities.

Finally, by environmental regulations and according to the Regulation of Environmental Management of the Manufacturing Industry and Domestic Trade, Supreme Decree N° 017-2015-PRODUCE, companies that produce cement are required to submit Closure Plans when executing Decommissioning activities. , Cementos Pacasmayo in compliance with Peruvian legislation will submit the Closure Plan on time.

17.2. Solid waste disposal

Cementos Pacasmayo S.A.A. has a Solid Waste Minimization and Disposal Plan for our production activities at the Piura plant and Virrila quarry. Annually, our company declares the generation, storage, collection, and final disposal of hazardous and non-hazardous solid waste in compliance with environmental legislation.

In the solid waste minimization plan for 2021, CPSAA declared 8.5 tons of hazardous waste and 95.90 tonnes of non-hazardous waste for the Virrila quarry.

Likewise, CPSAA declared 29.50 tonnes of hazardous waste for the Piura plant and 356.60 tonnes of non-hazardous waste disposed of in accordance with environmental legislation.

17.3. Qualified Person's Opinion

Cementos Pacasmayo S.A.A. complies with national environmental standards in the industrial sector. According to the International Standard Industrial Classification - ISIC 2694 for the non-metallic production of the Virrila quarry where seashell, the primary material for cement, is produced.

For the industrial and mining sector, our company specifically complies with the Environmental Management Regulations for the Manufacturing Industry and Domestic Trade. Supreme Decree No. 017-2015-PRODUCE is the rule that regulates the environmental management of the activities indicated in Ministerial Resolution No. 157-2011-MINAM and investment projects subject to the National System of Environmental Impact Assessment (SEIA), considered in Annex II of the Regulations of Law No. 27446, approved by Supreme Decree No. 019-2009-MINAM.

CPSAA reports the environmental commitments, semiannually and quarterly, to the Environmental Evaluation Agency - OEFA.

The monitoring is carried out through external laboratories that provide comprehensive monitoring and analysis services and have double accreditation by the international IAS (International Accreditation Service) and the national INACAL (National Institute of Quality), both signatories of the ILAC-MRA global Mutual Recognition Agreement.

Cementos Pacasmayo S.A.A. strictly complies with the protocols in the different processes in compliance with environmental legislation and reporting to the OEFA.

The qualified persons believe Cementos Pacasmayo's current plans and practices are adequate to address any issues related to environmental compliance, permitting, and local individuals or groups.

18. Capital and operations costs

18.1. Basis for operating and capital cost for the quarry and plant

This section presents the operating costs of the Virrila quarry for the production of seashells, the primary raw material used in cement production at the Piura plant. It also exhibits the plant's operating costs, for the whole industrial process, from the reception of raw material to its conversion to the final product (cement). Cost forecast is mainly based on actual historical costs.

Similarly, this section reports the detail of the capital investments made in the quarry and plant and the forecasted plan of assets required to sustain all the activities in the quarry and plant to assure the supply of seashell Reserves for the necessary products to support forecasted cement shipments of the Piura plant.

Table 43 depicts the main components of the cost structure of the Virrila quarry and Piura plant and the sources used in their forecasts.

Table 43 Concepts about cost structure of Virrila quarry and Piura plant

Concept	Description	Source
Quarry Operating Cost	Mineral Extraction /Exploitation, processing, fuel, Materials, Maintenance, Insurances and Services	• Real, historic costs • Suppliers' quotes
Quarry Operating Cost	Royalties	• Contract of mining royalty payment with regional/state entities
Quarry Operating Cost	Energy	• Historic, real costs • Supply Contract • Suppliers' quote
Plant Operating Cost	Fuel, Materials, Maintenance, Wages and Insurances	• Historic, real costs • Suppliers' quote
Plant Operating Cost	Energy	• Historic, real costs • Supply Contract • Suppliers' quote

Considering that the Virrila quarry and the Piura plant are currently operating, the historical costs are the principal basis for estimating forecasted costs.

In this regard, the actual costs in some cases are maintained, and in other cases, are appropriately adjusted for factors specific to the quarry operation, conditions, and obligations stipulated in supply and concession contracts.

On the other hand, macroeconomic factors such as inflation and devaluation of the local currency against the US dollar could indirectly impact future operating costs estimation.

18.2. Capital and Operating Cost Estimates

Table 44 details the operating costs of quarry and plant for the year 2021, and 30 years of forecast:

Table 44 Operating costs forecast of quarry and plant

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	
Production Figures																																
Extracted Mineral	tonnes '000	1,425	1,450	1,502	1,509	1,513	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	1,516	
Cement Production	tonnes '000	1,324	1,429	1,457	1,486	1,516	1,546	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	1,568	
Mine/Quarry Costs																																
Variable Costs	\$/ '000	50,597	58,678	62,394	64,207	66,075	68,001	69,031	71,785	73,687	75,640	77,644	79,702	81,814	83,982	86,207	88,493	90,837	93,244	95,715	98,251	100,855	103,528	106,271	109,087	111,978	114,946	117,992	121,118	124,328	127,623	131,005
Cost per tonne of product	\$/ x tonne	35.52	41.07	42.82	43.20	43.58	45.07	44.60	45.78	46.09	48.24	49.52	50.80	52.18	53.56	54.98	56.44	57.93	59.47	61.04	62.66	64.32	66.03	67.77	69.57	71.41	73.31	75.25	77.24	79.29	81.39	83.55
Fixed Costs	\$/ '000	111.46	53.29	54.06	51.77	51.36	50.80	48.86	49.03	49.38	50.18	51.35	48.64	47.74	48.30	49.10	46.21	43.67	42.64	43.44	44.19	43.36	43.77	44.65	45.57	46.50	47.46	48.45	49.46	50.75	48.18	49.17
Cost per tonne of product	\$/ x tonne	0.08	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Total Mine/Quarry Costs	\$/ '000	50,709	58,731	62,448	64,259	66,127	68,082	69,080	71,834	73,736	75,690	77,695	79,730	81,861	84,030	86,256	88,538	90,880	93,287	95,758	98,296	100,898	103,571	106,316	109,133	112,025	114,993	118,040	121,168	124,378	127,671	131,054
Cost per tonne of product	\$/ x ton	38.31	41.11	42.83	43.23	43.62	44.02	44.63	45.81	47.03	48.27	49.53	50.86	52.21	53.59	55.01	56.47	57.96	59.49	61.07	62.69	64.35	66.05	67.80	69.60	71.44	73.34	75.28	77.28	79.32	81.42	83.58
Plant Costs																																
Variable Costs	\$/ '000	156,941	186,160	187,596	197,885	213,388	229,764	243,735	250,194	256,834	263,630	270,618	277,788	285,145	292,705	300,462	308,424	316,597	324,987	333,599	342,440	351,515	360,830	370,387	380,207	390,281	400,625	411,247	422,139	433,326	444,809	456,597
Cost per tonne of product	\$/ x tonne	118.33	129.14	128.74	133.24	140.75	149.59	155.44	159.56	163.79	168.19	172.50	177.35	181.56	186.07	190.82	195.79	200.93	206.26	211.75	217.39	223.18	229.12	235.24	241.49	247.90	254.48	261.25	268.22	275.38	282.68	290.20
Fixed Costs	\$/ '000	115,073	115,003	120,927	120,072	124,855	123,086	122,704	128,408	126,907	129,080	137,316	137,053	132,930	140,151	138,734	137,318	141,219	137,518	140,533	149,058	145,114	147,073	157,201	155,160	158,821	168,606	166,490	170,400	179,901	174,518	178,444
Cost per tonne of product	\$/ x tonne	86.97	81.93	82.99	82.76	82.36	79.60	78.25	81.89	80.99	82.50	87.57	84.22	84.78	85.45	86.52	87.58	90.06	87.58	89.63	93.05	92.55	94.27	100.26	98.95	101.29	107.59	106.18	108.67	114.79	112.80	113.80
Total Plant Costs	\$/ '000	272,014	306,063	308,523	317,957	338,243	352,870	366,439	378,650	383,821	393,619	407,932	409,840	418,078	432,856	439,256	445,742	457,816	462,506	474,133	491,478	496,629	508,803	527,592	535,367	549,103	569,921	577,731	592,540	613,317	619,328	635,041
Cost per tonne of product	\$/ x tonne	205.48	214.24	211.72	213.52	223.11	228.19	233.70	241.46	244.78	251.03	260.16	261.38	266.63	276.12	280.14	284.27	291.97	294.84	302.38	313.44	316.73	324.49	336.47	341.43	350.19	363.09	368.45	377.90	391.15	394.98	405.00
Total Operating Cost	\$/ '000	322,723	364,794	376,971	382,215	404,370	426,912	436,419	450,436	457,658	463,309	485,627	489,330	499,940	516,986	525,512	534,280	548,607	555,392	568,891	589,773	597,527	612,374	631,908	644,508	661,138	684,314	695,771	713,708	737,895	746,993	766,095
Cost per tonne of product	\$/ x tonne	243.79	255.35	254.58	257.15	266.72	272.20	278.31	287.27	293.81	299.30	309.71	312.24	318.84	329.71	335.15	340.74	349.93	354.33	363.45	376.13	381.98	390.54	404.26	411.03	421.94	436.42	443.71	455.17	470.47	476.40	488.58

Table 44 shows the forecast for the next 30 years, according to the production plan for 30 years of Reserves. Costs are adjusted annually by applying a 2.65% escalation rate.

Costs described in this chapter are applied to estimate the Mineral Resources and Reserves of the Virrila quarry as part of the analysis.

Table 45 shows the detail of capital investments in the quarry and plant, by type of investment, for one year of historical result (2021) and 30 years of projection:

Table 45 Investment forecast in quarry and plant

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051		
Virilia Quarry Investments	\$/ '000	3,000	3,117	3,307	3,412	3,520	3,633	3,743	3,842	3,944	4,048	4,156	4,266	4,379	4,495	4,614	4,736	4,862	4,990	5,123	5,258	5,398	5,541	5,688	5,838	5,993	6,152	6,315	6,482	6,654	6,830	7,011	
Exploration and Studies	\$/ '000		1,836	1,418	1,463	1,509	1,557	1,605	1,647	1,691	1,736	1,782	1,829	1,877	1,927	1,978	2,031	2,084	2,140	2,196	2,254	2,314	2,376	2,438	2,503	2,569	2,638	2,707	2,779	2,853	2,928	3,006	
Machinery & Equipment	\$/ '000		3,000	1,781	1,889	1,949	2,011	2,075	2,138	2,199	2,258	2,313	2,374	2,437	2,501	2,568	2,636	2,706	2,777	2,851	2,926	3,004	3,084	3,165	3,249	3,335	3,424	3,514	3,608	3,703	3,801	3,902	4,000
Plant Investments	\$/ '000	12,060	8,076	8,567	8,839	9,120	9,411	9,697	9,984	10,217	10,488	10,766	11,051	11,344	11,645	11,953	12,270	12,595	12,929	13,272	13,624	13,985	14,355	14,736	15,126	15,527	15,939	16,361	16,794	17,239	17,696	18,165	
Machinery & Equipment	\$/ '000	9,632	7,158	7,594	7,835	8,084	8,342	8,595	8,823	9,057	9,297	9,543	9,796	10,056	10,322	10,596	10,876	11,165	11,460	11,764	12,076	12,396	12,724	13,062	13,408	13,763	14,128	14,502	14,886	15,281	15,686	16,102	
Intangibles	\$/ '000																																
Others	\$/ '000	2,428	917	973	1,004	1,036	1,069	1,102	1,131	1,161	1,191	1,223	1,255	1,289	1,323	1,358	1,394	1,431	1,469	1,508	1,548	1,589	1,631	1,674	1,718	1,764	1,811	1,859	1,908	1,958	2,010	2,063	
Total Investments	\$/ '000	15,060	11,193	11,874	12,251	12,641	13,044	13,439	13,796	14,161	14,536	14,922	15,317	15,723	16,140	16,567	17,006	17,457	17,920	18,394	18,882	19,382	19,896	20,423	20,964	21,520	22,090	22,676	23,277	23,893	24,527	25,176	

In recent years, there have been no significant variations in capital investment, mainly for maintenance and replacement of equipment in the quarry and plant to sustain operations.

The Company's investment plan does not consider any unusual or expansion activity. The sole plan is to perform the necessary replacement for quarry support and the maintenance of operations in the plant. The investments are kept at levels similar to those registered throughout the last years

18.3. Capital and Operating cost estimation risks

There is a low risk associated with capital and production costs because mine production and cement plant will continue in the same geological deposit, using the same mining and industrial methods.

An assessment of the accuracy of estimation methods is reflected in the sensitivity analysis in Section 19.

For purposes of the Preliminary Feasibility Study completed relative to the Virrila quarry and Piura plant, capital and operating costs are estimated to an accuracy of +/- 25% with a contingency of 5%.

19. Economic analysis

19.1. Methodology: for Discounted Cash flow (Free)

The Economic Analysis chapter describes the assumptions, parameters, and methodology used to demonstrate the economic viability or profitability of extracting the Mineral Reserves and Resources. The economic analysis at the Pre-feasibility level supports the determination of Mineral Resources and Reserves through a business valuation through the Discounted (Free or Economic) Cash Flow method.

For the cash flow projection, the forecast horizon is considered to be consistent with the quarry's life, which is calculated based on the total declared Reserves and the annual production of the quarry. The cash flow for each period is approximated indirectly from the EBITDA (the latter is constructed in the Profit and Loss Statement), and the corresponding adjustments are made for taxes and capital costs (CapEx).

Finally, we work with the free cash flow for this economic analysis since it does not incorporate the financing structure. We apply the weighted average cost of capital (WACC) to discount said future cash flows.

The economic analysis considered the same evaluation criteria for Resource and Reserves estimation.

19.2. Assumptions

19.2.1. General and Macroeconomic Assumptions

The general and macroeconomic assumptions used for the projection of economic cash flows and the valuation are:

- Projection horizon: 30 years (2022 to 2051), according to the estimated years of quarry life.
- The annual escalation rate; 2.65%, applies equally to the sales price, production costs, and expenses.

- Capital cost projections were determined using a historical ratio of annual investments and maintenance costs, which also considers the increase in production volume.
- The company's capital structure is being considered in the discount rate (WACC); 9.87%, not in the cash flows.
- Income tax rate: effective rate of actual (historical) business results, 31.0% - 32.0%.
- Workers' Profit Sharing: 10%.
- Exchange rate: exchange rate is assumed to remain at 4.00 (USD/PEN)

19.2.2. Income and Cost Assumptions

- The sales price of cement, expressed as S/ x t, is the sales price of Piura plant to Distribuidora Norte Pacasmayo, Piura plant, which is lower than the sales price to the final customer in the market. The distribution freight explains this difference to the multiple points of sale and the selling expenses associated with distribution and promotion in the different commercial channels.
- The base price used in the projection is an estimate for the year 2022 (368.9 S/ x t), which has been determined based on current market conditions and cement demand for 2022, among other factors.
- Starting in 2023 (year 2 of the projection), a price escalation is applied according to an annual inflation rate of 2.65%.
- The cost of cement production, expressed as S/ x t, has been estimated for 2022 based on actual operating costs, the market situation of local materials and services, plant demand for imported clinker, and other factors. The cost of production for the year 2022 is 259.3 S/ x t.
- In the case of imported clinker, the current cost is more than 40% above the historical average and results from extraordinary circumstances. Therefore, starting from the year 2024, the projection considers values more consistent with the historical average, plus an inflation adjustment.
- Starting in 2023, a cost escalation is applied by the annual inflation rate of 2.65%.
- The volume of cement shipments grows at an annual rate of 2.0% until the maximum plant capacity is reached, which is adjusted slightly for a safety factor.

- The initial stock of products in the quarry and plant is assumed to be zero.

19.3. Results of financial model

The following financial parameters were calculated:

- NPV of 1.281 billion soles at a discount rate of 9.87%.
- 30-year mine life
- Average plant throughput for cement production: 1.51 million tonnes per year over the 30-year projection.
- Average sales price: 552.9 soles per ton of cement, an average of the 30-year projection, at nominal values.
- Revenues: 861.8 million soles, an average of the 30-year projection.
- Average cash production cost: 342.3 soles per ton of cement, an average of the 30-year projection, at nominal values.

Table 46 shows the forecast of the Profit and Loss Statement of the operation of Virrilla quarry and Piura plant:

Table 46 Profit and Loss Statement

	2022P	2023P	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P	2034P	2035P	2036P	2037P	2038P	2039P	2040P	2041P	2042P	2043P	2044P	2045P	2046P	2047P	2048P	2049P	2050P	2051P
(\$ millions) (Constant)	1,438,618	1,437,190	1,436,124	1,510,061	1,546,167	1,588,000	1,628,000	1,668,000	1,708,000	1,748,000	1,788,000	1,828,000	1,868,000	1,908,000	1,948,000	1,988,000	2,028,000	2,068,000	2,108,000	2,148,000	2,188,000	2,228,000	2,268,000	2,308,000	2,348,000	2,388,000	2,428,000	2,468,000	2,508,000	2,548,000
Revenue	156,488	175,769	186,994	191,396	202,367	213,975	214,949	224,867	235,906	238,127	247,828	256,462	259,545	271,335	283,142	290,731	295,778	317,761	331,762	343,452	347,296	362,404	372,362	376,662	391,061	403,925	409,635	430,383	442,404	
Revenue - % x 1	368.9	372.6	388.7	399.0	409.5	420.4	431.5	443.0	454.7	466.8	479.1	491.8	504.9	518.2	532.0	546.1	560.5	575.4	590.8	606.3	622.4	639.0	655.9	673.2	691.0	709.3	728.1	747.4	767.2	787.5
Cost - % x 1	293.3	294.6	291.2	286.7	277.2	270.3	267.9	259.8	250.3	245.7	237.2	233.8	229.7	225.1	220.7	216.3	212.0	207.5	203.1	198.5	194.3	190.3	186.4	182.6	178.8	175.1	171.4	167.7	164.0	160.3
Perforation Cost - % x 1	3.3	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.8	4.9	5.0	5.2	5.3	5.4	5.6	5.7	5.9	6.0	6.2	6.4	6.5
El Mto Phenomenon - % x 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cultivation - % x 1	0.9	0.9	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0	2.0
Worker's Profit Sharing - % x 1	0.7	0.7	0.5	0.7	0.5	0.3	0.3	0.0	0.2	0.3	0.7	4.0	4.2	4.5	4.7	4.8	5.2	5.4	5.5	5.8	6.1	6.2	6.6	6.8	6.9	7.2	7.3	7.6	8.1	8.3
Gross Margin - % x 1	108.5	119.2	125.8	126.2	130.9	137.1	144.4	147.1	148.7	148.1	150.7	156.5	159.0	173.0	188.8	186.4	189.0	196.4	202.7	211.8	218.9	224.5	231.1	237.5	244.2	250.7	257.4	264.2	271.5	278.1
Gross Mrg %	29.76	31.55	32.46	31.46	32.06	32.26	31.86	32.46	32.46	31.96	31.06	31.36	32.06	31.46	34.06	34.06	34.86	34.96	34.96	35.16	35.26	34.76	35.26	35.26	34.86	35.36	35.46	35.06	35.06	35.86
Expenses	53,526	52,740	56,785	60,438	60,473	62,498	66,241	66,523	68,521	72,396	72,272	74,272	78,239	78,002	79,896	84,023	83,774	85,707	89,956	90,003	92,453	97,936	96,504	98,277	103,044	102,743	105,043	110,353	112,340	
Operating	11,768	11,512	11,869	12,952	12,634	12,099	14,191	11,792	14,187	15,490	15,022	15,493	16,894	16,319	16,739	18,288	17,687	18,152	19,788	19,436	20,489	22,690	21,130	21,233	21,139	22,152	22,887	24,904	24,003	24,592
Depreciation	1,140	1,012	1,752	1,838	1,969	2,042	2,111	2,150	2,174	2,632	2,712	2,867	3,013	3,130	3,239	3,267	3,346	3,430	3,436	3,509	3,593	3,683	3,759	3,857	3,958	4,062	4,169	4,278	4,391	4,506
SG&A	39,609	39,116	40,004	42,577	45,852	42,757	49,454	44,681	45,655	48,542	47,680	48,714	51,762	50,856	52,943	55,103	54,207	55,158	56,746	57,755	58,914	62,540	61,554	62,808	66,556	65,501	66,876	70,014	69,717	71,109
Worker's Profit Sharing	-	1,454	3,119	3,050	4,167	4,700	4,455	5,680	6,101	5,533	6,054	7,152	6,589	7,658	7,992	7,309	8,534	8,766	7,557	9,307	9,597	8,904	10,112	10,578	9,412	10,847	11,111	10,116	11,744	12,044
Operating Profit	103,145	120,025	130,199	130,959	141,894	149,477	148,699	158,384	162,385	160,731	175,336	182,391	181,286	193,133	203,606	206,685	222,000	226,490	227,844	243,716	250,818	249,700	263,900	274,085	275,617	290,136	298,883	299,532	320,510	330,061
(+) Depreciation	52,307	52,137	49,001	48,020	46,890	44,117	41,938	43,956	44,773	49,825	42,125	40,530	40,825	41,181	37,075	31,368	31,528	31,949	32,206	30,164	30,441	30,887	31,364	31,859	32,385	32,884	33,457	33,012	30,430	30,771
EBITDA Piura Plant	155,473	172,162	179,200	178,979	188,784	193,594	192,606	202,340	207,157	206,556	217,861	222,921	222,110	234,310	240,679	240,060	253,528	260,439	260,950	274,360	281,361	280,586	297,266	305,944	305,982	323,223	332,300	333,544	350,961	360,854
EBITDA Mrg %	29.50%	35.20%	31.10%	29.50%	29.80%	29.37%	28.48%	29.13%	29.90%	28.27%	28.98%	28.93%	28.18%	28.68%	28.68%	28.04%	28.85%	28.87%	28.68%	28.85%	28.82%	28.03%	28.51%	28.99%	28.44%	29.06%	29.11%	28.18%	29.17%	29.22%

Cement sales at the Piura plant are, on average, S/ 862 million per year (for the period 2022-2051), and the average EBITDA margin for the same period is 28.99%. The current high cost of imported clinker does not affect the results since its use is low (approximately 4% in the cement formulation).

The EBITDA margin remains relatively stable in the 30-year projection. The slight variations in the margin are mainly explained by the cost of remunerations, which has a behavior with peaks every three years due to union negotiations.

Table 47 shows the Free Cash Flow projection and the valuation of the cement business of the Piura plant:

Table 47 Free Cash Flow and valuation

	2022P	2023P	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P	2034P	2035P	2036P	2037P	2038P	2039P	2040P	2041P	2042P	2043P	2044P	2045P	2046P	2047P	2048P	2049P	2050P		
FCFF - Valuation (Thousand \$)																															
EBIT	111,766	111,541	100,408	106,464	101,011	104,124	101,018	171,299	180,714	178,021	195,178	209,380	201,910	215,541	226,479	229,207	245,006	251,101	251,806	261,610	277,402	275,597	291,750	301,372	301,019	316,909	326,163	316,967	351,241	361,481	
(-) D&A	65,709	43,176	44,143	45,265	42,009	37,805	37,107	37,171	37,018	38,510	34,700	31,841	11,129	11,652	20,514	26,763	24,148	24,401	24,717	21,147	21,009	21,400	21,111	24,407	24,516	11,417	27,170	26,467	21,100	24,460	
(-) Taxes (EBIT*)	-41,063	-72,178	-50,683	-54,417	-51,163	-43,217	-43,145	-47,541	-49,610	-48,901	-71,179	-79,320	-77,804	-43,056	-47,262	-47,018	-46,612	-47,512	-47,044	-101,884	-108,083	-106,184	-111,183	-111,541	-114,098	-121,206	-126,814	-126,741	-135,718	-139,664	
(-) Opex	-11,109	-11,674	-12,251	-12,641	-13,044	-13,419	-13,796	-14,161	-14,516	-14,812	-15,117	-15,710	-16,140	-16,167	-17,000	-17,467	-17,810	-18,106	-18,401	-11,163	-10,686	-10,421	-10,664	-11,120	-11,290	-12,476	-13,177	-13,181	-14,517	-15,116	
Free Cash Flow (to the Firm)	301,117	112,140	118,211	118,281	120,303	121,103	124,084	130,658	134,180	131,509	139,502	149,370	141,117	149,190	151,700	149,185	157,802	161,006	160,477	169,500	171,623	173,410	181,117	188,876	188,046	196,465	205,943	201,908	215,101	221,101	
WACC	9.87%																														
Economic NPV (Thousand \$)	1,281,117																														

The net present value (NPV) of Piura plant cement business amounts to more than S/ 1,281 million at a discount rate of 9.87% and is made up of the sum of the discounted cash flows of each period, for the 30-year projection. For the discount rate of the cash flows, the QPs applied the weighted average cost of capital (WACC) of the company.

19.4. Sensitivity Analysis

The sensitivity analysis considers a variation of +/- 5 and 10% in the variables that have the greatest impact on the NPV and EBITDA. These variables are the cement sales price, operating cost, and CapEx.

Tables 48 and 49 detail the sensitivity of the EBITDA and NPV to each variable, respectively. Figures 18 and 19 show the results of the sensitivity of NPV and EBITDA, respectively, to the three variables.

Table 48 Sensitivity analysis of the Net Present Value

Variable / Variation	-10%	-5%	0%	+5%	+10%
Price	-32.8%	-16.4%	0.0%	16.4%	32.8%
Cost	24.7%	12.3%	0.0%	-12.3%	-24.7%
CapEx	0.8%	0.4%	0.0%	-0.4%	-0.8%

Table 49 Sensitivity analysis of EBITDA

Variable / Variation	-10%	-5%	0%	+5%	+10%
Price	-33.4%	-16.7%	0.0%	16.7%	33.3%
Cost	24.5%	12.3%	0.0%	-12.3%	-24.5%
CapEx	0.0%	0.0%	0.0%	0.0%	0.0%

Figure 18 Sensitivity of Net Present Value

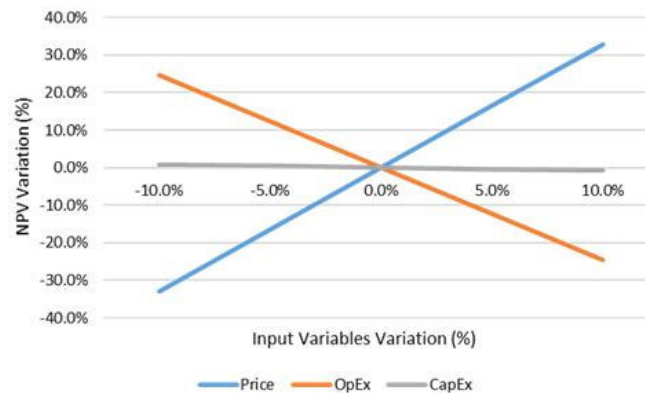
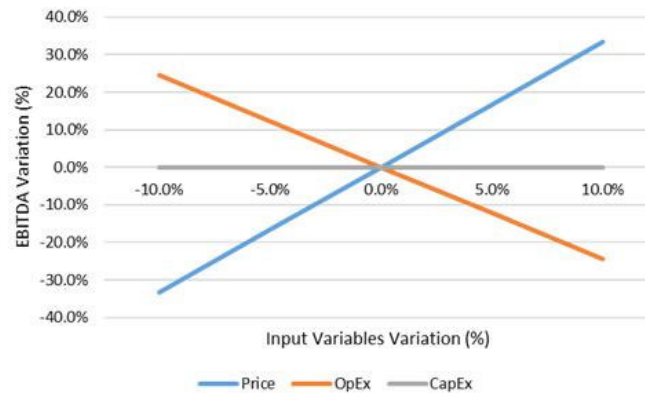


Figure 19 Sensitivity of EBITDA



Based on these results, the NPV is most sensitive to cement price, followed by operating cost, and least susceptible to the CapEx. EBITDA has a similar sensitivity to NPV, being most exposed to cement price, followed by operating cost but shows no sensitivity towards variations to the CapEx.

19.5. Economical Analysis for Resources Evaluation

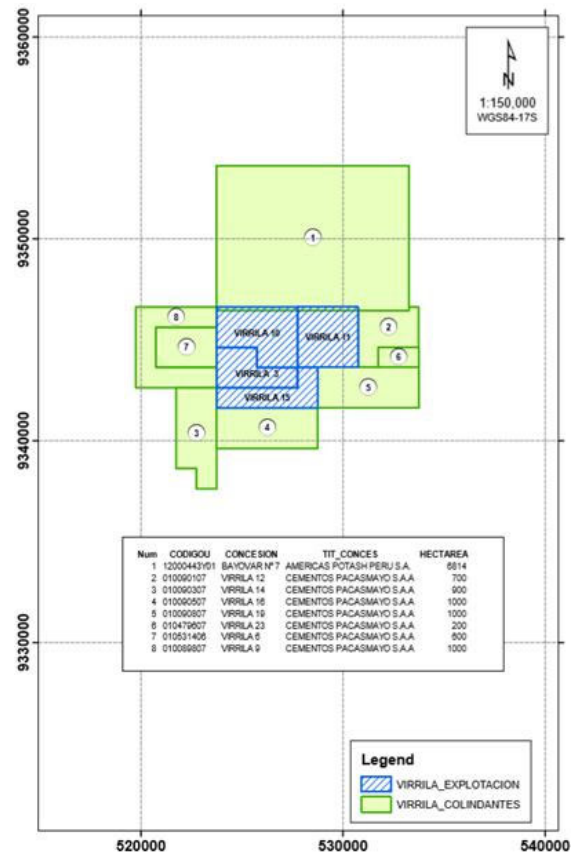
About Mineral Resources, to demonstrate the economic viability or profitability, an economic analysis there was developed. The same criteria were used for the Reserves (see point 19.2.1) and Resources estimation. In addition, given the quantity of the Resources and the LOM, the forecast horizon is extended to 35 years.

The results are NPV of 1.335 billion soles at a discount rate of 9.87%. A life of mine (LOM) of 35 years with an average plant throughput of 1.51 million tons per year during the 35-year forecast. The average sales price for the 35-year forecast is 595.7 soles per ton of cement at nominal values, and average revenues are 929.6 million soles per year. The average cash production cost for the 35-year forecast is 369.1 soles per ton of cement at nominal values.

20. Adjacent properties

The information in this chapter was obtained from the competent authority Instituto Geológico, Minero Metalúrgico (INGEMMET). The only public information obtained is shown in Figure 20. To the north of the Cementos Pacasmayo S.A.A., concession is the Bayovar N° 7 concession owned by Americas Potash Peru S.A. To the east of the concession are concessions Virrila 12, Virrila 19, and Virrila 23, owned by Cementos Pacasmayo S.A.A. To the west are concessions Virrila 6, Virrila 9 and Virrila 14 owned by Cementos Pacasmayo S.A.A. and to the north is the Virrila 16 concession owned by Cementos Pacasmayo S.A.A.

Figure 20 Adjacent properties map



21. Other relevant data and information

Not applicable.

22. Interpretation and conclusions

- From a legal viewpoint, Cementos Pacasmayo S.A.A. has mining rights for the areas of exploration, development, and production of seashell to supply the cement plants for normal production during the quarry's life. It also has an agreement with Fundación Comunal San Martín de Sechura for the right of usufruct, surface and easement for the area of operations at the Virrila quarry.
- Cementos Pacasmayo S.A.A. has been complying with ISO-9001 (Quality) standards since 2015 and has implemented Quality Assurance and Quality Control (QAQC). The controls are applied for the construction of the Geological Model, Resource Estimation and Reserves Estimation.
- Cementos Pacasmayo S.A.A. has a quality assurance system in its operations that includes sample preparation methods, procedures, analysis and security, which comply with the best practices in the industry.
- The information verification and validation processes are carried out following the procedures indicated in the information flows. The validated information is congruent with the one that generated the geological models, which are the fundamental basis for the estimation of Resources.
- The geological modeling of the seashell deposit is consistent with the relationship between the information and the geological model.
- The Reserves estimations consider the risk factors and modifying factors. The main variable is the CaO content which is very stable in the deposit, also present are other secondary variables that determine the quality of the Reserves.
- In the process of calculating Reserves and in the production plans of the quarry these variables have been adequately considered in the mining plan, properly sequenced and with blending processes. There are sufficient proven and probable Reserves for the next 30 years.
- Table 50 shows the Mineral Resources of the Virrila quarry and categories. Likewise, the Mineral Reserves are shown in Table 51 and categories.

Table 50 Resources at the Virrila quarry in millions of tonnes (exclusive of Reserves)

	Resources	Tonnes t	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Measured	21.1	48.50	0.84	0.84	9.80	0.268	0.160	0.111
	Indicated	29.2	48.78	0.87	1.23	7.62	0.204	0.222	0.079
	Measured + Indicated	50.3	48.66	0.86	1.07	8.54	0.231	0.196	0.092
	Inferred	3.9	46.42	2.27	1.67	9.96	0.219	0.246	0.066

Table 51 Mineral Reserves expressed in millions of tonnes

	Reserves	Tonnes t	CaO (%)	SO ₃ (%)	MgO (%)	SiO ₂ (%)	Na ₂ O (%)	K ₂ O (%)	Cl (ppm)
Seashell	Proven	42.4	49.99	0.55	0.55	6.78	0.222	0.212	0.111
	Probable	2.9	47.77	0.96	0.92	9.71	0.234	0.269	0.120
	Total	45.3	49.85	0.58	0.57	6.97	0.223	0.216	0.112

- The cement plant located in Piura has all the equipment and facilities available to produce cement, using shells from the Virrila quarry and other necessary materials.
- Cementos Pacasmayo S.A.A. has the SSOMASIG area, which manage the environmental aspects for quarry and cement operations in compliance with current environmental legislation and in accordance with the company's corporate policies.
- Through its Social Responsibility unit, Cementos Pacasmayo S.A.A. has generated relationships of trust with the communities surrounding its operations, which have translated into a solid relationship with our communities, identifying their primary needs in health, education, urban development, and local development.
- Infrastructure-wise, the operation at the Virrila quarry and Piura plant is technically and economically feasible due to the quarry's life. The sensitivity analysis shows that the operation is economically robust.

23. Recommendations

- Develop a geological exploration program surrounding the Virrila quarry to discover new coquiniferous zones and other materials related to cement production.
- Maintain the QAQC program for exploration, development and production activities associated with cement production.
- Update the geological model and standardize the information for the estimation of Resources and Reserves, considering that some areas have test pits and other drillings as a source of information.
- Control the stripping ratio during the operation in order to achieve a reduction in production costs.
- Perform maintenance of the piezometers in the quarry.

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25. Reliance on information provided by the registrant

In preparing this report, the qualified persons relied upon the registrant's data, written reports, and statements in accordance with 17 CFR § 229.1302(f). After carefully reviewing the information provided, the QPs have no reason to believe that any material facts have been withheld or misstated. Cementos Pacasmayo provided the information as summarized in Table 52.

Table 52 List of Cementos Pacasmayo S.A.A. information.

Chapter	Chapter name	Information provided by CPSAA
3	Property description	Legal matters related to property rights and the authority "Instituto Geológico, Minero y Metalúrgico INGEMMET"
16	Market studies	Marketing information, ASOCER, INEI and BCRP
17	Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups	Community Relations and agreements with stakeholders
18	Capital and operating costs	Historical data about cost, price and investments
19	Economic analysis	Macroeconomic trends, data, and assumptions, and interest rates
20	Adjacent properties	Legal matters related to property rights and the authority "Instituto Geológico, Minero y Metalúrgico "INGEMMET"

CEMENTOS SELVA S.A.
Technical Report Summary (TRS)
Tioyacu Quarry
and
Rioja Cement Plant
20-F 229.601 (Item 601)
Exhibit 96

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1. Executive Summary

Cementos Selva S.A. (CSSA), a wholly-owned subsidiary of Cementos Pacasmayo S. A.A., is a Peruvian company whose corporate purpose is the production of cement and other products associated with the construction sector. This Technical Report Summary summarizes the Pre-feasibility study of the Tioyacu quarry located in the San Martín Region and the Rioja plant located in the same region. Qualified professionals from Cementos Pacasmayo have prepared the report to support the Resources and Reserves Estimates.

1.1. Location and access

The Tioyacu quarry contains limestone, a non-metallic mineral that is primarily used as raw material in cement production. This quarry is located in the district of Elías Soplin Vargas, Rioja Province, San Martín Region. The access route to this quarry is by land through the Fernando Belaunde Terry highway. The cement plant located in the city of Rioja is adjacent to the Tioyacu quarry.

1.2. Climate

The vegetation is evergreen with lianas and vines, many of which are covered by epiphytes of the Bromeliaceae family. The forests have a very heterogeneous floristic composition.

The climate in this Amazon region in northern Peru is mainly influenced by the following factors: the Intertropical Convergence Zone (ITCZ), the presence of the Eastern Cordillera of the Andes and the Extratropical Fronts.

1.3. History

On February 6, 1998, the public auction of the Rioja Cement Plant was held, and Consorcio Pacasmayo was awarded the contract. To comply with the terms of the auction, Consorcio incorporated and subsequently transferred ownership of the plant to Cementos Rioja S.A. The award mentioned above included, by public deed dated April 8, 1998, the non-metallic mining concession “Calizas Tioyacu.” The Tioyacu quarry began operations as Cementos Rioja S.A. in 2000.

As historical information about the quarry, a campaign of 460 meters of drilling was carried out in 05 drill holes located in the eastern flank of the “Tioyacu” limestone-dolomitic massif executed by the company Andes Diamantina S.R.L., at the end of 1982 into early 1983. The objective was to determine the feasibility of a new portland cement plant in the region of San Martin. The exploration study identified significant limestone material suitable for cement manufacturing.

In 2015, Cementos Selva S.A. commissioned Geosym Consultores S.A.C. to carry out prospecting work through drilling. A total of 06 mixed drill holes were drilled, conveniently located and distributed along the Tioyacu quarry: 02 drill holes in the southern sector, 03 drill holes in the central area, and 01 drill hole in the northern sector, to geologically evaluate the deposit and know its conditions at depth. These 06 drillings carried out in the campaign in conjunction with blast hole information and geological evaluation work allowed the inventory of Mineral Resources and Reserves to be updated.

From 2018 to the present, Cementos Selva S.A., with the help and support of mining software such as Leapfrog and Minesight has developed the updated estimates of its Resources and Reserves at the Tioyacu quarry.

1.4. Geological environment and mineralization

The strata of the district of Elias Soplin Vargas, province of Rioja, San Martin region consists of Paleozoic/Mesozoic Age sedimentary formations of the Mitu Group, Pucara Group, Chambara Formation, Celendín Formation, Aramachay Formation, Condorsinga Formation, Ipururo Formation, and Quaternary Deposits.

1.5. Exploration

Cementos Selva S.A. did not carry out any exploration activities at the Tioyacu quarry during the current year. The exploration activities described in section 1.3 describe the exploration work at the Tioyacu quarry till date.

1.6. Preparation of samples, analysis and security

Cementos Selva S.A. has implemented international standards in all its operations such as quarries and plants. The ISO 9001 standard has been implemented and certified since 2015. The certification is renewed annually through an external audit.

The SSOMASIG (Security, Occupational Health, Environment and Management Systems) department, is part of the team that determines and gives the necessary support for the maintenance of the ISO 9001 and the scope is in all the company’s activities.

Cementos Selva S.A. has implemented QAQC protocols to develop exploration and production activities in the Tioyacu quarry and Rioja plant to ensure the quality of the information used for estimation of limestone Resources and Reserves.

In the geology area, methods are used to analyze the main chemical components by XRF and other analytical techniques in limestone. In the cement plant, the raw materials for clinker and cement production are analyzed. The cement plant laboratory has adequately calibrated equipment and a regular maintenance plan. A.S.T.M. and Peruvian technical standards are used as references.

As part of the QAQC activities, Cementos Selva S.A. hired Wiracocha Mining Services S.R.L., a specialized company in QAQC, for an audit of the laboratory results and update the quality protocol; its work was to verify the results obtained by resampling the drills of the 2015 campaign. Wiracocha Mining Services carried out the work from September to October 2021.

The results obtained conclude that the sample analysis for Limestone used in the geological model and the estimation of Resources and Reserves has a confidence higher than 95%.

On the other hand, the Rioja plant, through its Quality Assurance and Control area, has implemented a sampling and data verification plan, which applies to the processes of receiving minerals, crushing of materials, drying of raw materials, grinding of crude, clinkerization, grinding of cement and cement packaging

1.7. Data verification

CSSA has a data verification area for the geological database regarding geological activities. The primary function of this area is to verify the data to be used to estimate Mineral Resources and Reserves. To properly handle the information, internal protocols have been implemented which are subject to internal audits.

Among the verification activities carried out in the geology area is data collection, administration, and validation of data received from internal areas and external laboratories, data tracking through the confirmation of chains of custody, and verification of data in the database that allowed the development of the Resources and Reserves model.

For data verification activities in the cement plant, the PDCA (Plan, Do, Check, and Act) methodology is used, which is applied to the technical information received from the company's internal and external clients. The quality control laboratory compares results with national and international laboratories as part of the verification procedures.

1.8. Mineral processing and metallurgical test

Cementos Pacasmayo has procedures for developing products at the laboratory level and scaling at the industrial level (including at Cementos Selva S.A. operations). It has guidelines for preparing, reviewing, insurance, and controlling laboratory test reports. Cemento Pacasmayo has a Research and Development laboratory located in the Pacasmayo plant to evaluate the technical aspects of its operations.

At the Pacasmayo plant, the studies conducted in the Research and Development laboratory and the Quality Control area include the substitution of fossil fuels for rice husks at the Rioja plant.

The main objective of the substitution of fossil fuels is the reduction of CO₂ or greenhouse gas emissions.

In 2021, CSSA used 5700 t of Alternative Fuel (measured as coal equivalent) in the Rioja plant. This result represented 10% of the total fuels used by the plant for cement production and a reduction in emissions of 14,958 mt of CO₂.

The Research Laboratory issues technical reports following the criteria of international standards to the operations area, which evaluates the convenience of implementing the tests industrially and validating what is reported at the laboratory level.

1.9. Mineral Resources and Reserves

Cementos Pacasmayo's QPs have developed the estimation of limestone Resources and Reserves. For the evaluation, information from exploration activities carried out until 2021 has been used.

The limestone Resources are presented in Table 1. The result of the estimation of Resources considered the quality restrictions of limestone received at Rioja plant, accessibility to the Resources and legal limits inherent to the mining concessions, relevant economic and Technical factors.

The minimum quality accepted is 49% CaO to be used as raw material for production. Considering the selling prices of cement at the Rioja plant, the economic evaluation used for the estimates of Resources and Reserves is shown in Chapter 19.

Table 1 Mineral Resources (exclusive of Reserves) of Tioyacu quarry

	Resources	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	SiO ₂ (%)	K ₂ O (%)
Limestone	Measured	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0
	Measured + Indicated	0	0	0	0	0	0
	Inferred	19.19	45.61	0.36	6.58	2.52	0.14

* No economic evaluation was performed for the Tioyacu quarry because it only has inferred resources.

The Reserves' calculation considered the Resources' results and the quality criteria, modifying factors, and limestone extraction costs.

The mining method used is open pit mining. The financial results are shown in Chapter 19. Table 2 presents the estimation of Reserves.

Table 2 Mineral Reserves of Tioyacu quarry

	Reserves	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	SiO ₂ (%)	K ₂ O (%)
Limestone	Proven	6.55	50.30	0.58	1.13	5.46	0.21
	Probable	4.84	47.29	0.64	3.33	5.95	0.19
	Total	11.39	49.03	0.61	2.06	5.67	0.20

1.10. Processing Plant and Infrastructure

Cement production considers the stages of raw material extraction, grinding, homogenization, clinkerization, cement grinding, silo storage and packaging, loading, and transportation. Cement is moved through conveyor belts to bagging systems to be packed in bags and then loaded onto trucks operated by third parties for distribution.

The raw materials for cement production are Limestone, Sand, Iron, Clay, Coal. The mixture of these raw materials is crude and is fed to the calcination kiln to produce clinker.

Limestone represents 73.1% by weight of the crude. Anthracite coal is also used as part of the raw material for the production of clinker. Clinker and additions are used to produce cement. The additions used in cement production are slag, pozzolana, and gypsum. Currently, the cement plant in Rioja has a clinker/cement factor of 0.77.

The Rioja plant has an electrical substation with a capacity of 12 MVA. Rioja plant uses electric power, which is supplied from the national grid.

Cementos Selva has implemented a preventive and corrective maintenance plan for equipment to prevent interruptions to cement production. Additionally, operating efficiency controls costs and operating margins.

1.11. Market studies

The Peruvian cement market is geographically segmented by regions: north region, central region and south region. Diverse companies supply each region.

The main companies that comprise the cement market in Peru are: Cementos Pacasmayo S.A.A., UNION Andina de Cementos S.A.A., Yura S.A. and Cementos Selva S.A. Additionally, there are companies that import cement or clinker, such as Caliza Cemento Inca S.A., Distribuidora Cemento Nacional S.A.C., CEMEX Perú S.A., and Cal & Cemento Sur S.A., amongst others.

Companies that market cement in Peru follow the Peruvian Technical Standards associated with cement technical specifications.

The types of cement produced by the main cement companies of the country are Type I, Type V, Type ICO, Type IL, Type GU, Type MS (MH), Type HS, Type HE, Type MH.

Cementos Pacasmayo, a leading company in the production and sales of cement in the North Region, has market presence in the following cities: Cajamarca, Chiclayo, Chimbote, Jaén, Pacasmayo, Piura, Rioja, Tarapoto, Trujillo, Tumbes, Yurimaguas and Iquitos. The company has a Market share of over 90% in the north region of the country.

For Cementos Selva S.A. the overall shipments of the Rioja plant for 2021 were 336.8 thousand tonnes. It supplied 8% of the country's North Region cement demand, and its cement sales represented 9.3% of the three cement plant's overall shipments.

1.12. Capital, Operating costs and Economic Analysis

This document presents the cash flow analysis and an economic evaluation of the project based on the current operating costs of the Rioja plant and using information on the Tioyacu quarry for limestone production.

The economic analysis considers the same evaluation criteria for estimating Resources and Reserves, considering that the Tioyacu quarry is one location using the same infrastructure and mining methods. The main variables considered in the economic model for the sensitivity analysis were cement price, production cost, and Capex.

The free cash flow is constructed for the economic analysis, which does not incorporate the financing structure. The latter is considered in the weighted average cost of capital of the company (WACC) to discount future cash flows. The following financial parameters were calculated:

- 27-year mine life
- Average plant throughput of 0.42 million tonnes per year over the 27-year projection.
- Average sales price of 676.4 soles per ton of cement, on average for the 27-year projection, at nominal values.
- Revenues of 278.7 million soles, on average for the 27-year projection.
- Average cash production cost of 469.5 soles per ton of cement, on average for the 27-year projection, at nominal values.

The cash flow of the project is presented in Table 3 below. The NPV at a discount rate of 9.87%, is 378.5 million soles.

Table 3 Free Cash Flow and valuation

	2023P	2023P	2024P	2024P	2025P	2025P	2026P	2026P	2027P	2027P	2028P	2028P	2029P	2029P	2030P	2030P	2031P	2031P	2032P	2032P	2033P	2033P	2034P	2034P	2035P	2035P	2036P	2036P	2037P	2037P
DCF Valuation (Thousand \$)																														
EBIT	36,434	36,182	36,647	35,876	36,479	36,729	36,186	35,110	34,441	36,071	39,409	42,261	41,298	44,416	46,134	46,007	42,802	44,369	42,951	39,139	38,189	36,126	34,341	36,122	36,366	31,845	34,179			
(*) O&A	8,911	11,172	10,446	10,181	9,559	9,785	10,593	10,110	10,441	11,181	8,165	9,943	9,849	9,019	9,043	9,111	9,123	8,695	8,917	9,183	9,138	9,138	9,774	10,107	9,721	9,912	9,989			
(**) Taxes (EBIT*)	29,529	22,754	21,850	21,121	21,532	21,640	21,649	22,775	22,903	21,663	21,921	23,989	23,057	21,590	26,291	25,432	27,742	26,655	27,723	30,115	30,897	29,333	32,487	33,176	32,532	35,398	35,434			
(*) Cap Ex	5,396	5,650	5,837	6,022	6,211	6,411	6,616	6,828	7,048	7,116	7,510	7,715	7,920	8,129	8,345	8,566	8,793	9,026	9,265	9,512	9,763	10,021	10,287	10,560	10,839	11,127	9,188			
Free Cash Flow (to the firm)	36,662	38,430	39,400	38,614	39,792	39,493	38,015	35,816	39,934	38,266	40,323	40,400	39,671	41,736	42,642	42,219	44,492	45,379	43,830	47,616	48,637	46,313	51,331	52,694	50,737	55,282	52,545			
EV/CF																														
Revenue APV (Thousand \$)																														

Sensitivity analysis was also performed to show the influence of changes in prices, operating costs, and capital costs on NPV.

Figure 1 Sensitivity of Net Present Value

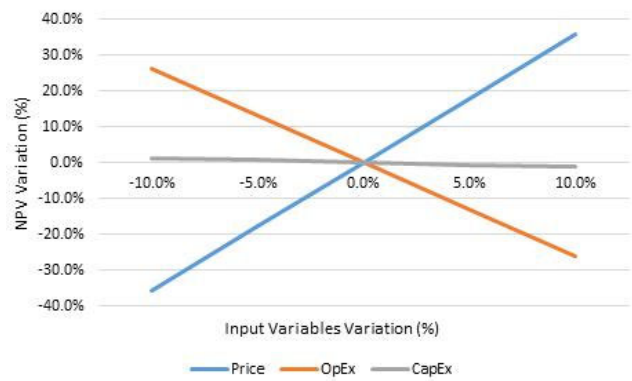
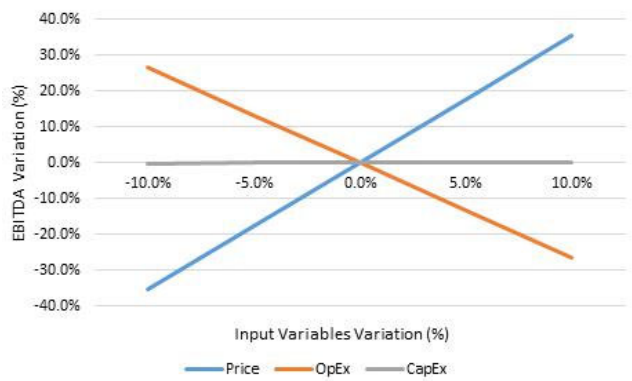


Figure 2 Sensitivity of EBITDA



1.13. Adjacent properties

The Calizas Tioyacu borders to the north of the Cementos Selva S.A. concession is the Rioja 2 concession owned by Cementos Selva S.A.; to the east of the mining concession is the Rioja 4 concession owned by Cementos Selva S.A., to the southwest is the Rioja 3 concession owned by Cementos Selva S.A.

1.14. Conclusions

- From a legal point of view, Cementos Selva S.A. has the ownership of the mining properties for the exploration, development and production of limestone to supply the cement plants for normal production during the life of the quarry.
- Cementos Selva S.A. has been complying with international ISO-9001 standards since 2015 and has implemented Quality Assurance and Quality Control (QAQC). The controls are applied for the construction of the Geological Model, Resource estimation and Reserves estimation.
- Cementos Selva S.A. has a quality assurance system in its operations that includes sample preparation methods, procedures, analysis and security, which comply with the best practices in the industry.
- The information verification and validation processes are carried out following the procedures indicated in the information flows. The validated information is congruent with the one that generated the geological models, and is the fundamental basis for the estimation of Resources.
- The geological modeling of the limestone deposit is consistent with the relationship between the information and the geological model.
- The Reserves estimates consider the risk factors and modifying factors. The main variable is the CaO content which is very stable in the deposit. There also are other secondary variables that determine the quality of the Reserves.
- In the process of calculating Reserves and in the production plans of the quarry, these variables have been adequately considered in the mining plan, properly sequenced and with blending processes. There are sufficient proven and probable Reserves for the next 27 years.
- Table 4 shows the Mineral Resources of the Tioyacu quarry and categories. Likewise, the Mineral Reserves are shown in Table 5 and categories.

Table 4 Mineral Resources (exclusive of Reserves) of Tioyacu quarry

	Resources	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	SiO ₂ (%)	K ₂ O (%)
Limestone	Measured	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0
	Measured + Indicated	0	0	0	0	0	0
	Inferred	19.19	45.61	0.36	6.58	2.52	0.14

* No economic evaluation was performed for the Tioyacu quarry because it only has inferred resources.

Table 5 Mineral Reserves of Tioyacu quarry

	Reserves	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	SiO ₂ (%)	K ₂ O (%)
Limestone	Proven	6.55	50.30	0.58	1.13	5.46	0.21
	Probable	4.84	47.29	0.64	3.33	5.95	0.19
	Total	11.39	49.03	0.61	2.06	5.67	0.20

- The cement plant located in Rioja has equipment and facilities available for cement production, using limestone from the Tioyacu quarry and other necessary materials.
- The Health, Safety and Environment department is in charge of supervising compliance with the Company's corporate policies and the various legal requirements of the national regulatory bodies by all company areas.
- Through its Social Responsibility area, Cementos Selva S.A. has generated relationships of trust with the communities surrounding its operations. We have a solid relationship with their communities, which includes identifying their primary needs in health, education, urban development, and local development.
- In 2021, due to COVID 19 pandemic, CSSA had been limited in face-to-face meetings with stakeholders, but that has not affected their good relationship.
- The operation in Tioyacu quarry and Rioja plant, with respect to infrastructure, is technically and economically feasible due to the life of the quarry.
- The sensitivity analysis shows that the operation is economically robust.

1.15. Recommendations

- Maintain the QAQC program for exploration, development and production activities associated with cement production.
- Include QAQC plans and density control for the subsequent diamond drilling campaigns.
- A permanent monitoring of the installed piezometers is necessary, both for water levels and water quality, to evaluate the evolution of levels during the production of the Tioyacu quarry.
- A geophysical study using the Georadar method is recommended to identify karst cavities within the quarry area, especially in areas of structural anomalies.
- It is recommended that monitoring points be placed in new areas of the quarry and that current monitoring points be updated.
- It is recommended that new diamond drilling campaigns be undertaken to reduce the uncertainty of the current Reserves and help recategorize the existing Inferred Resources.

2. Introduction

2.1. Participants

This technical summary report (TRS) was prepared by Cementos Pacasmayo's qualified persons (QPs), who according to their qualifications and experience developed the chapters based on their expertise. Likewise, the aforementioned QPs used Company's information sources, information validated and approved by the competent authorities in Peru and public information sources. Table 6 shows the qualified persons who participated in the preparation of this document, as well as the chapters and information under their responsibility.

Marco Carrasco, who holds the position of Project Manager of Cementos Pacasmayo, is QP certified by the Mining and Metallurgical Society of America (MMSA) of the United States. He acted as Project Manager, whose primary role was compiled the information received from the QPs of each chapter to have an integrated document. Each QP is responsible for the section they wrote.

2.2. Terms of Reference

This technical report summary was prepared as an exhibit to support disclosure of mineral Resources and Reserves by Cementos Selva, a wholly-owned subsidiary of Cementos Pacasmayo SAA. This report summarizes the results of the Pre-feasibility study of the "Calizas Tioyacu" property for the production of limestone using open pit mining methods. The report is effective December 31, 2021.

The limestone produced from the Calizas Tioyacu property supplies raw material for the Rioja plant, located in the city of the same name, Cementos Selva produces cement. The annual cement production is 0.4 million tonnes per year (mtpy). Actual operating costs have been considered for the estimates and used as a basis for economic projections within the economic analysis. This technical report summary estimates Resources and Reserves according to the regulations published in Securities Exchange Commission (SEC) Form 20-F and under subpart 1300 of Regulation S-K.

The report was prepared by the qualified persons listed in Table 6 using available studies and, in some cases (see Chapter 25), relying on information provided by Cementos Pacasmayo, the registrant.

Table 6 List of Cementos Pacasmayo S.A.A. Professionals

Item	Chapter	First and Last Names	Job Position	Profession
0	Compiled all	Marco Carrasco (*)	Project Manager	Chemical Engineer
1	Executive summary	All QPs (**)		
2	Introduction	All QPs(**)		
3	Property description	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
4	Accessibility, climate, local Resources, infrastructure and physiography	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
5	History	Jorge Vega	Mining Projects Superintendent	Mining Engineering
5	History	Jhonson Rodríguez	Senior Geologist	Geological Engineer
6	Geological setting, mineralization, and deposit	Jhonson Rodríguez	Senior Geologist	Geological Engineer
7	Exploration	Jhonson Rodríguez	Senior Geologist	Geological Engineer
8	Sample preparation, analyses, and security	Jhonson Rodríguez	Senior Geologist	Geological Engineer
8	Sample preparation, analyses, and security	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer
9	Data verification	Jhonson Rodríguez	Senior Geologist	Geological Engineer
9	Data verification	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer
10	Mineral processing and metallurgical testing	Gabriel Mansilla	R&D and Quality Assurance Superintendent	Chemical Engineer
11	Mineral resource estimates	Jason Gamio	Modeler	Geological Engineer
12	Mineral reserve estimates	Jason Gamio	Modeler	Geological Engineer
13	Mining methods	Jorge Vega	Mining Projects Superintendent	Mining Engineering
14	Processing and recovery methods	Mario Alva	Operations Manager	Electronic Engineer
15	Infrastructure	Jorge Vega	Mining Projects Superintendent	Mining Engineering
16	Market studies	Jason Gamio	Modeler	Geological Engineer
17	Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
18	Capital and operating costs	Jason Gamio	Modeler	Geological Engineer
19	Economic analysis	Jason Gamio	Modeler	Geological Engineer
20	Adjacent properties	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer
21	Other relevant data and information	All QPs (**)		
22	Interpretation and conclusions	All QPs (**)		
23	Recommendations	All QPs (**)		
24	References	All QPs (**)		
25	Reliance on information provided by the registrant	All QPs (**)		

(*) Marco Carrasco, who holds the position of Project Manager of Cementos Pacasmayo compiled the information received from the QPs of each chapter to have an integrated report. Each QP is responsible for the section they wrote.

(**) Ricardo del Carpio, Jorge Vega, Jhonson Rodríguez, Gabriel Mansilla, Jason Gamio and Mario Alva

2.3. Conventions

Unless otherwise indicated in the report, all currencies are in soles and all measurements and units are in the metric system. The Tiroyacu quarry is located within the boundaries of the WGS84 two-dimensional geographic coordinate reference system, in the UTM 18S (Universal Transverse Mercator) zone. All coordinates referenced in this report and in the accompanying figures, tables, maps and sections are provided in the WGS84 coordinate system, UTM 18S zone, unless otherwise indicated.

2.4. Previous Work and Sources of Information

The information used is sufficient to allow this TRS to be completed with the level of detail required by Regulation S-K subpart 1300. The information used includes actual information from Cementos Selva's operations, information submitted to and approved by the corresponding authorities, and public information in organizations specialized in the cement industry. The list of sources of information is presented in Chapter 24 of this report.

2.5. Details of QP Personal Inspection

The QP's who developed this document was unable to visit the Tiroyacu quarry and the Rioja plant periodically during 2021 due to COVID-19 pandemic restrictions. Instead, the QPs worked with on-site staff using virtual tools to gain first-hand knowledge of the quarry and cement plant. The virtual meetings included verifying parameters of the limestone and cement production.

Table 7 QP's field visit

Item	First and Last Names	Job Position	Profession	Field visit
1	Ricardo del Carpio	Environmental Coordinator	Geographic Engineer	The last visit to the Tiroyacu quarry and Rioja plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
2	Jorge Vega	Mining Projects Superintendent	Mining Engineering	The last visit to the Tiroyacu quarry and Rioja plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
3	Jhonson Rodríguez	Senior Geologist	Geological Engineer	The last visit to the Tiroyacu quarry and Rioja plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
4	Gabriel Mansilla	Quality Assurance and R&D Superintendent	Chemical Engineer	The last visit to the Tiroyacu quarry and Rioja plant was in 2019. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
5	Jason Gamio	Modeler	Geological Engineer	The last visit to the Tiroyacu quarry and Rioja plant was in 2020. No visits were made in 2021 due to COVID issues, and coordination was made with Operations personnel.
6	Mario Alva(***)	Operations Manager	Electronic Engineer	No visits were made due to COVID-19. Coordination was made with operations personnel using virtual tools.

(***) Mario Alva worked for Cementos Selva S.A. from year 2000 to 2013. I worked as General Superintendent of Operations from 2012 to 2013. Subsequently, he is working as operations manager at the Piura plant in Cementos Pacasmayo S.A.A.

3. Property description

3.1. Tioyacu quarry

We refer to the non-metallic mining concession called Calizas Tioyacu, which is located in Elias Soplin Vargas, province of Rioja, San Martin region.

The quarry is located close to the Rioja plant. Table 8 shows the UTM coordinate of the centroid of the Calizas Tioyacu property.

Table 8 Central coordinates of the Calizas Tioyacu property

North	East	Radius	Zone
246774.69	9337137.48	1,800.00	18

The area of the property is 400 hectares. The mining rights (the mining concession Title) are granted by INGEMENT (Geological Mining and Metallurgic Institute) of the Energy and Quarries Sector by means of a Presidential Resolution. The Tioyacu Limestone Concession was approved by Resolution 0960-96-RPM, granted by the Public Mining Registry.

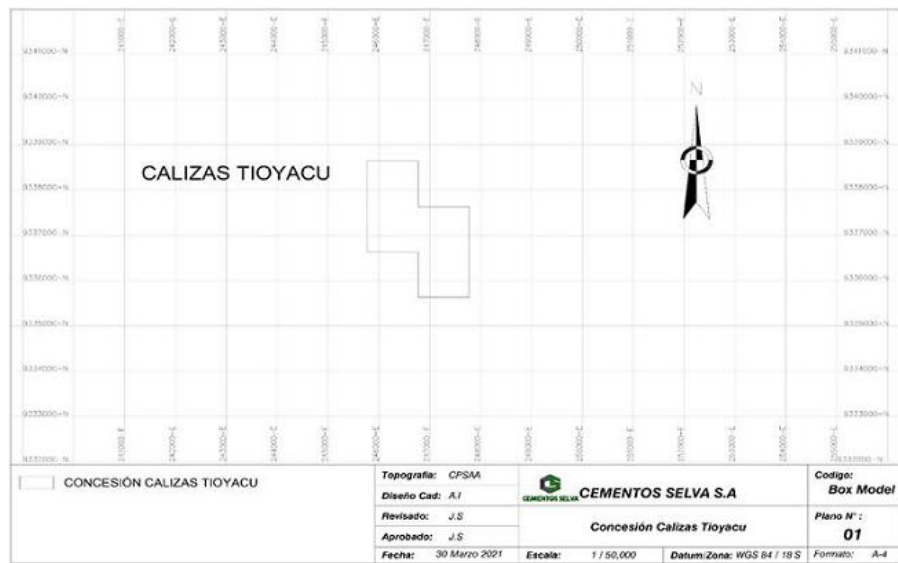
The procedure to obtain a mining concession is outlined in the General Mining Law (DS-014-92-EM) and Regulation D.L 020-2020-EM.

The Tioyacu quarry has a Usufruct and Easement Agreement for the use and easement of the area where mining activities are conducted. The agreement was signed with Corporación de Desarrollo de San Martin (COREDESAM), the Regional Government of San Martin, and the property is in the name of Cementos Selva S.A. It is also registered under Calizas Tioyacu and is classified as non-metallic.

Cementos Selva S.A. must pay the validity fee for the Calizas Tioyacu concession with unique code 010912495. The payment of the right of validity must be made every year, between the first working day of January and June 30, which is the last day of payment.

Cementos Selva S.A., in compliance with the provisions of Law N° 28258 and its amendment Law N° 29788 is also obliged to pay royalties to the State. Below is the plan of the Calizas Tioyacu concession:

Figure 3 Calizas Tioyacu map



3.2. Rioja plant

The Rioja plant is located in the district of Elías Soplin Vargas, province of Rioja, San Martín region; on land owned by the Company that occupies a total area of 28.16 hectares, duly registered in File No. 4273, Electronic Record No. 05004085 of the Land Registry of Moyobamba, Registry Zone No. III, Moyobamba Headquarters.

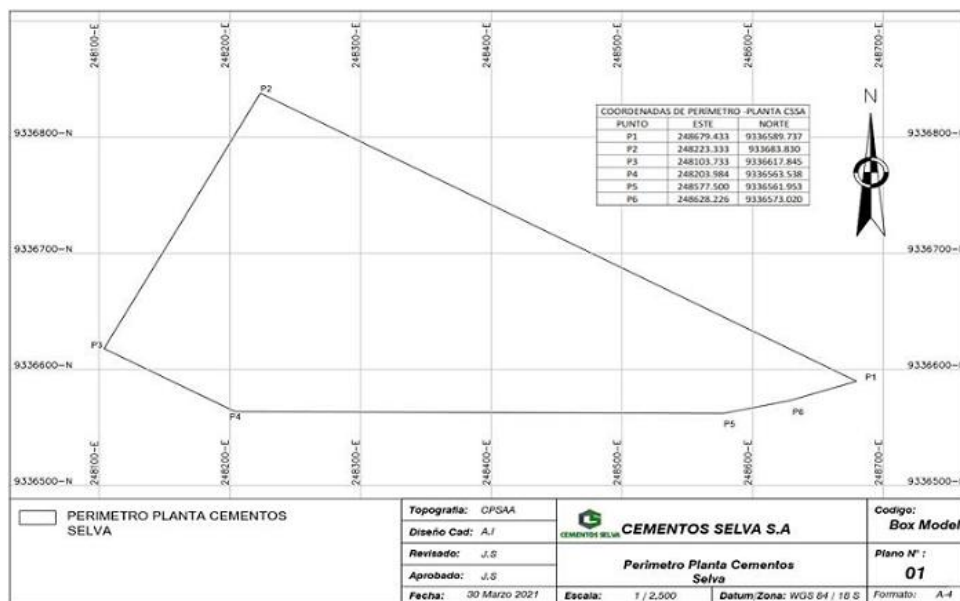
Table 9 shows the UTM coordinate of the centroid of the Rioja plant.

Table 9 Central coordinates of the Rioja plant

North	East	Radius	Zone
248338.19	9336658.96	200.00	18

According to the Organic Law of Municipalities (Law 27972), Cementos Selva S.A. must pay the annual property tax for the property described above.

Figure 4 Rioja plant map



4. Accessibility, climate, local resources, infrastructure and physiography

4.1. Tioyacu quarry and Rioja plant

Cementos Selva S.A. is an industrial company dedicated to the production of cement. Its Tioyacu quarry provides limestone as raw material for cement production.

The Tioyacu quarry is geographically located in the district of Elías Soplin Vargas, province of Rioja, department of San Martín, approximately 14.46 km from the city of Rioja.

Topography

The study area consists mainly of hillsides with slopes ranging from 25% to more than 75%, terraces of alluvial origin, with slopes of less than 8% and slightly undulating, and small hillsides. The Tioyacu quarry has an average altitude of 900 meters above sea level.

Vegetation

The vegetation is evergreen with lianas and vines, many of which are covered by epiphytes of the Bromeliaceae family. The forests present a very heterogeneous flora composition.

Access

By air is from Lima – Tarapoto in a 1.5 hour flight, and by land from Tarapoto to Tioyacu quarry for a journey of 3 hours.

Access to the Tioyacu quarry is via the Fernando Belaunde Terry highway, which crosses the district of Elías Soplin Vargas from south to north.

Climate

The climate in this Amazon region in northern Peru is mainly influenced by the following factors: the Intertropical Convergence Zone (ITCZ), the presence of the Eastern Cordillera of the Andes and the Extratropical Fronts.

Physiography

The study area has landforms that have been generally classified as large plains landscape and mountainous landscape (mountain slopes).

Local Resources

The Tioyacu quarry is operated by Cementos Selva personnel. The quarry is located 13.7 kilometers from the town of Rioja, which has the resources of a city.

Power is supplied by the 60 kV Rioja - Nueva Cajamarca transmission line owned by Electro Oriente.

The company has a water use license for industrial purposes, with its water catchment point located in the Tioyacu River. The National Water Authority issued the authorization R.A. N° 100-2010-ANA-ALA ALTOMAYO.

5. History

5.1. Tioyacu quarry

On February 6, 1998, the public auction of the Rioja plant was held, and Consorcio Pacasmayo was awarded the contract. To comply with the terms of the auction, Consorcio incorporated and subsequently transferred ownership of the plant to Cementos Rioja S.A. The award mentioned above included, by public deed dated April 8, 1998, the non-metallic mining concession "Calizas Tioyacu." The Tioyacu quarry began operations as Cementos Rioja S.A. in 2000.

At the end of 1982 and beginning of 1983 a campaign of 460 meters of drilling was carried out in 05 drill holes located in the eastern flank of the "Tioyacu" limestone-dolomitic massif executed by Andes Diamantina S.R.L. The objective was to determine the feasibility of a new portland cement plant in the department of San Martin. The exploration study identified limestone suitable for cement manufacturing.

In 2015, Cementos Selva S.A. commissioned Geosym Consultores S.A.C. to carry out prospecting work through drilling. A total of 06 drill holes were drilled, conveniently located and distributed along the Tioyacu quarry (02 holes in the southern sector, 03 holes in the central area, and 01 hole in the northern sector) to geologically evaluate the deposit and know its characteristics at depth.

These 06 drillings together with blast holes information and geological evaluation work allowed Cementos Pacasmayo to update the inventory of Mineral Resources and Reserves.

From 2018 to the present, Cementos Selva S.A., with the help and support of mining software such as Leapfrog and Minesight has updated its Resources and Reserves at the Tioyacu quarry.

6. Geological setting, mineralization, and deposit

6.1. Regional geology

The strata of the district of Elias Soplin Vargas, province of Rioja, San Martin region consists of Paleozoic/Mesozoic Age sedimentary strata of the Mitu Group, Pucara Group, Chambara Formation, Celendin Formation, Aramachay Formation, Condorsinga Formation, Ipururo Formation, and Quaternary Deposits.

Figure 5 Regional stratigraphic column

ERAT	SYSTEM	SERIES	STRATIGRAPHIC UNITS		INTRUSIVE ROCKS
CENOZOIC	QUATERNARY	Holocene	Q-fl	Fluvial Deposit. - Gravels with rounded clasts enveloped in a Sandy matrix with small Sandy lenes found along the river forming terraces	Diorite
			Q-al	Alluvial Deposit. - Accumulations of gravel polymictic sand, silts with rounded, sub rounded clast, located in streams and with certain clasification.	
	NEOGENE	Pliocene	Nmp-l	Ipururo Formation. - Silts with soft clasts of shales, Green shales, ourole shales interbedded with quartz sandstones.	
MESOZOIC	CRETACEOUS	Upper	Ks-v	Vivian Formation. - Fine white quartz sandstone of fine to medium grain, intercalated very thin lavers of siltstone.	
		Lower	Ks-ch	Chonta Formation - Cream to gray limestones, marls and greenish-gray shales.	
			Ki-o	Group Oriente. - White quartz sandstones, with intercalation of shales and greenish gray siltstones.	
			Js-s	Sarayaquillo Formation. - Fine- to medium-grained reddish-brown sandstones and is cross-stratified with levels of red and green shales and red siltstones.	
	JURASSIC	Upper			
		Middle			
		Lower	Ji-c	Condorsinga Formation. - Whitish-gray massive limestones in strata of 20 to 60 cm.	
	TRIASSIC	Upper	Ji-a	Aramachay Formation. - Yellowish gray limestone, intercalated with dark brown siltstones with ammonites.	
		Lower	Ts-ch	Chambara Formation. - Massive stratified limestones in strata of 1 to 3 m of dark gray odor.	
				Angular discordance	
PALEOZOIC	PERMIAN	Upper	PET-m	Mitu Group. - Conglomerates with rounded to sub rounded quartzite clasts intercalated with levels of red sandstones.	
	CARBONIFEROUS		Co-t	Tarma Group. - Greenish-gray schists with presence of greenish-gray limestone levels.	

6.2. Local geology

A lithological series of continental marine facies of limestones, marls, and dolomites have been identified in the quarry area. The classification of carbonate rocks based on the percentage of magnesium carbonate and clays, proposed by J.R.V Brooks (1896) and modified by J.A. Martinez-Alvarez, was used.

In the Tioyacu quarry, ten types of rocks were classified, corresponding to a sequence of limestones, magnesian limestones, dolomitic limestones, dolomitic marly limestones, marly limestones, marls, calcareous marls, clayey marls, dolomites, and calcareous dolomites. Overlying this formation are recent Quaternary deposits, consisting mainly of alluvial deposits comprised of colluvium and terraces with blocks and gravels in a sandy clay matrix.

Figure 6 Local stratigraphic column of the Tioyacu quarry.

Stratigraphic Column of the Tioyacu Quarry					
AGES	FORMATION	STRATIGRAPHIC COLUMN	NOMENCLATURE	LITHOLOGIC DESCRIPTION	AVERAGE POTENCY (m)
CENOZOIC	QUATERNARY	ALLUVIAL DEPOSITS	TOP SOIL	GRAVELLY-SANDY CLAYS, LIGHT TO DARK BROWN, FINE-GRAINED, OF NEGLIGIBLE THICKNESS	0.20 A 2
MESOZOIC	LOWER JURASSIC	PULCABÁ GROUP - CONDORSINGA FORMATION	MAGNESIAN LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN.	25
			DOLOMITE	LEAD COLOR WITH WHITISH SHADES, FINE TO COARSE GRAIN.	39
			DOLOMITIC LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN	8
			DOLOMITIC LIMESTONE MARLSTONE	LIGHT GRAY COLOR, FINE GRAIN	9
			MAGNESIAN LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN	22
			DOLOMITIC LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN	6
			DOLOMITIC LIMESTONE MARLSTONE	LIGHT GRAY COLOR, FINE GRAIN	6
			LIMESTONE	LEAD COLOR WITH WHITISH SHADES, FINE TO COARSE GRAIN.	15
			DOLOMITE	LEAD COLOR WITH WHITISH SHADES, FINE TO COARSE GRAIN.	18
			LIMESTONE	LIGHT GRAY COLOR, FINE GRAIN.	24
			MARLY LIMESTONE	LIGHT GRAY COLOR WITH DARK SHADES, FINE GRAIN.	16
			LIMESTONE	LIGHT GRAY COLOR.	35
			MARLY LIMESTONE	LIGHT GRAY COLOR WITH DARK SHADES, FINE GRAIN.	34

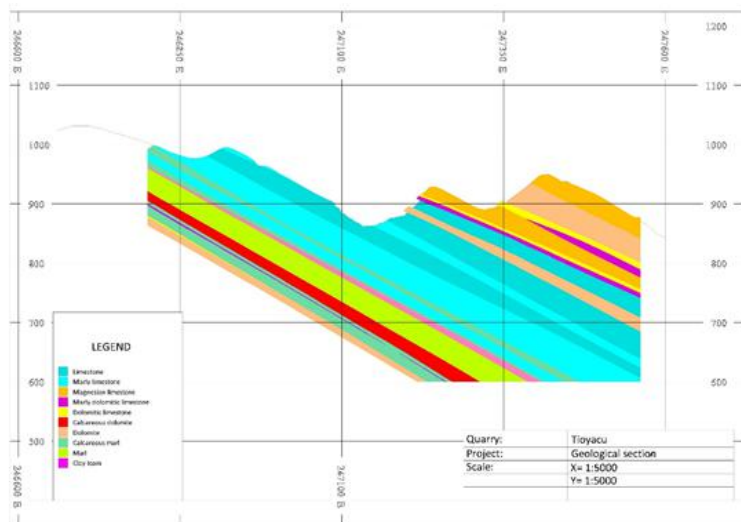
6.3. Characteristics of the deposit

Table 10 shows the main characteristics of the deposit.

Table 10 Characteristics of Tioyacu quarry

Quarry	Average Width (m)	Total Length (m)	Thickness (m)	Average depth (m)		Continuity
				Top Elevation	Lower elevation	
Tioyacu	450	1200	150	1000	820	It is a sedimentary limestone deposit whose continuity is controlled longitudinally by the limestone outcrop, laterally by fault structures and at depth by the water table.

Figure 7 Geological Section of the Tioyacu quarry



7. Exploration

7.1. Drilling

Cementos Selva's exploration activities at the Tioyacu quarry property involve drilling to characterize the geology adequately.

Table 11 Drilling campaigns in Tioyacu quarry

Drilling Campaign	Date	N° of holes	Hole Type
1	1983	5	Drill Hole
2	2015	6	Drill Hole

During the 2015 campaign, a total of 452 meters were drilled, reaching depths of up to 110.30 meters. HQ diameter pipes were used. The campaign was conducted over a period of 2 months, using 2 drilling rigs.

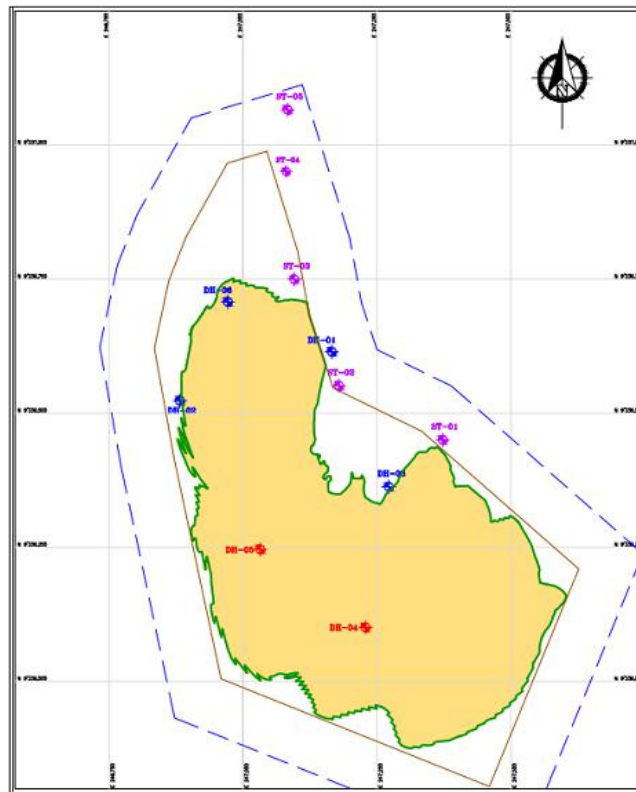
The drilling characteristics are shown in Table 12.

Table 12 Drilling characteristics of the 2015 campaign

Hole name	From	To	Azimut (°)	Dip (°)	Diameter
DH-01	0.00	30.00	0	-90	HQ
DH-02	0.00	110.30	260	-75	HQ
DH-03	0.00	39.50	0	-90	HQ
DH-04	0.00	83.10	265	-75	HQ
DH-05	0.00	84.60	270	-75	HQ
DH-06	0.00	104.00	265	-75	HQ

Information obtained from blast holes performed during operations were used as a source of information for the estimation of Resources and Reserves.

Figure 8 Tioyacu quarry, drilling hole location map



7.2. Hydrogeology

Cementos Selva S.A. conducted some technical studies to define the hydrogeological characteristics of the Tioyacu limestone deposit, including:

- Consultora Minera Minconsult S.R.L Hydrological Study and Derivation Structures of the Quarry and Limestone Deposit - Mining Plan, September 2012.
- Cementos Selva S.A. Water quality monitoring of Tioyacu quarry, quarterly results 2014 - 2015.

The hydrogeological study has been carried out to characterize the hydraulic and hydrodynamic conditions of the subsoil hydrogeological units and evaluate groundwater levels and flow conditions and their relationship with to Tioyacu groundwater discharges.

Geosym Consultores S.A.C (2015) developed the investigations through 04 hydrogeological borings with piezometers, and 19 Lefranc and Lugeon permeability tests were executed, 01 Slug Test, and 02 Air Lift tests, physical-chemical parameter readings, gauging with use of current meter, groundwater sampling. The results of the evaluations are presented below.

Hydraulic parameters in quarry rocks

Geosym Consultores S.A.C developed a study for the hydraulic characterization of the hydrogeological units. Geosym Consultores S.A.C analyzed the information obtained during drilling activities. The values were obtained and classified based on the type of rock and its degree of fracturing. The results of the tests are presented in Table 13.

Table 13 Hydraulic parameters of the hydrogeologic units

Lithological Units	K (cm/s)				K (m/d)			
	Avg.	Med. Geo	Máx	Min	Avg.	Med. Geo	Máx	Min
Fractured limestone	2.1E-04	1.4E-04	4.5E-04	4.2E-05	0.18	0.12	0.39	0.04
Lightly fractured limestone	1.0E-05	9.2E-06	1.6E-05	6.4E-06	0.01	0.01	0.01	0.01
Fractured marl	5.9E-04	3.7E-04	1.2E-03	1.0E-04	0.51	0.32	1.07	0.09
Poorly fractured marl	1.3E-04	6.5E-05	2.4E-04	1.8E-05	0.11	0.06	0.21	0.02
Bituminous limestone	2.6E-05	1.3E-05	7.9E-05	3.5E-06	0.02	0.01	0.07	0.003
Poorly fractured dolomite	2.92E-05				0.03			

Source: Geosym Consultores SA, 2015

Piezometer monitoring

Borehole level readings were obtained during drilling as part of the monitoring process.

The data obtained provided information for the hydrodynamic interpretation and morphology of the water table, in response to the aquifer recharge and discharge processes, in addition to determining the hydraulic gradient. The results are shown in Table 14.

Table 14 Static levels of piezometers

Code	Elevation (msnm)	Depth (m)	Stick up (m)	Static level (m)
DH-01	843	30.00	0.75	15.87
DH-02	931	110.30	0.85	91.84
DH-03	834	39.50	0.85	8.38
DH-06	922	104.00	0.90	89.61

Source: Geosym Consultores SA, 2015

The study also provided information on aspects such as Piezometry and flow directions in the quarry area, Conceptual Hydrogeological Model, and Analysis of the current state of groundwater and surface water.

7.3. Geotechnical studies

CSSA developed conducted studies to evaluate the geotechnical characteristics of the Tioyacu quarry, such as:

- Slope Stability Study of the Tioyacu quarry carried out in 2012, Cementos Selva commissioned Minconsult S.R.L, to carry out the Seismic Hazard Study of the Tioyacu quarry.
- Geotechnical Study of the Tioyacu quarry carried out in 2015, Cementos Selva commissioned Geosym Consultores S.A.C, to carry out the basic geological, hydrological, hydrogeological, and geotechnical studies of the Tioyacu quarry.

Geosym Consultores S.A.C. (2015) performed a series of geotechnical sampling. These tests were carried out in in-situ tests in the field and others in the external laboratory.

The study also provided information on aspects such as in- situ testing, Uniaxial Compression Tests, Point Load Tests, Triaxial Compression Tests and Intact Strength Tensile Tests.

The following are the results:

Table 15 Uniaxial Compression test results

Code	Depth (m)	Lithology	Uniaxial Compressive Strength (Mpa)
DH-01	20.70 – 20.92	Limestone	20.4
DH-02	14.00 – 14.20	Marly limestone	130.1
DH-04	12.70 – 12.90	Magnesian limestone	47.5
DH-05	9.60 – 10.17	Limestone	47.9
DH-06	11.50 – 11.70	Limestone	124.2

Table 16 Point Load test results

Code	Depth (m)	Lithology	Uniaxial Compressive Strength (Mpa)	
			Range	Average
DH-01	5.05 – 5.30	Limestone	66.0	77.90
DH-01	15.75 – 16.00	Marly limestone	92.50 – 128.70	110.10
DH-02	71.78 – 72.00	Calcareous dolomite	85.40 – 103.70	95.80
DH-02	90.30 – 90.51	Calcareous marl	59.70 – 79.90	71.60
DH-04	25.29 – 25.45	Limestone	65.20 – 91.00	81.70
DH-04	64.40 – 64.68	Limestone	56.00 – 85.00	71.60
DH-05	17.20 – 17.52	Limestone	75.00 – 94.30	94.30
DH-05	66.45 – 66.80	Calcareous marl	78.90 – 88.50	82.90
DH-06	40.10 – 40.30	Marly limestone	48.90 – 98.20	79.20
DH-06	92.30 – 92.50	Marl	73.30 – 105.10	91.10

Table 17 Triaxial Compression test results

Code	Depth (m)	Lithology	Uniaxial Compressive Strength (Mpa)	Constant "mi"	Cohesion (Mpa)	Angle of internal friction (°)
DH-04	42.55 – 60.10	Limestone	69.21	14.44	14.16	46.90
DH-05	9.60 – 13.10	Limestone	93.38	15.74	18.67	47.93
DH-06	12.05 – 50.30	Limestone - Marly limestone	88.08	13.35	17.84	46.71

Table 18 Traction resistance tests results

Code	Depth(m)	Lithology	Uniaxial Compressive Strength (Mpa)	
			Range	Average
DH-01	27.10 – 27.40	Limestone	4.0 – 5.2	4.70
DH-02	15.95 – 16.15	Marly limestone	6.3 – 7.6	7.00
DH-04	72.25 – 72.45	Limestone	2.9 – 3.7	3.20
DH-05	67.80 – 68.02	Calcareous marl	5.5 – 7.3	6.50
DH-06	16.70 – 16.90	Marly limestone	5.8 – 6.9	6.40

Table 19 Rock mass strength properties

Lithology	GSI	MPa	(KN/m ³)	“mi”	C MPa	Fric. Ang (°)	Emr MPa	v
Limestone	53	65	26.7	14	1.26	41	7180	0.28
Marly dolomitic limestone	58	65	26.3	14	1.40	43	9580	0.28
Dolomitic limestone	56	65	26.7	14	1.33	42	8540	0.28
Magnesian limestone	55	45	26.8	14	1.11	39	6700	0.28
Marly limestone	43	60	25.9	10	0.86	34	3880	0.30
	59	100	25.9	14	1.77	46	12500	0.28
Dolomite	50	65	26.7	14	1.22	44	9040	0.28

Geosym Consultores S.A.C (2015), determined the geomechanical zoning of the rock mass of the study area, considering the lithological, geo-structural and quality aspects of the rock mass using mainly the data from the 06 geotechnical borings and the 25 geomechanical mappings executed in the slope walls of the current quarry and adjacent areas of the same, and that were available. Table 20 shows the rock mass rating (RMR) and quality of the rock mass.

Table 20 Rock mass quality by rock type

Lithology	Average RMR	Rock mass quality
Limestone	53	IIIA
Marly dolomitic limestone	58	IIIA
Dolomitic limestone	56	IIIA
Magnesian limestone	55	IIIA
Marly limestone	43 - 59	IIIB y IIIA
Dolomite	57	IIIA
Calcareous dolomite	57	IIIA
Marl	55	IIIA
Clayey loam	43	IIIB
Calcareous marl	54	IIIA

Geosym Consultores S.A.C (2015), conducted stability analyses, and recommended the angles shown in Table 21 in order to provide optimal stability of the benches in the Tioyacu quarry.

Table 21 Tioyacu quarry design and planning angles

Design sector	Berm width (m)	Bench face angle		
		Bench	Inter - Ramp	Final
I (*)	4.0 - 6.0	65°	35° - 42°	34°
II (*)	4.0 - 6.0	65°	35° - 42°	34°
III (*)	4.0 - 6.0	65°	35° - 42°	34°
IV (*)	4.0 - 6.0	65°	35° - 42°	28°
V	4.0	65°	44°	44°
VI	4.0	65°	44°	44°

Note (*): Bank slope of 65° and minimum berm of 4m for 44° slopes below 830 msnm. Bank slope of 65° and minimum berm of 6m for 35° interramp slopes above elevation 830msnm

8. Sample preparation, analysis, and security

This Chapter describes the preparation, analysis and security of the samples used for the geology, quarry and cement plant operations.

8.1. Geology and quarry

Cementos Selva S.A. has implemented international standards in all its operations such as quarries and plants. The ISO 9001 standard has been implemented and certified since 2015. The certification is renewed annually through an external audit.

The SSOMASIG unit (Security, Occupational Health, Environment and Management Systems), is part of the team that determines and gives the necessary support for the maintenance of the ISO 9001 and the scope is in all the company's activities.

Table 22 shows the list of protocols for quality assurance and quality control.

Table 22 Protocols of the Geology area

Activity	Protocol	Code	Review
Sample preparation methods	DRILLING WITNESS CUTTING	OM-GL-PRT-0021	R0
	SAMPLE PREPARATION FOR PHYSICOCHEMICAL ANALYSIS	OM-GL-PRT-0022	R0
	SAMPLE SELECTION FOR GEOMECHANICAL ANALYSIS	OM-GL-PRT-0036	R0
Quality control procedures	DRILLING INITIATION AND SUPERVISION	OM-GL-PRT-0005	R0
	TOPOGRAPHY AND MEASUREMENT OF DRILL HOLE DEVIATIONS	OM-GL-PRT-0007	R0
	SAMPLE RECOVERY	OM-GL-PRT-0008	R0
	SURVEY AND DELIVERY OF COLLARS	OM-GL-PRT-0009	R0
	RECEIPT AND STANDARDIZATION OF DRILLING CORES	OM-GL-PRT-0012	R0
	PHOTOGRAPHIC RECORD	OM-GL-PRT-0013	R0
	PHOTOGRAPHY OF TEST PITS	OM-GL-PRT-0014	R0
	GEOLOGICAL LOGGING	OM-GL-PRT-0015	R0
	LOGGING OF TEST PITS	OM-GL-PRT-0016	R0
	GEOTECHNICAL LOGGING	OM-GL-PRT-0017	R0
	SAMPLING IN TEST PITS	OM-GL-PRT-0018	R0
	FIELD-QUARRY SAMPLING	OM-GL-PRT-0029	R0
	ORE STOCK SAMPLING	OM-GL-PRT-0030	R0
	BLASTHOLE SAMPLING	OM-GL-PRT-0032	R0
	SAMPLE ANALYSIS FOR DENSITY	OM-GL-PRT-0020	R0
	QAQC PROGRAM	OM-GL-PRT-0023	R0
	ORE CONTROL	OM-GL-PRT-0035	R0
	ORE CONTROL POLYGON FIELD MARKING		
	ORE CONTROL PLAN		
Security	TRANSPORT OF CORES	OM-GL-PRT-0010	R0
	TRANSPORT OF SAMPLES TO THE LABORATORY	OM-GL-PRT-0024	R0
	REGISTRATION AND SHIPMENT OF MATERIAL	OM-GL-PRT-0031	R0
	CORE-SHACK STORAGE	OM-GL-PRT-0034	R0
	DATA ASSAYS INPUT - DATASHED	OM-GL-PRT-0027	R0
	CHANNELING OF GEOLOGICAL INFORMATION	OM-GL-PRT-0028	R0
	DATABASE MANAGEMENT	OM-GL-PRT-0025	R0
Others	PROGRAMMING OF COLLARS	OM-GL-PRT-0001	R0
	PROGRAMMING OF TEST PITS	OM-GL-PRT-0002	R0
	PREPARATION OF DRILLING RIGS	OM-GL-PRT-0003	R0
	INSTALLATION OF DRILLING MACHINE	OM-GL-PRT-0004	R0
	PREPARATION OF TEST PITS	OM-GL-PRT-0006	R0
	HOLE ENDING	OM-GL-PRT-0011	R0
	REPORT WRITING - FIELD VISIT	OM-GL-PRT-0026	R0
	LIMESTONE MATERIAL MOVEMENT REPORT AND LOG - SGCP	OM-GL-PRT-0033	R0

8.1.1. Preparation of samples, procedures, assays and laboratories

Samples obtained from the drill holes are placed in holders to be duly coded, cut, bagged and sent to the laboratory at the Rioja plant and are occasionally sent to an external laboratory following the company's procedures.

Certimin S.A. is used as an external laboratory for chemical analysis. Certimin S.A. is a Peruvian laboratory that is certified in ISO 9001, ISO 14001, ISO 45001, NTP-ISO/IEC 17025 Accreditation, and has a membership in ASTM. This laboratory has modern facilities for the development of mining services associated with the cement industry and technical support in the geochemical field for national and international companies.

For the limestone samples, the laboratory analyses evaluate CaO, MgO, Al₂O₃, SiO₂, Fe₂O₃, SO₃ and Cl. Once received in the laboratory, the properties of the limestone to be used in cement production are analyzed.

The Samples from the 2015 campaign were sent to Certimin S.A. Table 23 shows the methods used for limestone analysis.

Table 23 Methods of analysis for the limestone from the Rioja plant laboratory

Analytical	Method used	Description
Various elements	SGC-PRO-06-S4005	Limestone samples from Rioja Plant - Analysis by X-ray equipment.
Moisture (%)	S-CC-P-21	Limestone samples from Rioja plant - Wet Chemical Analysis of Crude and Raw Materials
LOI	S-CC-P-21	Limestone samples from Rioja plant - Wet Chemical Analysis of Crude and Raw Materials

8.1.2. Quality Assurance Actions

Based on information and samples from the 2015 drilling campaign where limestone samples were obtained, Cementos Selva S.A., this year, performed an audit for the validation of results, as part of its quality assurance and quality control (QAQC) activities. For this purpose, it hired Wiracocha Mining Services S. R.L., who conducted a re-sampling of a group of drill holes drilled previously at the Tioyacu quarry. Also, the work included the revision of the QAQC program. The samples and controls of this program were analyzed at Certimin S.A.'s laboratory.

The analysis of the results obtained for the different samples and controls inserted show a high confidence level, with an acceptable bias that is within the standards of the sampling theory. This guarantees the accuracy of the results in the initial sampling, so it is concluded that both the preparation and analysis of the samples obtained initially in the laboratory of Cementos Selva S.A., has reliable processes and procedures.

8.1.3. Quality Plan

Cementos Selva S.A. has implemented QAQC protocols for the development of exploration and production activities in the Tioyacu quarry in order to ensure the quality of the information used in the estimation of Resources and Reserves.

The quality plan implemented by Cementos Selva for the quarries includes the insertion of blanks, duplicates and standards, in order to control the precision, accuracy and contamination in the samples.

Table 24 Quality Plan of the Tioyacu quarry

Blanks	Duplicates	Standards	Remark
1 control sample for each batch of 20 samples.	2 control sample for each batch of 20 samples.	1 control sample for each batch of 20 samples.	Cementos Pacasmayo protocol "OM-GL-PRT-0023-R0".

In 2021, the results of the 2015 drilling campaign were re-analyzed to re-evaluate the deposit. As part of the procedure, twin and duplicate samples were inserted, representing 5.16% and 10.32% as insertion ratio. Calcium (CaO), which is the main component of the limestone for cement production, was analyzed. The quality control (CaO) results showed that the Twin samples had an error of 3.08%, which is within the acceptable range (30%). The percentage of good samples was 100%. On the other hand, the quality control results of the duplicate samples showed an error of 0.94% (Coarse Duplicate) and 1.72% (Fine Duplicate), which is below the allowable error of 20%. The percentage of acceptable samples was 100%.

8.1.4. Sample security

Cementos Selva S.A. has implemented QAQC protocols for the development of exploration and production activities in the Tioyacu quarry in order to ensure the quality of the information that allows the estimation of Resources and Reserves.

Cementos Selva S.A. has a specific area for the storage of the samples obtained during the drilling campaigns; the samples are properly stored in order to preserve their quality.

The necessary materials for storage and transport of the samples were provided. Sampling cards were also implemented with information on the name of the project, name of the borehole to be sampled, date of sampling, sampling interval, sampling management, sampling and type of sample or control sample.

All samples were labeled and a photographic record is available. The photographic record of each sampling bag is made together with the weighing of the sample.

8.1.5. Chain custody

Cementos Selva has implemented actions to ensure the physical security of samples, data and associated records; the traceability of the sample from its generation to its analysis and subsequent conservation of rejects and pulps. At the Tiroyacu quarry, core samples are duly stored in the coreshack.

Figure 9 Photographic record of the sampling intervals



8.1.6. Qualified person's opinion on quarry QAQC

In the authors' opinion, Cementos Selva S.A. has been complying with the international standards of ISO-9001 since 2015 and implemented Quality Assurance and Quality Control (QAQC). Cementos Selva S.A. has used a QAQC check program comprising blank, standard and duplicate samples. The QAQC shipping rate used complies with accepted industry standards for insertion rates, as well as the actual sample storage areas and procedures are consistent with industry standards.

Protocols in the different exploration and production processes are strictly complied with. There is information on sample preparation methods, quality control measures, sample security, and these results are accurate and free of significant error. The information in this report is adequate for use in the construction of the Geological Model, Resource estimation and Reserve estimation.

8.

8.2. Rioja plant

8.2.1. Sample preparation, procedures, assays and laboratories

Cementos Selva S.A. has a quality plan for each of its operations, part of the corporate quality system.

Within the quality plan (S-CC-D-05 - Quality Plan), samples of raw materials such as limestone, clays, iron, and coal are evaluated in the Rioja plant laboratory, where they are analyzed to determine the chemical composition of each material for the production of cement.

The procedures applied are wet chemical analysis of clinker and cement, wet physical and chemical analysis of crude and raw materials, general XRF procedures, physical-chemical analysis for coal samples, and physical tests for cements based on ASTM, NTP (Peruvian Technical Standard), and ISO standards.

8.2.1.1. Raw materials sample preparation

For preparation of samples, staff follow the sample collection and preparation procedure, which consists of primary and secondary crushing, and reduction of the sample size by coning and quartering followed by pulverizing the sample in a ring mill.

8.2.1.2. Laboratory Analysis

The laboratory at Rioja plant has implemented the ISO 9001 standard; also, it has calibrated equipment, with a calibration and maintenance program established by the laboratory area. The main equipments in the laboratory at Rioja plant are the XRF fluorescence equipment and the compressive strength press, which are maintained annually and have inter-daily verification.

The tests for air content, fineness, autoclave expansion, compressive strength and setting time, and Vicat are made for all types of cements. The autoclave contraction, 14-day mortar expansion, 6-month sulfates expansion, SO₃, MgO, loss on ignition, insoluble residue, and C3A and 2 C3A+ C4AF tests only apply to some specific cements.

8.2.2. Quality Assurance Actions

The quality assurance plan applicable to the cement production processes at Rioja plant is applied to:

- The reception of raw materials.
- Crushing of materials.
- Drying of raw materials.
- Grinding of raw materials.
- Clinkerization.
- Grinding of cement.
- Packaging of cement.

Table 25 shows the tests and frequency for each stage of the process.

Table 25 Tests and frequency for each stage of the process

Stage	Tests	Frequency
Reception of raw materials	X-ray Chemical Analysis, Moisture, Sulfur / Total Moisture, Ash, Calorific power, Chemical Analysis by XRF, R.I. (weekly) and Pozzolanic Activity (monthly).	For each unit up to 1 time per month.
Crushing raw materials	Chemical Analysis by XRF, Moisture (every 2 hours), P.F (8 hours composite).	Every hour.
Drying raw materials	Moisture	Every 2 hours.
Crude grinding	XRF Chemical Analysis, Moisture (Every 2 hours), P.F , RM-170.	Each 2 hour up to 8 hours.
Clinkerization	Chemical Analysis by XRF, P.F, f-CaO / Liter Weight.	Every 2 hours.
Cement grinding	Chemical Analysis by XRF, P.F, f-CaO, Liter Weight, Moisture, Blaine, R.I., RM 325, RM 450, Setting, Autoclave Expansion, Compressive Strength.	Every 2 hours up to 1 time per Silo.
Cement packing	Chemical Analysis by FRX, P.F, f-CaO, R.I. (in type I) / Blaine, RM 325, Setting, Autoclave Expansion, Compressive Strength, Air Content, Density and Expansion of the Mortar Bar (only in type GU).	1 time per day per type of cement.

8.2.2.1. Finished Product Control

Controls for finished products include information on the type of tests, frequency, and responsible party. The tests performed are air content, fineness, autoclave expansion, compressive strength, and Vicat setting time.

8.2.2.2. Control of non-conforming product

The non-conforming products must be identified, documented, evaluated, controlled, separated and disposed of, in order to prevent their unintentional use or delivery, according to the established procedure. The remedial action for non-conforming product is reprocessing, reclassification of the material, acceptance by authorized personnel, acceptance by concession of the client and controlled dosage.

8.2.2.3. Validation of silos

It applies to all products manufactured at the Rioja plant, with the objective of ensuring that the cement dispatched complies with the requirements established in the Technical Specifications and Requirements of the Technical Standards.

8.2.2.4. Density

The density analysis in raw materials of coarse materials (crushed) is determined in a recipient of known volume (bulk density), the material is added in a recipient previously tared, is compacted smoothly, is made level and is weighed on a precision balance. The values are reported in weight/volume. For cement, fine materials are analyzed through the Le Chatelier bottle, whose value is used for the quality certificate issued to the customers.

8.2.2.5. Quality Assurance (QA) and Quality Control (QC)

The QAQC program contains methods that regulate the quality of the samples obtained in the operations of ore reception, crushing of materials, drying of raw materials, raw material grinding, clinkerization, cement grinding, and cement packaging. In this way, quality control results are achieved.

The parameters used for quality control are:

- S-CC-PCC-01, Quality control parameters for cement grinding.
- S-CC-PCC-02, Quality control parameters for raw materials.
- S-CC-PCC-03, Quality control parameters for crude oil production.
- S-CC-PCC-04, Quality Control parameters for clinker production.

8.2.2.6. Quality Plan

The quality plan implemented by Cementos Selva S.A. for Rioja plant includes the insertion of blanks, duplicates and standards, in order to control the precision, accuracy and pollution in the samples

Table 26 Quality Plan of Rioja plant

Blanks	Duplicate	Standard	Comment
50	250	11 for cement (NIST) 01 for coal (LeCo)	Blanks only apply when spot-checks are performed by Classical methods

8.2.2.7. Quality control parameters

The control parameters of the materials received at the Rioja plant are:

Table 27 Quality control parameters for materials received at the Rioja plant

Materials	Content analysis
Limestone	CaO, SO ₂ , MgO and K ₂ O
Others	Fe ₂ O ₃ , ZnO, SO ₃ , Moisture, Al ₂ O ₃ , Calorific power, Ash, S, Volatile matter, Insoluble residue, Loss on ignition and CaO.

Likewise, the quality control parameters for crude production are SIM, ALM, LSF, and RM170.

The cement quality control parameters are SO₃, MgO, Insoluble residue, Loss on ignition, R-325, Specific surface Horizontal mill 1, 2, and 3, Compressive strength at Day One, Compressive strength at Day Three, Compressive strength at Day Seven, Compressive strength at Day 28, Initial setting time and final setting time.

8.2.3. Sample security

Cementos Selva S.A. has implemented QAQC protocols for the development of cement production activities at the Rioja plant, in order to ensure the quality of the information that allows the estimation of the Resources and Reserves of the deposit.

Sample preparation methods are; Sampling and preparation of crude, clinker, and cement samples, Sampling and preparation of raw material samples, and Preparation of coal samples for laboratory analysis.

The testing procedures are wet chemical analysis of clinker and cement, general XRF procedures, wet physical and chemical analysis of crude and raw materials, physical-chemical analysis for coal samples, physical tests for cements, and quality plan.

Likewise, the control parameters are for raw material input, crude production, clinker production, cement grinding, sampling plan, frequency of tests for raw materials, and sampling plan and frequency of tests for cement.

8.2.4. Qualified Person's Opinion on cement plant QAQC

Cementos Selva S.A. has a Quality Assurance unit, which ensures compliance with the requirements for finished products specified in the technical product standards, based on Peruvian technical standards and traceable to the American Society for Testing and Materials (ASTM).

9. Data verification

This Chapter shows the data verification activities for the geology, quarry and cement plant.

9.2. Geology and quarry

9.2.1. Data Verification procedure

CSSA has a unit specialized in the compilation, verification and standardization of information for the geological database. Its main function is the validation of the data to be used in the estimation of Mineral Resources and Reserves. For the proper management of the information, internal protocols have been implemented which are subject to internal audits and are supported by the DataShed software.

9.2.2. Data collection

The Data collection applies to exploration activities. For diamond drilling, the process flow for planning and execution of drillings, survey methods for reporting drill collars and ddh / verification of the quality of information and recovery process of the core information. In addition, for geological sampling activities, the processes flowsheet, validation and consistency of sample information, sample preparation and testing, density, registration process and digital photographic storage are used.

9.2.3. Management and Validation of Database

The stages for management and validation of database are the recovery, processing and storage of the database, which includes database development process flow, information standardization and integration process, information storage strategy, appropriate database technology, structure and practicality of the database system that allows a fast and flexible access and input of information, and validation of chemical results, which includes the QAQC report.

9.2.4. Tracking Data

The consistency between the database records and the original registry was verified by the QPs 2021. No differences were detected between the database and the log files. A digital copy of all records is kept as pdf files. Digital certificates support the chemical analysis data.

The collection of the information considered the following: Drill collars, Survey, Lithology, Samples and Assays. The data is collected on the DataShed software.

9.2.5. Validation of Data

Collar, Survey, Lithology and chemical analysis data were imported and processed with DataShed software.

The results indicated that the database had adequate integrity for Resource estimation. This software verifies that the data entered from each sample or reported by the external laboratory is correct for input into the Resource model.

The team followed the defined processes for information flows to support Resource and Reserve estimation. The qualified person followed the same process as a means of verifying and validating and found that the validated data is congruent with the original geologic data used for the estimation of Resources.

No findings have been found that could invalidate the estimation of the Resources and Reserves of the unit.

9.3. Rioja plant

The Quality Control Plan contemplates the following aspects: PDCA cycle, customer, person in charge, activities, risks, control methods, monitoring, measurement, analysis, evaluation and documentary evidence.

The PDCA cycle is:

- Plan; during this stage the following activities are considered: determination of characteristics of raw materials, product in process and finished product, elaboration of control and matrices parameters and determination of activities and results assurance program.
- Do; during this stage the following activities are considered: verification and compliance with the requirements and matrices, sampling and preparation.
- Check; during this stage the following activities are considered: chemical analysis by XRF, chemical analysis, physical analyses, recording of results, taking action on non-conformities.
- Act, during this stage the following activity is considered, acting to improve.
- The Quality Assurance Plan is applied to the following customers: production, quarry, provisions chain and external customer.

9.3.1. Data verification procedures

The XRF analysis, chemical analysis and physical analysis are made to verify the results of the samples, as part of the Quality Control Plan.

The data resulting from these three types of analysis are recorded and evaluated in order to determine whether or not they comply with the technical specifications.

Data verification procedures include internal audits, check lists, statistical tables, reports, validation of data, certificates, interlaboratory test reports and compliance with quality protocols.

9.3.2. Data validation

Cementos Pacasmayo S.A.A. (Included Cementos Selva S.A.) through its quality assurance and control area participates in evaluations with international laboratories such as CCRL/ASTM (Concrete and Cement Reference Laboratory), which is an international reference laboratory for construction materials, and Xamtec of Colombia, an international interlaboratory, in order to report reliable data.

The Quality Control laboratories endorse their analysis methods by participating in interlaboratory analysis programs, which compare the results with national and foreign laboratories. The methods of analysis compared are X-ray fluorescence (XRF) and the physical cement tests, which are the methods used to control cement quality. In all the results of these interlaboratory programs, the companies always obtain the best results for each test.

9.3.3. Qualified Person's Opinion on cement plant

In the author's opinion, the methodologies used for collection and processing data at the cement plant are accurate and free of significant errors. The information can be used for model construction and estimates for cement production. Considering that the analyses of the main chemical components and physical properties of the raw materials and final products are completed by external laboratories, the quality of the information is adequate for preparing mineral resource and reserve estimates.

10. Mineral processing and metallurgical testing

10.1. Nature of Testing Program

Cementos Pacasmayo S.A.A. has Quality Assurance and Research and Development units. The objective of these units is to develop, evaluate and research procedures for the development of products at laboratory scale and their scaling up to industrial scale. Another objective is to identify evaluations of fuel substitutes to reduce energy costs.

Cementos Pacasmayo S.A.A has also implemented their own procedures for the preparation, review, issuance and control of test reports associated with cement production.

The laboratory at Pacasmayo plant has implemented the ISO 9001 standard; Cementos Pacasmayo has implemented a Research and Development laboratory located at the Pacasmayo plant to evaluate the technical aspects of cement plant and quarry operations (including Tioyacu quarry and Rioja Plant).

Cementos Pacasmayo applies the procedures:

- P-ID-P-04 Preparation of raw materials.
- P-ID-P-05 Sampling of cement and raw materials.
- P-ID-P-13 Input, storage and disposal of samples.

A permanent control is carried out with other laboratories to give greater reliability of the results. Likewise, inter-laboratory reports are issued with external laboratories such as CCRL (Cement and Concrete Reference Laboratory), which is an international reference laboratory for construction materials, and Xamtec from Colombia, a domestic internal interlaboratory.

A significant percentage of R&D activities are focused on the evaluation of alternative fuels such as rice husks. Laboratory tests are developed always seeking to generate an operational benefit for the company.

The R&D Laboratory located at the Pacasmayo plant provides analysis and research services to all of the company's cement plants.

10.2. Cement Manufacturing Test Results

To determine the cement design, which includes the clinker/cement factor, CPSAA uses the tests outlined in national technical standards such as NTP 334.009, NTP 334.090, and NTP 334.082. The cement design is modified when some of the chemical or physical requirements present a trend that could lead to non-compliance (non-conforming product). For the clinker/cement factor, priority is given to the compressive strength test at all ages (1, 3, 7, and 28 days). If the compressive strength shows a negative trend, even modifying the operating variables to correct it, the clinker/cement factor is modified.

At the Pacasmayo plant, the studies conducted in the Research and Development laboratory and the Quality Control units include the substitution of fossil fuels for rice husks at the Rioja plant.

The main objective of the substitution of fossil fuels is the reduction of CO₂ or greenhouse gas emissions.

In 2021, CSSA used 5700 t of Alternative Fuel (measured as coal equivalent) in the Rioja plant. This result represented 10% of the total fuels used by the plant for cement production and a reduction in emissions of 14,958 mt of CO₂.

10.3. Adequacy of the Test Data

The Research Laboratory issues technical reports following the criteria of international standards to the operations area, which evaluates the convenience of industrially implementing the tests and validating what has been reported at laboratory scale.

The reliability in the veracity and the adequacy of the data reported by the area, is based on the technical competition of the area's collaborators, which is regularly evaluated through different internal and external interlaboratory programs. In the opinion of the QPs, the cement mix design using the limestone characteristics is adequate for mineral resource and reserve estimation.

11. Mineral Resources estimates

The geological model was developed and structured using Leapfrog software; the solids were generated considering the quality of the lithology based on the results of the analysis of the samples taken.

Because the deposit is a sedimentary one, the qualified persons interpreted the geological model with the help of a set of regularly-spaced sections parallel to and perpendicular to strike of the deposit shape.

According to the lithological characteristics and descriptions, ten lithological horizons were recognized.

The lithological units have been grouped by assigning a numerical code in the mining software to simplify the modeling. Table 28 shows the lithological units with their respective numerical codes.

Table 28 Lithologic units of the Tioyacu quarry geological model

Lithologic Units	Lithology Code
Limestone	1
Marly limestone	2
Magnesian limestone	3
Marly dolomitic limestone	4
Dolomitic limestone	5
Calcareous dolomite	7
Dolomite	6
Calcareous marl	8
Marl	9
Clay loam	10

The main criteria for geological modeling is the quality, such as the content of oxides in limestones.

The lithological criteria is based on the macroscopic physical characteristics of the limestone horizons and the percentage of essential elements in its composition (oxides) that determine the quality of the limestones. Based on the quality and specifications of the cement plant, the qualified persons used a cut off of 49% of CaO.

Table 29 shows the referential cut-off of the oxides that determine the classification of the final limestone rock products.

Table 29 Rioja plant material restrictions

	Crude
CaO (%)	49.00
SiO ₂ (%)	7
MgO (%)	1.60
Al ₂ O ₃ (%)	-
K ₂ O (%)	0.40

The qualified persons built a block model based on the dimensions and spatial distribution of the deposits containing the material of economic interest. Table 30 shows the characteristics of the model.

Table 30 Characteristics of the block model

	Minimum (m)	Maximum (m)	Size (m)	Number
X	246789	247637	4	212
Y	9335804	9337080	4	319
Z	720	1048	4	82

11.1. Database

A total of 341 samples from 11 drill holes were used for resource estimation. Additionally, 7,855 blast hole control samples were used to strengthen the variogram analysis of the primary variable CaO.

The data is processed and managed in Data Shed software and then used in Mine Sight software.

11.2. Density

For the bulk density of the rocks, diamond drilling samples were collected at the Tiroyacu quarry, from which the bulk densities were determined by the wax method. The results of this determination and the bulk densities by lithological domain are shown in Table 31.

Table 31 Limestone density per horizon

Lithology	Density (g/cm3)
Limestone	2.71
Marly limestone	2.73
Magnesian limestone	2.69
Marly dolomitic limestone	2.69
Dolomitic limestone	2.73
Calcareous dolomite	2.70
Dolomite	2.64
Calcareous marl	2.61
Marl	2.62
Clay loam	2.10

11.3. Compositing

The compositing was performed using control of the GEO Item (file 11 MS). In general, each geological unit is estimated from the information of the composites belonging to that unit. The composites should not cross “hard” boundaries between different geological units.

For compositing, the QPs assumed each initial core section has uniform grades in order to composite the grade profile of each borehole. During compositing, the goal was to preserve the original nature (variability) of the samples.

The calculated values considered in the compositing were for CaO, MgO, SO₃, SiO₂, Fe₂O₃, Al₂O₃, and K₂O.

Composites were made at different lengths to determine the optimum compositing length. The 4 m composite is the size that best fits the nature of the original sample and so was used in resource estimation.

In addition, the modeling considered the length of the composites based on an exact multiple of the block height, which coincided with the bench height.

11.4. Basic statistics of the data (Assay – Composites)

Tables 32 and 33 show the results of the basic statistics of the elements CaO, SiO₂, MgO, SO₃, K₂O, Na₂O, and Cl for the original and composite data. The statistical analysis was done separately for each defined orebody (limestone horizon).

Tables 32 and 33 show the statistics of the limestone and marly limestone horizons as these are the main ones for the estimation of the Resources and Reserves.

Table 32 Basic statistics of the limestone horizon data

Components	Origin	Valid	Rejected	Minimum	Maximum	Mean	Std. Devn.	Variance	Co. Of Variation
SiO ₂	Assay	2,596	6	0.18	32.04	3.39	3.02	9.14	0.89
	Composite	5,150	10	0.18	32.04	3.45	3.05	9.32	0.89
Al ₂ O ₃	Assay	2,596	6	0.01	5.73	0.41	0.46	0.21	1.12
	Composite	5,150	10	0.01	5.73	0.42	0.47	0.22	1.12
CaO	Assay	2,601	1	30.49	55.38	51.84	2.22	4.94	0.04
	Composite	5,160	0	30.49	55.38	51.79	2.24	5.01	0.04
K ₂ O	Assay	2,596	6	0.00	9.00	0.17	0.31	0.09	1.80
	Composite	5,150	10	0.00	9.00	0.17	0.31	0.10	791.0
MgO	Assay	2,596	6	0.07	10.21	1.18	0.54	0.29	0.46
	Composite	5,150	10	0.07	10.21	1.20	0.54	0.29	0.45

Table 33 Basic statistics of the data of the marly limestone horizon.

Components	Origin	Valid	Rejected	Minimum	Maximum	Mean	Std. Devn.	Variance	Co. Of Variation
SiO ₂	Assay	746	2	0.60	19.45	8.43	3.78	14.27	0.45
	Composite	1,358	2	0.63	19.45	8.18	3.79	14.33	0.46
Al ₂ O ₃	Assay	746	2	0.12	4.43	0.94	0.63	0.39	0.67
	Composite	1,358	2	0.12	4.43	0.94	0.62	0.39	0.66
CaO	Assay	746	2	37.67	54.18	48.55	2.67	7.15	0.06
	Composite	1,358	2	37.67	54.18	48.67	2.70	7.29	0.06
K ₂ O	Assay	746	2	0.06	2.28	0.42	0.35	0.12	0.83
	Composite	1,358	2	0.06	1.96	0.43	0.35	0.12	0.81
MgO	Assay	746	2	0.25	6.30	0.82	0.39	0.15	0.47
	Composite	1,358	2	0.25	6.30	0.82	0.39	0.15	0.47

11.5. Extreme values

Extreme values are considered to be those analysis results that are not representative of the unit being studied and are defined in this work to be those that are above the mean plus twice the standard deviation.

In the analysis of the extreme values in the laboratory results for the calcareous lithologic units that are being estimated, no deviation has been found, all the results are coherent and representative of the levels to which they correspond.

11.6. Variogram Analysis

In the variogram analysis of the composited data, each level corresponded to a body of economic interest at the Tioyacu quarry. From the variogram analysis, it was concluded that acceptable experimental variograms could only be obtained in two lithologies due to the amount of data.

The QPs considered an experimental variogram to be acceptable if the number of pairs used to estimate the semi-variances are greater than or equal to 200. The variogram modeling consisted of fitting the experimental variograms to valid variogram models in MineSight. Of these models, the most representative was the spherical model, present in 85% of the structures, followed by the Gaussian model. Table 34 shows the results of variogram modeling.

Table 34 Variogram modeling parameters

Type of Variogram Model	Spherical
Nugget effect	0.87
Total Sill	1.16
Range	82

11.7. Interpolation

The Ordinary Kriging Interpolation (OK) method was used for the primary CaO variable, Inverse of the Distance (ID2) for the secondary variables, and Nearest Neighbor (NN) for validations. Table 35 shows the main parameters used to determine the interpolations of the primary CaO variable of the Limestone and Magnesian Limestone horizons.

- The interpolations were performed in two consecutive passes.
- The first with a search radius of twice the variogram range.
- The second with a search radius equal to the range.

During interpolation, a minimum of two and a maximum of 20 composites were used to estimate block qualities. Additionally, the QPs restricted the interpolation to using a maximum of two composites from each drill hole in all the passes.

Table 35 Ordinary Kriging Estimation Parameters CaO

Comment	PASS 1			PASS 2			PASS 3		
Search dis. Block on Model -X	90			135			180		
Search dis. Block on Model -Y	90			135			180		
Search dis. Block on Model -Z	90			135			180		
Max distance accept data	90			135			180		
Min # comps a Block	4			3			2		
Max # comps a Block	10			20			20		
Max # comps per hole	2			2			1		
Variable Model	CA1			CA1			CA1		
Variable comp	CAO			CAO			CAO		
Variable pasada	PSCA1			PSCA1			PSCA1		
Pasada	PASS1			PASS2			PASS3		
Store distance	DICA1			DICA1			DICA1		
Store max # comp	NCCA1			NCCA1			NCCA1		
Store max # drillholes	NDCA1			NDCA1			NDCA1		
Store krigeage variance	SDCA1			SDCA1			SDCA1		
Model type variogram	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
Nugget effect	0.293			0.293			0.293		
Sill	0.038	0.278	0.391	0.038	0.278	0.391	0.038	0.278	0.391
Range along major axis	82	22	10	82	22	10	82	22	10
Range along minor axis	82	22	10	82	22	10	82	22	10
Range along vertical axis	16	6	2	16	6	2	16	6	2
Direction major axis	10	38	82	10	38	82	10	38	82
Plunge mayor axis	-4	-8	-16	-4	-8	-16	-4	-8	-16
Dip	25	46	82	25	46	82	25	46	82
Distance along major	90			135			180		
Distance along minor	90			135			180		
Distance along vert	12			16			32		
ROT	157.66			157.66			157.66		
DIPN	-7.22			-7.22			-7.22		
DIPE	32.29			32.29			32.29		
Limiting Variable model	RT1			RT1			RT1		
Code limiting variable	1			1			1		
Code matching conmp vs model	GEO			GEO			GEO		

11.8. Mineral Resources classification

Cementos Selva S.A. obtained the parameters for classifying Resources based on staff's experience designing the optimal drilling grid for sampling by geostatistical methods. Additionally, the variogram analysis was used as reference. Based on these, the following basic criterio is used to define the Resource classes:

- Measured Resource: 1/3 of the distance of the variogram range.
- Indicated Resource: 2/3 of the distance of the variogram range.
- Inferred Resource: The total distance of the variogram range.

Several configurations have been defined from this basic configuration, taking into account the number of drill holes and the average search distance.

Associated with the uncertainty, QP considered the criteria in Table 36 to categorize the Resources. The table shows the number of composites, drill holes, and distance used for the various resource categories.

Table 36 Criteria for Resource categorization

	Measured	Indicate	Inferred
Minimum number of composites	2	2	1
Maximum number of composites	20	20	20
Number of composites drillhole	2	2	1
Average distance of composites (m)	90	135	180

11.9. Resources estimation

Resource estimates are effective December 31, 2021. All Resources are estimated as quantities at cement plant. For the estimation of Resources, the CaO content was considered and the impurity content. The impurities are restrictions determined by the cement production plant. Table 37 shows the Resources and the average values of their quality.

Table 37 Resource categorization (exclusive of Reserves) at the Tioyacu quarry

	Resources	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	Si ₂ O (%)	K ₂ O (%)
Limestone	Measured	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0
	Measured + Indicated	0	0	0	0	0	0
	Inferred	19.19	45.61	0.36	6.58	2.52	0.14

* No economic evaluation was performed for the Tioyacu quarry because it only has inferred resources.

11.9.1. Cut-off

The main factor for the determination of Resources is quality. The costs of production, transportation, cement processing, and cement dispatch were considered to determine the Resources. The costs are based on real sources of the current operations of Cementos Selva S.A. Chapter 19 shows the economical analysis for determining the mineral Resources.

11.9.2. Reasonable Prospects of Economic Extraction

The Mineral Resource evaluation has considered relevant economic and technical factors such as limestone production costs, cement sales prices, and environmental and social viability at our operations.

The area associated with the Resource estimate is located at the lower boundary of the mining concession. Complement the geological information towards the S-SW zone of the quarry, considering future production activities.

The Resource estimate considers the Tioyacu deposit as 90 m. thickness, defined by quality and continuity.

The all material produced in the Tioyacu quarry is blended to be sent to the plant. The quality of this material is analyzed in the Rioja plant laboratory before blending.

Update the geomechanical and hydrogeological studies of the quarry to consider future open-pit mining to the south.

The information that supports the estimation of the quarry's Resources is consistent, which allows obtaining a robust resource model.

From the environmental and social point of view, Cementos Pacasmayo (included Cementos Selva) has been developing activities in Peru for more than 60 years and is recognized as a Peruvian company with a high reputation, therefore, it is expected that the environmental and social viability will continue.

11.10. Qualified Person's Opinion

The QP has considered the quality and geological characteristics of the limestone horizons to develop the geological model. Likewise, the QP's interpretation of the deposit was based on the diamond drill holes obtained in the drilling campaigns. The QP's opinion is that there is consistency between the information and the geological model. As a producing mine, most of the relevant technical and economic factors have already been resolved.

Pit expansion to the south zone of the deposit is necessary to complement and update the geological model and to reduce the uncertainty in order to confirm the Resources and recategorize the inferred ones.

12. Mineral Reserves estimates

Total Mineral Reserves estimated at the Tioyacu quarry are 11.39 million tonnes, as detailed in Table 39 in their different categories.

Additionally, the periodic update of the Reserves of the Tioyacu quarry takes into account the Reserves extracted when updating the Resources and Reserves models, any new “modifying factors”, or the change and entry of any new data.

The calcium oxide (CaO) content is the primary variable in the Resources and Reserves estimation. Its specific values depend on the lithological domain, with its concentration higher in some lithologies than in others.

The calculated Reserves in the limestone deposit reach 6.55 M mt. of proven Reserves with 50.30% CaO and 4.84 M mt. of probable Reserves with 47.29% CaO for a total of 11.39 M mt. of Reserves with 49.03% CaO that support the mining plans for production and supply to the Cementos Selva S.A. plant.

Based on the estimated Reserves and the plant’s projected limestone consumption, the QPs estimate a life of mine of 27 years for the quarry.

12.1. Criteria for Mineral Reserves estimation

The criteria used for the determination of Mineral Reserves are described below.

12.1.1. Run of Mine (ROM) determination criteria

ROM is considered to be all material produced in the quarry that complies with the specifications and will be sent to the plant for cement production. For determining ROM tonnage, dilution was considered to be negligible. The recovery in the quarry was assumed to be 100%.

12.1.2. Cement Plant recovery

The limestone received at the Rioja plant is properly stored and then mixed with other raw materials to obtain the crude (kiln feed). The crude contains 73.1% limestone.

After the crude is obtained, it is fed to the calcination kiln to obtain clinker. Finally, the clinker is mixed with additives to obtain cement.

12.2. Reserves estimation methodology

The Mineral Reserve estimation considers the costs of production, transportation, cement processing, and the quality restrictions of the raw material. The costs are based on actual costs from the current operations of Cementos Selva S.A. at the Tioyacu quarry and Rioja plant. Chapter 19 shows the economical analysis used to determine the Mineral Reserves.

- Proven and Probable Reserves are derived from Measured and Indicated Resources, respectively.
- Proven and Probable Reserves are within the pit designed for the Tioyacu quarry.
- Reserves are those for which economic viability has been demonstrated by estimating capital costs, operating costs and cash flow analysis.
- Cementos Selva S.A. has permits for limestone production at the Tioyacu quarry.
- The effective date of the Reserve estimate is December 31, 2021.
- The Reserve estimate is the final product placed in the Rioja plant.

12.3. Reserves estimation

The quality restrictions for limestone at the Rioja plant are shown in Table 38.

Table 38 Rioja plant material restrictions

	Crude
CaO (%)	49.00
SiO ₂ (%)	7
MgO (%)	1.60
Al ₂ O ₃	-
K ₂ O (%)	0.40

From the quality point of view, the cut-off grade for limestone is 49.0% CaO. The economic assumptions used for Reserve estimation are shown in Chapter 19.

The economic analysis for Mineral Resources and Reserves estimation is presented in Chapter 19. The Reserves are expressed in tons and are shown in Table 39.

Table 39 Mineral Reserves expressed in millions of tonnes

	Reserves	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	SiO ₂ (%)	K ₂ O (%)
Limestone	Proven	6.55	50.30	0.58	1.13	5.46	0.21
	Probable	4.84	47.29	0.64	3.33	5.95	0.19
	Total	11.39	49.03	0.61	2.06	5.67	0.20

12.4. QP's Opinion on Risk Factors affecting Reserve Estimates

In the QP's opinion, the Reserves estimated for the quarry from the Resources consider the relevant risk factors and modifying factors which affect the tonnage and quality estimates. The primary variable is considered to be CaO, which is very stable in the deposit. SiO₂ is viewed as a secondary variable that, without adequate control, can have an inverse effect on the CaO content in the Reserves.

In estimating Reserves and the production plans for the quarry, these variables have been adequately considered with production sequencing and blending processes.

Because the Cementos Selva has been operating the Tiroyacu quarry for 21 years and the deposit is relatively stable in the main quality metrics, the QP is of the opinion that the risks associated with the Reserve estimate is low.

13. Mining methods

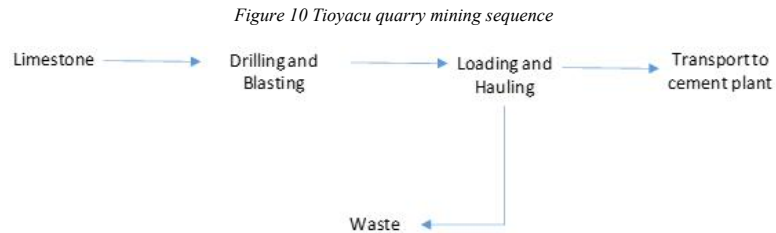
Cementos Selva S.A., a wholly-owned subsidiary of Cementos Pacasmayo S.A., is the current owner of the Tioyacu quarry. Cementos Selva S.A. carries out the planning, production, supervision, and quality control of the quarry to verify the activities and production according to the requirements of Rioja plant.

13.1. Mining methods and equipment

The production of the deposit begins with the drilling and blasting. The fragmented material is pushed with a dozer to create muckpiles before loading the material into dump trucks using a front loader. The material is transported to the cement plant.

The quarry activities allow the production of fragmented limestone smaller than 12" in diameter, with carbonate grades according to the plant's needs.

The sequence of limestone extraction is by benches, which are produced sequentially according to the annual requirement of the plant.



Limestone mining at the Tioyacu quarry comprises the following unit operations:

- **Drilling**

Drilling activities at Tioyacu quarry are carried out with two diesel-powered drilling rigs, one of them as stand-by.

- **Blasting**

Blasting allows the rock to be fragmented to a size suitable for loading, hauling, and crushing unit operations. Non-electric detonators and connectors are used to avoid vibration and sound.

- **Loading and Transportation**

There are 04 Volvo dump trucks of 14 m³ capacity, 02 excavator CAT, 01 front loader CAT 962L and 01 tractor Cat D8T.

The main equipment used to carry out mining activities at the Tioyacu quarry are shown in Table 40.

Table 40 Equipment of the Tioyacu quarry

Equipment	Quantity	Function	Description
Track Drill and RockDrill	2	Drilling	These machines are used to drill holes for blasting.
Caterpillar dozer D8T	1	Track maintenance	Equipment used to move the fragmented material resulting from blasting.
Front End Loader CATERPILLAR 962L (3.6 m ³ bucket capacity)	1	Material Loading and Stacking	Material handling equipment.
Excavator (1.16-2.69 m ³ bucket capacity)	2	Material Loading and Stacking	Material handling equipment.
Dump truck	4	Material hauling	Equipment for conveying material from the production areas to the primary crusher. Their capacity is 14 m ³ .

13.2. Geotechnical aspects

CSSA performed technical studies to know the geotechnical characteristics of the Tioyacu quarry, such as:

- Slope Stability Study of the Tioyacu quarry, carried out in 2012. Cementos Selva commissioned Minconsult S.R.L, to carry out the Seismic Hazard Study of the Tioyacu quarry.
- In 2015, Cementos Selva hired Geosym Consultores S.A.C, to carry out the basic geological, hydrological, hydrogeological and geotechnical studies of the Tioyacu quarry.

Geosym Consultores S.A.C (2015), determined the geomechanical zoning of the rock mass of the quarry.

The study considered the rock mass's lithological, geo-structural, and quality aspects. The source of information for the analysis was results from 06 geotechnical drill holes, and the 25 geomechanical mappings carried out on the slope walls of the current quarry and adjacent areas of the quarry.

The results on the characterization of RMR and rock mass quality are presented in Table 41.

Table 41 Rock mass quality by rock type

Lithology	Average RMR	Rock mass quality
Limestone	53	IIIA
Marly dolomitic limestone	58	IIIA
Dolomitic limestone	56	IIIA
Magnesian limestone	55	IIIA
Marly limestone	43 - 59	IIIB y IIIA
Dolomite	57	IIIA
Calcareous dolomite	57	IIIA
Marl	55	IIIA
Clay loam	43	IIIB
Calcareous marl	54	IIIA

Geosym Consultores S.A.C (2015), performed stability analyses, the results are shown in Table 42.

Table 42 Tioyacu quarry design and planning angles

Design sector	Berm width (m)	Bench face angle		
		Bench	Inte - Ramp	Final
I (*)	4.0 - 6.0	65°	35° - 42°	34°
II (*)	4.0 - 6.0	65°	35° - 42°	34°
III (*)	4.0 - 6.0	65°	35° - 42°	34°
IV (*)	4.0 - 6.0	65°	35° - 42°	28°
V	4.0	65°	44°	44°
VI	4.0	65°	44°	44°

Note (*): Bench slope of 65° and minimum berm of 4m for 44° slopes below 830 msnm. Bank slope of 65° and minimum berm of 6m for 35° interramp slopes above elevation 830msnm.

13.3. Hydrological aspects

CSSA hired specialized companies to analyze the hydrogeological characteristics of the Tioyacu limestone deposit:

- Consultora Minera Minconsult S.R.L Hydrological Study and Derivation Structures of the Quarry and Limestone Deposit - Mining Plan, September 2012.
- Cementos Selva S.A. Water quality monitoring of Tioyacu quarry, quarterly results 2014 - 2015.

The hydrogeological study was conducted to characterize the hydraulic and hydrodynamic conditions of the subsurface hydrogeological units. Likewise, the study evaluated groundwater levels and flow conditions and their relationship with Tioyacu groundwater discharges.

Geosym Consultores S.A.C investigated the hydrogeology using 04 hydrogeological borings with piezometers, 19 Lefranc and Lugeon permeability tests, 01 Slug Test, and 02 Air Lift tests, physical-chemical parameter readings, gauging with the use of a current meter, and groundwater sampling.

Table 43 Hydraulic parameters of the hydrogeologic units

Lithological Units	K (cm/s)				K (m/d)			
	Average	Med. Geo	Máx	Min	Average	Med. Geo	Máx	Min
Fractured limestone	2.1E-04	1.4E-04	4.5E-04	4.2E-05	0.18	0.12	0.39	0.04
Lightly fractured limestone	1.0E-05	9.2E-06	1.6E-05	6.4E-06	0.01	0.01	0.01	0.01
Fractured marl	5.9E-04	3.7E-04	1.2E-03	1.0E-04	0.51	0.32	1.07	0.09
Poorly fractured marl	1.3E-04	6.5E-05	2.4E-04	1.8E-05	0.11	0.06	0.21	0.02
Bituminous limestone	2.6E-05	1.3E-05	7.9E-05	3.5E-06	0.02	0.01	0.07	0.003
Poorly fractured dolomite	2.92E-05				0.03			

Source: GEOSYMSA, 2015

The hydraulic parameters shown in Table 43 and considering the equipment presented in Table 41 do not affect limestone production activities in the quarry. On the other hand, production does not compromise the water table.

13.4. Other Mine Design and Planning Parameters

The limestone production reached by December 2021 is 377,702 tonnes, and no waste rock was removed. Based on the plant requirements and sales projection for the next 27 years, the pit design parameters for the Tioyacu quarry are presented in Table 44.

Table 44 Summary of Tioyacu quarry design parameters

Description	Value
Safety bench	4-6 m
Bench slope angle	65°
Berm width	8 m
Width of ramps	12 m

13.5. Annual production rate

Considering that the cement plant demands an average annual production of 0.42 million tonnes per year of limestone, the plan for the next 27 years is shown in Table 45.

13.6. Mining plan

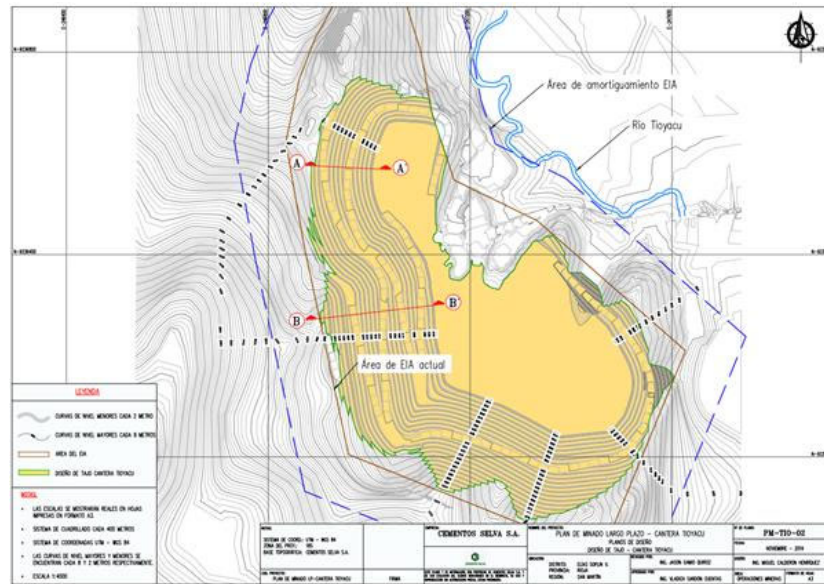
The proposed mining plan for the next 27 years is presented in Table 45.

Table 45 Mining plan for the next 27 years

Year	Tonnes	CaO	SiO ₂	MgO	Al ₂ O ₃	K ₂ O
2022	406,456	49.05	4.14	2.83	0.54	0.19
2023	414,586	49.03	4.4	2.66	0.57	0.18
2024	416,522	49	3.8	3.17	0.48	0.14
2025	417,835	49.01	5.61	2.08	0.61	0.2
2026	419,175	49.06	5.55	2.07	0.64	0.2
2027	420,541	49.06	3.64	3.19	0.45	0.16
2028	421,935	49.02	6.95	1.28	0.65	0.21
2029	423,357	49.02	3.27	2.97	0.4	0.13
2030	424,807	49.06	3.59	2.44	0.42	0.16
2031	426,286	49	5.59	1.98	0.51	0.17
2032	427,795	49.01	6.5	1.1	0.6	0.23
2033	428,025	49.01	6.19	1.65	0.7	0.25
2034	428,025	49.01	4.29	2.69	0.62	0.25
2035	428,025	49.04	6.57	1.26	0.7	0.29
2036	428,025	49.06	5.64	1.48	0.61	0.23
2037	428,025	49.01	7	1.23	0.62	0.24
2038	428,025	49.02	5.21	2.34	0.8	0.15
2039	428,025	49.03	6.39	1.23	0.69	0.26
2040	428,025	49.01	5.12	2.41	0.53	0.18
2041	428,025	49.03	7.43	0.99	0.84	0.2
2042	428,025	49	5.76	2.02	0.56	0.19
2043	428,025	49.03	7	0.91	0.66	0.19
2044	428,025	49	6.44	1.71	0.67	0.23
2045	428,025	49.04	6.17	2.5	0.61	0.21
2046	428,025	49.02	6.92	1.9	0.7	0.2
2047	428,025	49.03	6.76	3.01	0.61	0.21
2048	350,624	49.03	7	2.86	0.6	0.21
Total	11,390,294	49.03	5.67	2.06	0.61	0.2

Figure 11 shows the final pit for the life of the quarry.

Figure 11 Tioyacu quarry final pit



13.7. Life of Mine

The life of the Tioyacu quarry is 27 years.

13.8. Staff

Cementos Selva S.A. personnel develop its operations at the Tioyacu quarry with its staff and contractors.

14. Processing and recovery methods

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14.1. Process Plant

Cement production involves the following stages:

Production of raw materials. Limestone is produced from the Tioyacu quarry, as described in Chapter 13.

Milling and homogenization. Once the limestone is received at the plant, it is dosed to the raw mill with clay, iron, and coal. The mixture must meet the quality standards to be sent to a storage silo from where it is fed to the crude storage silo. The crude is fed to the kiln for clinker production.

Clinkerization. The mixture is pelletized and then enters the vertical kiln where it reaches a temperature of approximately 1,450 degrees Celsius, the product of which is clinker. The clinker is then cooled to about 200 degrees Celsius and stored in silos or storage bins.

Cement grinding. After being cooled, the clinker, together with gypsum and some additives, is fed into a mill to obtain cement.

Storage in silos. After passing through the mills, the cement is transferred to conveyor channels and stored in concrete silos to preserve its quality until distribution.

Packing, loading, and transportation. Cement is transferred through chutes from the silo to be packed into 42.5-kilogram bags in bagging machines, and then stored or loaded onto trucks operated by third parties for distribution. Bulk cement is transported by trucks.

14.2. Raw materials for the cement production

The following raw materials and additives are used in the Rioja plant to produce cement.

Raw Materials

Limestone, is composed mainly of calcium carbonate and is used as raw material and an additive in cement production.

Iron, is inert material composed basically of iron oxide (Fe_2O_3).

Clay, is inert material composed of silicon, aluminum, and a low proportion of alkalis such as potassium and sodium.

Coal, is a solid, black, or dark brown mineral that is essentially carbon with small amounts of hydrogen, oxygen and nitrogen.

Crude, is an artificial mixture of limestone, clay, iron, and coal used to produce clinker.

Clinker is a product obtained from limestone, clay, iron, and coal.

Additives

Limestone. It is a material composed mainly of calcium carbonate, which, when finely ground, is used as an additive in cement production.

Gypsum. It is a material composed of calcium sulfate hydrates. When gypsum is mixed with the clinker, it controls the setting time when the cement initiates the hydration reactions.

14.3. Flow sheet

The following is the block diagram of the cement plant for raw material processing, clinker and cement production.

Figure 12 Rioja plant process block diagram



14.4. Main equipment

Table 46 shows the design and production capacities for clinker and cement.

Table 46 Main equipment in Rioja plant

Equipment	Product	Capacity of production	Unit
Crusher	Limestone Iron Gypsum	72,000	tonnes/month
Dryer	Limestone Clay	98,450	tonnes/month
Mill	Crude Type I Cement	70,200 36,720	tonnes/month
Kiln	Clinker Type I	24,120	tonnes/month
Bagging system	Cement	720,000	bags/month

14.5. Material balance cement plant

The following section presents information on the material balance at Rioja plant for cement production.

14.5.1. Material balance

Below is the clinker production balance at the Rioja plant, considering the use of limestone obtained from the Tioyacu quarry, clay, iron, and coal as part of the raw material for clinker production. Likewise, the balance for cement production is presented considering the additives used for the mixture with clinker and consequently cement production for the year 2021.

Table 47 Balance for crude production

Raw material	Annual quantity (tonnes/year)	Dosage
Limestone	333,647	73.1%
Others	122,974	26.9%
Crude	456,621	100%

Crude is fed to the vertical kiln. The production of 0.57 tons of clinker requires one ton of crude.

Table 48 Balance for cement production.

Raw Material	Annual quantity (tonnes/year)	Dosage
Clinker	261,864	77%
Additions	76,098	23%
Cement	337,962	100%

14.6. Process losses

Losses in the cement production process associated with the raw material (limestone) are 1.45%.

14.7. Water consumption

Water is mainly used for cooling in the milling processes and for the pelletizing process of the crude before it enters the vertical kilns. It is also used for watering green areas and accesses and restrooms.

14.8. Fossil fuel consumption

The cement production process consumes liquid fuels for heavy equipment within the operation. Biomass is used as energy in the raw material drying process.

Table 49 Fuel consumption in Rioja plant

Fuel	Consumption (tonnes/year)	Description
Diesel	381	P.Cal 9840 Kcal/kg

14.9. Electric power consumption

The Rioja plant has an electrical substation with a capacity of 12MVA, which uses electrical energy supplied from the national grid.

14.10. Maintenance Plan

Cementos Selva S.A. has implemented a preventive and corrective maintenance plan to prevent interruptions to the cement production process. Cementos Selva S.A. maintains operating efficiency to control costs and operating margins. Cementos Selva S.A. has initiatives to diversify energy sources and secure supply when possible. The equipment is in good condition and operational.

14.11. Staff

Cementos Selva S.A. personnel develop its operations at the Rioja plant with its staff and contractors.

15. Infrastructure

15.1. Tioyacu quarry

The Tioyacu quarry uses the infrastructure of the Rioja plant, such as administrative offices, workshops, utilities and other services. The quarry is located adjacent to the cement plant.

Explosive storage: Given the proximity of a military fort, the explosive storage is located inside the military fort and is very well guarded. Cementos Selva S.A. has to retrieve explosives every time it needs to blast in the quarry.

15.2. Rioja Plant

The use of electrical energy is required; there is a high voltage electrical energy supply system of 60 Kv, 60 Hz transmission for the industrial facilities of Cementos Selva S.A.

There is a derivation from the 60 kV Rioja - Nueva Cajamarca transmission line owned by Electro Oriente, which runs in front of CSSA's facilities at a distance of 345.8 m.

On the other hand, the company has a license to use water for industrial purposes. The National Water Authority issued the Alto Mayo Local Water Administration (R.A. N° 100-2010-ANA-ALA ALTOMAYO).

16. Market Studies

Cementos Selva S.A is a subsidiary of Cementos Pacasmayo. Cementos Pacasmayo is a leading company in the cement production and other construction materials in the north of Peru. This chapter describes the cement market, as well as the macro and microeconomic factors that define it.

For the description of the cement market in Peru, public information has been collected from different sources, such as the Central Reserve Bank of Peru (BCRP), National Institute of Statistics and Informatics (INEI), Association of Cement Producers (ASOCEM), Ministry of Housing, Construction and Sanitation, Superintendence of Tax Administration and the Peruvian Construction Chamber. In addition to this information, this chapter also relies on statistics provided by the company (CPSAA) to provide a better understanding of its specific market.

16.1. The cement market in Peru

The Peruvian cement market is geographically segmented by regions: north, central and south. Diverse companies supply each region. Figure 13 is an illustration of the Peruvian map and of its 3 regions, according to the segmentation of the cement market, where each region is the main area of influence of domestic cement companies

Figure 13 Segmentation of the cement market in Peru



The main companies that comprise the cement market in Peru are: Cementos Pacasmayo S.A.A., UNION Andina de Cementos S.A.A., Yura S.A. and Cementos Selva S.A. Additionally, there are companies that import cement or clinker, such as Caliza Cemento Inca S.A., Distribuidora Cemento Nacional S.A.C., CEMEX Perú S.A., Cal & Cemento Sur S.A., amongst others.

Table 50 shows the domestic cement shipments (in thousands of tonnes):

Table 50 Cement shipments at domestic level (in thousands of tonnes)

	2019	2020	2021
National cement shipments	10,317.0	8,979.0	12,500.0
Overall cement shipments (CPSAA/CSSA3 plants)	2,613.7	2,581.4	3,625.2
Rioja plant shipments	298.1	261.5	336.8

Sources: ASOCEM, CPSAA/CSSA

The types of cement produced by the main cement companies in the country are Type I, Type V, Type ICO, Type IL, Type GU, Type MS (MH), Type HS, Type HE, Type MH.

It is important to mention that, according to the main requirement standards, Peruvian Technical Standards, cements are divided into five types:

- NTP 334. 009 2013. Cements Portland. Requirement. (ASTM C 150).
- NTP 334. 090 2013. Cements Portland Added. Requirements. (ASTM C595).
- NTP 334. 082 2011. Cements Portland. Performance Specification. (ASTM C1157).
- NTP 334. 050 2004. Cements Portland White. Requirements. (ASTM C150).
- NTP 334. 069 2007. Building Cements. Requirements. (ASTM C091).

For Cementos Selva's cement products, only the first 3 NTP standards apply.

16.2. Industry and Macroeconomic Analysis

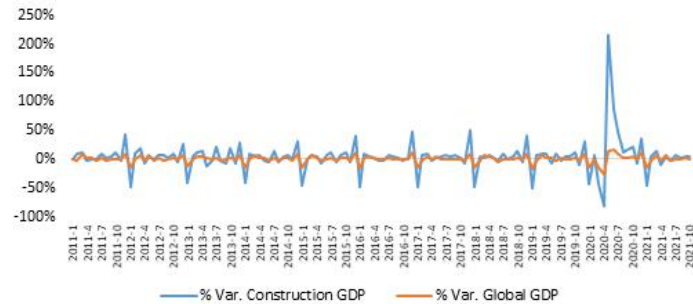
Producers and trading companies of cement compete mainly within the limits of their area of influence, which is determined by the geographical location of their plants, giving rise to segmentation of the national market. However, the northern region presents a high demand potential because of the infrastructure gap, the housing deficit and a higher capillarity in terms of important cities adjacent to one another and with an urbanization level lower than in the central and southern region. On the other hand, it is important to note the importance of transportation in the structure of cement costs, which are composed primarily of raw materials, fuels and transportation.

The cement market and industry in Peru have the following characteristics:

- Base of consumers highly segmented, informal and of low resources.
- Low costs of energy and raw materials.
- Zone of influence / distribution determined by geographical location of the plant.
- High correlation between public and private investment, and self-construction.

The construction sector and cement industry have a behavior directly related to the Gross Domestic Product (GDP) and Private Consumption. Figure 14 shows how the GDP of the construction sector (monthly variation %) tracks the cyclic behavior of the Global GDP (monthly variation %), showing variations of lower significance than those of the Global GDP, but in the same direction. It is also noted that, in May 2020, the GDP of the construction sector had a positive variation of more than 200% (compared to the previous month), whilst Global GDP went up only 10%. This was due to the reactivation of economic activity and consumption once the confinement measures given by the Government to counter the Covid-19 pandemic were loosened. This reactivation was motivated primarily by private-construction sector consumption. In the face of the uncertainty caused by the health and economic crisis in 2020, consumers showed savings behaviors, which meant that people preferred consumption of goods for home improvement, amongst them, cement. This trend was maintained throughout 2021, even after a higher uncertainty caused by the elections and its results, and this was reflected in sustained growth rates of internal consumption of cement related primarily to self-construction.

Figure 14 Construction sector GDP variation



Source: INEI 2021

The cement industry is also motivated by housing sector growth, public and private investment in infrastructure, mining projects, shopping centers, construction of transportation systems, etc. Thus, one of the variables with more impact on cement industry and future demand is the infrastructure gap which remains high in the country. For the 2016 – 2025 period, the infrastructure gap is estimated to be US\$ 160 billion and this is present in the main economic sectors and services of public supply, that is: Transportation (36%), Energy (19%), Telecommunications (17%), Health (12%), Sewage System (8%), Irrigation (5%) and Education (3%). The 90% of the roads not included in the large national road network still remain without pavement. Only 40% of schools have access to basic services such as water, electricity and sewage system. There are only 15 hospital beds for every 10,000 individuals compared to 27 beds recommended by the WHO.

It is estimated that public investment grew 10% in 2021 and will grow 5% in 2022, as a result of the higher expenditure in reconstruction works under the Government-to-Government Agreement with the United Kingdom, as well as Special Projects of Public Investments and the projects within the frame of the National Plan of Infrastructure for Competitiveness (NPIC). The Government's reconstruction plan that it is implementing is expected to have a significant impact on cement sales in the northern region because most of the budget is targeted at that area.

16.3. The North Region Market

Cementos Pacasmayo, a leading company in the production and sales of cement in the North Region, has market presence in the following cities: Cajamarca, Chiclayo, Chimbote, Jaén, Pacasmayo, Piura, Rioja, Tarapoto, Trujillo, Tumbes, Yurimaguas and Iquitos. The company has a Market share of over 90% in the northern region of the country.

Cementos Selva S.A.'s overall shipments from the Rioja plant were 336,838 tonnes. It supplied 8% of the country's North Region cement demand, and its cement sales represented 9.3% of the Company's overall shipments.

Other companies with lower presence in the cement market of the North Region are:

- Wang Peng
- Quisqueya - Cemex
- Cemento Nacional
- Cemento Inka
- Cemento Tayka
- Cementos Patrón

These companies are competitors of the Rioja plant.

Cementos Selva S.A.'s Rioja plant produces different types of cement and it has placed in the National Market different trademark products to meet the needs of diverse segments of the market. Table 51 shows the products in Rioja plant.

Table 51 Types of products of Rioja plant

Cement type	Use	Comment
Cemento Portland		
Cement Type I	Cement of general use.	The average result of resistance to compression is higher than the minimum requirement set forth in the technical standard NTP 334.009 / ASTM C150.
Cemento Portland with additives		
Cement Extra Forte	Ideal for the execution of structural Works, repairs, remodelings home applications, floors, leveling, grouts, tips, prefabricated elements of small and medium size and concrete elements which require special characteristics.	The average result of resistance to compression is higher than the minimum requirement set forth in technical standard NTP 334.090.
Hydraulic Cements specified by performance		
Mochica GU Line	For structures in contact with environment and humid and salty soils.	
Amazonico GULine	Cement for general purpose.	

16.4. Cement price

The sale prices of cement in the Peruvian market vary pursuant to their type and their geographical location. The price difference between each type is explained primarily by the dosifications of raw materials and additives, whilst the variations for geographical location are caused by the freights for the distribution to the points of sale.

At domestic level, the cement price in 2020 was, on average, 541.18 S/ x t. Figure 15 shows the historic prices of cement in Peru.

Figure 15 Historic prices of cement in Peru



Source: Ministerio de Vivienda, Construcción y Saneamiento (November 2020).

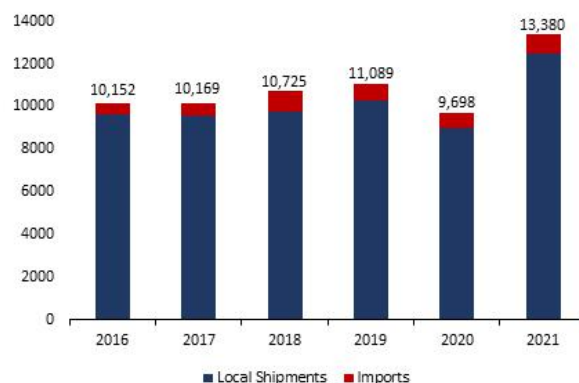
Figure 15 shows that the price grew at a sustained rate of more than 4% per year, from 2015 until 2018, and subsequently it fell slightly in 2019 to climb again in 2020. The compound annual growth rate for the 2014 – 2020 period is 3.01%, which is consistent with the annual inflation rate of the target range of the Central Reserve Bank of Peru.

16.5. Current and future demand

Cement demand at the national level is met by local shipments (local production), for the most part, and by imports. In 2021, 12.50 M tonnes were shipped locally, 40% more than in the same period of 2020 (9.0 M). Imports amounted to 0.88 M tonnes during 2021, 23% above the 2020 figure (0.72 M). Thus, cement demand in 2021 is estimated at 13.38 M tonnes.

Figure 16 shows the evolution of national cement demand, expressed in thousands of tonnes, since 2016:

Figure 16 Evolution of the national demand of cement



Source: ASOCEM

It is noted that domestic demand has been growing, on average, at a rate of 3% per year, with the exception of 2020, which is considered an atypical year due to the adverse effects of the pandemic and the confinement measures, to then take a historic leap in 2021 with an annual increase of 38%.

According to our internal information, in terms of regional distribution, the Northern Region accounts for approximately 28% of domestic cement demand, the Central Region for 50%, and the Southern Region for 22%.

Cementos Pacasmayo's cement shipments reached 3,625.2 thousand tonnes in 2021 (Included Cementos Selva S.A.), capturing a 26.5% share of total shipments in Peru and 90% in the Northern Region. This is 40.4% more than in 2020 (2,581.4 thousand tonnes). This increase in shipments took place in a context of economic recovery, despite the Covid-19 pandemic and political instability. It is explained by the high growth rates of domestic cement consumption that have been registered since mid-2020, due to the self-construction sector and the high execution of investment projects.

It is expected that the positive trend remains in the internal cement consumption, at domestic level and in the northern region, driven by the growth of the Peruvian economy, which is recovering at a higher rate than other countries of the region, the private-construction sector which is still one of the main driving forces of cement demand, and the Government's reconstruction plan for damages caused by El Niño, which is being executed through an agreement between the Peruvian and the British governments. This will have a positive impact on Cementos Pacasmayo's cement shipments, because most of the budget is concentrated in the company's influence zone.

Table 52 shows the projection of future demand or cement shipments for Cementos Selva S.A (Rioja plant). These projections are based on the 2022 estimated shipments, and a sustained growth of 2.0% per year until maximum cement production capacity is reached:

Table 52 Forecast of future demand for Rioja cement plant

Year	Cement Shipments (Tonnes)	Variation (%)
2022P	352,678	
2023P	359,731	2.0%
2024P	366,926	2.0%
2025P	374,265	2.0%
2026P	381,750	2.0%
2027P	389,385	2.0%
2028P	397,173	2.0%
2029P	405,116	2.0%
2030P	413,218	2.0%
2031P	421,483	2.0%
2032P	429,912	2.0%
2033P	431,200	0.3%
2034P	431,200	0.0%
2035P	431,200	0.0%
2036P	431,200	0.0%
2037P	431,200	0.0%
2038P	431,200	0.0%
2039P	431,200	0.0%
2040P	431,200	0.0%
2041P	431,200	0.0%
2042P	431,200	0.0%
2043P	431,200	0.0%
2044P	431,200	0.0%
2045P	431,200	0.0%
2046P	431,200	0.0%
2047P	431,200	0.0%
2048P	304,233	-29.4%

17. Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups.

17.1. Environmental Aspects

Cementos Pacasmayo has Corporate Policies that apply to the operations of quarries and cement plants. Relevant policies include Safety Occupational Health Policy, Quality Policy, and Environmental Policy.

Cementos Selva S.A. has the Environmental Impact Study entitled “Expansion of exploitation of the Tioyacu quarry” approved by Directorial Resolution No. 186-2014-PRODUCE/DVMYPE-I/DIGGAM dated August 20, 2014.

17.1.1. Tioyacu quarry

On July 07, 2000, through Oficio N° 529- 2000-MITINCI-VMI-DNI-DAAM, the first Environmental Impact Assessment (EIA) was approved.

On August 24, 2014, through Directorial Resolution No. 186-2014-PRODUCE/DVMYPE-I/DIGGAM, the authority approved the Environmental Impact Assessment (EIA) of the “Exploitation Expansion of the Tioyacu Quarry” within the non-metallic mining concession “Calizas Tioyacu.”

In 2021, CSSA carried out environmental monitoring through the Analytical Laboratory - ALAB, a Peruvian company with double accreditation by the International Accreditation Service (IAS) and the National Institute of Quality (INACAL), both signatories of the ILAC-MRA International Mutual Recognition Agreement.

ALAB was in charge of collecting and analyzing the samples, and submitting the results through reports to the Environmental Evaluation Agency - OEFA, the Peruvian State institution in charge of reviewing and validating the information submitted by the owner. At the Tioyacu quarry, the following parameters were measured every six months: air quality and particulate matter in the air. The results obtained in the year 2021 are below the Environmental Quality Standard (EQS) limit, complying with the requirements of the (ECA) and the provisions of Supreme Decree No. 003-2017-MINAM.

The results obtained from the environmental noise measurement activities in 2021 are below the Environmental Quality Standard Limit (ECA) in compliance with the provisions of Supreme Decree N°085-2003-PCM.

Biological and hydrobiological monitoring in the indirect influence of the Tioyacu quarry aimed to characterize the Vegetation, Herpetofauna, Avifauna, and Mastofauna. The results showed an abundance in the avifauna, species, typical in this type of vegetation where the forest predominates.

Cementos Selva S.A. complies with Peruvian legislation on Closure Plans. Under current legislation is the Regulation of Environmental Management of the Manufacturing Industry and Domestic Trade, Supreme Decree No. 017-2015-PRODUCE. This rule establishes the environmental management procedures covered by Ministerial Resolution No. 157-2011-MINAM for investment projects subject to the National System of Environmental Impact Assessment (SEIA).

Law No. 28090 and its Regulation approved by Supreme Decree No. 033-2005-EM establishes the closure measures for non-metallic quarries. Directorial Resolution No. 178-2016-MEM-DGAAM approved the Closure Plan for the Tioyacu quarry mining unit.

About water management, it is essential to mention that Tioyacu quarry does not have any discharges. The small water consumption is only for green area irrigation and road maintenance.

It is important to mention that the approval of the Mine Closure Plan involves the constitution of guarantees to ensure that the owner of the mining activity complies with the obligations derived from the Mine Closure Plan, in accordance with environmental protection regulations.

The Closure Plan submitted by Cementos Selva S.A. has included the necessary measures to ensure effectiveness or consistency with the requirements necessary for the protection of public health and the environment. The initial strategy has continued with the Closure of the components of Tioyacu quarry mining unit, establishing temporary, progressive, final and post-Closure activities at the end and/or closure of operations.

Environmental closure activities have included physical stability in the mine, geochemical stability, water management facilities, dismantling for the removal of equipment and machinery. Also infrastructure demolition, reclamation, waste disposal, landform establishment, habitat rehabilitation, revegetation and social programs.

Post-closure activities such as physical maintenance, geochemical maintenance, hydrological maintenance, and biological maintenance will be carried out, and post-closure monitoring activities include physical stability monitoring, geochemical stability monitoring, water management monitoring, biological monitoring, and social monitoring.

Considering that the land use before mining production was a secondary forest which was affected by other activities, forestation activities with native species have been considered part of the post-closure activities. Likewise, CSSA will fulfill the commitments included in the Closure Plan approved by the above authority.

We have a solid relationship with our communities and we have identified its main needs in health, education, urban development and local development.

We have a social investment program which contributes to dealing with their needs, based on good dialog and our compliance to our commitments to our communities.

The communities are high priority stakeholders. For this reason, we promote periodic meetings with their representatives and we create opportunities for dialog to know their expectations. Also, we have established public and private alliances for development projects and programs to contribute to a better quality of life and to strengthen our relationship. During 2021, we worked in alliance with the district governments of Elias Soplin Vargas. CSSA had been limited in meeting face-to-face with stakeholders in 2021, due to the COVID 19 pandemic.

17.1.2. Rioja plant

On August 25, 2000, according to the official letter N° 747-2000-MITINCI-VMI-DNI-DAAM, the Preliminary Environmental Diagnosis (DAP) was approved.

On January 8, 2002, the Environmental Management Program (PAMA) was approved by official letter No. 0028-2002-MITINCI-VMI-DNI-DAAM.

On March 31, 2009, by official letter N° 02228-2009-PRODUCE/DVMYPEI/DGI-DAAI, the Environmental Impact Statement (EIS) was approved.

On May 31, 2012, using official communication N° 3742-2012-PRODUCE/DVMYPE-I/DGI-DAAI, the Environmental Impact Assessment (EIA) “Expansion of the Production Plant” was approved, in compliance with the provisions of D.S. N° 019-97-ITINCI.

On October 28, 2015, according to Article 11 of D.S. N° 019-97-ITINCI and Directorial Resolution N° 489-2015-PRODUCE/DVMYPE-I/DIGGAM, the Previous Qualification (CP) for a “Raw Materials Warehouse outside the Cement Manufacturing Plant” was approved.

About water management, it is essential to mention that Rioja plant does not have any discharges. The small water consumption is only for green area irrigation.

Considering that the land use before cement production was a secondary forest which was affected by other activities, forestation activities with native species have been considered part of the post-closure activities.

Finally, in accordance with environmental regulations and according to the Regulation of Environmental Management of the Manufacturing Industry and Domestic Trade, Supreme Decree N° 017-2015-PRODUCE, companies that produce cement are required to submit Closure Plans when executing Decommissioning activities. To meet that requirement, Cementos Selva in compliance with Peruvian legislation will submit the Closure Plan in a timely manner.

17.2. Solid waste disposal

Cementos Selva S.A. has a Solid Waste Minimization and Disposal Plan for our production activities at the Rioja plant and Tioyacu quarry. Annually, our company declares the generation, storage, collection, and final disposal of hazardous and non-hazardous solid waste in compliance with environmental legislation.

In our solid waste minimization plan for 2021, we declared 0.37 tons of hazardous waste and 10.90 tons of non-hazardous waste for the Tioyacu quarry. Likewise, for the Rioja plant we declared 19.60 tons of hazardous waste and 998.90 tons of non-hazardous waste, which were disposed of in accordance with environmental legislation.

17.3. Qualified Person’s Opinion

Cementos Selva S.A. complies with national environmental standards in the industrial sector and to the International Standard Industrial Classification - ISIC 2694 for the non-metallic production of the limestone material for the manufacture of cement.

For the industrial and mining sector, the company specifically complies with the Environmental Management Regulations for the Manufacturing Industry and Domestic Trade, Supreme Decree No. 017-2015-PRODUCE, which is the rule that regulates the environmental management of the activities indicated in Ministerial Resolution No. 157-2011-MINAM and investment projects subject to the National System of Environmental Impact Assessment (SEIA), considered in Annex II of the Regulations of Law No. 27446, approved by Supreme Decree No. 019-2009-MINAM.

The company reports the environmental commitments, semiannually and quarterly to the Environmental Evaluation Agency - OEFA. The monitoring is carried out through external laboratories that provide comprehensive monitoring and analysis services and have double accreditation, by the international IAS (International Accreditation Service) and the national INACAL (National Institute of Quality), both signatories of the ILAC-MRA international Mutual Recognition Agreement.

Cementos Selva S.A. strictly complies with the protocols in the different processes in compliance with environmental legislation and reporting to the OEFA.

The qualified persons believe Cementos Pacasmayo’s current plans and practices are adequate to address any issues related to environmental compliance, permitting, and local individuals or groups.

18. Capital and operations costs

18.1. Basis for operating and capital costs for the quarry and plant

In a tabular manner, this section presents the operating costs of Tioyacu quarry for the production of limestone - the primary raw material used for cement production at the Rioja plant. It also exhibits the plant's operating costs, for the whole industrial process; from the reception of raw material, to its conversion to the final product (cement). Cost forecast is mainly based on actual historical costs.

Similarly, this section reports the detail of the capital investments made in the quarry and plant, and the forecasted investment plan required to sustain all the activities in the quarry and plant and to assure the supply of limestone Reserves necessary to achieve the production levels according to the forecasted cement shipments of the Rioja plant.

Table 53 depicts the main components of the cost structure of Tioyacu quarry and Rioja plant and the sources used in their forecasts:

Table 53 Concepts about cost structure of Tioyacu quarry and Rioja plant

Concept	Description	Source
Quarry Operating Cost	Mineral Extraction /Exploitation, Processing, Fuel, Materials (Explosives), Maintenance, Insurance and Services	• Real, historic costs • Suppliers' quotes
Quarry Operating Cost	Royalties	• Contract of mining royalty payment with regional/state entities
Quarry Operating Cost	Energy	• Historic, real costs • Supply Contract • Suppliers' quote
Plant Operating Cost	Fuel, Materials, Maintenance, Wages and Insurance	• Historic, real costs • Suppliers' quote
Plant Operating Cost	Energy	• Historic, real costs • Supply Contract • Suppliers' quote

Considering that the Tioyacu quarry and the Rioja plant are in operation, the historical costs are the principal basis for estimating forecasted costs.

In this sense, the actual costs in some cases are maintained, and in other cases, are appropriately adjusted for factors specific to the quarry operation, conditions, and obligations stipulated in supply and concession contracts.

On the other hand, macroeconomic factors such as inflation and devaluation of the local currency against the US dollar could indirectly impact future operating costs estimation.

18.2. Capital and Operating Cost Estimates

Table 54 details the operating costs of quarry and plant for the year 2021, and 27 years of forecast:

Table 54 Operating costs forecast of quarry and plant

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Production Figures																												
Extracted Mineral tonnes/000	379	343	350	353	351	353	351	353	351	353	351	353	351	353	351	353	351	353	351	353	351	353	351	353	351	353	351	353
Cement Production tonnes/000	326	253	360	367	376	382	389	397	405	413	421	430	438	446	453	461	469	478	486	494	502	510	518	526	534	542	550	558
Quarry Costs																												
Variable Costs \$/000	0.365	6,316	6,793	6,817	7,059	7,205	7,505	7,780	8,012	8,278	8,585	8,840	9,082	9,335	9,589	9,823	10,123	10,351	10,623	10,840	11,194	11,491	11,843	12,209	12,430	12,807	13,084	13,788
Cost per tonne of product \$/tonne	1.887	17.80	19.33	19.58	19.86	19.83	19.28	19.39	19.28	20.03	20.27	20.56	21.06	21.50	22.19	22.78	23.48	24.03	24.64	25.33	25.96	26.63	27.46	28.08	28.83	29.70	30.37	31.80
Fixed Costs \$/000	2,051.56	3,373.11	3,322.73	3,433.56	3,776.26	3,630.60	3,752.63	3,163.97	4,029.88	4,164.88	4,227.52	4,254.02	4,569.02	5,236.36	4,838.19	4,848.23	5,480.27	5,225.55	5,343.72	5,923.53	5,646.16	5,794.14	6,435.17	6,117.96	6,378.53	6,823.38	6,585.26	6,946.21
Cost per tonne of product \$/tonne	7.50	9.56	9.24	9.36	10.09	9.51	9.64	10.48	9.95	10.08	10.08	10.36	10.61	11.43	11.17	11.48	12.71	12.12	12.39	13.74	13.09	13.64	14.88	14.23	14.56	16.06	15.27	20.23
Total Quarry Costs \$/000	8.922	9,689	9,916	10,250	10,835	10,897	11,258	11,944	12,442	12,843	13,313	13,594	13,652	14,338	14,387	14,771	15,603	15,577	15,966	16,872	16,841	17,285	18,263	18,227	18,708	19,730	19,679	17,635
Cost per tonne of product \$/tonne	26.40	27.67	27.57	27.94	29.80	28.54	28.81	30.67	29.22	30.11	30.26	30.83	31.66	32.86	32.37	32.46	36.19	35.12	37.03	38.62	38.06	40.09	42.85	42.27	43.39	45.62	45.64	35.29
Plant Costs																												
Variable Costs \$/000	86,204	5,564,62	6,816	6,809	76,383	80,726	87,058	9,659	102,771	110,936	125,087	124,840	133,362	136,793	140,418	146,136	147,959	151,880	155,905	160,036	164,277	168,630	173,099	177,686	182,395	187,228	192,190	197,357
Cost per tonne of product \$/tonne	226.89	1,681.13	1,779.59	1,861.35	1,989.21	2,116.46	2,221.12	2,361.59	2,523.68	2,681.63	2,847.89	2,994.83	3,091.20	3,170.54	3,251.64	3,347.27	3,433.13	3,522.23	3,613.56	3,711.16	3,805.98	3,910.79	4,016.46	4,122.97	4,230.39	4,338.75	4,447.91	4,557.91
Fixed Costs \$/000	37,270	31,741	31,331	32,193	30,782	33,459	34,533	37,939	37,135	38,609	42,259	41,100	42,002	45,248	43,835	48,887	46,982	47,113	47,985	52,405	50,475	51,730	50,566	54,575	51,968	60,761	58,407	54,103
Cost per tonne of product \$/tonne	113.32	93.03	87.10	87.79	87.84	87.65	89.48	95.42	91.47	93.35	100.29	95.83	97.52	107.63	101.70	107.40	113.62	109.24	111.10	121.53	117.06	119.97	131.23	124.50	129.86	143.91	135.57	177.84
Total Plant Costs \$/000	86,283	5,143	51,778	10,002	108,965	114,185	122,190	132,598	139,906	149,045	167,346	175,940	175,364	182,041	184,253	195,023	194,941	199,065	208,390	216,481	214,752	220,261	228,665	232,261	238,362	247,989	250,646	155,468
Cost per tonne of product \$/tonne	264.18	2,691.11	2,660.69	2,739.09	2,997.12	2,981.11	3,013.80	3,244.62	3,401.25	3,615.58	3,847.28	3,985.66	4,067.35	423.12	427.35	438.27	456.75	461.49	472.66	492.67	498.63	521.69	532.69	538.64	552.86	572.11	586.28	511.61
Total Operating Cost \$/000	95,505	10,107	103,694	11,041	118,861	123,042	131,448	148,482	151,946	161,847	175,179	183,944	188,915	196,830	198,660	203,797	212,525	214,569	219,776	229,312	231,582	237,645	247,958	250,489	257,161	267,719	270,325	172,081
Cost per tonne of product \$/tonne	282.58	2,861.18	2,881.21	2,910.02	3,209.38	3,277.05	3,442.72	3,644.68	3,751.67	3,916.67	4,115.63	4,261.58	4,381.21	4,512.32	4,601.71	4,723.63	4,822.94	4,919.11	5,038.08	5,148.00	5,277.09	5,411.13	5,575.04	5,683.11	5,848.77	6,041.91	6,074.68	

Table 54 shows the projection for the next 27 years, according to the production plan for 27 years of Reserves. Costs are adjusted annually by applying a 2.65% inflation rate.

Costs described in this chapter are applied to estimate the Mineral Resources and Reserves of the Tiroyacu quarry as part of the analysis.

Table 55 shows the detail of capital investments in the quarry and plant, by type of investment, for one year of historical result (2021), and 27 years of projection:

Table 55 Investment forecast in quarry and plant

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Tiroyacu Quarry Investments \$/ '000	1,000	618	647	669	690	712	734	758	782	807	833	860	884	907	931	956	981	1,007	1,034	1,061	1,090	1,118	1,148	1,178	1,210	1,242	1,275	1,053
Exploration and Studies \$/ '000	5/ '000	139	146	151	156	160	171	176	182	188	194	199	205	210	216	221	227	233	239	246	252	259	266	273	280	287	237	
Machinery & Equipment \$/ '000	1,000	479	501	518	534	551	569	587	606	625	645	666	685	703	721	740	760	780	801	822	844	866	889	913	937	962	987	815
Rioja Plant Investments \$/ '000	7,933	4,778	5,003	5,168	5,332	5,502	5,677	5,858	6,046	6,240	6,441	6,649	6,831	7,012	7,198	7,389	7,585	7,786	7,992	8,204	8,421	8,644	8,873	9,109	9,350	9,598	8,852	8,136
Machinery & Equipment \$/ '000	6,288	3,798	3,977	4,108	4,239	4,374	4,513	4,657	4,807	4,961	5,121	5,286	5,431	5,575	5,722	5,874	6,030	6,189	6,353	6,522	6,695	6,872	7,054	7,241	7,433	7,630	7,832	6,468
Intangibles \$/ '000	5/ '000																											
Others \$/ '000	1,645	980	1,026	1,060	1,093	1,128	1,164	1,201	1,240	1,279	1,321	1,363	1,401	1,438	1,476	1,515	1,555	1,596	1,639	1,682	1,727	1,772	1,819	1,867	1,917	1,968	2,020	1,668
Total Investment \$/ '000	8,933	5,396	5,650	5,837	6,022	6,213	6,411	6,616	6,828	7,048	7,275	7,510	7,715	7,920	8,129	8,345	8,566	8,793	9,026	9,265	9,511	9,763	10,021	10,287	10,560	10,839	11,127	9,188

In recent years, there have been no significant variations in capital investment, which correspond mainly to maintenance and replacement of equipment in the quarry and plant to sustain operations. The Company's investment plan does not consider any unusual or expansion activity. It is solely planned to perform the necessary replacement for the quarry support and the maintenance of operations in the plant. The investments are kept at levels similar to those registered throughout the last few years.

18.3. Capital and Operating Cost Estimation Risks

There is a low risk associated with capital and production costs because mine production and cement plant operation will continue in the same geological deposit and using the same mining and industrial methods.

An assessment of the accuracy of estimation methods is reflected in the sensitivity analysis in Section 19.

For purposes of the Preliminary Feasibility Study completed relative to the Tiroyacu quarry and Rioja plant, capital and operating costs are estimated to an accuracy of +/- 25% with a contingency of 5%.

19. Economic Analysis

19.1. Methodology: Discounted Cash Flow (Free)

The Economic Analysis chapter describes the assumptions, parameters and methodology used to demonstrate the economic viability or profitability of extracting the mineral Reserves. That is, the pre-feasibility level support for the determination of mineral Resources and Reserves, by means of a business valuation through the Discounted (Free or Economic) Cash Flow method.

The horizon of the cash flow projection is consistent with the life of the quarry, which is calculated based on the total declared Reserves and the annual production at the quarry. Each period's cash flow is approximated indirectly from the EBITDA (the latter is constructed in the Profit and Loss Statement), and the corresponding adjustments are made for taxes and capital costs (CapEx).

Finally, for this economic analysis we use the free cash flow, since it does not incorporate the company's capital structure, and we apply the weighted average cost of capital (WACC) for discounting said future cash flows.

19.2. Assumptions

19.2.1. General and Macroeconomic Assumptions

The general and macroeconomic assumptions used for the projection of economic cash flows and the valuation are:

- Projection horizon: 27 years (2022 to 2048) according to the estimated years of quarry life.
- The annual escalation rate; 2.65%, applies equally to the sales price, costs, and expenses.
- Capital cost projections were determined using a historical ratio of annual investments and maintenance costs, which also considers the increase in production volume.
- The company's financing structure is being considered in the discount rate (WACC), which is 9.87%, not in the cash flows.
- Income tax rate: effective rate of actual (historical) business results, 31.0% - 32.0%.
- Workers' Profit Sharing: 10%.
- Exchange rate: exchange rate is assumed to remain at 4.00 (USD/PEN).

19.2.2. Income and Cost Assumptions

- The sales price of cement, expressed as $S/x \text{ t}$, is the sales price of the Rioja plant to Dino Selva Iquitos, Rioja plant; which is lower than the sales price to the final customer in the market. The distribution freight explains this difference to the multiple points of sale and the selling expenses associated with distribution and promotion in the different commercial channels.
- The base price used in the projection is an estimate for the year 2022 (471.6 $S/x \text{ t}$), which has been determined based on current market conditions and cement demand for 2022, among other factors.
- Starting in 2023 (year 2 of the projection), a price escalation is applied at an annual escalation rate of 2.65%.
- The cost of cement production, expressed as $S/x \text{ t}$, has been estimated for 2022 based on actual operating expenses, the market situation of local materials and services, plant demand for imported clinker, and other factors. The cost of production for year 2022 is 312.4 $S/x \text{ t}$.
- Starting in 2023, a cost escalation is applied following the annual inflation rate of 2.65%.
- The volume of cement shipments grows at an annual rate of 2.0% until the maximum plant capacity is reached, which is adjusted slightly for a safety factor.
- The initial stock of products in the quarry and plant is assumed to be zero.

19.3. Financial Model Results

The following financial parameters were calculated:

- NPV of 378.5 million soles at a discount rate of 9.87%.
- 27-year mine life.

- Average plant throughput of 0.42 million tonnes per year over the 27-year projection.
- Average sales price of 676.4 soles per ton of cement, on average for the 27-year projection, at nominal values.
- Revenues of 278.7 million soles, on average for the 27-year projection.
- Average cash production cost of 469.5 soles per ton of cement, on average for the 27-year projection, at nominal values.

Table 56 shows the forecasted Profit and Loss Statement for the Tioyacu quarry and Rioja plant operation:

Table 56 Profit and Loss Statement

	2022P	2023P	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P	2034P	2035P	2036P	2037P	2038P	2039P	2040P	2041P	2042P	2043P	2044P	2045P	2046P	2047P	2048P
Shipments (t annual)	352,678	358,751	366,926	374,263	381,790	389,585	397,773	405,216	412,883	420,762	428,800	436,900	445,000	453,200	461,400	469,600	477,800	486,000	494,200	502,400	510,600	518,800	527,000	535,200	543,400	551,600	
FINANCIAL STATEMENT																											
Gross Profit (thousand €)	56,341	60,673	60,933	60,933	64,005	64,647	63,516	65,912	66,472	64,439	67,408	68,277	68,925	71,406	75,472	76,469	77,616	82,217	81,692	86,751	83,017	89,808	91,729	96,235	98,347	103,394	
Cost - S/ x t	-47.16	-468.3	-469.9	-471.5	-473.1	-474.7	-476.3	-477.9	-479.5	-481.1	-482.7	-484.3	-485.9	-487.5	-489.1	-490.7	-492.3	-493.9	-495.5	-497.1	-498.7	-500.3	-501.9	-503.5	-505.1	-506.7	
Cost - S/ x t	-26.8	-268.3	-33.6	-320.1	-320.7	-342.7	-354.7	-375.1	-391.7	-435.6	-426.6	-438.2	-455.3	-467.7	-472.6	-492.9	-491.6	-509.7	-531.3	-537.1	-551.1	-575.0	-589.0	-598.2	-620.9	-626.9	
Production Cost - S/ x t	-12.9	-13.3	-13.6	-14.3	-14.7	-15.1	-15.5	-15.9	-16.3	-16.8	-17.2	-17.7	-18.2	-18.6	-19.1	-19.6	-20.2	-20.7	-21.2	-21.8	-22.4	-23.0	-23.6	-24.2	-24.8	-25.5	
Calculation - S/ x t	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Worker's Profit Sharing - S/ x t	-12.9	-13.3	-13.6	-14.3	-14.7	-15.1	-15.5	-15.9	-16.3	-16.8	-17.2	-17.7	-18.2	-18.6	-19.1	-19.6	-20.2	-20.7	-21.2	-21.8	-22.4	-23.0	-23.6	-24.2	-24.8	-25.5	
Gross Margin - S/ x t	15.2	168.7	168.4	162.8	167.8	166.3	159.2	162.6	156.9	152.8	156.8	160.7	159.8	170.2	175.0	172.7	184.8	190.7	188.1	200.9	206.4	203.9	217.4	223.2	221.2	236.4	
Gross Margin %	33.76	34.94	33.90	33.12	32.00	30.07	28.89	28.72	27.67	25.67	25.63	25.59	24.76	25.69	25.74	24.74	25.79	25.93	24.93	25.92	25.95	24.99	25.93	25.93	25.04	33.68	
Expenses	9,942.5	9,889.2	10,219.8	10,784.8	11,196.5	11,377.7	12,030.5	12,462.9	13,398.5	13,299.6	13,696.8	14,650.7	14,525.9	14,889.6	15,919.8	15,800.2	16,229.1	17,268.5	17,135.4	17,598.5	20,155.7	18,001.9	18,081.9	20,326.7	20,117.7	20,496.8	
Operating Profit	6,000	5,162	6,154	6,744	6,623	6,854	7,544	7,582	8,313	8,000	8,341	9,144	8,670	9,133	10,008	9,986	9,060	10,930	10,539	10,627	13,272	11,464	13,751	12,850	12,379	12,704	
Depreciation	512	623	846	772	786	862	998	1,052	1,194	1,318	1,361	1,435	1,446	1,488	1,524	1,564	1,615	1,654	1,698	1,713	1,756	1,807	1,857	1,910	1,964	2,017	
SG&A	2,456	2,533	2,567	2,655	2,735	2,776	2,870	2,926	3,019	3,063	3,164	3,248	3,354	3,423	3,513	3,607	3,702	3,810	3,902	4,004	4,110	4,219	4,331	4,445	4,564	4,685	
Worker's Profit Sharing	584	642	652	634	634	679	648	683	683	646	684	703	687	745	766	743	808	835	837	879	938	857	950	976	940	1,035	
Operating Profit	46,398	36,776	51,581	50,140	51,288	51,254	53,651	54,009	51,939	54,128	55,580	54,314	56,884	56,336	56,549	61,847	66,008	63,609	69,308	71,458	67,782	78,127	75,151	79,651	81,818	74,477	
(+) Depreciation	10,236	5,936	7,583	6,567	6,627	6,553	5,834	5,874	5,844	5,843	5,949	5,898	5,938	6,035	6,136	5,941	5,978	5,939	5,913	5,943	5,967	5,943	5,984	5,988	5,983	5,957	
EBITDA Rioja Plant	56,634	42,692	59,165	56,708	57,915	57,809	59,485	61,135	63,883	61,500	64,942	65,929	64,252	66,913	76,551	78,933	78,292	75,726	73,728	79,519	81,362	76,139	85,767	86,057	85,739	92,706	
EBITDA Margin %	33.59	34.85	33.69	33.28%	33.08%	29.93%	27.61%	27.61%	26.51%	24.91%	24.59%	24.32%	23.07%	24.12%	24.08%	22.81%	23.92%	23.87%	22.64%	23.79%	23.77%	22.99%	23.72%	23.73%	22.51%	23.71%	

Cement sales at Rioja plant are, on average, S/ 278 million per year (for the period 2022-2048), and the average EBITDA margin for the same period is 26.23%. Due to the increase in cement shipments, the installed capacity of clinker is exceeded, and it is necessary to start importing from the year 2024. The need for imported clinker increases gradually until 2033 when the maximum capacity for cement production is reached, which causes the average EBITDA margin to fall slightly to 23.91% from 2033.

Table 57 shows the Free Cash Flow projection and the valuation of the cement business of Rioja plant:

Table 57 Free Cash Flow and valuation

	2022P	2023P	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P	2034P	2035P	2036P	2037P	2038P	2039P	2040P	2041P	2042P	2043P	2044P	2045P	2046P	2047P	2048P
FCF - Valued on (The used d.)																											
EBIT	50,634	5,162	56,647	55,076	58,479	58,759	56,188	59,110	59,841	56,071	59,489	62,261	61,388	66,416	68,234	66,007	72,002	74,369	71,951	78,139	80,189	76,129	84,341	86,632	88,356	91,845	94,179
(+) D&A	11,933	11,172	10,446	10,181	9,559	9,786	10,093	10,310	10,443	11,012	11,165	9,843	8,849	9,039	9,043	9,211	9,025	8,690	8,867	9,083	9,308	9,538	9,774	10,007	9,723	9,952	9,988
(-) Taxes EBIT%	19,509	21,254	21,826	21,221	22,532	22,640	21,649	22,775	22,903	21,493	22,921	23,889	23,657	25,590	26,291	25,432	27,742	28,655	27,723	30,115	30,897	29,333	32,497	33,376	32,502	35,288	32,434
(-) CapEx	5,396	5,650	5,837	6,022	6,213	6,411	6,616	6,828	7,048	7,275	7,510	7,715	7,920	8,129	8,345	8,566	8,793	9,026	9,265	9,512	9,763	10,021	10,287	10,560	10,839	11,127	9,188
Free Cash Flow (to the firm)	36,662	8,430	39,430	38,014	39,292	39,493	38,015	39,816	39,934	38,266	40,223	40,400	38,671	41,736	42,642	41,219	44,492	45,379	43,830	47,616	48,837	46,813	51,331	52,694	51,737	55,262	52,545
WACC	9.97%																										
Economic NPV (Thousand \$)	378,308																										

The net present value (NPV) of Rioja plant cement business amounts to almost S/ 378 million and it is made up of the sum of the discounted cash flows of each period, for the 27-year projection.

For the discount of the cash flows, the weighted average cost of capital of the company (WACC for its acronym in English) was applied.

19.4. Sensitivity Analysis

The sensitivity analysis considers a variation of +/- 5 and 10% in the variables that have the greatest impact on the NPV and EBITDA. These variables are the cement sales price, operating cost and CapEx.

Tables 58 and 59 detail the sensitivity of the NPV and EBITDA to each variable, respectively, when the variables are varied independently. Figures 17 and 18 show the results of the sensitivity of NPV and EBITDA, respectively, to the three variables:

Table 58 Sensitivity analysis of the Net Present Value

Variable / Variation	-10%	-5%	0%	+5%	+10%
Price	-35.7%	-17.9%	0.0%	17.9%	35.7%
Cost	26.3%	13.1%	0.0%	-13.1%	-26.3%
CapEx	1.3%	0.7%	0.0%	-0.7%	-1.3%

Table 59 Sensitivity analysis of the EBITDA

Variable / Variation	-10%	-5%	0%	+5%	+10%
Price	-35.3%	-17.7%	0.0%	17.7%	35.3%
Cost	26.6%	13.3%	0.0%	-13.3%	-26.6%
CapEx	-0.1%	0.0%	0.0%	0.0%	0.1%

Figure 17 Sensitivity of Net Present Value

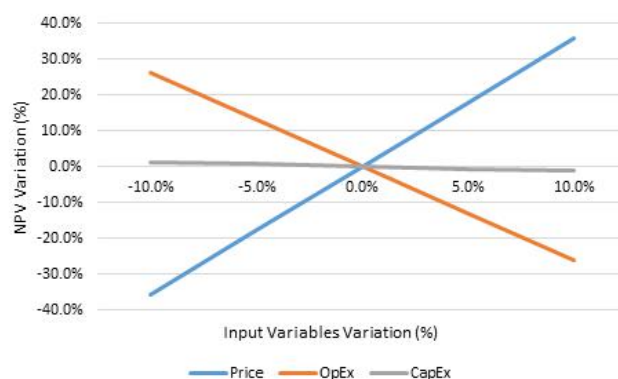
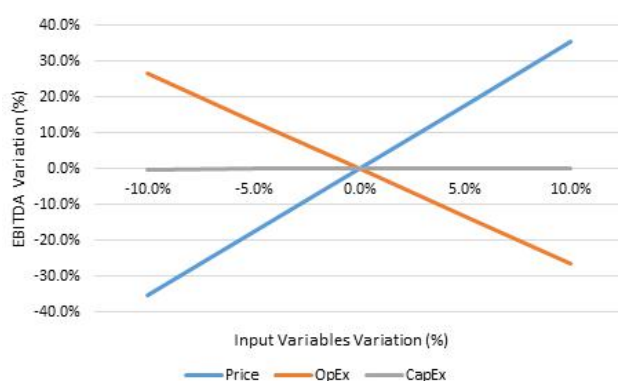


Figure 18 Sensitivity of EBITDA



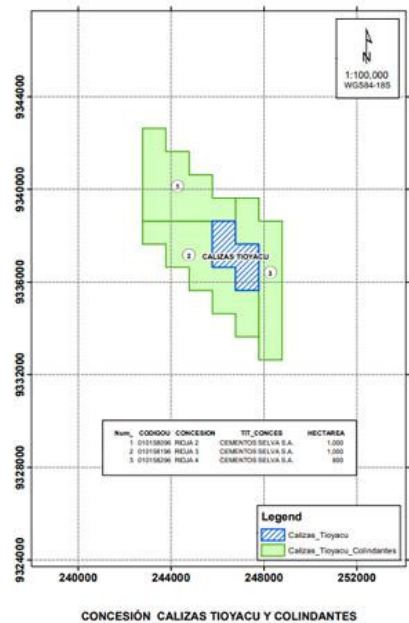
Based on these results, the NPV is most sensitive to cement price, followed by operating cost, and least susceptible to the CapEx. EBITDA has a similar sensitivity to NPV, being most exposed to cement price, followed by operating cost, but shows no sensitivity towards variations to the CapEx.

20. Adjacent properties

The information in this chapter was obtained from the competent authority: Instituto Geológico, Minero Metalúrgico (INGEMMET). The only public information obtained is shown in the Figure below.

To the north of the Cementos Selva S.A. concession is the Rioja 2 concession owned by Cementos Selva S.A.; to the east of the mining concession is the Rioja 4 concession owned by Cementos Selva S.A., and to the southwest is the Rioja 3 concession owned by Cementos Selva S.A.

Figure 19 Concession Calizas Tioyacu and adjacent concessions.



21. Other relevant data and information

Not applicable.

22. Interpretation and conclusions

- From a legal point of view, Cementos Selva S.A. has the ownership of the mining properties for the exploration, development and production of limestone to supply the cement plants for normal production during the life of the quarry.
- Cementos Selva S.A. has been complying with international ISO-9001 standards since 2015 and has implemented Quality Assurance and Quality Control (QAQC). The controls are applied for the construction of the Geological Model, Resource estimation and Reserves estimation.
- Cementos Selva S.A. has a quality assurance system in its operations that includes sample preparation methods, procedures, analysis and security, which comply with the best practices in the industry.
- The information verification and validation processes are carried out following the procedures indicated in the information flows. The validated information is congruent with the one that generated the geological models, which is the fundamental basis for the estimation of Resources.
- The geological modeling of the limestone deposit is consistent with the relationship between the information and the geological model.
- The Reserves estimation considers the risk factors and modifying factors. The main variable is the CaO content which is very stable in the deposit. There are other secondary variables that determine the quality of the Reserves.
- In the process of estimating Reserves and in the production plans of the quarry these variables have been adequately considered in the mining plan, properly sequenced, and with blending processes. There are sufficient proven and probable Reserves for the next 27 years.
- Table 60 shows the Mineral Resources of the Tioyacu quarry and categories. Likewise, the Mineral Reserves are shown in Table 61 and categories.

Table 60 Mineral Resources (exclusive of Reserves) of Tioyacu quarry

	Resources	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	SiO ₂ (%)	K ₂ O (%)
Limestone	Measured	0	0	0	0	0	0
	Indicated	0	0	0	0	0	0
	Measured + Indicated	0	0	0	0	0	0
	Inferred	19.19	45.61	0.36	6.58	2.52	0.14

* No economic evaluation was performed for the Tioyacu quarry because it only has inferred resources.

Table 61 Mineral Reserves of Tioyacu quarry

	Reserves	Tonnes M	CaO (%)	Al ₂ O ₃ (%)	MgO (%)	SiO ₂ (%)	K ₂ O (%)
Limestone	Proven	6.55	50.30	0.58	1.13	5.46	0.21
	Probable	4.84	47.29	0.64	3.33	5.95	0.19
	Total	11.39	49.03	0.61	2.06	5.67	0.20

- The cement plant located in Rioja has equipment and facilities available for cement production, using limestone from the Tioyacu quarry and other necessary materials.
- The Health, Safety and Environment unit is in charge of supervising and ensuring compliance with the Company's corporate policies and the various legal requirements of the national regulatory bodies by all company departments.
- Through its Social Responsibility unit, Cementos Selva S.A. has built relationships of trust with the communities surrounding its operations, identifying their primary needs in health, education, urban development, and local development.
- In 2021, due to COVID 19 pandemic, CSSA had been limited in face-to-face meetings with stakeholders but that did not affect their good relationship.
- Infrastructure-wise, the operation in Tioyacu quarry and Rioja plant, in relation to infrastructure, is technically and economically feasible due to the life of the quarry.
- The sensitivity analysis shows that the operation is economically robust.

23. Recommendations

- Maintain the QAQC program for exploration, development and production activities associated with cement production.
- Include QAQC plans and density control for the subsequent diamond drilling campaigns.
- Maintain a permanent monitoring of the installed piezometers both for water levels and water quality, to evaluate the evolution of levels during the production of the Tioyacu quarry.
- It is recommended that a geophysical study using the Georadar method to identify karst cavities within the quarry area be conducted, especially in areas of structural anomalies.
- Geosym Consultores S.A.C., recommends that Cementos Selva S.A. adopt the angles for the planning and design of the Tioyacu quarry, as shown in Table 19, based on the stability analyses.
- It is recommended that monitoring points be placed in new areas of the quarry and that current monitoring points be updated.
- It is recommended that new diamond drilling campaigns be conducted to reduce the uncertainty of the current Reserves and help recategorize the existing Inferred Resources.

24. References

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25. Reliance on information provided by registrant

In preparing this report, the qualified persons relied upon data, written reports and statements provided by the registrant in accordance with 17 CFR § 229.1302(f). After careful review of the information provided, the QPs have no reason to believe that any material facts have been withheld or misstated. Cementos Selva provided the information as summarized in Table 62.

Table 62 List of Cementos Selva S.A. information.

Chapter	Chapter name	Information provided by CPSAA
3	Property description	Legal matters related to property rights and the authority “Instituto Geológico, Minero y Metalúrgico INGEMMET”
16	Market studies	Marketing information, CPSAA information, CSSA information, ASOCCEM, INEI and BCRP
17	Environmental studies, permitting, and plans, negotiations, or agreements with local individuals or groups	Community Relations and agreements with stakeholders
18	Capital and operating costs	Historical data about cost, price and investments
19	Economic analysis	Macroeconomic trends, data, and assumptions, and interest rates
20	Adjacent properties	Legal matters related to property rights and the authority “Instituto Geológico, Minero y Metalúrgico “INGEMMET”