
Ma'aden

Saudi Arabian Mining Company





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Ma'aden

Ma'aden was formed as a Saudi joint stock company in 1997 to facilitate the development of Saudi Arabia's mineral resources.

Ma'aden's activities initially focused on expanding its active gold business which has grown to include the operation of five gold mines: Mahd Ad Dahab, Al Hajar, Sukhaybarat, Bulghah, and Al Amar and the enhancement of its gold resources to over 10,000,000 ozs through intensive exploration activity. Ma'aden is now expanding with the development of Ma'aden Phosphate Company, its Aluminium Project, and a number of industrial minerals projects.

In July 2008 50% of Ma'aden was offered in a \$2.47 billion public IPO and the company is now listed on the Riyadh stock exchange, Tadawul.

Since its formation, Ma'aden has collaborated with the Government, through the Ministry of Petroleum & Mineral Resources and local legislators to improve the regulatory framework for the governance of the mining industry in Saudi Arabia for domestic and international investors.

Ma'aden



Our Goals

Ma'aden's purpose is to carry out activities relating to all stages of the mining industry including the development and enhancement of the mineral industry and all related sectors in Saudi Arabia. Ma'aden endeavours to successfully accomplish its objectives while operating with the utmost concern for human resources, health, safety and environmental issues.

Ma'aden is committed to:

- Capitalizing on our mining experience and management skills, together with the support of the Saudi government and world-class partnerships, to participate in the global mining and minerals industry.
- Supplying the increasing global demand for minerals and using Saudi Arabia's cost-base advantages to the benefit of our employees, shareholders, the Kingdom, and the global economy.
- Developing world-scale integrated phosphate fertilizer and mine-to-metal aluminium facilities using the latest available technologies to achieve the highest productivity with minimum environmental impact.
- Developing the mining sector as the third pillar of Saudi industry through our existing mega-projects and their expansions, our gold and industrial minerals operations as well as future initiatives.
- Becoming a catalyst for the development and diversification of the Kingdom's economy.
- Being an environmentally and socially responsible miner, producer and employer, respecting our social responsibilities and international disclosure standards.

Our Goals



Our Vision

To build a world class mineral enterprise.

Our Mission

To be a profitable, publicly owned, international mining company, while maintaining the utmost concern for human resources, health, safety, environmental and social issues.

**Vision &
Mission**



Gold & Base Metals

Ma'aden's gold business explores for precious and base metals within Saudi Arabia and operates five gold mines in the Kingdom: Mahd Ad Dahab, Al Hajar, Sukhaybarat, Bulghah, and Al Amar. Ma'aden is also developing more mining properties in Ad Duwayhi and has five advanced exploration projects. Ma'aden's current operating gold mines are:

Mahd Ad Dahab

Mahd Ad Dahab is situated in the western region of the country known as the Hejaz in the Al Madinah Province of Saudi Arabia. Mining is carried out by underground methods with a total tunnel development in excess of 60km and a metallurgical plant.

Al Hajar

Al Hajar is located in the Southern Region of Saudi Arabia. It comprises an open cut mine and the Al Hajar heap leach facility, which is currently re-processing previously stacked and leached material.

Sukhaybarat

The Sukhaybarat site is situated in Al Madinah Province about 250km north of Mahd Ad Dahab. Sukhaybarat now comprises a carbon-in-leach (CIL) processing plant. The Sukhaybarat plant has a rated capacity of 600ktpa and is expected to continue operations until 2014.

Bulghah

Bulghah is situated in Al Madinah Province about 65km south of the Sukhaybarat processing plant. It comprises an open-pit mine, which mines lower grade ore for processing at the Bulghah heap leach processing facility and higher grade ore for processing at the Sukhaybarat facility.

Al Amar

Al Amar is located in the Ar Riyadh Province approximately 195km southwest of Riyadh comprising an underground mine which processes a gold rich polymetallic ore to produce gold in doré, copper and zinc concentrates which are sold to third parties for toll smelting. Al Amar is Ma'aden's newest gold mine.

Gold & Base Metals



Ma'aden Phosphate Company

Ma'aden Phosphate Company (MPC) is a joint venture with SABIC , through a limited liability company incorporated in Saudi Arabia. The Joint Venture Agreement was concluded by Ma'aden and SABIC in September 2007.

MPC aims to exploit a world scale phosphate deposit located at Al Jalamid in the North of Saudi Arabia and utilise local natural gas and sulphur resources to manufacture Diammonium Phosphate "DAP" fertilizer. Processing facilities at Ras Az Zawr which are currently at an advanced stage of construction have been designed with the flexibility to produce Monammonium Phosphate "MAP", should production of MAP be considered more economically desirable. DAP produced by the Phosphate Project will be sold primarily into the international markets. The facilities will also produce quantities of ammonia and phosphoric acid not required in the production process, which can be exported or sold domestically.

Worley Parsons Arabia Limited are working as the Project Management Consultants on the project working closely with the MPC, Ma'aden and SABIC teams to manage the overall implementation and execution. of this complex initiative.

The creation of MPC involves the development, design, construction and subsequent operation of two primary sites:

•Al Jalamid

- The Al Jalamid site comprises a phosphate mine, beneficiation plant and supporting infrastructure and encompasses an area of approx. 50 km². Mine production is expected to average approximately 12Mtpy of ore and the beneficiation facilities at the site are scheduled to produce an estimated 5 Mtpy of flotation concentrate on a dry basis. Ma'aden's measured phosphate resources at Al Jalamid are 534 Mt. It is proposed to mine 223 Mt for the Phosphate Project over its initial planned life of operations. A substantial amount of industrial infrastructure is being developed at the Al Jalamid site to support the mining and beneficiation operations including a power plant, potable water production, treatment and distribution, roads and telecommunications. The phosphate concentrate will be transported by rail from the Al Jalamid to Ras Az Zawr for processing.

•Ras Az Zawr

- Ras Az Zawr is 90km north of Jubail on the coast of the Arabian gulf. A segment of the site is being used by MPC for the construction of its integrated chemical and fertilizer facility and related infrastructure. The phosphate concentrate from Al Jalamid will be processed in the fertiliser production facility consisting of a phosphoric acid plant, a sulphuric acid plant, an ammonia plant, a DAP granulation plant, a co-generation plant and desalination plant, as well as related infrastructure.

- The Phosphate Project will produce about 2.92 Mtpy of granular DAP, plus approximately 0.4 Mtpy of excess ammonia per annum also generating about 0.2 Mtpy of excess phosphoric acid for sales to domestic markets in Saudi Arabia.

Phosphate



Aluminium

The Aluminium Project is a mine to metal project that will exploit Saudi Arabia's bauxite resources to produce aluminium for domestic and world markets and is a joint venture between Ma'aden (74.9%) and Alcoa (25.1%).

In its initial phases, the joint venture will develop a fully integrated industrial complex, including:

- o A bauxite mine at Al Ba'aitha with an initial capacity of 4,000,000 metric tons per year (mtpy);
- o An alumina refinery with an initial capacity of 1,800,000 mtpy;
- o An aluminum smelter with an initial capacity of ingot, slab and billets, of 740,000 mtpy;
- o A rolling mill, with initial hot-mill capacity of between 250,000 and 460,000 mtpy.

The mill will focus initially on the production of sheet, end and tab stock for the manufacture of aluminum cans, and potentially other products to serve the construction industry. It will be one of the most technically advanced mills in the world.

The refinery, smelter and rolling mill will be established within the new industrial zone of Ras az Zawr. The complex will utilize critical infrastructure, including low-cost and clean power generation , as well as port and rail facilities, developed by the Kingdom's government. Bauxite feedstock for the planned alumina refinery will be transported by rail from the new mine at Al Ba'itha, near Quiba, in the north. The project will be developed and financed in two phases, with the rolling mill and smelter in the first phase. First production from the aluminum smelter and rolling mill is anticipated in 2013, and first production from the mine and refinery is expected in 2014.

- Aluminium operations at Ras Az Zawr will rely on certain infrastructure including. a power, steam and water facility. In October 2009 Ma'aden signed an agreement with the Saline Water Conversion Company (SWCC) and Saudi Electricity Company (SEC) to develop a joint power and desalination plant which will generate 2400 MW of electricity and 1.025 million cubic metres of water per day. Of that, Ma'aden's aluminium project will use 1,350 MW of electricity and 25,000 cubic metres per day of water. The rest of the water will be pumped to the cities of Riyadh, Hafr Al-Batin and Nuayriyah. SEC's share will be 1,050 MW of electricity, some of which will power downstream industries at the Mineral Industry Complex at Ras Az Zawr.



Aluminium



STOP

Industrial Minerals Projects

Magnesite Project

There is a high-grade magnesite resource at the Zarghat deposit which will provide quality feedstock for a range of high-value magnesia products. It is proposed that the mine will be developed as an open cast mine and run of mine material will be crushed and screened on site and delivered to Ma'aden's processing plant at Al Madinah Al Munawarah which is currently under construction. The chemical and physical characteristics of Zarghat magnesite make it suitable for a range of high grade magnesia applications in a variety of market sectors, including refractories, environmental, agricultural, construction and other value added applications.

Kaolin and Low Grade Bauxite Operations

The production plant has been commissioned and the mine and plant site at AzZabirah are in production. High quality products are being supplied to the cement industry. The mine has been developed as an open cast operation and the ores are dry processed.

The quality of both the feedstock and the finished products are carefully controlled with the use of modern analytical tools that yield quality data in real time, allowing for the swift correction of any deviation from the product specification.

Other Projects

Ma'aden is exploring and evaluating new industrial mineral resources in Saudi Arabia for supply to local and international markets. The Company is actively evaluating the potential to enrich its mineral portfolio from identified deposits of industrial minerals including refractory clay and low-grade bauxite, sillimanite type minerals, graphite, bentonite and attapulgite, diatomite, silica, garnets, wollastonite, and brine type minerals.

Chlor Alkali Project

Caustic soda is an essential feedstock needed for the refining of bauxite to alumina. It is produced from the electrolysis of brine, along with chlorine which is later used in the manufacture of ethylene di-chloride (EDC). Ma'aden proposes to construct a facility in a 50/50 joint venture with Sahara Petrochemical Company to produce caustic soda and EDC for export. Ma'aden and Sahara Petrochemical Company have signed a Memorandum Of Understanding in respect of the construction of the plant. The plant will be located at Jubail Industrial City to allow ethylene to be delivered by pipeline from the Tasnee Ethane Cracker.

Industrial Minerals & Other Projects



Exploration

Ma'aden's major exploration projects are located within the prospective Arabian Shield area and are grouped into two regions, namely the Central Arabian Gold Region (CAGR) and the Northern Shield Region sometimes referred to as the Sukhaybarat-Bulghah area.

Central Arabian Gold Region (CAGR) Prospects

Since the grant of the exploration license for the Ad Duwayhi prospect in 1998, Ma'aden has conducted an extensive exploration programme throughout targeted areas in the CAGR which has resulted in the delineation of six advanced exploration projects: Ad Duwayhi, Zalim, As Suk, Ar Rjum, Mansourah and Masarraah.

Northern Arabian Shield Prospects

Ma'aden holds a license area of 1,886.77 km² which represents the most prospective ground around the existing mines and known deposits in the Northern Arabian Shield area. Ma'aden's most advanced exploration projects within the Northern Arabian Shield Area are the Bulghah North and Humaymah prospects.



Exploration



Infrastructure

Both the Phosphate and Aluminium Projects rely on the successful development and operation of several substantial infrastructure projects. These are:

- The port at Ras Az Zawr for exporting DAP and ammonia in the case of the Phosphate Project and for the import of raw materials, and export of alumina and aluminium in the case of the Aluminium Project;
- The Railway project to transport the phosphate and bauxite ore from Al Jalamid and Al Baittha (respectively) to Ras Az Zawr.
- Certain common infrastructure facilities are required to service both the Phosphate and Aluminium Projects. These facilities are being developed by InfraCo, a wholly owned subsidiary of Ma'aden.

InfraCo's scope includes facilities such as serviced land, roads, drainage, lighting and a power grid connection as well as accommodation. In October 2009 the Cabinet of Ministers approved that the Royal Commission for Jubail and Yanbu (RCJY) will administer the Zone of Ras Az Zawr for Mineral Industries, provide the services for the mining and other industries following the example of the industrial cities of Jubail and Yanbu. The RCJY is the foremost developer and manager of industrial infrastructure in the Kingdom. Infrastructure synergies in areas including master planning, site development, safety & security, environmental management and community services will reduce costs and potentially accelerate the development of Ras Az Zawr.

Port

A new Port is being constructed, and will be operated and maintained by the Saudi Ports Authority at Ras Az Zawr. It will service industrial operations located at Ras Az Zawr including the import and export requirements associated with the Aluminium and Phosphate Projects.

Railway

The PIF (a division of the Ministry of Finance) is undertaking the development of a new north-south railway line which is currently under construction. The mineral line will be approximately 1,500 km long linking the phosphate mine at Al Jalamid and the bauxite mine at Az Zabirah to the processing facilities at Ras Az Zawr.



Infrastructure



Industrial Security

Ma'aden takes the safety and security of its facilities, employees and their families very seriously. At Ma'aden, industrial security means ensuring that an ideal environment is created for all Ma'aden employees, business partners and associated families and communities to thrive in and to strive towards excellence in health, safety and security while making significant contributions to the profitability of the company.

SECURITY

Ma'aden's primary security objective is the protection of all its people and physical assets. This means undertaking all the activities required to ensure appropriate security in Ma'aden and its affiliates. Our security policy requires the planning and implementation of the day to day activities necessary to provide a suitable secure environment. This includes ensuring compliance to procedures for setting of security objectives, defining the necessary company structure and allocating the associated responsibilities.

HEALTH & SAFETY

Many hazardous industries the world over have proven that the inherent risk in these industries can be minimized by introducing an Occupational Health and Safety Management System throughout the organization. The foundation of the Ma'aden Occupational Health and Safety Management System is the Plan-Do-Act-Check cycle of continuous improvement that is also known as the Deming cycle, extensively used in all ISO standard specifications.

Ma'aden is implementing an OHSAS 18001 based occupational health and safety management system. This Occupational Health and Safety Management System provides Ma'aden and its affiliates with the framework to ensure the Health and Safety policy, the structure of the management system as well as the related support documents is designed and implemented according to internationally accepted requirements.

EMERGENCY RESPONSE

Ma'aden's Emergency Response Plans anticipate natural, accidental, or intentionally caused disasters resulting in emergency situations. Our plans also serve to assure the continuity of Ma'aden's business functions before, during, and after a major emergency. These plans are continually assessed and improved.

Corporate emergency plans are developed and implemented at all mines, plants, quarries, manufacturing and processing operations, as well as rail and port operations based on suitable templates. These emergency plans define the framework for identifying potential emergency situations and potential accidents, involving significant security, health and safety risks, and provide direction on an appropriate response.

**Industrial
Security
Health &
Safety**



Human Resources

We are building some of the world's largest and most exciting projects in phosphate and aluminium as well as expanding existing operations in gold. We are also working hard exploring vast areas of Saudi Arabia for new mining opportunities.

In order to accomplish our objective of building a world class minerals enterprise we will require a large number of people with diverse backgrounds and expertise to join us. From an employment perspective, we're much more than a mining company.

We are a team with skills in administration, geology, communications, IT, engineering, accounting, safety and project management – to name but a few. Presently, there are over 1,000 employees of different nationalities working and enjoying Ma'aden's unique environment. Soon, this number will grow to several thousand. At the core of Ma'aden's management philosophy is the desire to maintain a strong and lasting relationship with its employees. Good internal communications, from the board room to the mines and mills are an essential part of this endeavour. An open and honest approach prevails and helps to build the teamwork and co-operation that are vital to the company's success.

To attract and keep the best people at all levels of the organization, Ma'aden strives to pay highly competitive wages. In addition, the employees of Ma'aden are entitled to a wide range of benefits as part of their overall compensation package. These programs include medical care, relocation benefits, housing benefits, transportation, performance and loyalty bonuses and assistance with educational programs.

Ma'aden provides training and professional development programs throughout its operations and projects and is pleased that more and more Saudi Arabian nationals are choosing to pursue their careers with our company. Integrity is at the heart of Ma'aden's relationships with its employees, customers, suppliers and indeed all of its stakeholders.

Human Resources



Corporate Social Responsibility

Ma'aden is committed to Corporate Social Responsibility (CSR) allowing us to contribute positively to the well being of our people, the environment, economy and society.

We recognize that responsible behaviour generates greater value for our stakeholders and earns us the trust of our employees, the communities in which we operate and our customers.

Core to Ma'aden's commitment to social responsibility are the following 10 principles:

- To implement and maintain ethical business practices and sound systems of corporate governance.
- To integrate sustainable development considerations within the corporate decision-making process.
- To uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
- To implement risk management strategies based on valid data and sound science.
- To seek continual improvement of our health and safety performance.
- To seek continual improvement of our environmental performance.
- Contribute to conservation of biodiversity and integrated approaches to land use planning.
- To facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
- To contribute to the social, economic and institutional development of the communities in which we operate.
- To implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

Ma'aden's commitment to CSR focuses on the four pillars of ethics, environment, community commitment and employee commitment.



**Social
Responsibility**

Contact us:

Riyadh (Headquarter):

P.O.Box 68861 Riyadh 11537
Kingdom of Saudi Arabia
Tel : +966 (1) 874 8000
Fax: +966 (1) 874 8057

Jeddah (Gold & Base Metals):

P.O.Box 13784 Jeddah 21414
Kingdom of Saudi Arabia
Tel : +966 (2) 668 2992
Fax: +966 (2) 668 2979

Al-Khobar (Aluminum, and Infrastructure Company):

P.O.Box 32001 Al-Khobar 31952
Kingdom of Saudi Arabia
Tel : +966 (3) 881 1970
Fax: +966 (3) 881 1964

Jubail (Phosphate Company)

P.O.Box 11110 Jubail Industrial City 31961
Tel : +966 (3) 347 3333
Fax: +966 (3) 347 5682

E-mail us at: info@maaden.com.sa
Visit our website: www.maaaden.com.sa