

CERTIFIED ISO 9001:2015

# OREX MINING COMPANY DMCC



[www.orexuae.com](http://www.orexuae.com)



# CORPORATE

OREX MINING COMPANY DMCC was established in 2014 as a free zone company in Dubai, UAE. The company started business as an international trader of raw materials required by steel and fertilizers unit in India.

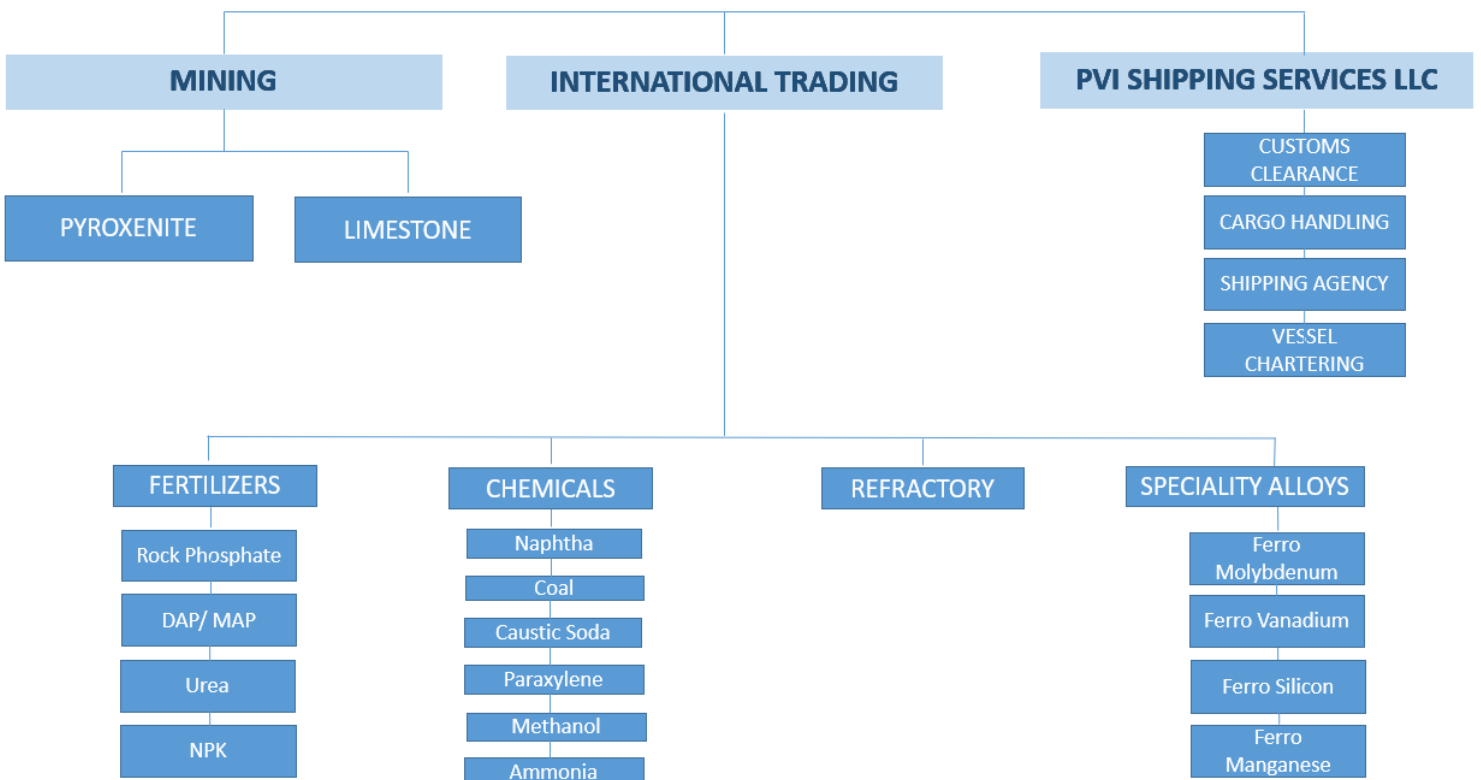
In 2016, the company was granted limestone mining lease in Taween, Fujairah. A 1000 TPH 3-stage crushing plant producing steel grade limestone and aggregates with an installed capacity of 1,500,000 MTPA. This quarry is being run as a joint venture.

In the year 2017, Orex started exporting high magnesium Pyroxenite to integrated steel plants in India. By 2020, the company has been exporting over 500,000 MTPA.

The company has been granted 2 sq. km Pyroxenite mining lease in Siji, Fujairah in January 2021. The company proposes to set-up a 450 TPH 3-stage producing steel flux size 10-40 mm and aggregates with an installed capacity of 1,200,00 MTPA. The Pyroxenite mining project includes a magnesium extraction plant producing MgO and Mg using a thermo-chemical process with an installed capacity of 400,000 MTPA.



## OREX MINING COMPANY DMCC





# GABBRO MINING



OREX MINING COMPANY DMCC has captive quarry at Al Hayl, Fujairah which produces High Density Gabbro Aggregate.

## Products

SL. NO.	SIZE IN MM	Description
1	0-50 mm	Road base
2	0-30 mm	Sub base
3	0-5 mm	Black sand
4	5-10 mm	Aggregate
5	10-20 mm	Aggregate
6	20-40 mm	Oversize

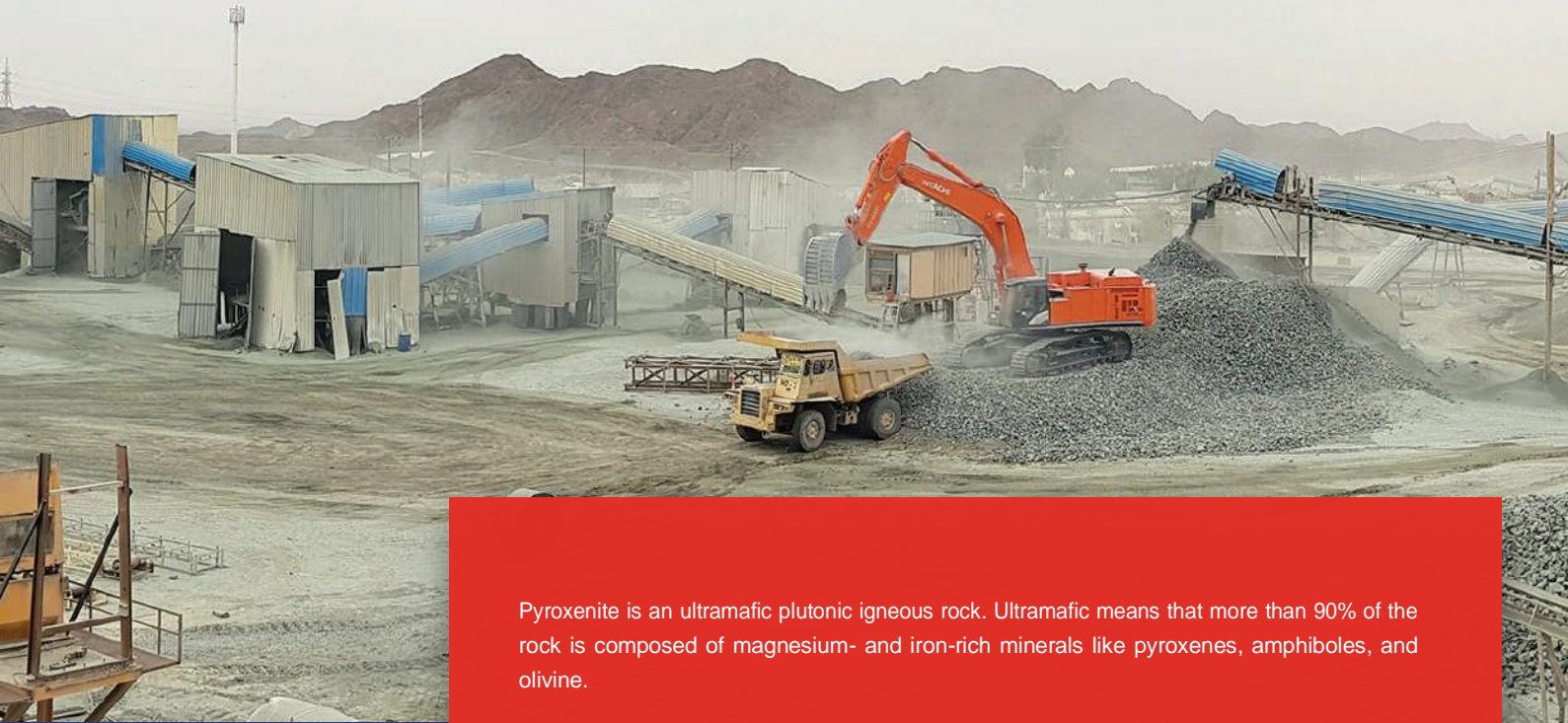
## Specifications

SL. NO.	CONTENT	VALUE
1	Apparent Particle Density (Mg/m3)	90
2	Flakiness Index(%)	x 28%
3	Percentage of clay lumps and friable particles	x 2 %





# PYROXENITE MINING



Pyroxenite is an ultramafic plutonic igneous rock. Ultramafic means that more than 90% of the rock is composed of magnesium- and iron-rich minerals like pyroxenes, amphiboles, and olivine.

Pyroxenite used as Dual flux for pelletisation. The tailor-made dual flux, developed through thermodynamic modelling, works well for a wide variety of iron-ore fines. The innovation resulted in a 12-percent increase in the productivity of the pellet plant.

It has been established that silicate mineral flux (Pyroxenite) as a fluxing agent for pelletisation — and this is a global first. To protect the intellectual property right, a patent has been filed for this innovation. Also, a paper on the innovation has been published in the International Journal of Mineral Processing.

Other benefits include a 30-percent increase in pellet strength and a 4-percent decrease in the generation of fines. Just as significant, the fuel consumption in the blast furnace has decreased (by 29 kg/tonne of hot metal), thus securing savings in natural resources and a reduction of carbon emissions.

## BENEFITS OF PYROXENITE

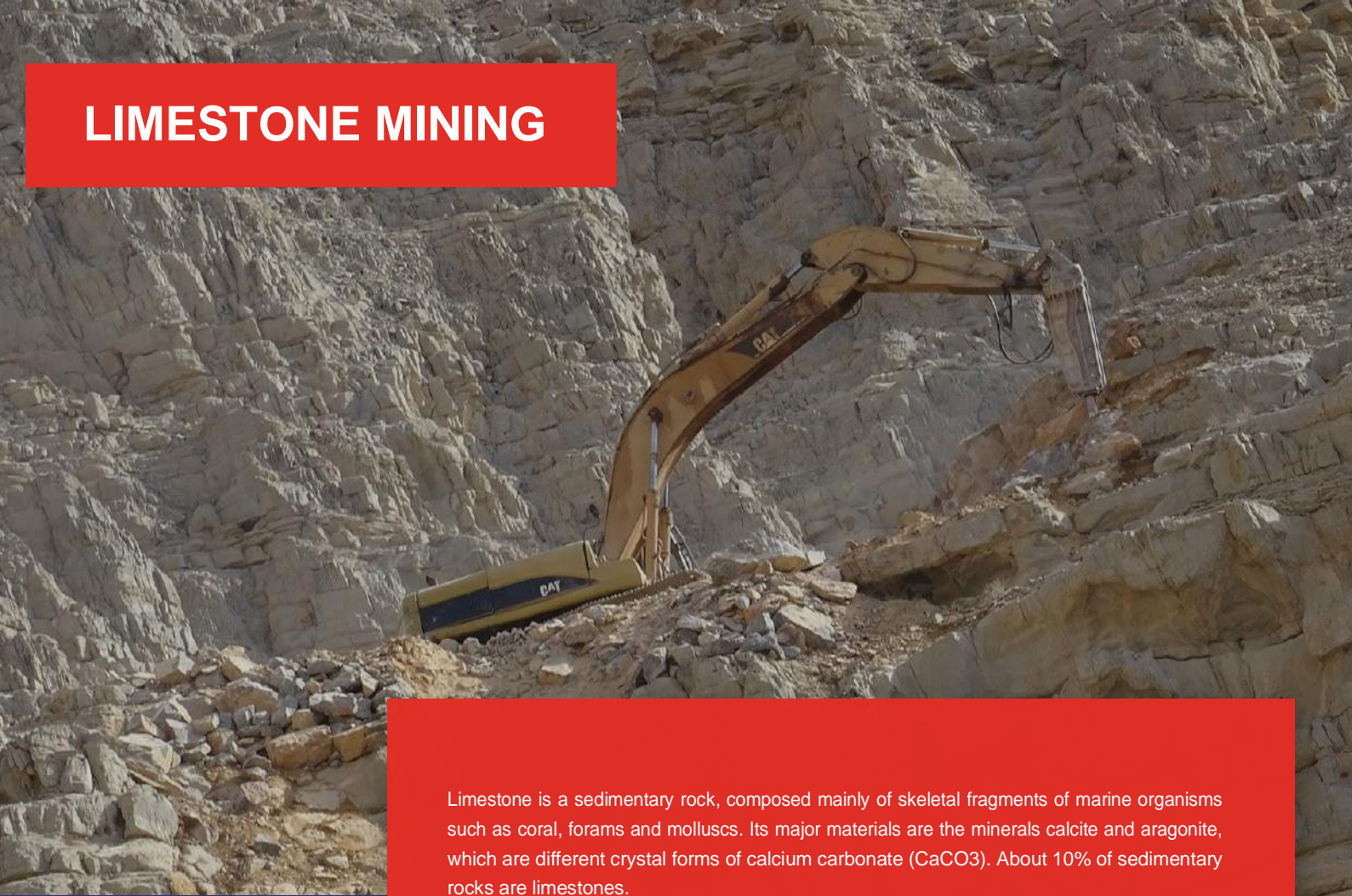
Dolomite consumption is 100 Kg/ ton in blast furnace and 50 kg/ton in Sinter plant. With introduction of Pyroxenite, Dolomite consumption would be stopped in blast furnace. Direct benefits of pyroxenite same MgO and high silica as Dolomite are as follows.

- Replacement of dolomite in blast furnace.
- Reduction in coke consumption to the tune of 5 kg/ ton. Present consumption 58-60 kg/ton which shall be reduced to 53- 55 Kg/ ton on using Pyroxenite.
- Increase in productivity by 2-4 %.
- Decrease of quartzite in blast furnace.
- Decrease in crushing and handling cost of dolomite.





# LIMESTONE MINING



Limestone is a sedimentary rock, composed mainly of skeletal fragments of marine organisms such as coral, forams and molluscs. Its major materials are the minerals calcite and aragonite, which are different crystal forms of calcium carbonate ( $\text{CaCO}_3$ ). About 10% of sedimentary rocks are limestones.

Limestone is the raw material for the manufacture of quicklime (calcium oxide), slaked lime (calcium hydroxide), cement and mortar. It is crushed for use as aggregate the solid base for many roads as well as in asphalt concrete. In some circumstances limestone is used for glass production.

There are two grades of limestone such as Steel grade and cement grade depends upon the silica content. We are producing high grade low silica limestone in our In-house quarry Orex Mining FZE, Fujairah.

The company has been granted quarry area of approximately 1 Sq. Km encompassing 7 mountains with a max height of 250 m from mean sea level. The estimated reserve of high grade lime stone is estimated to be over 250 Million Ton. The lime stone excavated from the mines are crushed to the sizes of 0-5 MM, 5-10 MM, 10-20 MM, 0-40 MM & 40-80 MM for export of Qatar and Kuwait. Larger size of 40 mm and above with steel grade are exported to steel industries worldwide.

We also produce a wide range of aggregate of sizes 3/4", 3/8", 3/16" for the local market. High Silica >1% for Cement industry is produced in sizes 5- 40 mm.

\*\* Size may be changed as per customer's requirement

Packing in bulk





# FERTILIZERS

## ROCK PHOSPHATE - EGYPT

We offer Rock Phosphate sourced from El Nasr Mining Company in Egypt. BULK SHIPMENTS – EGYPT – Sourced from EL NASR MINING COMPANY Bulk shipment of Egyptian Rock Phosphate (P2O5) to India was initiated with 40,000 MT shipments to one of the leading Fertilizer Company in India. We have achieved P2O5 of 30.77% which was over .77% higher than the contracted Grade. To add to it the overall R203 was 1.84%, which makes the product usable to be run SSP singly (Without mixing of Jordan Rock Phosphate) for the first time from Egyptian Rock Phosphate. In general Egyptian Rock phosphate was considered as inferior quality and was always used as an additive to high grade Jordan Rock for SSP production.

## ROCK PHOSPHATE IN BULK LOADING

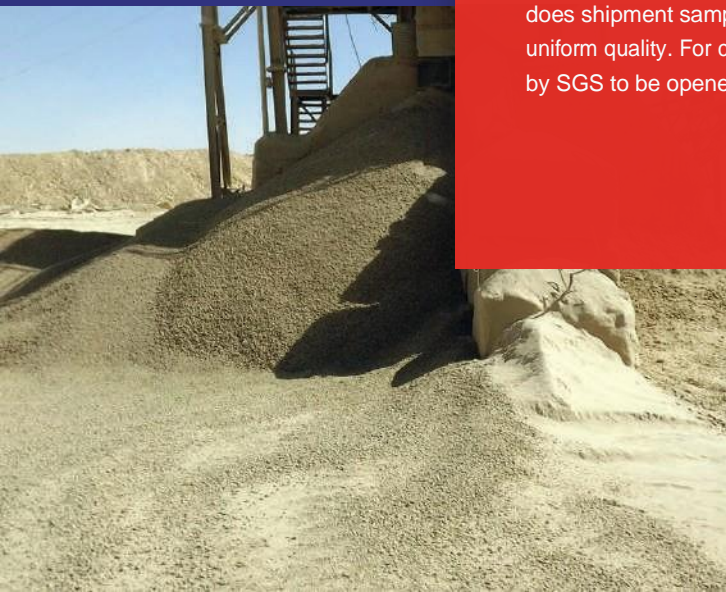
### CONTAINERISED SHIPMENTS

The Rock Phosphate are loaded into New PP Bags in the mine and loaded on to Trucks approx. 70 tons. The cargo is then moved to Alexandria Port for container stuffing. Approx. 26MT/20'FCL. Lead time for shipment 30 days after receipt of LC in tests during truck.

### ROCK PHOSPHATE IN PP BAGS

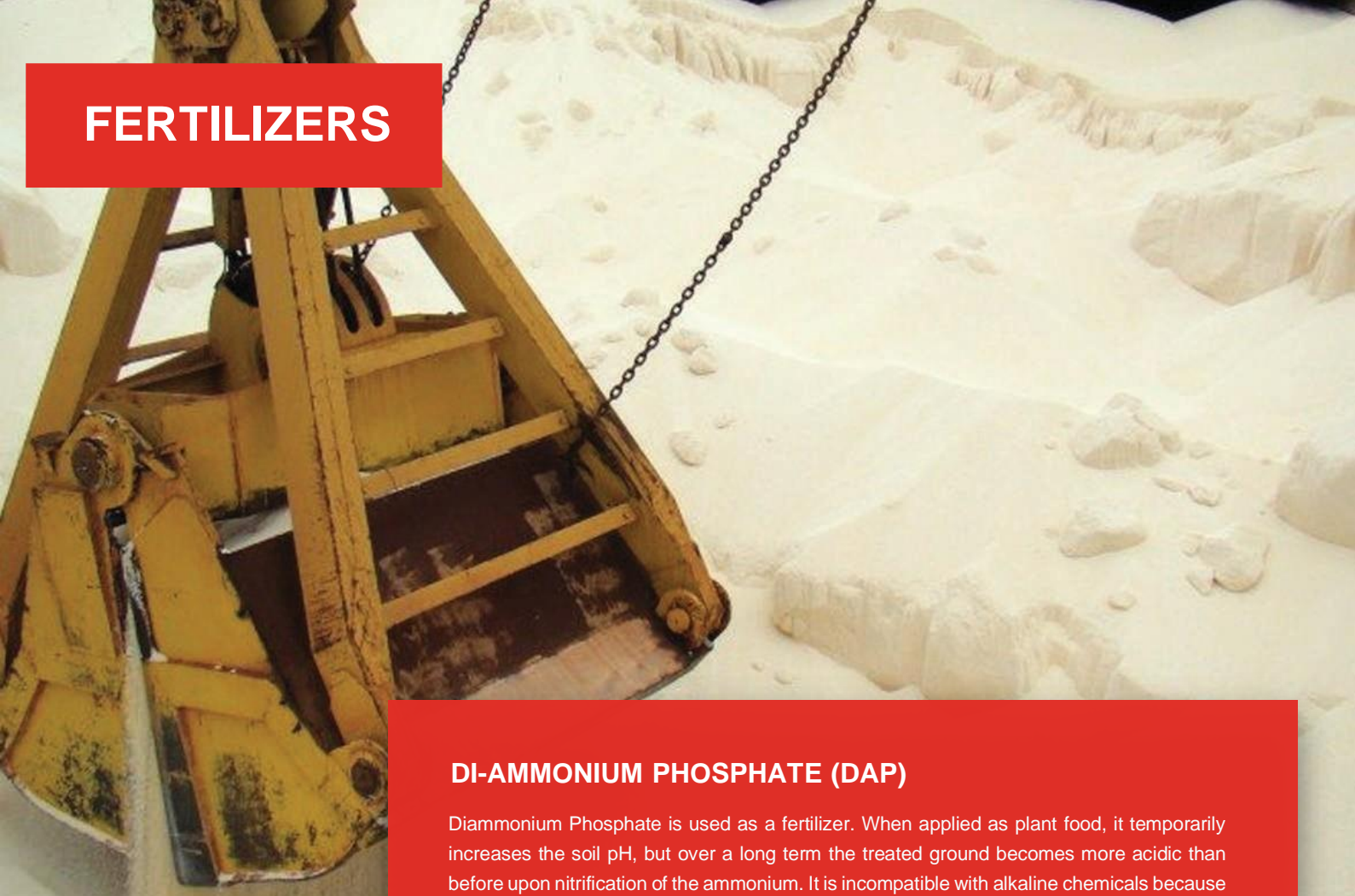
### QUALITY CONTROL

For Bulk Shipments, we appoint SGS for online truck-wise sampling at mine-head with P2O5 daily report. SGS/BALTIC CONTROL inspects cargo at unloading point of trucks at Port. SGS does shipment sampling during loading of vessel as well as in discharge Port. This ensures uniform quality. For containerized shipments cargo is inspected at mines truck-wise and sealed by SGS to be opened at the customer's warehouse.





# FERTILIZERS



## DI-AMMONIUM PHOSPHATE (DAP)

Diammonium Phosphate is used as a fertilizer. When applied as plant food, it temporarily increases the soil pH, but over a long term the treated ground becomes more acidic than before upon nitrification of the ammonium. It is incompatible with alkaline chemicals because its ammonium ion is more likely to convert to ammonia in a high-pH environment. The average pH in solution is 7.5-8. The typical formulation is 18-46-0 (18% N, 46% P<sub>2</sub>O<sub>5</sub>, 0% K<sub>2</sub>O). The primary use for Diammonium Phosphate is as a fertilizer to provide nitrogen (18%) and phosphate (20%) for sugarcane, field crops, green feed, sheep, beef and dairy pasture. DAP is a cost effective product providing readily available and phosphate. It has well spreading and flow characteristics. It can be used as an alternative source of phosphate if soil sulphate levels are high or sulphur is not required. It also used in forestry where both nitrogen and phosphate are required.

## MONO-AMMONIUM PHOSPHATE (MAP)

Monoammonium phosphate (MAP) is a widely used source of P and N. It is made of two constituents common in the fertilizer industry and has the highest P content of any common solid fertilizer.

## AGRICULTURAL USE

MAP has been an important granular fertilizer for many years. It is water soluble and dissolves rapidly in soil if adequate moisture is present. Upon dissolution, the two basic components of the fertilizer separate again to release NH<sub>4</sub><sup>+</sup> and H<sub>2</sub>PO<sub>4</sub><sup>-</sup>. Both of these nutrients are important to sustain healthy plant growth. The pH of the solution surrounding the granule is moderately acidic, making MAP an especially desirable fertilizer in neutral and high pH soils. Agronomic studies show that there is no significant difference in P nutrition from various commercial P fertilizers under most conditions.





# CHEMICALS

## PHOSPHORIC ACID

On a daily basis, 900-1300tons of diluted phosphoric acid is produced through a reaction between phosphate ore and sulfuric acid produced at the Industrial Complex using Prayon Wet Process. Phosphate is trucked in from various mines and unloaded in the unloading station. The production capacity of which is 18,000tons They also have a yard for phosphate storage with a capacity of 100,000tons. Phosphate is transported by moving belts to the phosphate mill at a rate of 200tons per hour to grind phosphates to a granule size less than 500 microns.

Granules react with sulfuric acid in a reactor that has capacity of 1,250m<sup>3</sup>. In addition there is the new reactor containing diluted phosphoric acid and gypsum. Then the mixture is pumped into 3 hosts, the size of each is 280m<sup>3</sup> so as to increase the size of the gypsum crystals and then filtering the solution using a UCEGO Filter.

## SULFURIC ACID

More sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) is produced in the world than any other chemical. Over 40 million tons (4 x 10<sup>10</sup> kilograms) of sulfuric acid is manufactured annually. Sulfuric acid is used in the production of fertilizers, explosives, petroleum products, detergents, dyes, insecticides, drugs, plastics, steel, storage batteries, and many other materials. The largest amount of sulfuric acid is used in the production of phosphate fertilizers. In this process calcium phosphate, Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>, in phosphate rock, which cannot be used by plants because of its insolubility in groundwater, is converted to forms that will dissolve in water, thus making the phosphate available to plants.

## BULK SULPHURIC ACID

One remarkable property of sulfuric acid is its great affinity for water. For example, when it is mixed with sugar, it dehydrates the sugar (takes the water out) and forms a column of black carbon. Because of this high affinity for water, sulfuric acid is often used as a drying agent in the production of explosives, dyes, detergents, and various anhydrous (water-free) materials



# NAPHTHA

## FULL RANGE NAPHTHA

Full Range Naphtha (FRNAP) is a virgin naphtha with a typical boiling point range of 30-150°C and PNA (paraffinic: naphthenic: aromatic) content of content of 70:20:10. As a versatile naphtha, it has the potential to be used as a direct feedstock by petrochemical plants or into naphtha splitters for further processing. Total capacity 45 KT.

## SPECIFICATIONS

TEST	UNIT	LIMITS	METHOD
Density at 15 °F*	kg/m <sup>3</sup>	To be reported	ASTM D4052
Color Saybolt		Min +25	ASTM D6045
<b>Distillation:</b> 10% Volume Recovery	°C	Max 80	ASTM D86
50% Volume Recovery	°C	Max 110	
90% Volume Recovery	°C	Max 135	
End Point	°C	Max 170	
Vapour pressure at 100 °F	psi	Max 13.0	ASTM D5191
Mercaptan Sulphur	mg/kg	Max 200	ASTM D3227
Total Sulphur	mg/kg	Max 300	ASTM D5453

## LIGHT NAPHTHA

Light Naphtha is a type of virgin NGL, recovered in gas processing section of the LNG plants. In the family of light naphtha (typical boiling point range of 35-140°C), it is highly paraffinic (typically >80%) and typically used as feedstock in petrochemical cracking plants.

## SPECIFICATIONS

GURANTEED SPECIFICATION- LIGHT NAPHTHA			
Sl. No.	Parameters	Unit	Content
1	Paraffins	vol %	65 min
2	Specific gravity at 60 °F	gm/cc	0.65- 0.74
3	RVP	psi	13 max
4	Sulphur	wppm	650 max
5	Distillation (IBP)	°C	25 min
6	Distillation (FBP)	°C	204 max
7	Chlorine	wppm	1 max
8	Mercury	wppb	1 max
9	Arsenic	wppb	20 max
10	Olefins	vol %	1 max
11	N- Paraffins	% vol	30 min
12	Colour	Saybolt	20 min
13	Lead	wppb	150 max
14	Total oxygenates	wppm	50 max
15	Carbon disulfide	wppm	3 max



# COAL

## STEAM COAL

Coal burned, primarily in boilers, to generate steam for the production of electricity or for process heating purposes or used as a direct source of process heat. Steam coal, also known as thermal coal, refers to all coal not classified as coking (or metallurgical) coal.

## INDONESIAN COAL

Since the mid 1990's Indonesian coal mining in Indonesia has developed significantly. The World Coal Institute gauges that in 2008 Indonesia mined 246 million tons of coal with a little more than 200 million tons of this traded. 2008 coal sends out involved 173 million tons of steam coal and 30 million tons of coking coal. In 2009, Indonesia was the world's second biggest coal exporter behind Australia and is a significant provider to Asian nations.

## SPECIFICATIONS OF INDONESIAN COAL

Indonesian High CV Coal	
Characteristics	Typical Value
Total Moisture, wt% (ARB)	26 to 28 %
Sulphur, Air Dry basis %	< 0.7%
HGI	50 to 70
Ash content, wt %	5 to 7%
Volatile Matter, VCM, wt%	38 to 42%
Fixed Carbon	40 to 44%
Gross Calorific Value HCV, kcal/kg (ADB)	5800 to 6200 Kcal/Kg
Gross Calorific Value HCV, kcal/kg (ARB)	4800 to 5300 Kcal/Kg
Sizing Distribution	0x150 mm

Indonesian Low CV Coal	
Characteristics	Typical Value
Total Moisture, wt% (ARB)	36 to 40%
Sulphur, Air Dry basis %	< 0.7%
HGI	50 to 70
Ash content, wt %	5 to 7%
Volatile Matter, VCM, wt%	38 to 42%
Fixed Carbon	40 to 44%
Gross Calorific Value HCV, kcal/kg (ADB)	5200 to 5600 Kcal/Kg
Gross Calorific Value HCV, kcal/kg (ARB)	3200 to 4300 Kcal/Kg
Sizing Distribution	0x150 mm





MAKES LASTING FRIENDS

# OREX MINING COMPANY DMCC

## **OREX MINING COMPANY DMCC**

P.O.BOX NO.336601

905 HDS BUSINESS CENTRE, CLUSTER M,  
JLT, DUBAI, UAE

Tel: +971 4 553 0420

Email: [sales1@orexuae.com](mailto:sales1@orexuae.com)

Web: [www.orexuae.com](http://www.orexuae.com)

[www.orexuae.com](http://www.orexuae.com)