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Astra Polymer Compounding Co.

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KINGDOM OF SAUDI ARABIA

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Board of Directors



Mohammed Alhagbani
CBD



Fahad Alharbi
MBD



Samer Hendawi
MBD



Yazeed Altwaijri
MBD



Ali Al Jabrah
CEO





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CEO Message



Ali Al Jabrah
CEO

“ development plans aims to increase the gross domestic product contribution of the Mining Sector to more than three folds by 2030; from 64 billion to 240 billion Saudi Riyals. ”

“ at Astra Mining Company, we look forward to our contribution in increasing the value added of the Mining Sector through introducing our new portfolio of transformative industries of mineral ores, which we specialize in producing according to the standards and requirements of sustainable development. ”



Saudi Arabia's Developmental Vision 2030, through its strategic thought structured upon organized planning according to clear objectives and criteria, aims to improving the Kingdom's economic performance and social development. A Vision derived and driven through the optimism, will and wisdom of the Kingdom's Supreme Leadership and the support, attention and persistence of His Royal Highness the Crown Prince, who launched this Vision and supported all initiatives and plans to restructure the national economy and allow it to take an unprecedented qualitative leap qualifying it for global competition.

We, at Astra Mining Company (AMC) and as representatives of a

key sector of Astra Industrial Group (AIG), a long-standing industrial entity in the national industrial development cycle, are fully aware of our leadership objectives and vision dimensions. Accordingly, we have directed our development plans of manufacturing in the Mining Sector to simulate the vision's strategic objectives in general and to be in harmony with the government plans, which aim to increase the gross domestic product contribution of the Mining Sector to more than three folds by 2030; from 64 billion to 240 billion Saudi Riyals.

Astra Mining Company, through its first phase of production, was able and within a record period to achieve its objectives of offering its various products of Limestone. Now, and through initiating the company's second phase, we are looking forward to diversifying our portfolio of products to support the

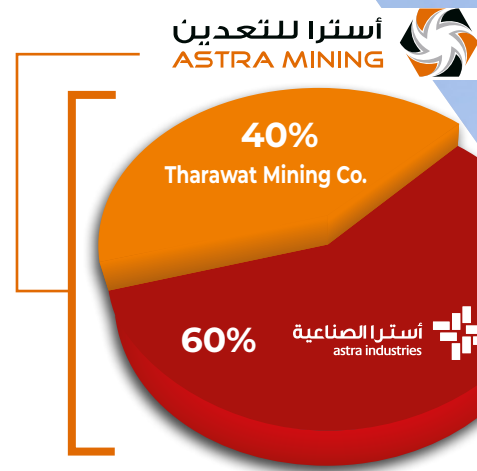
Kingdom's strategy of developing the Mining Sector, to contribute to the diversification of the Kingdom's revenue sources and to enhance the investment opportunities of the Mining and Minerals Extraction Sector. Realizing that the Kingdom is characterized by the breadth of its geographical area rich in minerals distributed over an area of 2 Million square kilometers, with only 28 extracted minerals out of the 88 minerals available.

Hence, at Astra Mining Company, we look forward to our contribution in increasing the value added of the Mining Sector through introducing our new portfolio of transformative industries of mineral ores, which we specialize in producing according to the standards and requirements of sustainable development.



Astra Mining A Success Story

Astra Mining Company (AMC) establishment in 2011 as a limited liability company through a partnership agreement between Astra Industrial Group (AIG) and Tharawat Mining Company with a 60% / 40% ownership respectively.



AIG aimed for Astra Mining Company to be its mining arm for the exploration of ores and minerals in the Kingdom Saudi Arabia and for the establishment of factories to process them in order to serve the markets requirements of the local market and the MENA Region, eventually enabling the development of downstream industries in the Kingdom.



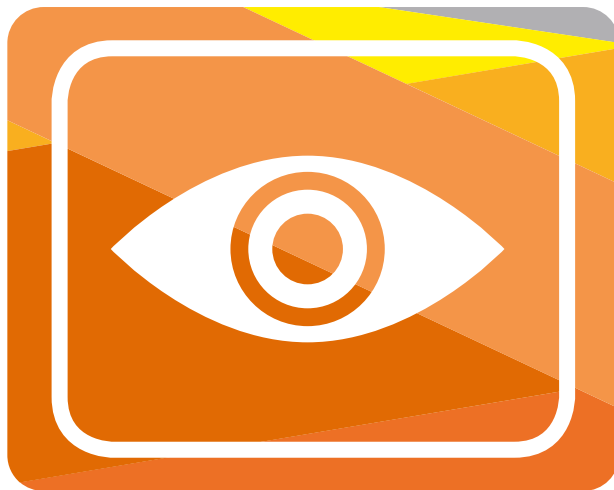
Hence, the intensive planning phase of the limestone treatment plant started from scratch, taking into consideration the full flexibility of producing a wide range of products, as well as the possibility of the future expansion of the production lines for other ores and mineral products.

The culmination of this intensive planning phase was the establishment of Astra Mining Factory in Al-Kharj Industrial City, 125 km southeast of Riyadh, on a land area of more than 92,000 square meters. The factory is equipped with the latest Swiss and German specialized technologies for limestone processing.

Thus, the establishment phase was successfully completed and the first production line was operational by the beginning of the second quarter of 2017; having a production capacity of 300 tons per day. Parallel to getting the first production line operational, AMC team was also working on the development of special designs for the establishment of similar and complementary production lines, to be ready for implementation as the second phase of introducing new products according to operating plans devised through well-developed technical and marketing stages.



Vision, Mission & Core Values



Our Vision

"To be the premier mining company in the MENA region, delivering long term stakeholder value through profitable growth".



Our Mission

"To develop the strongest portfolio of mining-related projects in the Kingdom of Saudi Arabia and the MENA region through timely strategic investments and growth by providing optimal managerial and financial resources".

Our Core Values



Result Oriented: We will allocate resources in the most efficient manner to achieve optimal returns.



High Ethical Standards: We will continue to deal with customers, partners, employees and authorities with the highest levels of integrity and respect.



Continuous Improvement: Through accountable leadership and a clear focus on our objectives, we are dedicated to continually improving our performance.



Commitment to Quality: We will deliver the best quality products and services by differentiating ourselves from our competitors through a relentless focus on exceeding customer expectations.



Empowerment & Accountability: We will attract highly talented employees and empower them to perform their duties and responsibilities to their fullest potential, at the same time making them fully accountable for their results.

Sustainable Growth & Development Strategy

Saudi Arabia's Developmental Vision 2030 put forward many ambitious economic plans aiming to diversify the Kingdom's national economy revenue sources. In consistency with the objectives of this ambitious Vision, Astra Mining's vision and mission aimed to ensure the position of the company as a partner caring for the success of the Kingdom's aspirations. Striving towards supporting its efforts of achieving these aspirations, objectives and development goals and emulating the Vision's specific focus on the environment and sustainable development of the Mining Sector through nominating it as one of the basic components for a quality life and an element of minimizing environmental pollution.

Objectives of Sustainable Growth

Astra Mining's Development Strategy adopts the Sustainable Growth Objectives of international organizations specialized in Sustainable Growth developmental issues and strives to achieve them locally according to the standards of the Mining Industry and Global Sustainable Growth, as follows;



Human Resources

Attracting professional talent and enabling them to perform their duties and responsibilities through development, training and qualification in their fields of competence.

Social Impact

Commitment to dealing with the internal and external community at the highest levels of respect and appreciation, providing the necessary benefits and availing a working environment suitable for creativity and production.

Environment, Health, Safety and Security

Commitment to implementing international standards to achieve Sustainable Growth in the preservation of the environment from air pollution and solid waste.

Local Community Service

Providing all necessary support to upgrade and develop the activities of the local community institutions in accordance with the requirements of social responsibility.

Employment Opportunities

Availing employment opportunity priority to the individuals of remote areas where the company establishes its projects and relying on the expertise of Saudi geologists and engineers in the exploration and extraction of the licensed industrial minerals.

Partnership and integration with state institutions

Cooperation and integration with the official authorities and entities specialized in the Mining Sector, as well as the scientific and academic institutions and research centers for sharing scientific research, exchanging intellectual knowledge and participating in conferences and exhibitions specialized in the Mining Sector.

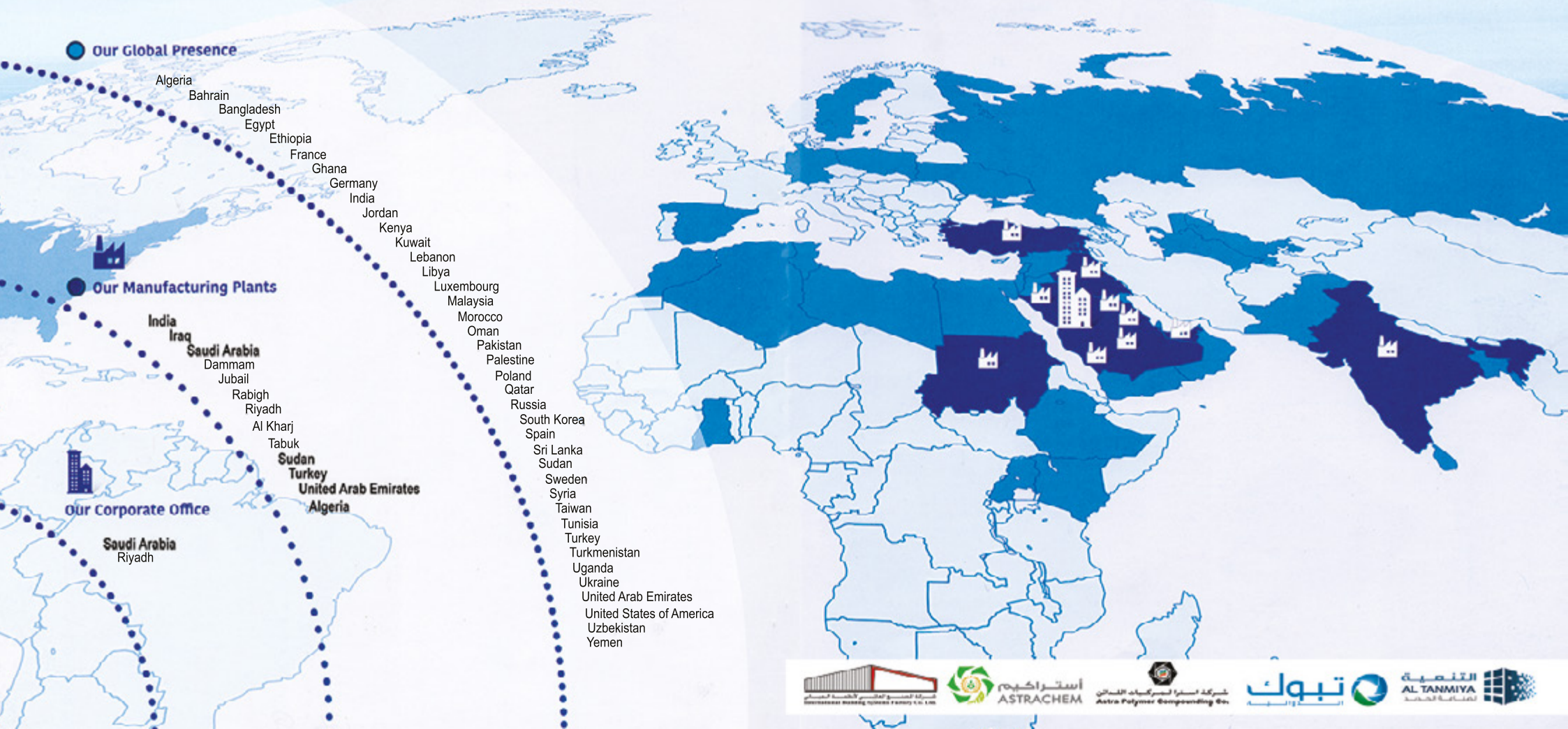


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OUR GLOBAL FOOTPRINT 2018



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Phase I



ASTRA LIME Products

- ASTRA/Lime
- ASTRA LIME/Quick
- ASTRA LIME/Hydrated
- ASTRA LIME/Slow

ASTRA DOLOMITE Products

- ASTRA/Dolomite
- ASTRA DOLO/Hydrated
- ASTRA DOLO/Slow
- ASTRA DOLO/Quick

- ASTRA KALK/Milk
- ASTRA KALK/Putty

The opening of the first production line in the presence of members of the Board of Directors, senior staff from The Saudi Authority for Industrial Cities and Technology Zones "MODON" and a number of major success partners of customers and suppliers.



First Production Line Treatment of Limestone and Dolomite

As planned for this phase, the First Production Line was launched for the treatment of raw limestone into products according to the most rigid international standards in terms of the degree of fineness and size, ranging from zero to the highest grade as per the clients' requirements and marketed under the brand name (Astra Lime).

The First Production Line treats the raw limestone according to several processes of milling, screening, sorting, burning and treatment with water, as well as precipitation and chemical treatments to convert the raw limestone properties into new products, which are utilized as main components in various industries.



Converting raw material across through several processes into new products used as main components for various industries





Stages of producing LIME or DOLOMITE (Quick & Hydrated)

Our Products and some areas of usage



Limestone

Raw limestone is a natural rock composed of Calcium Carbonate (CaCO_3), which is converted into a product through processes of milling, screening and classification according to specific grades. Then packed in special containers.



ASTRA LIME/QUICK

ASTRA LIME/QUICK is Calcium Oxide (CaO) produced through burn-processing limestone (CaCO_3) in a chemical process called Calcination. This process is carried out in vertical kilns at a temperature of (950-1,100°C), leading to the decomposition of the limestone (Calcium Carbonate) and turning into (Calcium Oxide) and Carbon Dioxide.



ASTRA LIME/HYDRATED

Processing ASTRA LIME/QUICK-Calcium Oxide (CaO) through the Hydration Production Line results in obtaining this product. This process is done according to globally applied European technology, quality and standards to produce hydrated lime-Calcium Hydroxide (Ca(OH)_2).



Precipitated Calcium Carbonate

Precipitated Calcium Carbonate (PCC) is produced from limestone using a sedimentation (precipitation) process. Industrially, PCC is made by hydrating high-calcium quicklime and then reacting the resulting slurry, or "milk-of-lime", with carbon dioxide as per the equation: $\text{Ca(OH)}_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$. In theory, Calcium Carbonate contains 56% of Calcium Oxide (CaO) and 44% of Carbon Dioxide (CO_2).

Product's Brand Name

ASTRA/LIME

Product's Brand Name

ASTRA LIME/QUICK

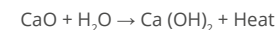
Chemical Equation



Product's Brand Name

ASTRA LIME/HYDRATED

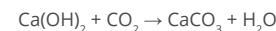
Chemical Equation



Product's Brand Name

ASTRA LIME/PCC

Chemical Equation



Product's Main Usage Areas

Used in various industries such as plastics, paints, rubber, adhesives, paper milling, cement, animals' feed, glass, ceramics, building and paving materials.

Product's Main Usage Areas

Used in various industries such as iron and steel industry, chemical industry, paints, cement industry, sugar purification, sand brick industry, light and heat insulation bricks, hydrated lime industry and sterilization of animal pens and bird farms.

Product's Main Usage Areas

Used in the treatment of drinking water and sanitation, construction works, soil stabilization, sugar industry, animals' feed industry, marble, leather tanning, fertilizer industry and cooling during drilling.

Product's Main Usage Areas

Precipitated Calcium Carbonate (PCC) comes in different grades and fineness as per the clients' requirements and is mainly used in the following industries and applications: manufacturing of paints of all kinds, manufacturing of polymers and plastics, glass industry, toothpaste and health care products.





DOLOMITE

Dolomite ore is a sedimentary rock consisting of Calcium and Magnesium Carbonate $\text{CaMg}(\text{CO}_3)_2$, which is processed into a product after milling, screening and sorting according to specific grades. Then packed in special containers.



DOLOLIME

This product is obtained through burn-processing raw dolomite ore in vertical kilns at a temperature of $(850-1,100^\circ \text{C})$ producing burnt dolomite (Calcium and Magnesium Oxide). This process, Calcination, is carried out in vertical kilns.



DOLOLIME/HYDRATED

Hydrated DOLOLIME is an inorganic chemical compound with the chemical formula; $\text{Ca}(\text{OH})_2\text{-MgO}$. It is produced by adding water to burnt dolomite under specific conditions of pressure and heat.

Product's Brand Name

ASTRA DOLOMITE

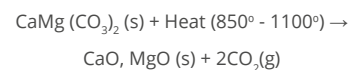
Product's Main Usage Areas

Used in various industries such as iron and steel, glass and paper industry, leather tanning, sewage treatment of industrial waste, preparation of some pigments and as an auxiliary for soil fertilizing

Product's Brand Name

ASTRA DOLOLIME

Chemical Equation



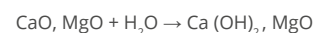
Product's Main Usage Areas

Used in various industries such as iron and steel industry, control of pH, construction works and for absorption of acidic gases and water treatment.

Product's Brand Name

ASTRA DOLO/HYDRATED

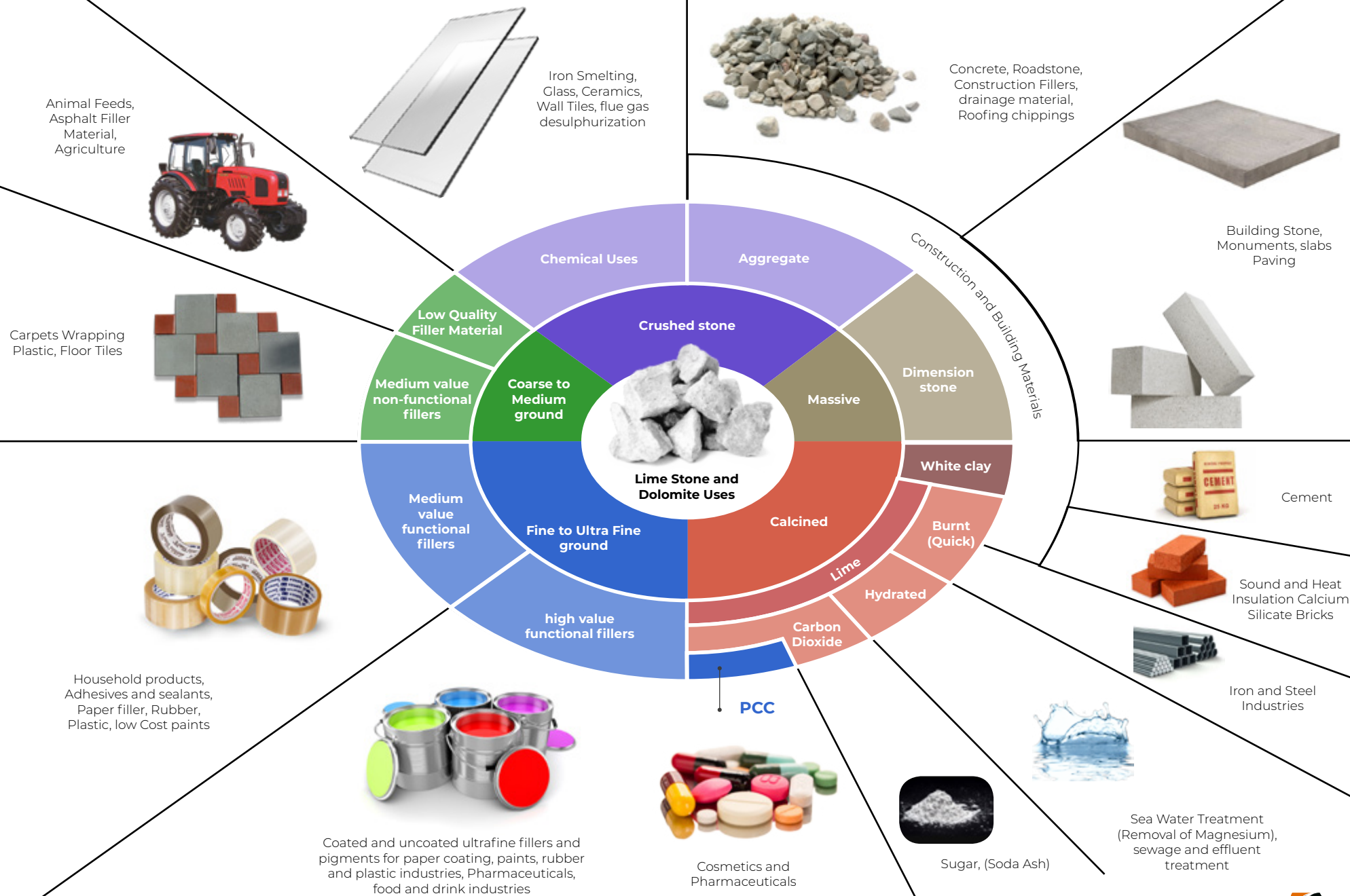
Chemical Equation



Product's Main Usage Areas

Used in various industries such as construction and building works, dry mixes, paints, stabilizing soil acidity, animal feed and fertilizers industry.







Phase

Industrial Minerals
Promising Opportunities

II



Promising Opportunities in the Near Future

The planning objectives did not only focus on the diversification of products, but towards the geographical expansion within and outside the borders of the Kingdom in the field of exploration and excavation for minerals that abound in the lands of the Kingdom.

Exploration and Excavation

After the success achieved in supplying the markets with products of limestone and dolomite products in accordance with excellent quality and service and within a record period. The executive management of the company started on planning and developing the expansion and diversification strategy for introducing new products through investing the factory's available capabilities of advanced infrastructure and new production lines specialized for producing various mining industries.

The planning objectives did not only focus on the diversification of products, but towards the geographical expansion within and outside the borders of the Kingdom in the field of exploration and excavation for minerals that abound in the lands of the Kingdom.

Astra Mining is looking for investing in the activities of exploration and excavation for minerals as licensed, currently and in the future, by the concerned authorities to establish specialized factories for minerals transformative industries in the locations of exploration and excavation. Ideas, studies and research have begun towards achieving this strategy's objectives. The plans have been set in motion to practically work on introducing the following products;



MAGNESITE

Manufacturing Process

Crushing and Milling of raw Magnesite.

Magnesite reacts with hydrochloric acid to produce Magnesium Chloride. It can be crystalized to obtain Aqueous Magnesium Chloride or it can be dried to obtain anhydrous Magnesium Chloride.

Targeted Product

1. Aqueous Magnesium Chloride $MgCl_2 \cdot 6H_2O$.
2. Anhydrous Magnesium Chloride $MgCl_2$.
3. Ground Magnesium Carbonate $MgCO_3$ in various grades.

Uses

1. Magnesium Chloride is used in fertilizers, textiles, paper, Sorel cement, Magnesium metal production and Chlorine gas.
2. Ground-based Magnesite is used in animals' feed and ceramic industry.





POTASH

Manufacturing Process

Raw materials are placed into solutions, and then deposited in sedimentary environments by the process of evaporation in dry climates.

Targeted Product

Extracting Potassium (POTASH) as a pure material, as well other substances such as multi-salts Potassium Sulfate and granules of Chloride or Potassium Sulfate.

Uses

1. Potassium is considered as plant nutrients, where more than 90% is used as an agricultural solvent.
2. Used in the manufacturing of soaps, detergents, glass, ceramics, construction materials and other various chemical products.



KAOLIN

Manufacturing Process

1. Crushing and milling processes to obtain different sizes of raw Kaolin.
2. Calcination process at a temperature of (600-800° C) to obtain Meta Kaolin.

Targeted Product

1. Meta Kaolin (after calcination) in various grades.
2. Raw Kaolin in various grades and sizes.

Uses

1. The most important use of Meta Kaolin in the Cement Industry where it is mixed with cement as a substitute for Pozzolan.
2. Raw milled Kaolin is used in the manufacturing of ceramics, paper, rubber, plastic, rock wool, white cement (as a source of silica and aluminum, as well as having low proportion of iron and impurities).





BARITE

Manufacturing Process

1. Crushing, milling and screening to obtain different sizes.
2. Barite ore is reduced to Barium Sulphide in a kiln at a temperature of (750-900° C) by using Coke Coal.
3. Barium Sulphide is then treated with water to obtain Barium Hydroxide.

Targeted Product

1. Milled Barite (Barium sulfate) 0 - 75 microns.
2. Barium Hydroxide Ba(OH)_2

Uses

Barite is used in various industries due to its high degree of whiteness and high density.

1. Barite is used in drilling and excavation, as well as in the manufacturing of paints, plastics, cement, glass and the production of Barium Hydroxide. Additionally, it is used in the Medical Field as Barium Sulfate has a higher ability to absorb X-rays than other compounds.
2. Barium Hydroxide is used in the purification of sugar and in the manufacturing of paper, textiles and paints.



FELDSPAR

Manufacturing Process

Crushing, milling and screening.

Targeted Product

Various grades and sizes of raw FELDSPAR.

Uses

FELDSPAR is used in the manufacturing of glass and ceramics and as a filler in the manufacturing of plastics, rubber and paints.





QUARTZ

Manufacturing Process | Crushing, milling and screening. Quartz is sometimes washed to obtain a higher grade of purity.

Targeted Product | Various grades and sizes of QUARTZ.

Uses | When QUARTZ is subjected to an electrical voltage, it oscillates at a certain frequency with high precision and at a very regular rate. For this characteristic, QUARTZ is used in the manufacturing of watches, telephones, computers, televisions and solar panels. QUARTZ is also used in the manufacturing of glass, glasses and lenses, the manufacturing of silica bricks, laboratory and industrial thermal crucibles as the ones used in iron melting furnaces, the manufacturing of Sodium Silicate, as well as in the manufacturing of paints, putty and rubber.



ZEOLITE

Manufacturing Process |

- Crushing and screening.
- Mixing ZEOLITE with Pozzolan in the following percentages:
 1. (25%) high quality ZEOLITE.
 2. (50%) Pozzolan.
 3. (25%) low quality ZEOLITE.

Targeted Product | Various grades of ZEOLITE.
Mixture of ZEOLITE with Pozzolan.

Uses | ZEOLITE is used as fertilizer in agriculture, a component in the feed industry, in the treatment of water, paper, rubber, plastic and cement, as well as the disposal of hazardous radiation, as it has the ability to absorb such radiations. When mixed with Pozzolan, it forms an excellent mixture rich in chemical elements of high benefits to plants. Accordingly, it is used in agriculture, as it reduces the need for irrigation water by half, doubles yield and reduces the need to use pesticides and the growth of weeds





PERLITE

Manufacturing Process

Crushing and milling.

Targeted Product

Raw PERLITE in various grades.

Uses

PERLITE is used in the manufacturing of cement, concrete and construction materials, as well as in the manufacturing of heat and sound insulation materials. Additionally, It is widely used in agriculture due to its chemical characteristics and ability to retain water.



POZZOLAN

Manufacturing Process

1. Crushing and screening.
2. Mixing POZZOLAN with ZEOLITE.

Targeted Product

POZZOLAN in various grades.
Mixture of POZZOLAN with ZEOLITE.

Uses

The most important use of POZZOLAN is in the Cement Industry as it reduces the need of cement usage up to (40%); reducing the cost of cement manufacturing, the cement's permeability and increasing the cement's chemical resistance to pure and sulfuric water.
POZZOLAN is also used as a substitute for fly ash.
POZZOLAN can be cut to manufacture POZZOLAN bricks, characterized by their insulation of sound and heat.
When blended with ZEOLITE, POZZOLAN is used in agriculture.





Phase

Metallic Minerals
Visionary Ambitions

III

Study and Research

According to its objectives and ambitious vision, Astra Mining, having gained sufficient expertise in this line of mining, looks forward towards investing in the mining and prospecting for metallic minerals. This phase aims to obtain the required exploration licenses for promising mining sites, to conduct studies and research on these minerals and the feasibility of mining and production at these sites. Additionally, Astra Mining looks forward to forming coalitions and alliances with major mining companies to further develop the Mining Sector in accordance with The Kingdom's Vision 2030.



Metallic Minerals

Metallic Minerals mining and prospecting programs are concerned with many economically viable minerals, including:



Precious Metals

Gold, Silver, Zinc, Lead and Platinum.



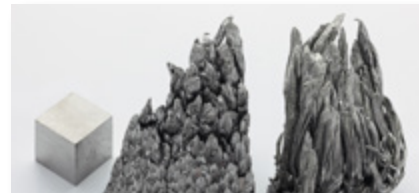
Base Metals

Iron, Chrome, Nickel and Tin



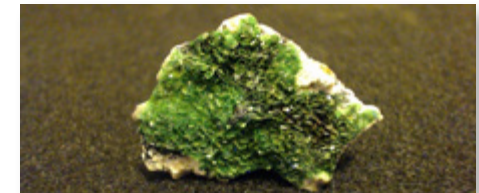
Earth Elements

Rare elements: Yttrium and Tantalum



Strategic Minerals

Uranium and Thorium.



Customer Services and Logistics Support

The strategic planning of Astra Mining aims to provide our clients with the highest specifications and standards and of Customer Services and Logistics Support to ensure customer satisfaction and guarantee the achievement of public safety and sustainable development requirements. This excellence includes the provision of the following services:

Customer Service and Marketing Communication:

ASTRA Mining focuses on the strategy of communication and marketing interaction with its clients and customers, in accordance with a vision and identity that guarantees the solidification of the company's name and products. This communication and marketing interaction aim to answer the needs and requirements of the company's clients and customers to ensure their satisfaction and sustain this relationship as the primary objective to achieve further deployment of the company's products to new sectors and industries.

ASTRA Mining excels in developing its reach and enhancing its activity through customer communication plans via various marketing and media means, mechanisms and channels. Additionally, these plans include conducting marketing and research surveys to continuously evaluate performance to ensure compliance with the set development plans, in addition the company's consistence presence with its clients and customers through participating in local and international exhibitions to present its products, publications, documentaries in a way that enhances the company's position in local and international markets.

Packing and Storage:

ASTRA Mining focuses on applying quality to provide the latest and best product packaging forms and to avail various types of appropriate packaging according to different products' weights and measurements, with specifications that guarantee the quality of the products in different weather factors and conditions, as well as transportation, loading and unloading and storage conditions.



Transport and Supply:

Transport and supply services are provided through the allocation of a large fleet of trucks to transport and deliver the products to the customers according to their type of packing and packaging, bulk, large bags or any other various forms of packaging. Under any kind of transport or supply, ASTRA mining takes all the care to guarantee the conditions of public safety, avoiding any environmental pollution and the timely delivery of the products to the customer.




Laboratories, Specifications and Quality Control:

In providing its services, ASTRA Mining focuses on ensuring the achievement of quality standards and complying with the requirements of standards and specifications and sustainable growth related to the quality of its products and the quality and safety of the surrounding environmental conditions.

To achieve these objectives, ASTRA Mining relies on the efforts of its chemical and physical laboratories equipped with state-of-the-art technical tools and equipment. These laboratories conduct around the clock monitoring, follow-up and inspection of the products according to the most accurate international standards. These laboratories' teams work on conducting scientific researches and technical studies to continuously develop the products and improve the work performance.





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