YOUR STONE SOLTIONS

KOCAK GROUP

THE LATMOS LUNA QUARRY

LATMOS IS THE SUBSIDIARY COMPANY OF KOCAK GROUP

YOUR STONE SOLTIONS

KOCAK GROUP

CONTENTS

YOUR STONE SOLTIONS

KOCAK GROUP

LaTmos SLAB TILE & TUMBLED

ABOUT US

Kocak Madencilik San. ve Tic. Ltd. Sti. (Kocak Marble) has been established towards to end of 1995 as a family company, with less opportunity but with many brilliant ideas. Since beginning, Kocak Marble succeed in to be one of the leading company in its sector, as taking the place of in top 5 exporters in Turkey within last 10 years.

Within pointed 17 years in Turkey, many marble producers and exporters went bankrupt because of both global and territorial big economic fluctuations. However even those periods, Kocak Marble could project its future as acting rationalist, taking right decision on right time and making the moves according to current conjuncture.

As a reason of this, success rate of Kocak Marble has always been up-tendency. Considering a large experience in the market within the years, our company has included many success stories into his history. The best examples to mentioned subject are those that Kocak Marble took the place of top 1000 exporter of Turkey as being 485. company in 2010 and 613. company in 2011.

It is sure that the mission of Kocak Marble assumed as raw natural block supplier has developed from past to today, changed and become modernized and reached a respectable position. However this has not been very easy. Today, checking all the natural stone source of Turkey continuously, making all necessary research in the quarries, presenting right material to right client, illuminating our producers in terms of production techniques under our experience and undertake their foreign sales responsibilities, representing our country properly during our marketing studies abroad, to follow natural stone requirements and changes of the world very closely are only some of the mission of Kocak Marble. As a result of this, with its qualified personnel, dynamic pattern and with the mentality of taking the pulse of both Turkey and whole world as correctly as possible has made Kocak Marble one of the leading company in its sector. Presently, our company has still been keeping its reliable and respectable position in both local and international markets.

One of the worthy point to explain in this successful journey shortly is the roadmap that Kocak Marble specified at the beginning of establishment. In this regards, it is rather necessary to mention about only philosophy of Kocak Marble which is starting point of everything and also company slogan: “Our Client are Our Bosses”

After addressing company starting point and other information, we would also like to briefly touch on how those processes are managed and which kind of application are followed in Kocak Marble, item by item.

In terms of marketing research;

- Firstly People’s Republic of China and then in whole world, making professional marketing research and employ qualified stuff who can manage this work properly.
- While having trip to whole world, getting in touch with potential buyers as face to face and taking note their requirements.
- Matching the noted requirement with right material and produce alternative offer for potential buyers.
- Participating or visiting local and foreign special exhibitions.
- Informing clients or potential buyers about new quarries of Turkey.
- Sticking in the mind of client and potential buyers by the help of e-mails sending systematically and containing company product rage.
- Placing advertisements to some necessary B2B site or magazines.
- Making investment to “Google Ad words” system aiming to make their research easy who are look for a company from Turkey via internet.
- Developing and modifying marketing research techniques according to changing world.

YOUR STONE SOLTIONS

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ABOUT US

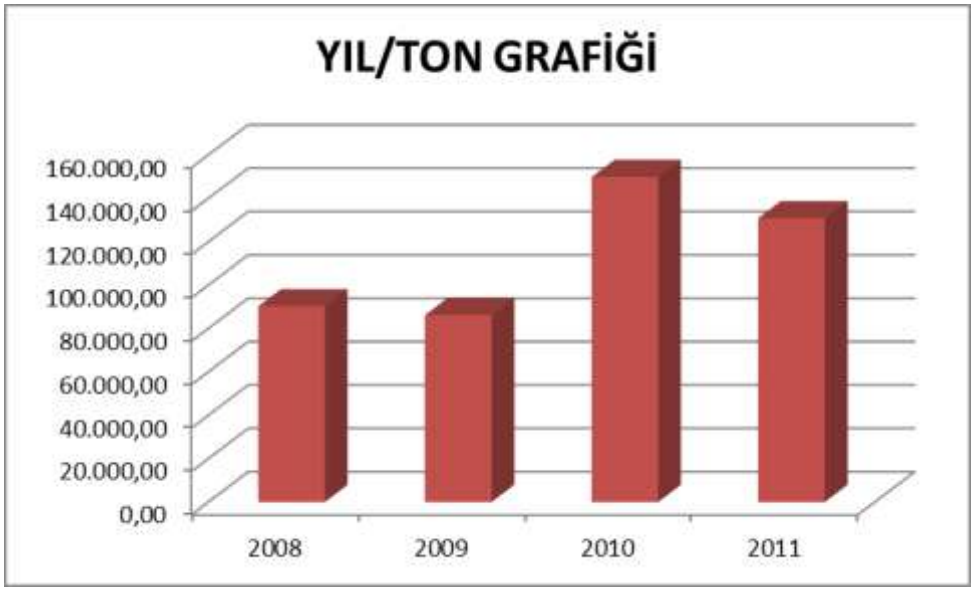
In terms of sales;

- Supplying raw marble block need of registered or newly contacted clients whose buyings-requirement are based on a project which means that quantity is clear to provide. Or taking in charge of one quarry's whole production with related big buyer during the terms such as 3-5 years and so making that product a well-known world brand. The best examples for this subject are the products "Jin Hudie" (Golden Butterfly) and "Jinye" (Golden Leaf) which became very famous in China by the help of Kocak Marble and his Chinese partners.
- To complete whole export steps without any problem in terms of document.
- Giving after sales support to the clients professionally and if there is any complaint from them, to solve it as fast as possible.

In terms of official approach;

- Employing qualified workers in departments.
- Making investments to human capital.
- Representing properly organizational structure of the company in both local and international markets.
- Following all the processes of the company with regular meetings.
- Providing all departments to give reports orderly about every subject.

All above approaches and subtitles are giving some ideas about system and mentality of Kocak Marble.



Sold Tonnage Diagram According to Years

Above diagram is a simple confirmation to the result of Kocak Marble's being in top 1000 exporter of Turkey.

Kocak Marble, canalizing its' experience on Latmos Traverten Mad. San. Ve Tic. Ltd. Sti. (Latmos) has opened Latmos Luna Quarry in 2008 and taken producer identity in the sector. As result of this, Kocak Group structure consists of two companies as Kocak Madencilik San. Ve Tic. Ltd. Sti. which rough block supplier and Latmos Traverten Madencilik San. Ve Tic. Ltd. Sti. which established in 2005 as cut to size stone supplier and became also a quarrier in 2008.

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Latmos SLAB TILE & TUMBLED

ABOUT US

Before referring to quarrier face of Latmos, it is necessary to mention about its missions under Kocak Group shortly.

Latmos is a subsidiary company of Kocak Group as end and semi-processed product supplier. In natural stone market, end products means slab, tile, various cut to size and special finish required materials. First mission of Latmos is to find demanded material from related factory according to current project in the hand. For this reason, Latmos visits marble factories regularly, follow the current situation and quality of products closely and send all information to the clients as report. Latmos also sends samples to registered client for better presentation and illuminate them about true materials needed in their projects.

In case of receiving an order to Latmos, process begins when product is raw block in the quarry. To be sure about that right block transported from quarry to factory, to follow the cutting steps the block, to control finishing and production quality until package step carefully and during all these stages to inform the client about all in details and give a final report to client that the goods loaded into containers without any problem are principal services of Latmos.

Since establishment, Latmos has been exporting to mainly USA, Colombia, England, Germany, Italy, Saudi Arabia, United Arab Emirates, Russia and Ukraine and some other countries.

About Latmos Luna Quarry;

In despite of hard working condition, huge reserve of the Latmos Luna Quarry is more than it is estimated. What is more, the high similarity to the one named Crema Marfil which is being produced by Spain more than 100 years and which is a very famous material in worldwide always required in the projects, is a big advantage without any hesitation. Because of this, Kocak Group decided to make investment on Latmos Luna Quarry.

Today, it is obvious that reserve of Crema Marfil in Spain has fallen into consume. Furthermore selection and color of the product are not same as in the past. On the other side, world is still searching Crema Marfil or very similar materials in big quantities. All architects and designers are still willing to use Crema Marfil because of its' color and structure that matching with all projects. Therefore, considering huge reserve of the quarry, it is inevitable that Latmos Luna is to be a center of Crema Marfil in current and next century with its' own brand, which is also main target of Kocak Group.

Latmos Luna has been initially and especially tendered to Chinese and Indian markets due to our raw material marketing company Kocak Marble has a big marketshare in these countries. Later on, we have started to production intensively after making a sales agreement with **BEIJING RUI CHENG TIAN BOA STONE CO., LTD** in China. However, we unfortunately have been refusing business opportunities in terms of hundreds of thousands cut to size because of our financial structure which is only enough for raw block progress.

In this sense, company shareholders who have a good knowledge of market, have prioritized raw block supply which is the easiest sales way. It is certain that it will be necessary to establish a factory and other premises in the future. However, as Kocak Group we would like to advance in this way with sound steps and reach our targets making right investments with right foreign partner. We know very well that to able to make Latmos Luna a world brand, short and affectless investments only delay and reach us nowhere.

Consequently, while going on raw block supplier with Kocak Marble and processed marble provide with Latmos, our main target is to create a new world brand with Latmos Luna of which buyers capacity already confirmed. This will be surely with the help of a rational investment and foreign partner with long terms.

YOUR STONE SOLTIONS

KOCAK GROUP

Latmos SLAB,TILE & TUMBLED

CONDITIONS OF ESTABLISHMENT A COMPANY WITH A FOREIGN PARTNER IN TURKEY

- To establish a new company under a local partnership in Turkey with a foreign fund takes maximum one month after making necessary application.
- Organization cost is about 10,000.00TL.
- Founding capital of an Incorporation is 50,000.00TL.
- Returns on sales of shares of an Incorporation are not subject to any tax.

EBSO

TÜRKİYE ODALAR VE BORSALAR BİRLİĞİ
KAPASİTE RAPORU

TOBB

EGE BÖLGESİ SANAYİ ODASİ

Geçerlilik Süresi Sonu 13.05.2014

Rapor Tarihi :12.05.2011
Rapor No :2011/432

Firma Ünvanı	:LATMOS TRAVERTEN MADENCİLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ	Sanayi Sicil No :
Tescilli Marka	:	Oda Sicil No :21653
Vergi Dairesi/No	:Bornova V.D.Bşk. / 6250423951	Ticaret Sicil No :107628
İşyeri SSK No	:2081101011148193007O1-51	

İşyeri İletişim Bilgileri	Adres : Pembelik Köyü GÜNDOĞMUŞ / ANTALYA	
	İşyeri Tel (Kodlu): 533-3380146	Faks :
	e-posta : latmostravertine@kocakgroup.com	Web : www.kocakmarble.com
Büro ve İdare Merkezi	Adres Ergene Mah. 538 Sok. NO:48 Daire :304 BORNOVA / İZMİR	
	Büro Tel (Kodlu): 232-3399443	Faks : 232-3434648

Üretim Konusu	:Blok mermer	Meslek Gr. No :081101
Faaliyete Başlama	:09.04.2003	

İşyeri Durumu		Sermaye Kıymetler Durumu (TL)		Personel Durumu	
Kiracı		Arazi ve Bina	-	Mühendis :	2
Arazi (m2)	2.000.000	Makine ve Tesisat	345.603	Teknisyen :	-
Toplam Kapalı Saha (m2)	113	Diğer Sabit Kıymetler	212.875	Usta :	3
Bina İnşaat Tipi	ÇELİK-KONST.	Toplam	558.478	İşçi :	10
		Tescilli Sermayesi	850.000	İdari Pers. :	1
				Toplam :	16

Yabancı Sermaye			Gayri Maddi Hak			
Ülkesi	Firması	Oranı (%)	Patent	Know How	Lisans	Ülkesi

İhracat Durumu		Kalite Kontrol			
Bedeli	:-	Cihaz Laboratuvar	:yok	ISO14000 Belgesi	:yok
Para Birimi	:	Arıtma Tesisi	:yok	Deşarj İzni	:yok
Yılı	:			Emisyon İzni	:yok

Yukarıda Ünvanı yazılı işletmenin, işyerinde mevcut ve özellikleri belirtilmiş makina ve tesisatın yürürlükteki yöntem ve kriterlere göre günde 8 saat yılda 300 işgünü üzerinden hesaplanan mamul üretim kapasitesi ile ana, yardımcı ve ambalaj maddeleri tüketim kapasitesini kapsayan bu rapor 06.05.2011 günü tarafımızdan düzenlenmiştir.

RAPORTÖR	EKSPER	EKSPER	MÜŞAHİT
Semih AYDINER Petrol Mühendisi	Akın ÖZOY Makine Mühendisi	-	-

S. Aydıner

Özoy

EGE BÖLGESİ SANAYİ ODASI - Ticaret Sicil No: 107628 / Vergi No: 6250423951
LATMOS TRAVERTEN MADENCİLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ

TABLO : I MAKİNA VE TESİSAT (FİRMAYA AİT)

Adet	Makine Kodu	Cinsi Ve Teknik Özellikleri	Puan	Yerli/İthal	Gücü (KW)	(*)
ADRES :		**Pembelik Köyü GÜNDOĞMUŞ / ANTALYA**				
1	28.92.26	Ekskavatör (Fiat)(Kobelco)	0	Y	0.0	0
1	28.92.26	Ekskavatör (Daewoo)	0	Y	0.0	0
5	28.92.12	Tel kesme makinası (Makesan)	0	Y	0.0	0
1	28.92.12	Tel kesme makinası (Kaptanlar)	0	Y	0.0	0
3	28.92.12	Sondaj makinası	0	Y	0.0	0
2	28.92.12	Rampalı sayalama makinası	0	Y	0.0	0
2	28.92.12	Yürüyüşlü sayalama makinası	0	Y	0.0	0
2		Havalı tabanca (Tiger)	0	Y	0.0	0
1		Delici tabanca (Toyo)	0	Y	0.0	0
1		Titano (Makesan)	0	Y	0.0	0
2		Kompresör	0	Y	0.0	0
4		Hava yastığı	0	Y	0.0	0
1	27.90.31	Elektrik kaynak transformatörü	0	Y	0.0	0
2		Trafo	0	Y	640.0	0
		Toplam :	**0**		**640.0**	

(*): Kaç Yıldır Amortismana Tabii Olduğu

AMORTİSMANA TABİ İKTİSADİ KIYMETLERİN KAYITLI OLDUĞU DEFTERLER (Noter Onay Tarihi ve Numaraları)	Defteri Kebir	
	Yevmiye	
	Envanter	

EGE BOLGESİ SANAYİ ODASI - Ticaret Sicil No: 107628 / Vergi No: 6250423951
LATMOS TRAVERTEN MADENCİLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ

TABLO : II YILLIK ÜRETİM KAPASİTESİ

Cins-Özellik Ticari Ve Teknik Adı	Miktar	Birim	Madde Kodu
Blok mermer (4.500 m³/yıl)	12.150.000	kilogram	08.11.11.33.00

EGE BOLGESİ SANAYİ ODASI - Ticaret Sicil No: 107628 / Vergi No: 6250423951
LATMOS TRAVERTEN MADENCİLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ

TABLO : III KAPASİTE HESABI (Raporun hangi maksatla düzenlendiği : İlk Kapasite)

İşyerinde, Enerji ve Tabii Kaynaklar Bakanlığı Maden İşleri Genel Müdürlüğü'nün 200709878 ve 200709941 ruhsat numaralı işletme ruhsatları ile Antalya ili,Gündoğmuş ilçesi ve Pembelik köyünde blok mermer istihracı yapılmaktadır.Yapılan inceleme sonucunda mermer tel kesme makinaları darboğaz olup kapasiteyi belirlemektedir. Mevcut personel ile çalışan 4 adet mermer tel kesme makinası ile günde 1 vardiyada (8 saatte) toplam 250 m³ tüvenan mermer kesilmekte,ortalama % 10 ocak verimi ile blok mermer elde edilmektedir.

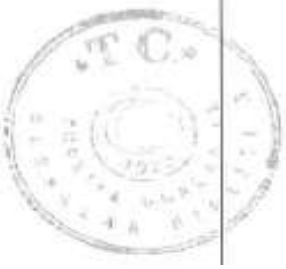
Günlük (8 saatlik) toplam blok mermer kapasitesi : 250 m³/gün x % 10 = 25 m³/gün

Ocakta coğrafi koşullar nedeniyle yılda 180 gün çalışılmaktadır.

KAPASİTE = 25 m³/gün x 180 = 4.500 m³/yıl
Blok mermerin yoğunluğu 2,7 ton/m³ 'dir.
KAPASİTE = 4.500 m³/yıl x 2,7 ton/m³ = 12.150 ton/yıl

İHTİYAÇLAR :

Elmas uçlu blok mermer kesim teli	:	250	m/yıl
Muhtelif matkap borusu	:	22	adet/yıl
Volan lastiği	:	300	adet/yıl
Muhtelif makina yağı	:	12	ton/yıl
Hidrolik yağ	:	1	ton/yıl
Mazot	:	100	ton/yıl



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LATMOS TRAVERTEN MADENCİLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ

TABLO : IV YILLIK TÜKETİM KAPASİTESİ

Madde Kodu	Cins-Özellik Ve Teknik Adı	Birim	Miktar	Yazı ile
	Elmas uçlu blok mermer kesim teli	metre	250	İkiYüzElli
	Muhtelif matkap borusu	adet	22	Yirmiİki
	Volan lastiği	adet	300	ÜçYüz
	Muhtelif makina yağı	Ton	12	Onİki
	Hidrolik yağ	Ton	1	Bir
19.20.26	Mazot	Ton	100	Yüz

EGE BOLGESİ SANAYİ ODASI - Ticaret Sicil No: 107628 / Vergi No: 6250423951
LATMOS TRAVERTEN MADENCİLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ

İşbu kapasite raporu 6 sayfadır ve firmanın TOBB tarafından ..... tarih ve ..... sayı ile onaylı kapasite raporunu geçersiz kılar.

İnceleyen:
M. Mustafa ÖZCAN
Metalurji Mühendisi

ODA ONAYI	TÜRKİYE ODALAR VE BORSALAR BİRLİĞİ ONAYI	TÜRKİYE ODALAR VE BORSALAR BİRLİĞİ ONAYI TARİH VE NO
Ayşen ŞAHİN Sanayi Müdürü	M. ALİ BAYRAM Sanayi Müdürü	13.05.2011 * 008592 Bu kapasite raporu 1. sayfada Birlikçe tespit edilen "Geçerlilik süresi sonu" na kadar yürürlüktedir.

ASLININ AYNIDIR
16 Mayıs 2011

TOBB tarafından 13.05.2011 tarih ve 8592 no ile onaylanmıştır. En son 13.05.2014 tarihine kadar geçerlidir.

TURKISH UNION OF CHAMBERS AND EXCHANGE COMMODITIES
CAPACITY REPORT
AEGEAN REGION CHAMBER OF COMMERCE
VALIDITY TIME: 13.05.2014

REPORT DATE : 12.05.2011
REPORT NO : 2011/432

COMPANY NAME : **LATMOS TRAVERTEN MADENCILIK SANAYI VE TICARET LIMITED SIRKETI**
REGISTERED MARK :
TAX OFFICE : BORNOVA TAX OFFICE/6250423951
COMPANY SSK NO : 208110101114819300701-51
INDUSTRY REGISTRY NO:
CHAMBER REGISTRY NO: 21653
COMMERCIAL REG.NO : 107628

BUSINESS COMM.INFO : ADDRESS : PEMBELIK KOYU GUNDOGMUS/ANTALYA
COMP.TEL : 533-3380146 FAX :
E-MAIL : latmostraverting@kocakgroup.com WEB: www.kocakmarble.com

OFFICE AND ADM.OFF. : ADRESS: ERGENE MAH.538 SOK NO:48 D:304 BORNOVA IZMIR
OFFICE TEL : 232 3399443 FAX : 232-3434648
SUBJECT OF PRODUCTION: BLOCK MARBLE OCC.ENTR.NO : 081101
COMMENCEMENT : 09.04.2003

BUSS.PLACE STATE		CAPITAL STATE (TL)		STAFF STATE	
TENANT		LAND AND BUILDING		ENGINEER	2
LAND (M2)	2.000.000	MACHINE AND INSTALL.	345.603	TECHNICIAN	-
TOTAL CLOSED AREA (M2)	113	OTHER ASS.TOTAL	212.875	FOREMAN	3
BUILDING CONST.TYPE	STEEL CONSTRUCTION	TOTAL	558.478	WORKER	10
		REGISTERED CAPITAL	850.000	ADM.STAFF	1
				TOTAL	16

FOREIGN CAPITAL			INTANGIBLE RIGHT			
COUNTRY	COMPANY	RATE (%)	PATENT	KNOW HOW	LICENCE	COUNTRY
Value Currency Year	Equipment Lab: no Purification plant: no		ISO14000 document : no Discharge perm.: no Emission perm.: no			

This report hereby which consists of machines and equipments of the company that name is written above according to the methods and criterias which are active, production capacity which is calculated with 8 hours, 300 working days and consumption capacity of main and supplementary and packaging materials is arranged on 06.05.2011 by us.

Reporter
Semih Aydiner
Petrol Engineer
(sign)

Exper
Akın Özsoy
Machine Engineer
(sign)

Exper

Amicus Curiae

(seal-sign)

Işbu belge Türkçeden İngilizceye aslına uygun olarak tarafımdan tercüme edilmiştir.
This document hereby is translated from Turkish to English by me.
Yeminli Tercüman/Certified Interpreter
Nur Karen ŞİMŞEK

neko tercüme
İngilizce
Japonca
Yeminli
Tercüman
NUR KAREN ŞİMŞEK

AEGEAN REGION CHAMBER OF INDUSTRY- Trade Registry No: 107/628/ Tax no: 6250423951
LATMOS TRAVERTEN MADENCILIK SANAYI VE TICARET LIMITED SIRKETI

CHART 1: MACHINE AND INSTALLMENT (COMPANY'S)

Number	Machine code	Type and technical specifications	Points	Local/imported	Power (KW)	(*)
Address	: pembelik köyü GUNDOGMUS-ANTALYA					
1	28.92.26	EXCAVATOR (FIAT) (KOBELCO)	0	L	0.00	0
1	28.92.26	EXCAVATOR (DAEWOO)	0	L	0.00	0
5	28.92.26	WIRE SAW (MAKESAN)	0	L	0.00	0
1	28.92.12	WIRE SAW (KAPTANLAR)	0	L	0.00	0
3	28.92.12	BORING MACHINE	0	L	0.00	0
2	28.92.12	SIZING MACHINE WITH RAMP	0	L	0.00	0
2	28.92.12	SIZING MACHINE WITH MOVEMENT	0	L	0.00	0
2		AIR GUN (TIGER)	0	L	0.00	0
1		ROCK DRILLL (TOYO)	0	L	0.00	0
1		TITANO (MAKESAN)	0	L	0.00	0
2		COMPRESSOR	0	L	0.00	0
4		AIR BAG	0	L	0.00	0
1	27.90.31	ELECTRIC WELDING TRANSFORMER	0	L	0.00	0
2		TRANSFORMER	0	L	640.0	0
		TOTAL	0		640.0	

(*) for how many years do they have amortization

THE BOOKS WHICH ECONOMIC ASSERS ARE REGISTERED: NOTARY PUBLIC APPROVAL DATE AND NUMBERS

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Nur Karen ŞİMŞEK

neko tercüme
İngilizce Japonca Yeminli Tercüman
NUR KAREN ŞİMŞEK

AEGEAN REGION CHAMBER OF INDUSTRY- Trade Registry No: 107/628/ Tax no: 6250423951
LATMOS TRAVERTEN MADENCILIK SANAYI VE TICARET LIMITED SIRKETI

CHART 2: ANNUAL PRODUCTION CAPACITY

TYPE-FEATURES-COMMERCIAL AND TECHNICAL NAME	AMOUNT	UNIT	MATERIAL CODE
BLOCK MARBLE (4500 m3/year)	12.150.000	kg	08.11.11.33.00

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AEGEAN REGION CHAMBER OF INDUSTRY- Trade Registry No: 107/628/ Tax no: 6250423951
LATMOS TRAVERTEN MADENCILIK SANAYI VE TICARET LIMITED SIRKETI

This capacity report hereby consists of totally 6 pages and invalidates the ...dated...numbered capacity report by TOBB.

Reviewed by:
M.MUSTAFA ÖZCAN
METALLURGY ENGINEER

CHAMBER APPROVAL	TURKISH UNION OF CHAMBERS AND EXCHANGE COMMODITIES APPROVAL	TURKISH UNION OF CHAMBERS AND EXCHANGE COMMODITIES DATE AND NO
AYSEN SAHIN (SIGN-SEAL)	M.ALI BAYRAM (SIGN-SEAL)	13.05.2011*008592

THIS CAPACITY REPORT IS VALID UNTIL "THE VALIDITY TIME" WRITTEN IN THE FIRST PAGE WHICH IS DETERMINED BY THE UNION.

NOTARY PUBLIC SEAL-16TH MAY 2011

Bu belge Türkçeden İngilizceye asline uygun olarak tarafımdan tercüme edilmiştir.
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Yeminli Tercüman/Certified Interpreter
Nur Karen ŞİMŞEK

neko tercüme
İngilizce Japonca Tercüman
NUR KAREN ŞİMŞEK

AEGEAN REGION CHAMBER OF INDUSTRY- Trade Registry No: 107/628/ Tax no: 6250423951
LATMOS TRAVERTEN MADENCILIK SANAYI VE TICARET LIMITED SIRKETI

CHART IV ANNUAL CONSUMPTION CAPACITY

MATERIAL CODE	TYPE-FEATURES AND TECHNICAL NAME	UNIT	AMOUNT	IN WRITTEN
	DIAMOND DRILL BLOCK MARBLE CUT WIRE	METER	250	TWO HUNDRED FIFTY
	VARIOUS DRILL PIPES	NUMBERS	22	TWENTY TWO
	FLYWHEEL RUBBER	NUMBERS	300	THREE HUNDRED
	VARIOUS MACHINE OIL	TONES	12	TWELVE
	HIDROLIC OIL	TONES	1	ONE
	DIESEL OIL	TONES	100	ONE HUNDRED

Işbu belge Türkçeden İngilizceye aslına uygun olarak, tarafımdan tercüme edilmiştir.
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Yeminli Tercüman/Certified Interpreter
Nur Karen ŞİMŞEK

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NUR KAREN ŞİMŞEK

AEGEAN REGION CHAMBER OF INDUSTRY- Trade Registry No: 107/628/ Tax no: 6250423951
LATMOS TRAVERTEN MADENCILIK SANAYI VE TICARET LIMITED SIRKETI

CHART III: CAPACITY CALCULATION (report is arranged for: first capacity)

Block marble extraction is made in the business place in Antalya city, Gundogmus district, Pembelik village with 200709878 and 200709941 numbered licence registrations which are taken from Ministry of Energy and Natural Resources General Directorate of Mining Affairs. As a result of the investigation made, wire saw machines are narrow pass and determine the capacity. In one shift (8 hours), totally 250 m3 all in marble is cut and approximately 10% furnace performance by 4 wire saw machines with 4 staff members.

Daily (8 hours) total block marble capacity : 250 m3/daily x 10% = 25 m3/daily

In the furnace work can be done for 180 days annually due to geographical conditions.
CAPACITY : 25 m3/day x180 = 4500 m3/year
Density of block marble is 2,7 tones/m3.
CAPACITY : 4500 m3/yearx2,7tones/m3=12.150 tones/year

NEEDS:

DIAMOND DRILL BLOCK MARBLE CUT WIRE	:	250 m/year
VARIOUS DRILL PIPES	:	22 item/year
FLYWHEEL RUBBER	:	300 item/year
VARIOUS MACHINE OIL	:	12 tones/year
HIDROLIC OIL	:	1 tone/year
DIESEL OIL	:	100 tones/year

Işbu belge Türkçeden İngilizceye aslına uygun olarak tarafımdan tercüme edilmiştir.
This document hereby is translated from Turkish to English by me.
Yeminli Tercüman/Certified Interpreter
Nur Karen ŞİMŞEK

reko tercüme
İngilizce Yeminli Tercüman
NUR KAREN ŞİMŞEK

VIEWS FROM QUARRY AREA

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VIEWS FROM QUARRY AREA






VIEWS FROM QUARRY AREA

VALUATION REPORT FOR THE LATMOS LUNA QUARRY

This report has been prepared based on the information provided by LATMOS TRAVERTEN MADENCİLİK and the Report prepared by Professor Fuzuli YAĞMURLU "Geological Characteristics and Marble Potential of Akdağ Marble Area (Gündoğmuş-Manavgat) on the NE- of Antalya, Turkey", on December, 2011.

THE MARBLE SECTOR IN TURKEY

Based on the reports prepared by the MTA (Mineral Research & Exploration General Directorate of Turkey), Turkey has the *40% of the world marble reserves*. Over eighty different structures with 120 different colors and designs of marble reserves are identified in Turkey. China in Asia and Turkey in Europe are the most striking countries in terms of reserves and production. Other countries of interest in Asia include India and Iran while Italy while Spain and Portugal in Europe.

INTRODUCTION

The total width of the licensed area reaches up to 600 hectare. The marble area can be accessed by the asphalt and well stabilized roads. Geologically, the Akdag limestone massif is located on the eastern side of Isparta Angle. Tectonically, Isparta Angle was formed due to bending of Taurus carbonate axis in the north of Antalya Gulf during the Late Miocene-Early Pliocene period.

Isparta Angle is one of the most prominent neo-tectonic structures within the SWAnatolia located on the north of Antalya Gulf. The NE-trending Fethiye-Burdur fault zone and NW-trending Akşehir fault limit Isparta Angle from the west and the east, respectively. The average thickness of the Akdağ marbles in the licensed area reaches up to 200 m. The *marble's color* in all the parts of Akdağ area is generally ***light beige***. As mentioned above, *the Akdağ marble is* ***dominantly very thick bedded*** *and* ***massive in character***.

The massive and homogeneous textural and color character, the rare fracture systems and topographic conditions of the Akdağ marble area indicate that ***this area is suitable for block production***.

The average thickness of the producible marble (reefal limestone) level in Akdağ limestone massif is about 200 m. The total marble area (square) within the licensed area in the Akdağ region reaches up to 300 hectare. ***Total producible marble potential in the area is about 600,000,000m3 or approximately 1.5 billion tons***. However, the sellable amount of marble is moderately estimated to be a minimum of 15% of 1.5billion tons (which is equivalent of 225million tons). When simply calculated based on the current unit price which is $170 per/ton ex-quarry, this figure corresponds to an average amount of $38.25 billion. Given the reasonably minimum amount of production with the current number of employees and equipment, the life of the quarry is estimated to be 6.000 years (600 million m3 / 100.000 m3/year).

Very rare fracture systems and homogeneous textural and color features may increase the marble block efficiency in the entire Akdağ massif. For this reason, ***the block efficiency of the Akdağ massif may be more than other adjacent marble quarries***. The marble block may be transported easily through Gündoğmuş-Antalya asphalt road to the Antalya port. The LATMOS quarry is 200 km far from Antalya port. This is logistically considered as an excellent position and advantage. The quarry has a unique feature in terms of environmental-friendly investment. Because it is located in a place that it does not circumvent any social, touristic or distort any environmental factor.

Consequently, the field observations and textural features of Akdağ limestone massif indicate the giant marble potential in the licensed area. The total producible marble reserves of the four (4) licensed area reach up to 1.5 billion tons. These reserves are required more detailed investigations for the preparation of block production such as drilling and open pit operations. However, this attempt will be subject to a pre-paid irrevocable *due diligence* process which is determined as $4 million. Why do we impose such a fee for due-diligence? Since we are living in a very competitive environment, pricing mechanism and the behavior of

of external agents are very important. We take the risk of external intrusion as a serious threat. We strongly believe that our marble quarry is a significantly rich in reserves and located in a unique position in terms of amenities and transport. We already have established good relationship based on mutual respect with the public authorities and NGOs there.

The preliminary open pit operation and small quarries in Akdağ massif indicate that the ***productive block efficiency is much higher*** than other marble quarries compared to other places such as Burdur, Isparta and Antalya regions. As emphasized above, facilities such as water springs, road setting, natural scarps and topographic conditions are very suitable for the marble production in Akdağ area. Given the height of the quarry, it poses a disadvantage to work 12 months a year (particularly during winter season). However, we do not consider this as a disadvantage. Beyond, we believe that during these four months prices will go up due to limited availability of the marble.

VALUATION BACKGROUND

The report underlines the importance of seemingly non-material factors that should be incorporated into the valuation process. The most prominent factor has been considered as the future potential (i.e. mark-to-future) of the quarry. The Mark-to-Future (MtF) concept is generally used in risk management process. It is a full-scale realization of the scenario approach which addresses risk and return by examining possible future scenarios and by cataloguing their effects on financial positions and portfolios.

The valuation of a marble quarry and its assets is a difficult task. The first stage of valuation requires expertise in a number of disciplines. Among them geology, mining rights, planning, environmental issues, plant and machinery and infrastructure can be counted. The second stage requires a business valuation and market analysis. It is obvious that an interdisciplinary approach to the valuation process seems inevitable. However, the report also underlines the importance of other factors that rarely mentioned elsewhere. These can be listed below:

1) Global demand for commodities is increasing due to their scarcity and competitive pressures,
2) Since marble is considered as an environment-friendly construction material, in near future eco-buildings will inevitably increase the use of marble in their construction process,
3) Increasing demand pressures from China, India for raw materials and the Gulf countries for semi-finished and finished products,
4) Innovations in chemistry and construction sector constitutes a potential for a wider use of marble in different fields,
5) Increasing population and growing need for buildings,
6) Increasing demand for luxury goods and structures,
7) Raising power of the emerging countries as global actors,
8) Future price increases (due to scarcity –i.e.formation of marble in Luna quarry is estimated a minimum of 70 million years),
9) New opportunities such as regional commodity exchanges (i.e.marble futures, options contracts for underlying marble stocks)

Consequently, the report considers this valuation to be as accurate as possible and it provides aiming to fully reflect the current and prospective structure.

NATURE OF BIDDERS

The term bidder is used to define the potential buyers. Since marble has been considered as a *strategic commodity*, we strongly feel to be as cautious as possible for a potential joint venture agreement. The business also requires a specialized knowledge. Apparently the bidder is a respected international company having the relevant expertise and international investment experience.

Current global financial crisis is now severely affecting many countries. Although forecasts for near future seem pessimistic, we believe the global economy will start to recover soon. To overcome these difficulties we believe the importance of mutual cooperation and collaboration between countries.

VALUATION PROCESS

Generally accepted method for valuation starts with the capitalization of earnings before interest and tax (EBIT). However, Latmos-Luna Quarry is valued only in terms of its reserves and future potential value. This process is based on factors affecting the proper operation of the quarry.

Equipment

CURRENT EQUIPMENT LIST	
Excavator	2
Loader	1
Mounting Wire Sawing Machine	6
Drilling Machine	3
Block Dressing Machine	4
Quarry Staff	15

Valuing reserves

Based on the information provided by *Latmos*, the descriptive and technical information regarding the *Quarry* is shown below:

TECHNICAL INFORMATION	
Quarry Location	Gundogmus / Antalya
Productivity of Total Cutting	~%15
Annually Working Period	~8 Months
Reserve Amount	200 Meter Depth
Total Cutting Capacity For First 5 Years	100.000 m3/year
Average Quarry Life	6.000 years

The most significant figure in above table is the average quarry life which is estimated 6.000 years. Apparently such a long time period cannot be priced accordingly. Hence, we project a 15 year quarry life for a more realistic purpose. In practice the life of a quarry can be acceptable up to a period of 15 years and seldom is it necessary to extend that (it is a generally accepted principle applied elsewhere). Periods longer than 15 years have only a marginal affect on the final value. The estimated extraction and sales figures will determine the value of the quarry. General approach the valuation starts with the volume of *usable* reserves for valuation purposes can be achieved by multiplying the budgeted annual sales by the expected life.

INVESMENTS BY LATMOS TRAVERTEN		VALUE
Roads, Water, Electric	Completed	
Underground Works,Taxes to Goverment	Completed	$2.700.000
Mining License Fee, Region Renting Fee	Completed	
Machines	Completed	$800.000
TOTAL		$3.500.000

MONTHLY PRODUCTION	
Productivity of Total Cutting (First 5 Years)	~ %15
Annually Working Period	~8 Months
Total Cutting Capacity For First 5 Years	100.000 m3/year
Density	2,70 ton/m3
Total Prodution of Sellable Blocks (To domestic and international Markets) (100.000 x %15 x 2,70)	40.500 ton/year
Monthly Production (40.500 / 8)	5.062.5 ton/month

The productivity of total cutting has been approximately calculated as 15%. Above table provides a roughly 40.500 ton/year.

MONTHLY AND ANNUALLY PROFIT CALCULATION	
Monthly Production Available for Selling	5.062.5ton
Sales Price (Ex-Quarry)	$170 /ton
Monthly Turnover (5062.5 x 170)	$860.625
Monthly Production Cost	$200.000
Earnings Before Tax (860.625 – 200.000)	$660.625 /month
Earnings Before Tax (EBT) (660.625 x 8)	$5.285.000 /year

This figure provides a $5.285 million per year (EBT). Simply multiplied with the projected 15 years we get the cumulative EBT as $79.275 million. We can simply construct several scenarios for the projected EBT by attaching various unit prices (we used the lowest minimum for our calculations, i.e. $170 per ton).

This figure seems overly simplistic since it excludes the above mentioned factors. The value arrived at by simply extrapolating the current figure to a 15 year horizon. The real valuation figure will be provided in the forthcoming sections of the report. As mentioned above periods longer than 15 years have only a marginal affect on the final value.

Possible Common Errors

It is a high probability that there might be several mistakes made during the by valuation process. These can be based on technical errors or projection methodologies. However, in our case, solid and verifiable geological report prepared by an expert engineer provides our methodology to be robust and reliable one.

Unrefined Material Figure

Given the projected 15 years' value ($79.275 million) plus plant and machinery ($3.5 million) the figure sums up to $82.775 million. By using several income/cost combinations the income from the quarry may significantly increase. For example in an extreme scenario analysis the overall value of the quarry reserves can be calculated as $38.25 billion with current prices (i.e. $170 per/ton). Of course this seems unrealistic. Under different scenarios of increasing production capacity accompanied with a cost minimizing strategies, the break-even point of the investment will not be more than a five-year period. Rest of the investment is analogously a goose that lays a golden egg (or banknote printing plant).

Other Factors Affecting Current/Future Potential Value

By including the facts provided above sections, this part aims to present the final expertise value of the quarry.

Some factors that affect the final value are: Turkey's performance during the global financial crisis (a solid banking system and well-functioning Stock Exchange), virtually FDI friendly legal infrastructure and working environment that provides a unique opportunity to conduct a business in Turkey. While barriers acquiring strategic assets for SWFs and Private Equity Companies increases elsewhere, Turkey emerges as one of the most attractive domains in this type of business. Also Turkey's dominant position in world marble reserves and geographical location for transport (air, road and marine) provides an unparalleled opportunity for potential buyers.

We strongly believe that our quarry is uniquely positioned and augmented by several external factors (in terms of quality –beige-, long-lasting classical taste, rich reserves, environment and location). For example ***Spanish Crema Marfil*** known for over a hundred years has been the most attractive type of marble all over the world. Our marble quality which is unbelievably exhibits a structural similarity with *Spanish Crema Marfil* can be considered as an equivalent of this worldwide known Spanish marble. We modestly believe that our marble quality is superior to *Spanish Crema Marfil* in terms of its polish ability and resistant against tarnishing.

We would like to draw your attention to our country's potential for being a very suitable business and investment environment as well as excellent geographical situation. Our connections with the business community in Turkey are invaluable and will significantly contribute to expand our business.

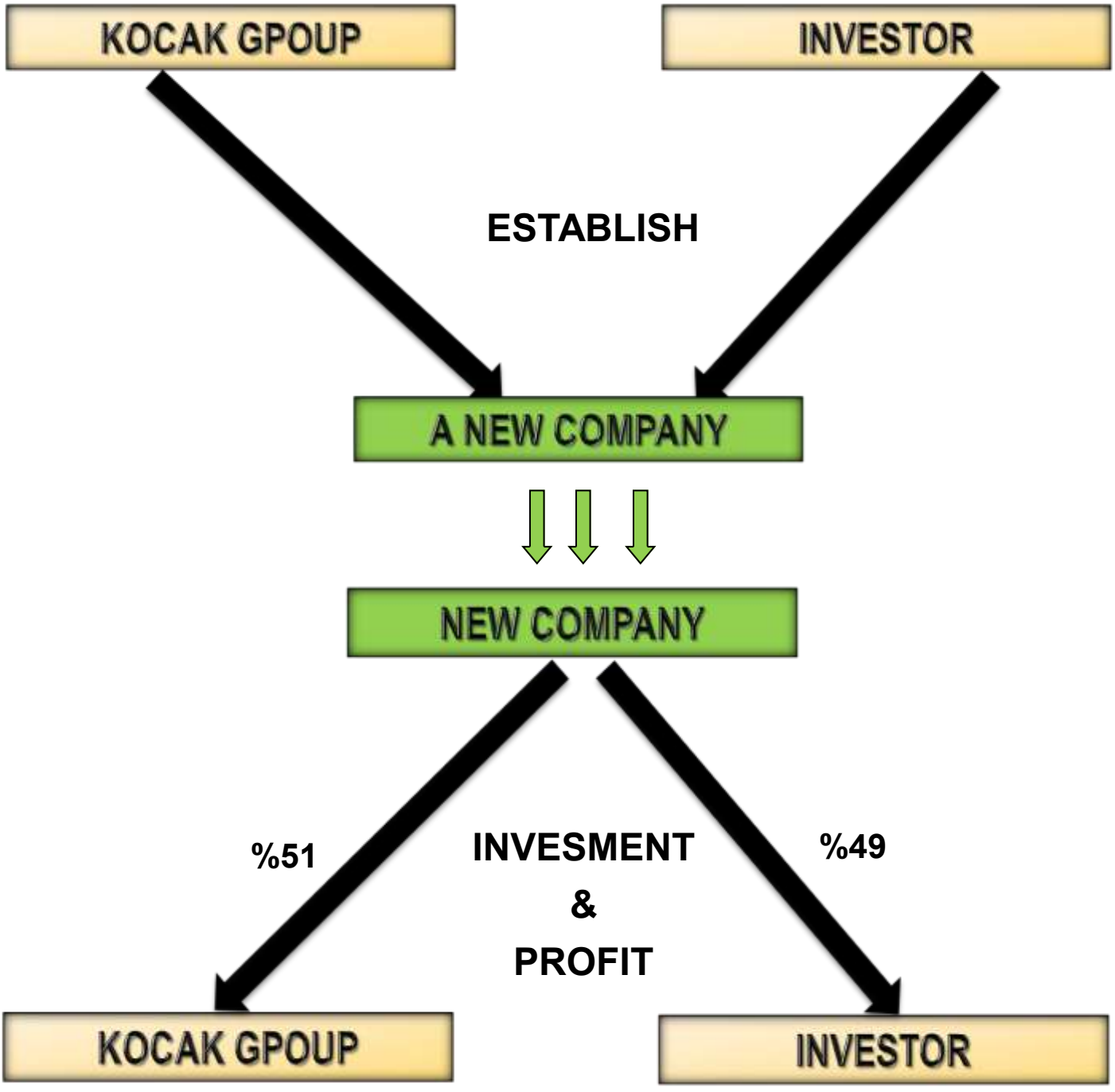
Last but not least, we would like to emphasize that, we wholeheartedly believe in that conducting proper business and our company's reputation are the foremost values we deeply respect.

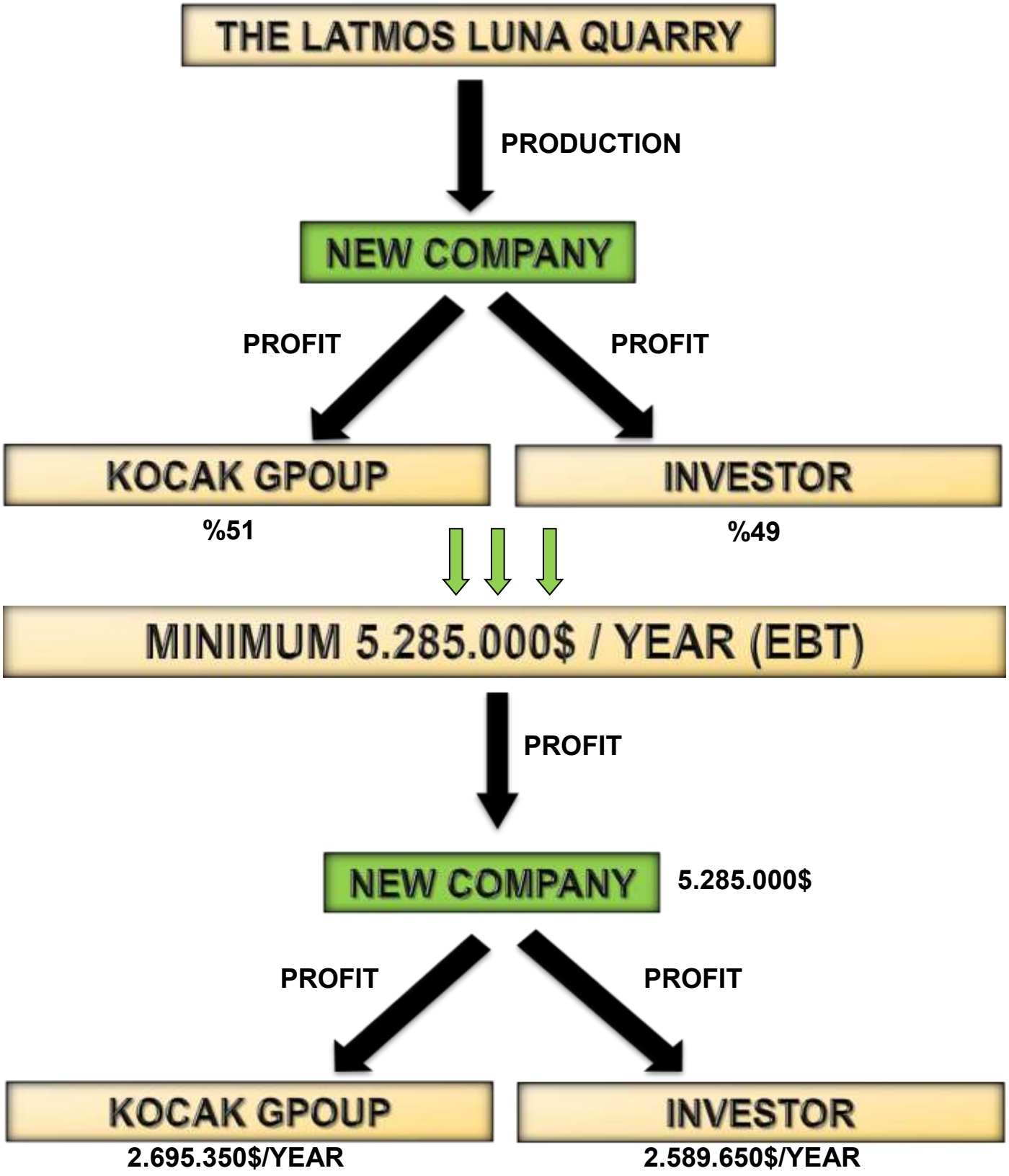
To sustain our position a reliable business partner and pave the way for future cooperation, we offer a price of $97 million that modestly reflect the value beyond the projected 15 years. Hence we are proud of inviting you as a respectful business partner and offer you to contribute 50 % of this figure ($48.5 million).

We also would like to let you know that we ***do not*** ask the whole amount at once. We can negotiate the terms and spread the future payments to a five-year period. The partnership starts with the first year contribution of 40% of your share (which is approx. $19,40 million) and the balance will be paid in by four equal installments. **Our business principles provide a guarantee both sides as follows: Business partners cannot transfer their shares to third parties. In case of necessity, parties can only materialize the transfer of shares between their selves.**

LATMOS TENDERS TO INVERTORS

Joint Venture For The Latmos Luna Quarry




THE LATMOS LUNA QUARRY
PRODUCTION
NEW COMPANY
PROFIT
PROFIT
KOCAK GPOUP
INVESTOR
%51
%49
MINIMUM 5.285.000$ / YEAR (EBT)
PROFIT
NEW COMPANY
5.285.000$
PROFIT
PROFIT
KOCAK GPOUP
INVESTOR
2.695.350$/YEAR
2.589.650$/YEAR

What Do Previous Charts Mean?

1) KOCAK GROUP and INVESTOR COMPANY establish a new company in joint venture.

2) KOCAK GROUP and INVESTOR COMPANY as owner of new joint venture company, are partners as %49 INVESTOR and %51 as KOCAK each share holder on rented Latmos Luna Quarry.

Does Latmos Luna Have High Potential Clients?

1) Latmos Luna surprisingly resembles with Spanish Crema Marfil in terms of color and texture.

2) Latmos Luna is more uniform and stronger. It has huge reserve.

Why Joint Venture for the Latmos Luna Quarry?

1)As KOCAK GROUP, we would like to continue production of The Latmos Luna Quarry with an international strong partner and to be one of the important producers in the world.
2) Sharing the invesments with a new investor, we desire Latmos Luna to reach end users under a powerful system.
3) Setting up a new association will carry both investors to the satisfying profits in a short period than usual.

SOME POINTS REQUIRE FURTHER CLARIFICATION

1) LATMOS Traverten ve Madencilik San. ve Tic. Ltd. Sti. hereby firmly commits that four (4) working licenses and the all related permissions and rights will be duly and unconditionally transferred to the newly established company in the form of two shares.

2) Some important points regarding the investment and the details on the amount of return on investment are listed below:

A) As per indicated in or Valuation Report, the monthly average cost of the quarry has been increased from $100.000 per month to $200.000 per month through the additional investment made to the machinery and equipment (nearly $3.5 million worth of machinery, equipment and infrastructure).

B) At the beginning, we have planned to come out of 100.000 m3 marble block from the quarry. This figure has been estimated as the average annual produce during the first five-years.

C) Based on a 15% average productivity estimation, we have planned to sell marble blocks in the shape of rectangular prisms and cube-shaped plus a modest volume of finished products in domestic and international markets.

D) However we can easily increase our cutting capacity to 225.000 m3 during the first five-year period, if we buy/lease

D1. 15 dressing machine
D2. 2 chainsaw
D3. 4 Volvo or Caterpillar, specially-designed as excavator and loader
D4. Increase current machinery and equipment and the work-force by two-fold

E) Based on a 15% average productivity estimation, we will end up with a 91.125 tons of material to sell in domestic and international markets [total cutting capacity 225.000 m3 * 15% * Density 2.70 Ton/m3 = 91.125].

F) Based on the above outlined scenario the monthly cost will increase to $400.000 (that covers deprecation, loan paybacks, interest payments, taxes, general expenditures, quarry expenditures, transport, communication, repair and maintenance and current expenditure items).

G) The cost of additional machinery is planned to be met by a bank loan.

3) By taking into account the above mentioned facts and figures, we can get an earnings before tax (EBT) that amounts to $ 5.192.000. The figure has been calculated as follows:

A) Net profit before tax=((91.125 Tons/8 months)*$170 /Ton Quarry delivery price)-($400.000-Cost) = $1.536.405
B) $1.536.405 * 8 month =$12.291.240 and hence $6.022.708 EBT for the investor.

4) Last but not least, Turkey's marble export significantly takes the first place among total mining export.

5) The amount shown in the Valuation Report, ($97 million) is the total value of the marble quarry, based on simple assumptions and kept at minimum. We strongly believe that the value of the quarry is much more than this amount. We can discuss this issue further and provide you some supporting evidence in our future projections and expectations.

6) Following the establishment of the new company, both partners will act and provide finance together to increase the capacity, market share and the quality of the business.

7) The figure $48.5 is the value of the partnership and should not be considered as the 8,1 years' profit nor does it necessarily mean that we have to wait some 8,1 years to get profit. It is the form of partnership. Suppose you buy a house, if you compare it to the rent/value, it takes some 200 months to get the break-even point. But future value increases and market power, external factors that increase the value are totally ignored in this approach.

8) We need to emphasize that we keep our price ($170) as minimum as possible to avoid overvaluation. However, in many marble quarries, the price is observed around $250-$350. In many beige marble quarries in Burdur, Antalya, Isparta and Bursa we have observed the prices peaked to $550 in 2011.

9) We anticipate an average selling price of $170-$200 during the first five years. Despite this increase, our price is still far below the average market prices. By considering future price increases and the increase in productivity through technological improvements and the quality of workforce, the profitability of the company will inevitably increase.

10) Given the increasing demand, Turkey's position as a main world supplier makes marble investment an attractive business. External factors such as use of environmental friendly materials in construction business make marble a strategic commodity due to its distinctive features.

11) By considering the above mentioned opinions, we can assure you that the return of your investment will not be longer than 6 years period.

12) We firmly believe that the real case will be much more profitable than today once we start to conduct the business, namely the operation starts. We tried to keep the numbers at lowest levels to become more conservative and prudent.

13) We appreciate the experience, specialization and valuable contributions of our potential respected partner.

14) Lastly, the discrepancy between the duration considered in the company valuation and the deadline for the licenses does not pose any problem since we can ask for a 10-50 years extension any time. Since we are legally eligible, we can extend it more than 10 years. It is only a matter of paying fee to the government. We can do it right away.

15) Consequently, we can say that our offer is the best minimum and will be very happy to cooperate in the near future.

16) Pursuant to the relevant articles of the Turkish Mining Act, newly established company is entitled to get a permission for a 60-year period from the date of first allowed. Following the 60 years, the company may ask for a new period upon the approval of Council of Ministers.

17) Upon request we may provide you documents regarding a 60-year license, the procedure for extension and the English translation of Turkish Mining Act.

18) We would like to take this occasion to emphasize the importance of your offer for partnership. We appreciate your approach to this issue and believe that we will reach a fruitful conclusion during our bilateral negotiations.

LATMOS PRODUCTION AND SALES

	PRODUCED AMOUNT	SOLD	SALES INCOME ($)	SALES PRICE ($) Ex-Quarry	DESTINATION	AREAS OF USE
2008	324,00	226,10	33.099,00	146,39	China	
2009	959,17	286,95	42.549,50	148,28	China	
2010	1.041,67	207,11	23.993,50	115,85	China	Interior and exterior wall and floor
2011	0,00	278,23	27.822,80	100,00	Domestic	
TOTAL	2.324,84	998,39	127.464,80	127,67		

IMPORTANT NOTE: The produced and sold quantities of marbles (shown in the table) which had been cut and excavated were obtained during the construction of the road (4km x 8m; with 10% tangent).

5 YEAR WORKING PROGRAMME FOR LATMOS LUNA

Reported by Mr. Ahmet Tahsin EKIM
Middle East Technical University
Mining Engineer

GRADUATION
1979

The production and and its reflected costs for 5-year working programme which is thought to be maintain, is mentioned as follows;

Working Season

Because of working in 2200 meter level height, the working season has specified as between the months of April-December. This season consists of totally 8 months and for further steps after completing the path and infrastructure works, season will be assessed 10 months to be worked.

Working Points	Left	Up
1	414626	4081546
2	414763	4081437
3	414776	4081413
4	414791	4081359
5	414818	4081145
6	414741	4081213
7	414748	4081254
8	414736	4081291
9	414702	4081298
10	414659	4081357
11	414615	4081388
12	414627	4081435

Preparatory Works

As a result of core drillings made in November 2011, in 6 meters height, 12 pieces of level will be opened starting from the place of 9th core well.

New levels will be opened in preparatory works period. Opening a new level just takes approximately 2 months. 5000 ton/month is aimed within this 2 months period which also involves road building workings.

Production Working

According to the 5-year production schedule, the working will be started in 3,4-hectare area whose coordinates are given below;

Production Schedule

According to the 5-year production schedule, as a result of approximately 225.000 m3 cutting works and 15% performance annually; 225.000 m3 x 15% = 33.750 m3/year x 2.7 ton/m3 = 91.125 ton/year is planning to be produced.

One cutting machine capacity is equal to 50 m3/12 hours x 25 days x 2 shifts = 3000 m3/month. Beacuse of cold weather conditions, one shift to be worked in April and November.

In respect of proper conditions with an alternative chain saw machine, 75 m3 cutting becomes possible in one shift.

One chain saw machine capacity is equal to 75 m3/12 hours x 25 days x 2 shifts = 3750 m3/month. One shift to be worked in April and November.

2013	Wire Saw	Shift	m3/12 hours	Day	Total
March					
April	4	1	50	25	5000
May	4	1	50	25	5000
June	6	2	50	25	15000
July	6	2	50	25	15000
August	6	2	50	25	15000
September	6	2	50	25	15000
October	6	2	50	25	15000
November	6	2	50	25	15000
December					
Total					100000

2014	Wire Saw	Shift	m3/12 hours	Day	Total
March					
April	6	1	50	25	7500
May	6	1	50	25	7500
June	10	2	50	25	25000
July	10	2	50	25	25000
August	10	2	50	25	25000
September	10	2	50	25	25000
October	10	2	50	25	25000
November	10	2	50	25	25000
December					
Total					165000

2015	Wire Saw	Shift	m3/12 hours	Day	Total
March					
April	10	1	50	25	12500
May	10	1	50	25	12500
June	12	2	50	25	30000
July	12	2	50	25	30000
August	12	2	50	25	30000
September	12	2	50	25	30000
October	12	2	50	25	30000
November	12	2	50	25	30000
December					
Total					205000

2015	Chain Saw	Shift	m3/12 hours	Day	Total
March					
April	2	1	75	25	3750
May	2	1	75	25	3750
June	2	2	75	25	7500
july	2	2	75	25	7500
August	2	2	75	25	7500
September	2	2	75	25	7500
October	2	2	75	25	7500
Novemver	2	2	75	25	7500
December					
Total					52500

2016	Wire Saw	Shift	m3/12 hours	Day	Total
March					
April	12	1	50	25	15000
May	12	1	50	25	15000
June	13	2	50	25	32500
July	13	2	50	25	32500
August	13	2	50	25	32500
September	13	2	50	25	32500
October	13	2	50	25	32500
November	13	2	50	25	32500
December					
Total					225000

2016	Chain Saw	Shift	m3/12 hours	Day	Total
March					
April	2	1	75	25	3750
May	2	1	75	25	3750
June	2	2	75	25	7500
July	2	2	75	25	7500
August	2	2	75	25	7500
September	2	2	75	25	7500
October	2	2	75	25	7500
November	2	2	75	25	7500
December					
Total					52500

2017	Wire Saw	Shift	m3/12 hours	Day	Total
March					
April	15	1	50	25	18750
May	15	1	50	25	18750
June	16	2	50	25	40000
July	16	2	50	25	40000
August	16	2	50	25	40000
September	16	2	50	25	40000
October	16	2	50	25	40000
November	16	2	50	25	40000
December					
Total					277500

2017	Chain Saw	Shift	m3/12 hours	Day	Total
March					
April	2	1	75	25	3750
May	2	1	75	25	3750
June	2	2	75	25	7500
July	2	2	75	25	7500
August	2	2	75	25	7500
September	2	2	75	25	7500
October	2	2	75	25	7500
November	2	2	75	25	7500
December					
Total					52500

Months	2013 (m3)	2014 (m3)	2015 (m3)	2015 (m3)	2016 (m3)	2016 (m3)	2017 (m3)	2017 (m3)
March								
April	5000	7500	12500	3750	15000	3750	18750	3750
May	5000	7500	12500	3750	15000	3750	18750	3750
June	15000	25000	30000	7500	32500	7500	40000	7500
July	15000	25000	30000	7500	32500	7500	40000	7500
August	15000	25000	30000	7500	32500	7500	40000	7500
September	15000	25000	30000	7500	32500	7500	40000	7500
October	15000	25000	30000	7500	32500	7500	40000	7500
November	15000	25000	30000	7500	32500	7500	40000	7500
December								
Total	100000	165000	205000	52500	225000	52500	277500	52500
Total	100000	165000		257500		277500		330000
Total Approximate 5-year Production (m3)								226000

Production Equipments

The required equipment is mentioned below according to the following 5-year production schedule;

2013 Equipments	Brand	Piece	Price	Price	Explanations	Situation
Excavator	Kobelco	1	€ 250.000,00	€ 250.000,00		Existed
Excavator	Daewou	1	€ 200.000,00	€ 200.000,00		Existed
Installer	Volvo 220	1	€ 240.000,00	€ 240.000,00		Existed
Chain Saw	Fantini	2		€ 0,00		None
Wire Saw	Makesan	5	€ 25.000,00	€ 125.000,00		Existed
Wire Saw	Dilmer	3	€ 25.000,00	€ 75.000,00		None
Sizing Machine	Dilmer	4	€ 3.000,00	€ 12.000,00		Existed
Sizing Machine	Dilmer	8	€ 3.000,00	€ 24.000,00		None
Compressor	Aydın	2	€ 18.000,00	€ 36.000,00	500 lt/min. power	Existed
Compressor	Aydın	2	€ 18.000,00	€ 36.000,00	500 lt/min. power	None
Exploration	Dilmer	2	€ 7.000,00	€ 14.000,00		Existed
Exploration	Dilmer	2	€ 7.000,00	€ 14.000,00		None
Truck		1	€ 65.000,00	€ 65.000,00		None
Transformer		2	€ 7.000,00	€ 14.000,00	400 kwa power	Existed
Grand Total				€ 1.105.000,00		
Existed Total				€ 891.000,00		
None Total				€ 214.000,00		

2014 Equipments	Brand	Piece	Price	Price	Explanations	Situation
Excavator	Kobelco	1	€ 250.000,00	€ 250.000,00		Existed
Excavator	Daewou	1	€ 200.000,00	€ 200.000,00		Existed
Excavator	Kobelco	1	€ 250.000,00	€ 250.000,00		Existed
Installer	Volvo 220	1	€ 240.000,00	€ 240.000,00		Existed
Installer	Volvo 220	2	€ 240.000,00	€ 480.000,00		None
Chain Saw	Fantini	2		€ 0,00		None
Wire Saw	Makesan	5	€ 25.000,00	€ 125.000,00		Existed
Wire Saw	Dilmer	3	€ 25.000,00	€ 75.000,00		Existed
Wire Saw	Dilmer	5	€ 25.000,00	€ 125.000,00		None
Sizing Machine	Dilmer	12	€ 3.000,00	€ 36.000,00		Existed
Sizing Machine	Dilmer	8	€ 3.000,00	€ 24.000,00		None
Compressor	Aydın	4	€ 18.000,00	€ 72.000,00	500 lt/min. power	Existed
Exploration	Dilmer	4	€ 7.000,00	€ 28.000,00		Existed
Truck		1	€ 65.000,00	€ 65.000,00		Existed
Transformer		2	€ 7.000,00	€ 14.000,00	400 kwa power	Existed
Grand Total				€ 1.984.000,00		
Existed Total				€ 1.105.000,00		
None Total				€ 879.000,00		

2015 Equipments	Brand	Piece	Price	Price	Explanations	Situation
Excavator	Kobelco	2	€ 250.000,00	€ 500.000,00		Existed
Excavator	Daewou	1	€ 200.000,00	€ 200.000,00		Existed
Installer	Volvo 220	3	€ 240.000,00	€ 720.000,00		Existed
Chain Saw	Fantini 3mt	1	€ 170.000,00	€ 170.000,00		None
Chain Saw	Fantini 7 mt	1	€ 230.000,00	€ 230.000,00		None
Wire Saw	Makesan	5	€ 25.000,00	€ 125.000,00		Existed
Wire Saw	Dilmer	8	€ 25.000,00	€ 200.000,00		Existed
Wire Saw	Dilmer	5	€ 25.000,00	€ 125.000,00		None
Sizing Machine	Dilmer	20	€ 3.000,00	€ 60.000,00		Existed
Sizing Machine	Dilmer	8	€ 3.000,00	€ 24.000,00		None
Compressor	Aydın	4	€ 18.000,00	€ 72.000,00	500 lt/min. power	Existed
Exploration	Dilmer	4	€ 7.000,00	€ 28.000,00		Existed
Truck		1	€ 65.000,00	€ 65.000,00		Existed
Truck		1	€ 65.000,00	€ 65.000,00		None
Transformer		2	€ 7.000,00	€ 14.000,00	400 kwa power	Existed
Grand Total				€ 2.598.000,00		
Existed Total				€ 1.984.000,00		
None Total				€ 614.000,00		

2016 Equipments	Brand	Piece	Price	Price	Explanations	Situation
Excavator	Kobelco	2	€ 250.000,00	€ 500.000,00		Existed
Excavator	Daewou	1	€ 200.000,00	€ 200.000,00		Existed
Installer	Volvo 220	3	€ 240.000,00	€ 720.000,00		Existed
Chain Saw	Fantini 3mt	1	€ 170.000,00	€ 170.000,00		Existed
Chain Saw	Fantini 7 mt	1	€ 230.000,00	€ 230.000,00		Existed
Wire Saw	Makesan	5	€ 25.000,00	€ 125.000,00		Existed
Wire Saw	Dilmer	13	€ 25.000,00	€ 325.000,00		Existed
Sizing Machine	Dilmer	28	€ 3.000,00	€ 84.000,00		Existed
Compressor	Dilmer	4	€ 18.000,00	€ 72.000,00	500 lt/min. power	Existed
Exploration	Dilmer	4	€ 7.000,00	€ 28.000,00		Existed
Truck		2	€ 65.000,00	€ 130.000,00		Existed
Transformers		2	€ 7.000,00	€ 14.000,00	400 kwa power	Existed
Grand Total				€ 2.598.000,00		
Existed Total				€ 2.598.000,00		
None Total				€ 0,00		

2017 Equipments	Brand	Piece	Price	Price	Explanations	Situation
Excavator	Kobelco	2	€ 250.000,00	€ 500.000,00		Existed
Excavator	Daewou	1	€ 200.000,00	€ 200.000,00		Existed
Installer	Volvo 220	3	€ 240.000,00	€ 720.000,00		Existed
Chain Saw	Fantini 3mt	1	€ 170.000,00	€ 170.000,00		Existed
Chain Saw	Fantini 7 mt	1	€ 230.000,00	€ 230.000,00		Existed
Wire Saw	Makesan	5	€ 25.000,00	€ 125.000,00		Existed
Wire Saw	Dilmer	13	€ 25.000,00	€ 325.000,00		Existed
Sizing Machine	Dilmer	28	€ 3.000,00	€ 84.000,00		Existed
Compressor	Dilmer	4	€ 18.000,00	€ 72.000,00	500 lt/min. power	Existed
Exploration	Dilmer	4	€ 7.000,00	€ 28.000,00		Existed
Truck		2	€ 65.000,00	€ 130.000,00		Existed
Transformer		2	€ 7.000,00	€ 14.000,00	400 kwa power	Existed
Grand Total				€ 2.598.000,00		
Existed Total				€ 2.598.000,00		
None Total				€ 0,00		

Equipments	Existed Total	None Total	Grand Total
2013 Equipments	€ 891.000,00	€ 214.000,00	€ 1.105.000,00
2014 Equipments	€ 1.105.000,00	€ 879.000,00	€ 1.984.000,00
2015 Equipments	€ 1.984.000,00	€ 614.000,00	€ 2.598.000,00
2016 Equipments	€ 2.598.000,00	€ 0,00	€ 2.598.000,00
2017 Equipments	€ 2.598.000,00	€ 0,00	€ 2.598.000,00

Manpower and Costs

For being able to catch the production targets, the required manpower is mentioned as follows;

2013 Manpower	Piece	TL/month	TL/month	TL/year(10 Months)
Director Mining Eng.	1	6.000,00 TL	6.000,00 TL	60.000,00 TL
Shift Direc. Eng.	2	5.000,00 TL	10.000,00 TL	100.000,00 TL
Foreman	1	4.000,00 TL	4.000,00 TL	40.000,00 TL
Shift Sergeant	2	3.000,00 TL	6.000,00 TL	60.000,00 TL
Machine Operator	4	3.000,00 TL	12.000,00 TL	120.000,00 TL
Master Worker	14	2.500,00 TL	35.000,00 TL	350.000,00 TL
Sizing	12	2.250,00 TL	27.000,00 TL	270.000,00 TL
Truck Driver	1	2.500,00 TL	2.500,00 TL	25.000,00 TL
Cooker	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Waterman	2	1.500,00 TL	3.000,00 TL	30.000,00 TL
Office Member	1	2.000,00 TL	2.000,00 TL	20.000,00 TL
Total			105.500,00 TL	1.055.000,00 TL

2014 Manpower	Piece	TL/month	TL/month	TL/year(10 Months)
Director Mining Eng.	1	7.000,00 TL	7.000,00 TL	70.000,00 TL
Shift Direc. Eng.	2	5.000,00 TL	10.000,00 TL	100.000,00 TL
Foreman	1	4.400,00 TL	4.400,00 TL	44.000,00 TL
Shift Sergeant	2	3.500,00 TL	7.000,00 TL	70.000,00 TL
Machine Operator	4	3.500,00 TL	14.000,00 TL	140.000,00 TL
Master Worker	20	2.800,00 TL	56.000,00 TL	560.000,00 TL
Sizing	20	2.500,00 TL	50.000,00 TL	500.000,00 TL
Truck Driver	1	2.750,00 TL	2.750,00 TL	27.500,00 TL
Cooker	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Waterman	2	1.500,00 TL	3.000,00 TL	30.000,00 TL
Office Member	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Total			155.150,00 TL	1.551.500,00 TL

2015 Manpower	Piece	TL/month	TL/month	TL/year(10 Months)
Director Mining Eng.	1	6.000,00 TL	6.000,00 TL	60.000,00 TL
Shift Direc. Eng.	2	5.000,00 TL	10.000,00 TL	100.000,00 TL
Foreman	1	4.400,00 TL	4.400,00 TL	44.000,00 TL
Shift Sergeant	2	3.500,00 TL	7.000,00 TL	70.000,00 TL
Machine Operator	6	3.500,00 TL	21.000,00 TL	210.000,00 TL
Master Worker	28	2.800,00 TL	78.400,00 TL	784.000,00 TL
Sizing	28	2.500,00 TL	70.000,00 TL	700.000,00 TL
Truck Driver	2	3.000,00 TL	6.000,00 TL	60.000,00 TL
Cooker	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Waterman	2	1.500,00 TL	3.000,00 TL	30.000,00 TL
Office Member	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Total			207.800,00 TL	2.078.000,00 TL

2016 Manpower	Piece	TL/month	TL/month	TL/year(10 Months)
Director Mining Eng.	1	6.000,00 TL	6.000,00 TL	60.000,00 TL
Shift Direc. Eng.	2	5.000,00 TL	10.000,00 TL	100.000,00 TL
Foreman	1	4.400,00 TL	4.400,00 TL	44.000,00 TL
Shift Sergeant	2	3.500,00 TL	7.000,00 TL	70.000,00 TL
Machine Operator	6	3.500,00 TL	21.000,00 TL	210.000,00 TL
Master Worker	32	3.000,00 TL	96.000,00 TL	960.000,00 TL
Sizing	32	2.800,00 TL	89.600,00 TL	896.000,00 TL
Truck Driver	2	3.000,00 TL	6.000,00 TL	60.000,00 TL
Cooker	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Waterman	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Office Member	1	3.000,00 TL	3.000,00 TL	30.000,00 TL
Total			245.000,00 TL	2.450.000,00 TL

2017 Manpower	Piece	TL/month	TL/month	TL/year(10 Months)
Director Mining Eng.	1	7.000,00 TL	7.000,00 TL	70.000,00 TL
Shift Direc. Eng.	2	5.000,00 TL	10.000,00 TL	100.000,00 TL
Foreman	1	4.400,00 TL	4.400,00 TL	44.000,00 TL
Shift Sergeant	2	3.500,00 TL	7.000,00 TL	70.000,00 TL
Machine Operator	6	3.500,00 TL	21.000,00 TL	210.000,00 TL
Master Worker	38	3.000,00 TL	114.000,00 TL	1.140.000,00 TL
Sizing	38	2.800,00 TL	106.400,00 TL	1.064.000,00 TL
Truck Driver	2	3.000,00 TL	6.000,00 TL	60.000,00 TL
Cooker	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Waterman	2	2.000,00 TL	4.000,00 TL	40.000,00 TL
Office Member	1	3.000,00 TL	3.000,00 TL	30.000,00 TL
Total			279.800,00 TL	2.798.000,00 TL

2013 Manpower	2014 Manpower	2015 Manpower	2016 Manpower	2017 Manpower	Total
1.055.000,00 TL	1.551.500,00 TL	2.078.000,00 TL	2.450.000,00 TL	2.798.000,00 TL	9.932.500,00 TL

Expenses

For being able to catch the production targets, the required expenses are mentioned as follow;

2013 Expenses	Month	TL/month	TL/year	Explanations
Diesel Fuel	10	82.000,00 TL	820.000,00 TL	
Oil	10	8.200,00 TL	82.000,00 TL	%10 Diesel Fuel
Electricity	10	57.000,00 TL	570.000,00 TL	
Maintenance and Repair	10	12.300,00 TL	123.000,00 TL	%15 Diesel Fuel
Diamond Wire	10	9.000,00 TL	90.000,00 TL	
Supplies	10	9.000,00 TL	90.000,00 TL	
Unexpected Expenses	10	18.000,00 TL	180.000,00 TL	
Total		195.500,00 TL	1.955.000,00 TL	

2014 Expenses	Month	TL/month	TL/year	Explanations
Diesel Fuel	10	123.000,00 TL	1.230.000,00 TL	
Oil	10	12.000,00 TL	120.000,00 TL	%10 Diesel Fuel
Electricity	10	85.000,00 TL	850.000,00 TL	
Maintenance and Repair	10	18.000,00 TL	180.000,00 TL	%15 Diesel Fuel
Diamond Wire	10	13.000,00 TL	130.000,00 TL	
Supplies	10	14.000,00 TL	140.000,00 TL	
Unexpected Expenses	10	27.000,00 TL	270.000,00 TL	
Total		292.000,00 TL	2.920.000,00 TL	

2015 Expenses	Month	TL/month	TL/year	Explanations
Diesel Fuel	10	180.000,00 TL	1.800.000,00 TL	
Oil	10	18.000,00 TL	180.000,00 TL	%10 Diesel Fuel
Electricity	10	127.000,00 TL	1.270.000,00 TL	
Maintenance and Repair	10	27.000,00 TL	270.000,00 TL	%15 Diesel Fuel
Diamond Wire	10	19.000,00 TL	190.000,00 TL	
Supplies	10	21.000,00 TL	210.000,00 TL	
Unexpected Expenses	10	39.000,00 TL	390.000,00 TL	
Total		431.000,00 TL	4.310.000,00 TL	

2016 Expenses	Month	TL/month	TL/year	Explanations
Diesel Fuel	10	198.000,00 TL	1.980.000,00 TL	
Oil	10	20.000,00 TL	200.000,00 TL	%10 Diesel Fuel
Electricity	10	140.000,00 TL	1.400.000,00 TL	
Maintenance and Repair	10	30.000,00 TL	300.000,00 TL	%15 Diesel Fuel
Diamond Wire	10	21.000,00 TL	210.000,00 TL	
Supplies	10	23.000,00 TL	230.000,00 TL	
Unexpected Expenses	10	30.000,00 TL	300.000,00 TL	
Total		462.000,00 TL	4.620.000,00 TL	

2017 Expenses	Month	TL/month	TL/year	Explanations
Diesel Fuel	10	216.000,00 TL	2.160.000,00 TL	
Oil	10	21.000,00 TL	210.000,00 TL	%10 Diesel Fuel
Electricity	10	153.000,00 TL	1.530.000,00 TL	
Maintenance and Repair	10	32.000,00 TL	320.000,00 TL	%15 Diesel Fuel
Diamond Wire	10	23.000,00 TL	230.000,00 TL	
Supplies	10	25.000,00 TL	250.000,00 TL	
Unexpected Expenses	10	33.000,00 TL	330.000,00 TL	
Total		503.000,00 TL	5.030.000,00 TL	

2013 Expenses	2014 Expenses	2015 Expenses	2016 Expenses	2017 Expenses	Total
1.955.000,00 TL	2.920.000,00 TL	4.310.000,00 TL	4.620.000,00 TL	5.030.000,00 TL	18.835.000,00 TL

Note; First year of preparation stage may take a long time, in the following years, production will be approached to the intended point.

GEOLOGICAL CHARACTERISTICS AND MARBLE POTENTIAL OF AKDAG MARBLE AREA (GUNDOGMUS-MANAVGAT) ON THE NORTH EAST OF ANTALYA, TURKEY

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INTRODUCTION

The Akdağ area is a very important marble deposit within Antalya and Alanya area and with massive structure and giant reserves. This area is located 15 kilometers north of the city called Gündoğmuş and it is 180 km far from Antalya. There are four (4) licensed areas in the Akdağ region belonging to Latmos Marble Co. The total width of the licensed area reaches up to 600 hectare. The marble area can be accessed by the asphalt and well stabilized roads (Fig. 1, 2 and 3). Akdag is the biggest mountain in the marble area. The maximum altitude of Akdag is about 2200 m.

The aim of this study is to describe the geological setting of the Akdag limestone massif in Gündoğmuş region and to discuss of the marble potential and the quality of this area.

GEOLOGICAL SETTING

Geologically, the Akdag limestone massif is located on the eastern side of Isparta Angle. Tectonically, Isparta Angle was formed due to bending of Taurus carbonate axis in the north of Antalya Gulf during the Late Miocene-Early Pliocene period. Isparta Angle is one of the most prominent neo-tectonic structures within the SW-Anatolia located on the north of Antalya Gulf. The NE-trending Fethiye-Burdur fault zone and NW-trending Akşehir fault limit Isparta Angle from the west and the east, respectively.

Isparta Angle province contains two Mesozoic carbonate platform, which are Beydağları that are on west of the Gulf of Antalya, and Akseki-Anamas to the east. The platforms are separated and tectonically overlained by the allocthonous nappe systems.

The Akseki-Anamas autochthonous carbonate sequence is mainly composed of massive and thick bedded limestone and dolomites between Triassic and Cretaceous in age. Due to E-W directionally compression, the NW-trending over thrust fault systems are formed within the eastern side of Isparta Angle and also in the Akdağ marble area (Fig. 4).

On the south of the licensed area, the Jurassic Akdağ limestone massif is overthursted on the Eocene turbiditic sedimentary sequence (Fig. 5, 6 and 7). Due to overthrusting, the lowermost part of the Akdağ limestone massif is locally brecciated. The thickness of the brecciated zone varies in between 50 and 200 cm. On the other hand, locally the conjugate fracture systems developed within the Akdağ limestone massif due to this overthrusting.

AKDAĞ LIMESTONE MASIF

The Jurassic Akdağ carbonate sequence in the licensed area is mainly composed of light beige and thick bedded or massive limestone. The main portion of Akdağ carbonate sequence is formed by the reefal limestone. The reefal limestone of the Akdağ massif are generally massive and very thick bedded and are rare fractured. In the licensed areas the reefal portions of the Akdağ limestone sequence can be separated easily. As shown in Figure 5, the reefal portion of the Akdağ limestone sequence is separated on the satellite image.

Petrographically, the Akdağ reefal limestone (marbles) contain sparitic calcite and various bioclastic (belonging to bivalvies and foraminifers) allochemical constituents (Fig. 8). The micro fissures and the porosities in this recrystallized matrix are generally totally filled and well cemented by the secondary calcite. Due to recrystallization the much of fossil remains cannot identify. These petrographic features and field observations of Akdağ limestone samples indicate the shallow marine (neritic) and barrier reef environments. The reefal character may be wins massive and homogeneous features of the Akdağ limestone (Fig. 9).

As shown in Figure 2, the average thickness of the Akdağ marbles in the licensed area reaches up to 200 m. The marble's color in all the parts of Akdağ area is generally light beige. As mentioned above, the Akdağ marble is dominantly very thick bedded and massive in character. The fracture zone is developed locally in the uppermost part of marble sequence due to karstric alteration. Also, the other karstic structures, such as lapyas, dolins, and soluble spaces can be seen in this marble area. Especially, the lapya structures are frequently developed on the top surfaces of the Akdağ marbles. The lapya structures indicate the massive characteristics of this marble area.

Well developed scarps (dipping to the south) are located in the southern margin of Akdağ massif area and reach up to 50 m height and 150 m width. Also, the lapya structures can be seen clearly on this scarp surfaces.

MARBLE POTENTIAL OF THE AKDAĞ AREA

The massive and homogeneous textural and color character, the rare fracture systems and topographic conditions of the Akdağ marble area indicate that this area is suitable for block production.

The average thickness of the producible marble (reefal limestone) level in Akdağ limestone massif is about 200 m. The total marble area (square) within the licensed areas in the Akdağ region reaches up to 300 hectare. Total producible marble potential in the area is about 600,000,000m3 or approximately 1.5 billion tons.

MARBLE PRODUCTION

Very rare fracture systems and homogeneous textural and color features may increase the marble block efficiency in the entire Akdağ massif. For this reason, the block efficiency of the Akdağ massif may be more than other adjacent marble quarries. During the present production activity of the preliminary marble quarries in the Akdağ massif the average block affinity rate is very high (Fig. 10 and 11). Despite the steep topographic conditions, there are well stabilized roads to the Akdağ marble production side and water springs near marble deposits. These can be considered as positive factors. On the other hand, the energy line nearby and asphalt road trending to the Gündoğmuş are other positive production factors. The marble block may be transported easily through Gündoğmuş-Antalya asphalt road to the Antalya port. Gündoğmuş is 200 km far from Antalya port.

CONCLUSIONS

There are totally four (4) licensed areas in the Akdağ region belonging to Latmos Marble Co. The total width of licensed area reaches up to 600 ha. All the licensed areas located on the giant Jurassic Akdağ limestone massif.

The carbonate sequence of the Akdağ massif is mainly composed of massive and very thick bedded light beige reefal limestone. The homogeneous textural and color distribution of the reefal limestone in the entire area, are the most important features of the Akdağ massif.

The massive light beige reefal limestone in the Akdağ area are suitable for the marble block production. The field observations and textural features of Akdağ limestone massif indicate the giant marble potential in the licensed area. The total producible marble reserves of the four (4) licensed area reach up to 1.5 billion tons. However, these reserves are required more detailed investigations for the preparation of block production such as drilling and open pit operations.

The preliminary open pit operation and small quarries in Akdağ massif indicate that the productive block efficiency is much higher than other marble quarries within the Burdur, Isparta and Antalya regions.

On the other hand, water springs, road setting, natural scarps and topographic conditions are very suitable for the marble production in Akdağ area.

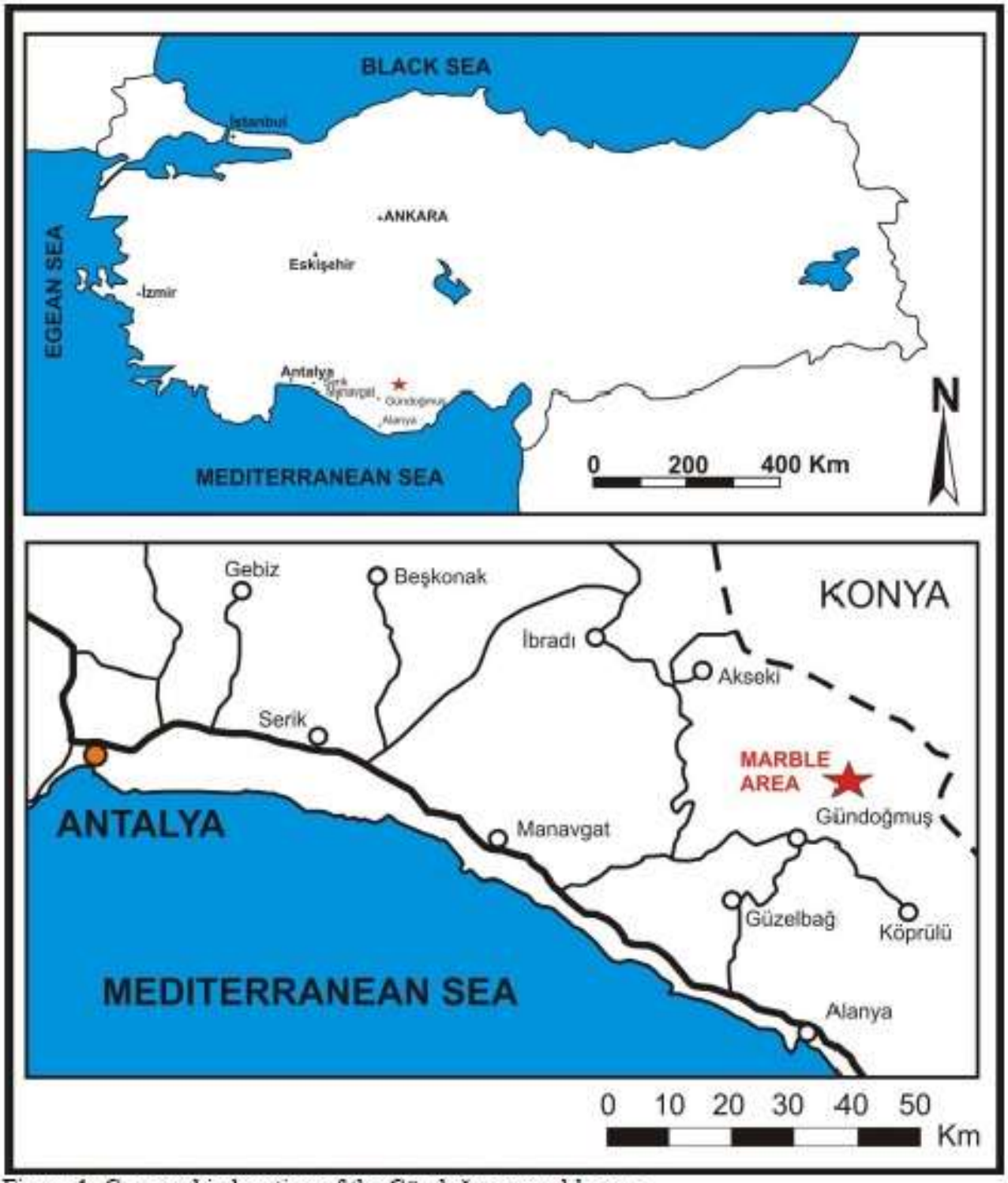

Figure 1: Geographic location of the Gündoğmuş marble area.

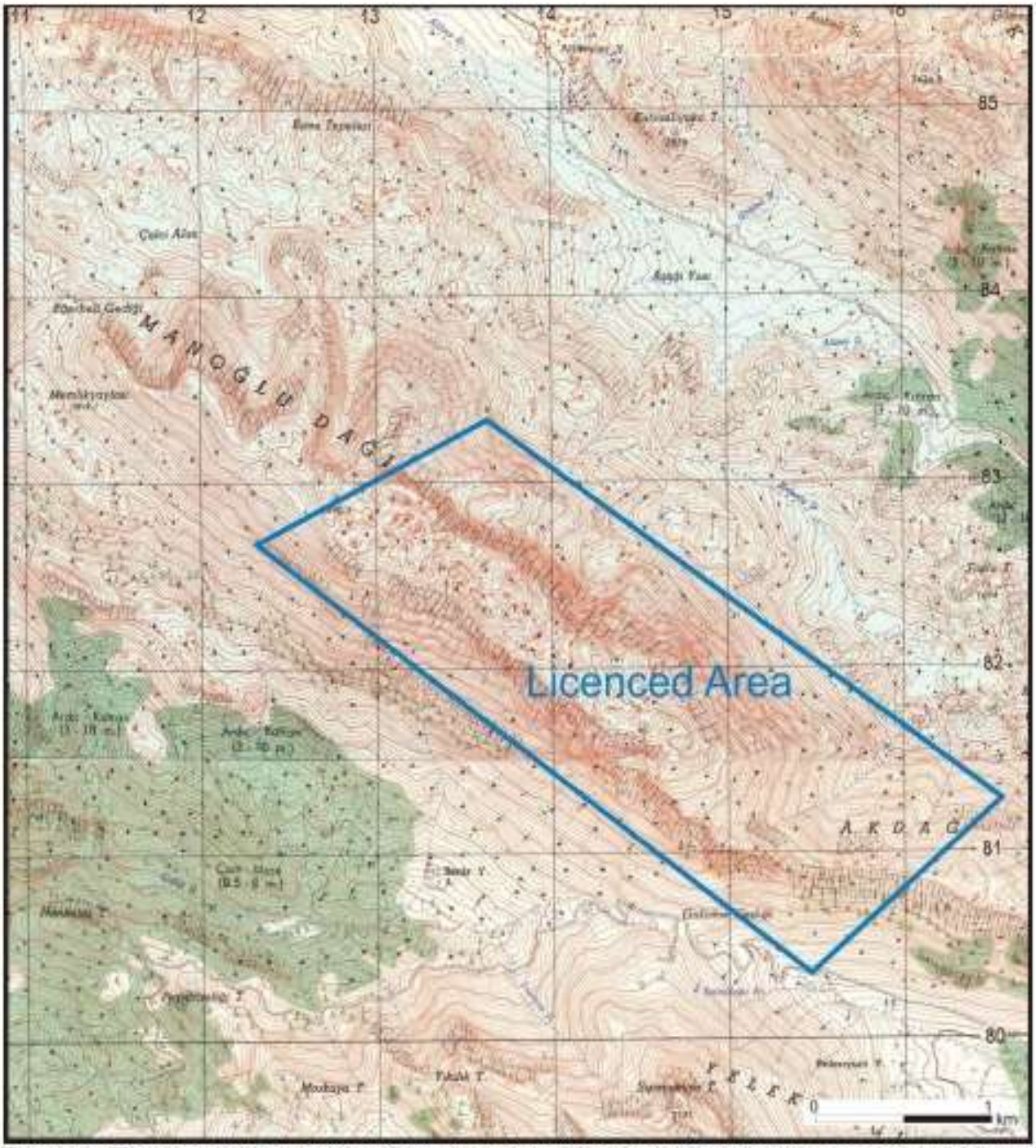

Figure 2: The topographic setting of the Akdağ marble licensed area on the map of 1/ 25 000 in scale.

Figure 3: Location of the study area on the Google Earth Map.

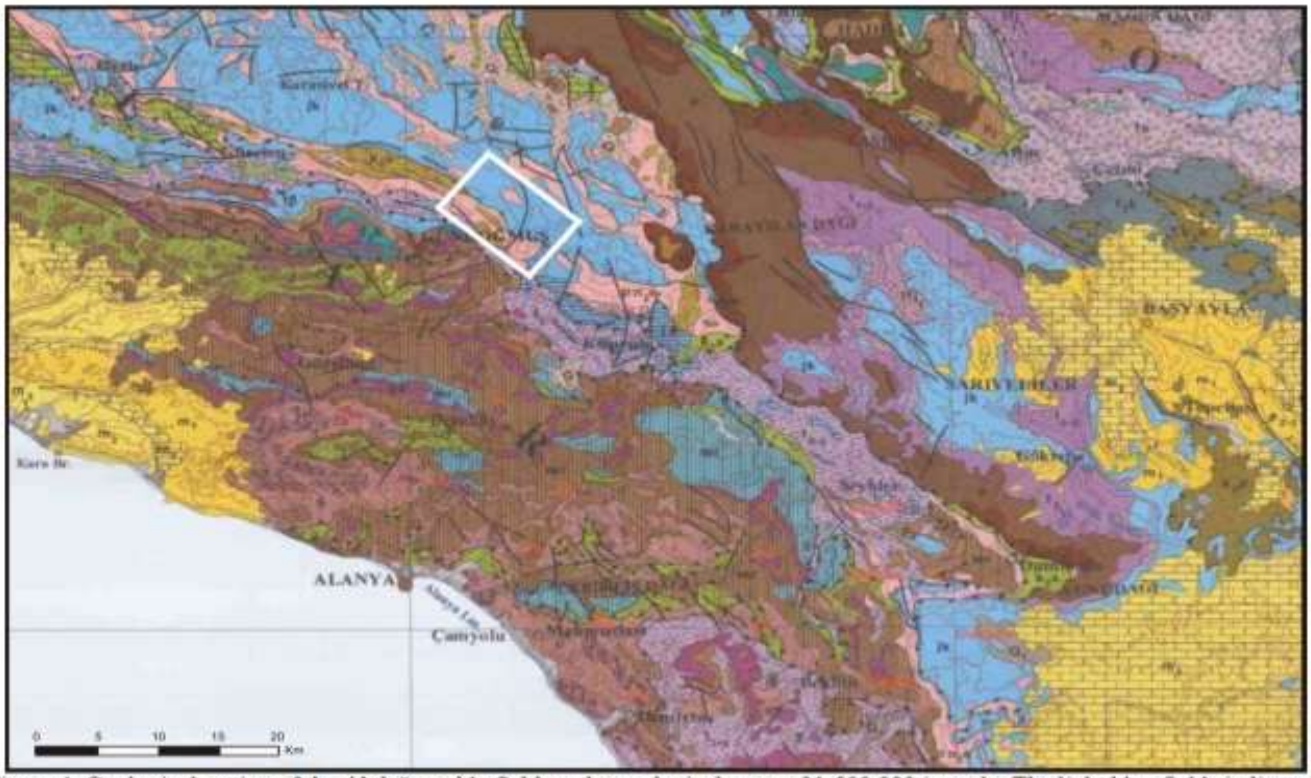

Figure 4: Geological setting of the Akdağ marble field on the geological map of 1:500 000 in scale. The light blue fields indicate the Jurassic carbonate rocks.

Figure 5: Showing on the Google Earth map of the Akdağ reefal limestone and related overthurst systems.

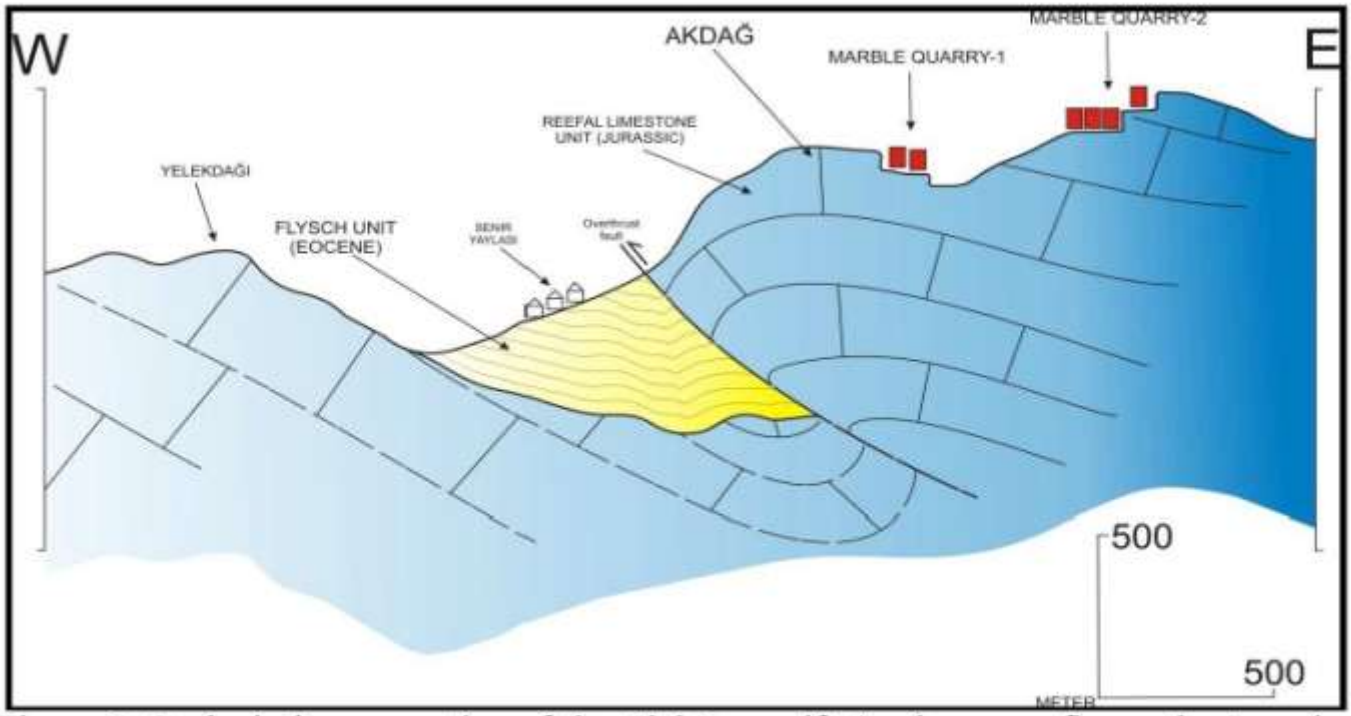

Figure 6: Geological cross section of the Akdağ massif. As shown on figure, the Jurassic reefal limestone of Akdağ massif overthrusted on the Eocene flysch unit from east to west.

Figure 7: Showing of the Akdağ reefal limestone on the out crop. As shown on figure, the Akdağ limestone is massive and rare fractured in character.

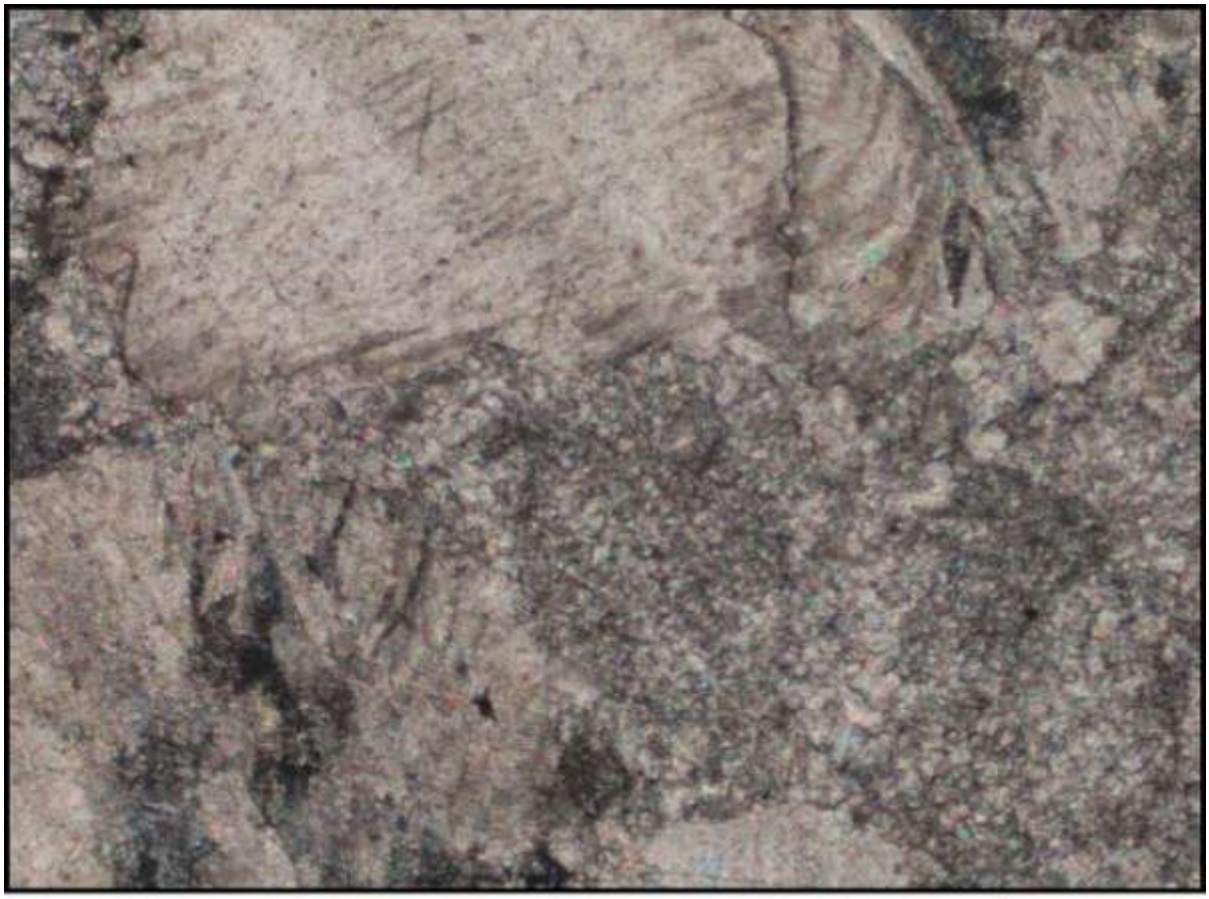

Figure 8: Microscopic textural showing of the Akdağ reefal limestone. As shown on figure, the Akdağ limestone composed mainly of recrystallized sparitic carbonate texture.

Figure 9: Showing the massif limestone on the Akdağ mountain. As shown on below figure the color Akdağ limestone mainly is light beige.

Figure 10: Showing the operations in the new opened quarry on the Akdağ limestone massif.

Figure 11: Showing the produced blocks and slaps from the new Akdağ quarry by the LATMOS Co.

CORE RESULTS

WELL NO: 1
DEPTH: 7. METER

WELL NO: 1
DEPTH: 21. METER

WELL NO: 2
DEPTH: 40. METER

WELL NO: 3
DEPTH: 18. METER

WELL NO: 3
DEPTH: 28. METER

WELL NO: 4
DEPTH: 31. METER

WELL NO: 5
DEPTH: 21. METER

WELL NO: 5
DEPTH: 32. METER

YOUR STONE SOLTIONS

KOCAK GROUP

CORE RESULTS

WELL NO: 5
DEPTH: 58. METER

WELL NO: 6
DEPTH: 6. METER

WELL NO: 6
DEPTH: 48. METER

WELL NO: 9
DEPTH: 6. METER

WELL NO: 9
DEPTH: 39. METER

WELL NO: 9
DEPTH: 42. METER

WELL NO: 9
DEPTH: 64. METER

T.C
ANTALYA VALİLİĞİ
ÇEVRE VE ORMAN İL MÜDÜRLÜĞÜ

Sayı : B.18.İÇO.07.03-239-12/ — 6660
Konu : Mermer Ocağı hak.

ANTALYA
24.08/2009

Latmos Traverten San. ve Tic. Ltd. Şti.
Adına vekaleten
H.Zübeyde TOKATLIOĞLU
(Meydan Kavağı Mah. Avni Tolunay Cad. Tolunay Apt. No:39 Kat:1 D:4 ANTALYA)

İlgi:28.07.2009 tarih ve BÇM09-201 sayılı yazınız.

İlgi yazınızda; Antalya İli, Gündoğmuş İlçesi, Pembelik Köyü sınırları içerisinde bulunan AR:200709878 ruhsat numaralı 100 hektar sahanın 40,88 hektarlık kısmında 4900 m^3/yıl kapasitede, Latmos Traverten San. ve Tic. Ltd. Şti. tarafından açılıp işletilmesi planlanan II.Grup Maden (Doğaltaş-Mermer) faaliyetinin ÇED Yönetmeliği kapsamına göre değerlendirilerek tarafımıza bilgi verilmesini talep etmektesiniz.

Müdürlüğümüz teknik elamanlarınca yazı ekindeki evraklar ve sahada yapılan inceleme sonucunda; yapılması planlanan faaliyet türü itibariyle, 17.07.2008 tarih ve 26939 sayılı Resmi Gazetede yayımlanarak yürürlüğe giren ÇED Yönetmeliğinin Ek II listesinin 42-b maddesinde (5000 m^3/yıl ve üzeri kapasiteli blok ve parça mermer, dekoratif amaçlı taşların çıkartılması, işlenmesi, yılık 250.000 m^2 ve üzeri kapasiteli mermer kesme, işleme ve sayalama tesisleri) yer almaktadır.

Söz konusu alanda açılıp işletilmesi düşünülen mermer ocağı faaliyeti ile ilgili olarak Müdürlüğümüze bağlı Doğa Koruma ve Milli Parklar ve AGM Şube Müdürlüklerine görüş sorulmuş olup, AGM Şube Müdürlüğü görüşlerinde faaliyetin yapılmasında mevzuatları açısından sakınca olmayacağını belirtmişdir.

DKMP Şube Müdürlüğü görüşlerinde;kuru derelere katı ve sıvı atıkların verilmemesi, dere yataklarına müdahale edilmemesi ve pasa dökülmemesi, işletme ve taşıma esnasında toz oluşumunun engellenmesi şartlarıyla, talep edilen sahada söz konusu faaliyetin yapılmasında sakınca olmayacağını belirtmiştir.

Bu bağlamda, 17.07.2008 tarih ve 26939 sayılı Resmi Gazetede yayımlanarak yürürlüğe giren ÇED Yönetmeliğinin Ek II listesinin 42-b maddesinde (5000 m^3/yıl ve üzeri kapasiteli blok ve parça mermer, dekoratif amaçlı taşların çıkartılması, işlenmesi, yılık 250.000 m^2 ve üzeri kapasiteli mermer kesme, işleme ve sayalama tesisleri) yer alan faaliyet kapasitesi nedeni ile ÇED Yönetmeliği kapsamı dışında değerlendirilmiştir.

Bilgi ve gereğini rica ederim.

Mine KARA
İl Müdürü

ÇED Saha Koordinatları :

		Ç1	Ç2	Ç3	Ç4
Sağa	(Y)	414850	414850	414850	414549,126
Yukarı	(X)	4081597	4081500	4080750	4080750
		Ç5	Ç6	Ç7	
Sağa	(Y)	414283	414283	414850	
Sağa	(Y)	4081287	4081597	4081597	

K-Q TSE-ISO-EN 9000
Tel : 0 242 3218006 – 321 80 38 321 80 41 Fax : 321 78 32 Kızıltoprak Mah. Ali Çetinkaya Cad. No:177 ANTALYA
e-mail : antalya@cevreorman.gov.tr
Bilgi için : Osman ERSOYU Maden Müh.
web : www.antalya-cevreorman.gov.tr
Kalite Yönetim Sistemi Kuruluşumuz, "TS-EN-ISO 9001:2000 Kalite Yönetim Sistemi Belgesi" ne sahip olup, bu standardı uygulamaktadır.

ANTALYA VALİLİĞİ
İl Çevre ve Orman Müdürlüğü

SAYI :B.18.4.İÇO.4.07.00.03/239-12 13228
KONU:Mermer Ocağı Hk.

ANTALYA
13/12/2010

Latmos Traverten Madencilik San. ve Tic. Ltd. Şti.
Adına vekaleten
Sn.H.Zübeyde TOKATLIOĞLU
(Meydan Kavağı Mah. Avni Tolunay Cad. Tolunay Apt. No:39 Kat.1 Daire:4 ANTALYA)

İLGİ: a)03.09.2010 tarih ve BÇM10-338 sayılı yazınız,
b)13.09.2010 tarih ve 9835 sayılı yazımız.

İlgi (a) yazınızla, İlimiz, Gündoğmuş İlçesi, Pembelik Köyü civarında AR:200709941 ruhsat nolu II.Grup (doğaltaş-mermer) 100 hektarlık sahanın 66,36 hektarlık kısmında Latmos Traverten San. ve Tic. Ltd. Şti. tarafından yıllık 4900 m^3 kapasitede blok ve parça mermer üretimi gerçekleştirilmesi planlanan faaliyetin ilgi (b) yazımız ile ÇED Yönetmeliği kapsamı dışında değerlendirildiği, ancak bahse konu yazıda izin verilen alanın koordinatlarından $Ç_1$ koordinatının eksik yazıldığı tespit edilmiştir. Enerji ve Tabii Kaynaklar Bakanlığı Maden İşleri Genel Müdürlüğünden İşletme İzin alanı talebinizde kullanılmak üzere, söz konusu alanda açılıp işletilmesi düşünülen blok ve parça mermer üretimi faaliyeti ile ilgili olarak ÇED Yönetmeliği kapsamı dışında değerlendirilen alanın koordinatları aşağıda verilmektedir.

Bilgi ve gereğini rica ederim.

Mine Kara
İl Müdürü

ÇED Sahası Koordinatları :

	AR_1	AR_2	$Ç_3$	$Ç_4$
Sağa (Y)	414850,000	415850,000	415850,000	415331,430
Yukarı (X)	4081500000	4081500,000	4080687,006	4080687,006

	$Ç_2$	$Ç_1$
Sağa (Y)	415331,430	414850,000
Yukarı (X)	4080997,340	4080997,340

ASLI ÇİBİNİR
Yahya ŞİMŞEK
ÇED ve Planlama Şube Müdürü

Kızılay Mah. Ali Çetinkaya Cad. No:177 ANTALYA Tel : 0.242- 321 80 06 – 321 80 38 – 321 80 41 Fax : 0242-3217832
e-posta: antalya@cevreorman.gov.tr web : www.antalya-cevreorman.gov.tr
Bilgi için: Osman ERSOYU / Maden Müh.

Kalite Yönetim Sistemi

Kurumumuz "TS-EN-ISO 9001:2000 Kalite Yönetim Sistemi Belgesi" ne sahip olup, bu standardı uygulamaktadır.

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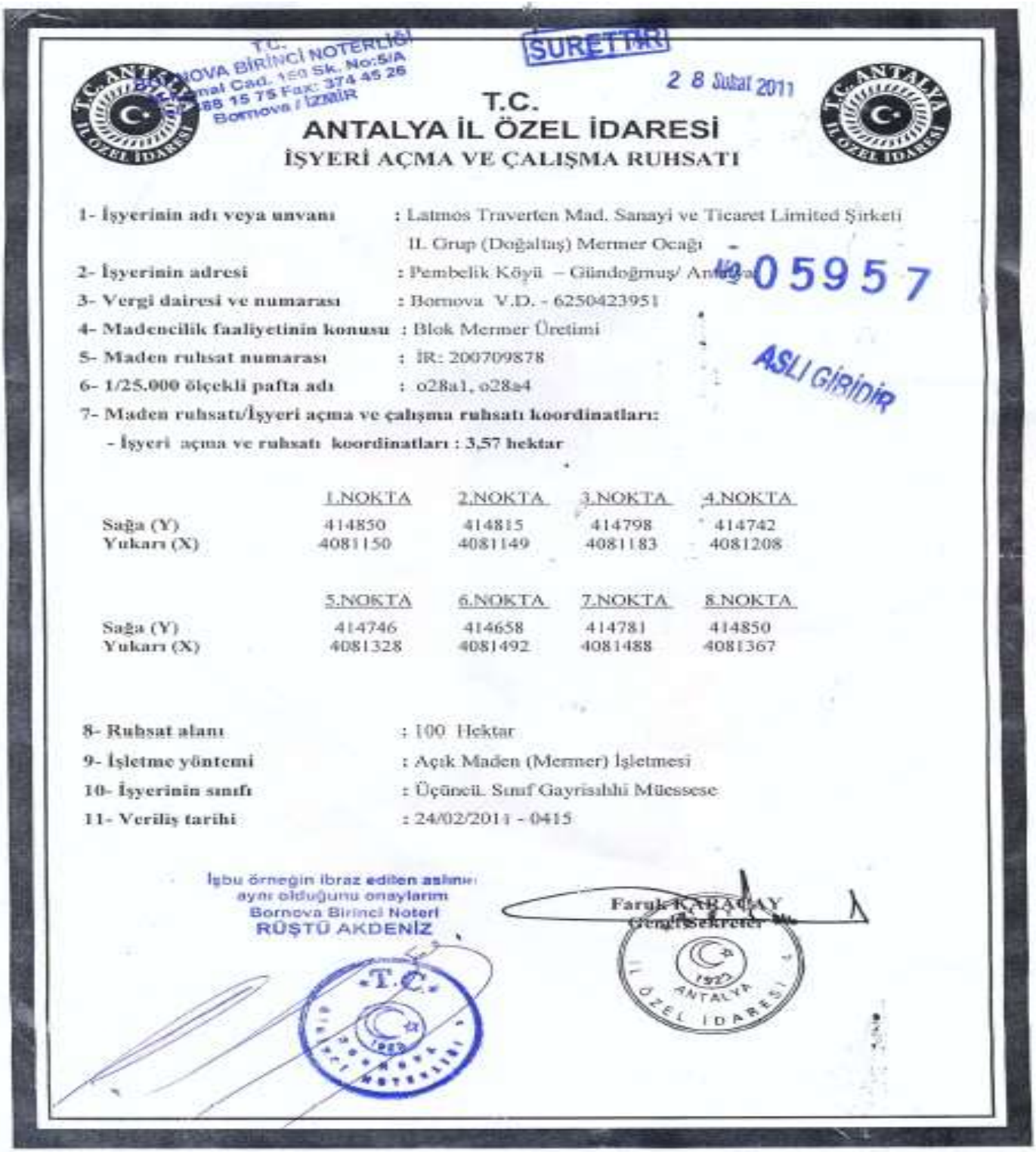


T.C.
BORNOVA BİRİNCİ NOTERLİĞİ
Cemal Cad. 160 Sk. No:5/A
Tel: 388 15 75 Fax: 374 45 26
Bornova / İZMİR

SURETTİR

28 Şubat 2011

T.C.
ANTALYA İL ÖZEL İDARESİ
İŞYERİ AÇMA VE ÇALIŞMA RUHSATI

1- İşyerinin adı veya unvanı : Latmos Traverten Mad. Sanayi ve Ticaret Limited Şirketi
II. Grup (Doğaltaş) Mermer Ocağı
2- İşyerinin adresi : Pembelik Köyü – Gündoğmuş/ Antalya
3- Vergi dairesi ve numarası : Bornova V.D. - 6250423951
4- Madencilik faaliyetinin konusu : Blok Mermer Üretimi
5- Maden ruhsat numarası : İR: 200709878
6- 1/25.000 ölçekli pafta adı : o28a1, o28a4
7- Maden ruhsatı/İşyeri açma ve çalışma ruhsatı koordinatları:
- İşyeri açma ve ruhsatı koordinatları : 3,57 hektar

Ruhsat No 05957

ASLI GİBİDİR

	1.NOKTA	2.NOKTA	3.NOKTA	4.NOKTA
Sağa (Y)	414850	414815	414798	414742
Yukarı (X)	4081150	4081149	4081183	4081208

	5.NOKTA	6.NOKTA	7.NOKTA	8.NOKTA
Sağa (Y)	414746	414658	414781	414850
Yukarı (X)	4081328	4081492	4081488	4081367

8- Ruhsat alanı : 100 Hektar
9- İşletme yöntemi : Açık Maden (Mermer) İşletmesi
10- İşyerinin sınıfı : Üçüncü. Sınıf Gayrisahhi Müessese
11- Veriliş tarihi : 24/02/2011 - 0415

İşbu örneğin ibraz edilen aslının aynı olduğunu onaylarım
Bornova Birinci Noteri
RÜŞTÜ AKDENİZ

Faruk KARAÇAY
Genel Sekreter

T.C. ANTALYA İL ÖZEL İDARESİ

BUSINESS LICENSE

T.C.
ANTALYA İL ÖZEL İDARESİ
İŞYERİ AÇMA VE ÇALIŞMA RUHSATI

1- İşyerinin adı veya unvanı : LATMOS TRAVERTEN MADENCİLİK SANAYİ VE TİCARET LİMİTED ŞİRKETİ
II.Grup Doğaltaş - Mermer ocağı

2- İşyerinin adresi : Pembelik Köyü – Gazipaşa/ Antalya
3- Vergi dairesi ve numarası : Bornova V.D. – 625 042 3951
4- Madencilik faaliyetinin konusu : Blok Mermer Üretimi
5- Maden ruhsat numarası : İR: 200709941
6- 1/25.000 ölçekli pafta adı : o28a1 - o28a4
7- Maden ruhsatı/İşyeri açma ve çalışma ruhsatı koordinatları:
-İşyeri açma ve çalışma ruhsatı koordinatları : 12.713,70 m2

Ocak Sahası (1) =	*1.NOKTA*	*2.NOKTA*	*3.NOKTA*	*4.NOKTA*		
Sağa (Y)	*415057*	*415153*	*415212*	*415103*		
Yukarı (X)	*4081200*	*4081200*	*4081100*	*4081100*		
Ocak Sahası (2) =	*5.NOKTA*	*6.NOKTA*	*7.NOKTA*	*8.NOKTA*		
Sağa (Y)	*415613*	*415603*	*415568*	*415568*		
Yukarı (X)	*4080943*	*4080919*	*4080920*	*4080927*		
Ocak Sahası (3) =	*9.NOKTA*	*10.NOKTA*	*11.NOKTA*	*12.NOKTA*	*13.NOKTA*	*14.NOKTA*
Sağa (Y)	*415343*	*415306*	*415310*	*415345*	*415366*	*415358*
Yukarı (X)	*4080890*	*4080884*	*4080926*	*4080925*	*4080901*	*4080886*

8- Ruhsat alanı : 100 Hektar
9- İşletme yöntemi : Açık Maden (Mermer) İşletmesi
10- İşyerinin sınıfı : Üçüncü Sınıf Gayrisıhhî Müessese
11- Veriliş tarihi : 17/01/2011 – 0308

Fatih KARACAY
Genel Sekreter

24/05/2005 tarihli ve 2005/9013 sayılı Bakanlar Kurulu Kararı ile yürürlüğe konulan Madencilik Faaliyetleri İzin Yönetmeliği kapsamında düzenlenmiştir.

"Maden İşleri Genel Müdürlüğünden İşletme İzin Belgesi alınmadan üretim faaliyetlerinde bulunulamaz"

Maden İşleri Genel Müdürlüğü
ASLI GİBİDİR 18.01.2011
Yönetmelik uyarınca tasdik edilmiştir.

Metin AÇIKGÖZ
Ruhsat ve Denetim Müd.

KOCAK GROUP

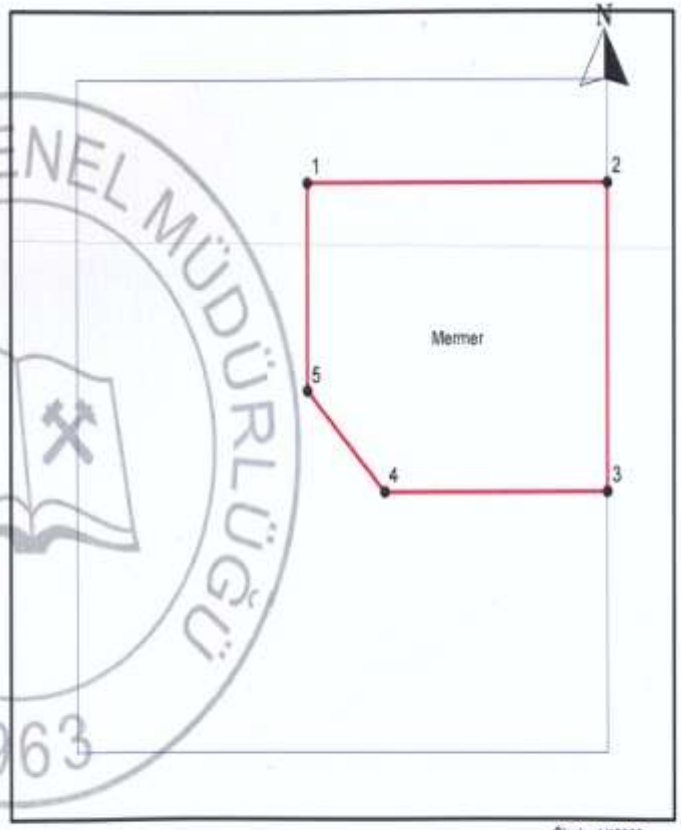
MINING LICENSE

T.C.
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
MADEN İŞLERİ GENEL MÜDÜRLÜĞÜ

T.C.
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
MADEN İŞLERİ GENEL MÜDÜRLÜĞÜ
II-b Grubu İŞLETME İZNİ

İLİ :	ANTALYA
İLÇESİ :	GÜNDOĞMUŞ
KÖYÜ :	PEMBELİK
RUHSAT NUMARASI :	200709878
ERİŞİM NUMARASI :	3154049
RUHSAT GRUBU :	II-B GRUP
YÜRÜRLÜĞE GİRİŞ TARİHİ :	15.06.2010
RUHSATIN BİTİM TARİHİ :	15.06.2020
RUHSAT ALANI :	100 Hektar
İZİN VERİLEN MADEN CİNSİ :	Mermer
İZNİN VERİLDİĞİ TARİH :	18.08.2011
İZİN ALANI :	24.99 Hektar
RUHSAT SAHİBİ :	LATMOS TRAVERTEN MAD.SAN. VE TİC. LTD. ŞTİ.
T.C. KİMLİK NO :	
VERGİ DAİRE VE NO :	Bornova V.D. 6250423951
PAFTALAR :	c28a4

P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X
1	1	414283	4081597												
1	2	414650	4081597												
1	3	414650	4081137												
1	4	414428	4081137												
1	5	414283	4081287												



ENERJI VE TABII KAYNAKLAR BAKANI'a
Ahmet ALSAÇ
Daire Başkanı

MADEN İŞLERİ GENEL MÜDÜRLÜĞÜ 1963

KOCAK GROUP

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ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI

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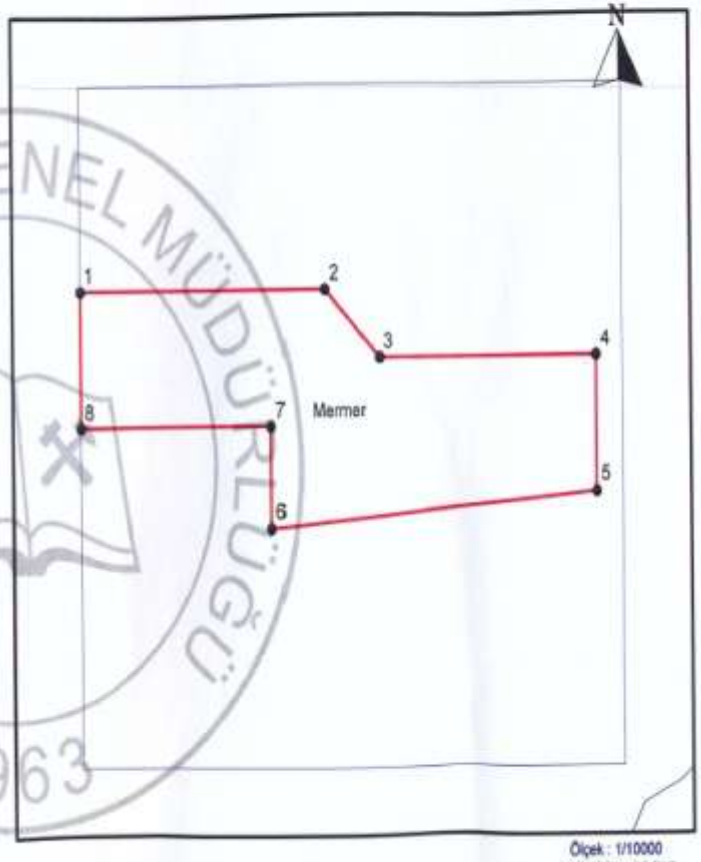
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
MADEN İŞLERİ GENEL MÜDÜRLÜĞÜ
II-b Grubu İŞLETME İZNİ

İLİ :	ANTALYA
İLÇESİ :	GÜNDOĞMUŞ
KÖYÜ :	PEMBELİK
RUHSAT NUMARASI :	200709941
ERİŞİM NUMARASI :	3154040
RUHSAT GRUBU :	II-B GRUP
YÜRÜRLÜĞE GİRİŞ TARİHİ :	14.06.2010
RUHSATIN BİTİM TARİHİ :	14.06.2020
RUHSAT ALANI :	100 Hektar
İZİN VERİLEN MADEN CİNSİ :	Mermer
İZNİN VERİLDİĞİ TARİH :	02.06.2011
İZİN ALANI :	22 Hektar
RUHSAT SAHİBİ :	LATMOS TRAVERTEN MAD.SAN. VE TİC. LTD. ŞTİ.
T.C. KIMLIK NO :	
VERGI DAIRE VE NO :	Bornova V.D. 6250423991
PAFTALAR :	c28d4

P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X
1	1	414850	4081200												
1	2	415300	4081200												
1	3	415400	4081100												
1	4	415800	4081100												
1	5	415800	4080900												
1	6	415200	4080850												
1	7	415200	4081000												
1	8	414850	4081000												



ENERJI VE TABII KAYNAKLAR BAKANLIĞI
Ahmet ALSAÇ
Daire Başkanı

KOCAK GROUP
YOUR STONE SOLUTIONS
BUSINESS LICENSEFOR NATURAL STONE

T.C.
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
MADEN İŞLERİ GENEL MÜDÜRLÜĞÜ
II. Grup (Doğaltaş - Mermer) İŞLETME RUHSATI

İLİ :	ANTALYA
İLÇESİ :	GÜNDOĞMUŞ
KÖYÜ :	PEMBELİK
RUHSAT NUMARASI :	200709878
RUHSAT GRUBU :	II. GRUP
YÜRÜRLÜĞE GİRİŞ TARİHİ :	15.06.2010
RUHSATIN BİTİM TARİHİ :	15.06.2020
ERİŞİM NUMARASI :	3154049
RUHSAT ALANI :	100 Hektar
RUHSAT SAFHASI :	İşletme
RUHSAT SAHİBİ :	LATMOS TRAVERTEN MAD.SAN. VE TİC. LTD. ŞTİ.
T.C. KİMLİK NO :	
VERGİ DAİRE VE NO :	Bornova V.D.Bşk 6250423951
ADRES :	538. SOK. MEHMET İNCE SİT. NO:48/304 BORNOVA / İZMİR

PAFTALAR : o28a1,o28a4

P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X
1	1	414850	4080750												
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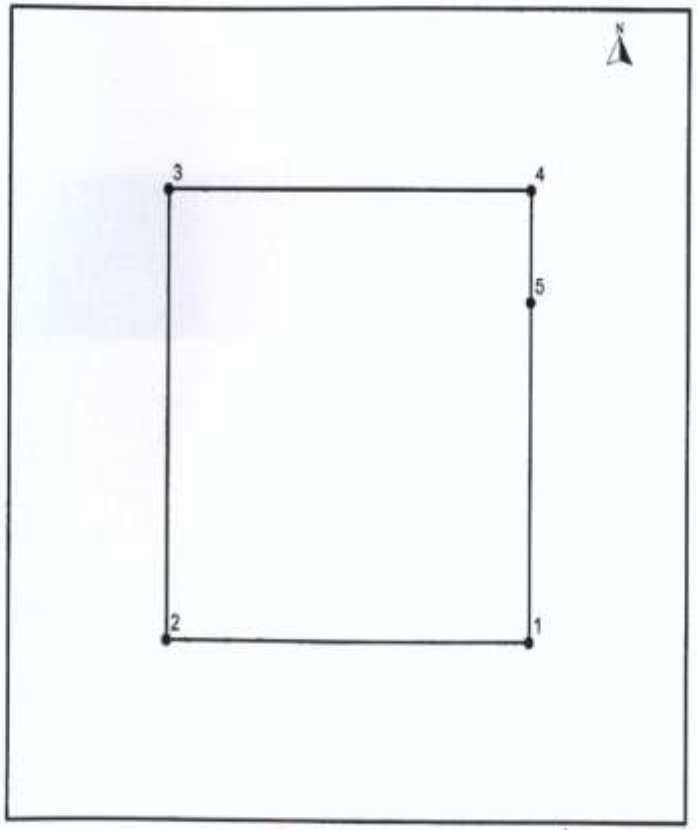


Ölçek : 1/15000

ENERJİ VE TABİİ KAYNAKLAR
BAKANI a.
Hayri OĞUT
Daire Başkanı

KOCAK GROUP
YOUR STONE SOLUTIONS
BUSINESS LICENSE FOR NATURAL STONE

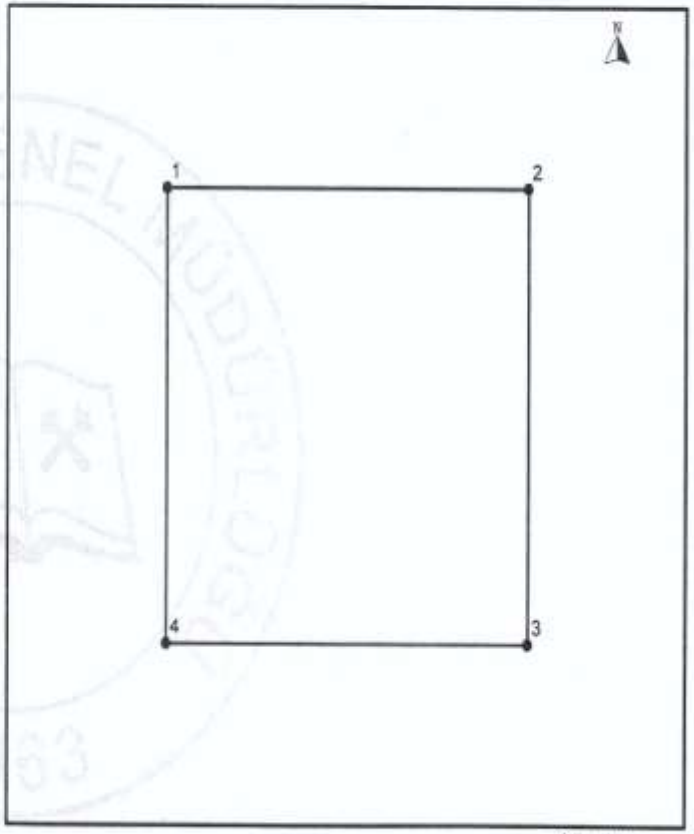
16.6.2010 → 119276

T.C.
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
MADEN İŞLERİ GENEL MÜDÜRLÜĞÜ
II. Grup (Doğaltaş - Mermer) İŞLETME RUHSATI

İLİ :	ANTALYA
İLÇESİ :	GÜNDOĞMUŞ
KÖYÜ :	PEMBELİK
RUHSAT NUMARASI :	2007/9541
RUHSAT GRUBU :	II. GRUP
YÜRÜRLÜĞE GİRİŞ TARİHİ :	14.06.2010
RUHSATIN BİTİM TARİHİ :	14.06.2020
ERİŞİM NUMARASI :	3154040
RUHSAT ALANI :	100 Hektar
RUHSAT SAFHASI :	İşletme
RUHSAT SAHİBİ :	LATMOS TRAVERTEN MAD.SAN. VE TİC. LTD. ŞTİ.
T.C. KİMLİK NO :	
VERGİ DAİRE VE NO :	Bornova V.D.Bşk 6250423951
ADRES :	538. SOK. MEHMET İNCE SİT. NO:48/304 BORNOVA / İZMİR

PAFTALAR : o28a1,o28a4

P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X	P.No	S.No	Y	X
1	1	414650	4081500												
1	2	415850	4081500												
1	3	415850	4080500												
1	4	414650	4080500												



Ölçek : 1/1.000

ENERJİ VE TABİİ KAYNAKLAR
BAKANI a.
Hayri OĞUT
Daire Başkanı

TECHNICAL SUPERVISOR COMISSION

T.C.
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
(Maden İşleri Genel Müdürlüğü)
TEKNİK NEZARETÇİ ATAMA BELGESİ

Sayı : 771 / 18.05.2010 / 112502

RUHSATIN/SERTİFİKANIN

İli	: Antalya
İlçesi	: Gündoğmuş
Ruhsat No	:
Sicil No	: 200709878
Erişim No	: 3154049
Grubu / Maden Cinsi	: II. Grup /
İşletme Yöntemi	: Açık İşletme

RUHSAT/SERTİFİKA SAHİBİNİN

Adı Soyadı	: LATMOS TRAVERTEN SAN. VE TİC. LTD. ŞTİ.
Harç Makbuz Tarih ve No'su	: 18/05/2010 - 17962

TEKNİK NEZARETÇİNİNİN :

Adı Soyadı	: BAHADIR HİKMET AKSU
T.C. Kimlik No	: 16153323644
Telefon	: 532-7208087
Diploma Tarih ve No'su	: - 1980/12559
İki Yıl Yeraltı Tecrübesi	: Yok
Maden Mühendisleri Oda Sicil No	: 2756
Halen Teknik Nezaretçilik Yaptığı Diğer Sahaların Numaraları	: SİCİL : 200709878 , IR : 3084 , IR : 2797
Sigorta /Bağkur Sicil No'su	: /
Vergi Dairesi ve Vergi Nu'su	: Başkent V.D. - 370099343
Yazışma Adresi	: Çukurambar Mah. 1438 Sok. 2/7 Çankaya / Ankara

Yukarıda bilgileri verilen sahaya Maden Mühendisi BAHADIR HİKMET AKSU 3213 sayılı Maden Kanununun
31' nci maddesi gereğince teknik nezaretçi olarak tayin edilmiştir.

ONAY
24/5/2010
Mehmet TOMBUL
Bakan a.
Daire Başkanı

Bu Belge Maden Kanunu Uygulama Yönetmeliği ekinde yer alan Ek Form-17 ile Genel Müdürlüğümüze sayı bölümünde belirtilen müracaata ait ONAY belgesidir.
Adres: Mevlana Bulvarı No:78 Beştepe/ANKARA Tel: 0 312 212 80 00 Fax: 0 312 213 84 51 http://www.migem.gov.tr e-posta: migem@migem.gov.tr

TECHNICAL SUPERVISOR COMISSION

T.C.
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
(Maden İşleri Genel Müdürlüğü)
TEKNİK NEZARETÇİ ATAMA BELGESİ

Sayı : 771 / 13.09.2011 / 126830

RUHSATIN/SERTİFİKANIN

İli	: Antalya
İlçesi	: Gündoğmuş
Ruhsat No	:
Sicil No	: 200709941
Erişim No	: 3154040
Grubu / Maden Cinsi	: II-B Grup / Mermer
İşletme Yöntemi	: Açık İşletme

RUHSAT/SERTİFİKA SAHİBİNİN

Adı Soyadı	: LATMOS TRAVERTEN MAD.SAN. VE TİC. LTD. ŞTİ.

TEKNİK NEZARETÇİNİNİN :

Adı Soyadı	: BAHADIR HİKMET AKSU
T.C. Kimlik No	: 16153323644
İki Yıl Yeraltı Tecrübesi	: Yok
Maden Mühendisleri Oda Sicil No	: 2756
Halen Teknik Nezaretçilik Yaptığı Diğer Sahaların Numaraları	: SİCİL : 200709878 , SİCİL : 55602 , SİCİL : 200709941
Sigorta /Bağkur Sicil No'su	: /
Vergi Dairesi ve Vergi No'su	: Başkent V.D. - 370099343
Yazışma Adresi	: Çukurambar Mah. 1438 Sok. 2/7 Çankaya / Ankara

Yukarıda bilgileri verilen sahaya Maden Mühendisi BAHADIR HİKMET AKSU 3213 sayılı Maden Kanununun
31' nci maddesi gereğince teknik nezaretçi olarak tayin edilmiştir.

ONAY
.../09/2011
Yılmaz TÜNEL
Bakanlık
Daire Başkanı

Bu Belge Maden Kanunu Uygulama Yönetmeliği ekinde yer alan Ek Form-17 ile Genel Müdürlüğümüze sayı bölümünde belirtilen müracaata ait ONAY belgesidir.
Adres: Mevlana Bulvarı No:78 Beştepe/ANKARA Tel: 0 312 212 80 00 Fax: 0 312 213 84 51 http://www.migem.gov.tr e-posta: migem@migem.gov.tr

T.C.
SULEYMAN DEMIREL UNIVERSITY
ENGINEERING AND ARCHITECTURE FACULTY
DEPARTMENT OF MINING ENGINEERING

NATURAL STONE TECHNOLOGY LABORATORY
32260 ISPARTA

TECNICAL REPORT

The physical, mechanical and chemical properties in accordance with TS EN standards of the marble sample (Gundogmus / Antalya) belongs to Latmos Travertine Mining Company Inc.

March – 2012
ISPARTA

T.C.
SULEYMAN DEMIREL UNIVERSITY
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NATURAL STONE TECHNOLOGY LABORATORY
32260 / ISPARTA/TURKEY
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E-mail: servetdemirdag@sdu.edu.tr; nazmisengun@sdu.edu.tr

PREFACE

The results of tests, which were applied on marble sample (Gundogmus / Antalya) belongs to Latmos Travertine Mining Company Inc. in accordance with TS EN standards are presented in tables. 02/03/2012

T.C.
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Sample Sender : **Latmos Travertine Mining Company Inc.**

Sample Name : **Latmos Luna Marble (Gundogmus / Antalya)** **Date:** 02/03/2012

PHYSICAL AND MECHANICAL PROPERTIES					
	Metric System		**SI System**		**Standard**
Hardness	Mohs	3 – 3.5	Mohs	3 – 3.5	TS 6809
Bulk Specific Gravity Dry Saturated	 g/cm^3 g/cm^3	 2.680 ± 0.002 2.688 ± 0.002	 kg/m^3 kg/m^3	 2680 ± 2 2688 ± 2	TS EN 1936
Density	g/cm^3	2.727 ± 0.028	kg/m^3	2727 ± 28	TS EN 1936
Water Abs. at Atm. Press. by Volume by Weight	 % %	 0.75 ± 0.06 0.28 ± 0.02	 % %	 0.75 ± 0.06 0.28 ± 0.02	TS EN 13755
Effective Porosity	%	0.75	%	0.75	TS EN 1936
Real Porosity	%	1.72	%	1.72	TS EN 1936
Fullness Ratio	%	98.28	%	98.28	TS 699
Compressive Strength	kg/cm^2	1374 ± 158	MPa	134.7 ± 15.5	TS EN 1926
Compressive Strength after Freeze-Thaw (12 cyc.)	kg/cm^2	1269 ± 120	MPa	124.4 ± 11.7	TS EN 12371
Changing of Compressive Strength after Freeze-Thaw (-)	%	7.65	%	7.65	TS EN 12371
Decreasing of Weight after Freeze-Thaw	%	0.007	%	0.007	TS EN 12371
Flexural Strength Under Concentrated Load	kg/cm^2	71.4 ± 4.5	MPa	7.0 ± 0.4	TS EN 12372
Flexural Strength Under Constant Moment	kg/cm^2	65.9 ± 10.4	MPa	6.5 ± 1.0	TS EN 13161
Impact Strength	kg.cm/cm^3	2.64	kg.cm/cm^3	2.64	TS 699
Abrasion Strength (Method-B/Bohme)	cm^3/50cm^2	13.84 ± 2.67	cm^3/50 cm^2	13.84 ± 2.67	TS EN 14157
P-Wave Velocity	m/s	6116 ± 47	m/s	6116 ± 47	TS EN 14579

Assist. Prof. Dr. Nazmi ŞENGÜN

Assoc. Prof. Dr. Server DEMİRDAĞ

T.C.
SÜLEYMAN DEMİREL ÜNİVERSİTESİ
MADEN MÜHENDİSLİĞİ BÖLÜMÜ
DOĞAL TAŞLAR TEKNOLOJİ LABORATUARI
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Tel: (246) 211 1308 - 211 1305 - 211 1703 Faks: (246) 237 0859
Gsm: (532) 408 4974 (538) 735 0209
E-mail: servetdemirdag@sdu.edu.tr; nazmisengun@sdu.edu.tr

Numuneyi Gönderen : **Latmos Traverten Madencilik San. ve Tic. Ltd. Şti.**

Numunenin Adı : **Latmos Luna Mermer Ocağı (Gündoğmuş / Antalya)** **Tarih** : 02/03/2012

KİMYASAL ANALİZ / CHEMICAL ANALYSIS
TS EN 15309

CaO	%	55,52
MgO	%	0,18
Fe_2O_3	%	0,01
SiO_2	%	0,14
Al_2O_3	%	0,03
Na_2O	%	0,043
SO_3	%	0,06

YÜKSEK ÖĞRETİM KURUMU AR-GE İktisadi İşletmesi ISPARTA

Yrd. Doç. Dr. Nazmi ŞENGÜN

Doç. Dr. Servet DEMİRDAĞ

AGREEMENT

合同

29.11.2012

BUYER: Beijing Rui Cheng Tian Bao Stone Co., Ltd. (Ciqu Exit, South Road, East Five Ring Road Xilian International Stone Market Beijing China)

买方：Beijing Rui Cheng Tian Bao Stone Co., Ltd. (Ciqu Exit, South Road, East Five Ring Road Xilian International Stone Market Beijing China)

SELLER: Kocak Madencilik San. ve Tic. Ltd. Sti. (Ergene Mah. 538 Sk. No: 48/305 Bornova-Izmir-TURKEY)

卖方：Kocak Madencilik San. ve Tic. Ltd. Sti. (Ergene Mah. 538 Sk. No: 48/305 Bornova-Izmir-TURKEY)

Terms:

USD 200/TON for 2013 year shall be paid to seller's letter of credit at sight and from the Jan. of 2014 until the end of the contract 60 days letter of credit. USD50/TON shall be paid to seller's TT account given in this contract, within 10 days after marking. Prices are FOB ANTALYA PORT.

条款：

ANTALYA 港口离岸价格，200 美金每吨在 2013 年将被付以即期信用证，从 2014 年 1 月份开始到合同结束的日期将被付以 60 天的信用证，点货以后在 10 天内 50 美金每吨将付以 TT 的形式转到在合同里被指定的账户。

Description of Goods:

Quality of New Crema Marfil (Latmos Luna) quarry blocks, subject to the buyer's confirmation and acceptance. It's accepted that the further marking standard is the same as the first purchase standard. The contract will take effect after the first purchasing.

品名描述：

新西班牙米黄（Latmos Luna）大理石荒料，荒料质量由买方确认验收为准；验货标准与第一次购货标准相同即可。在第一次购买后，此合同生效。

Monthly Quantity:

From 31 March 2013 until 31 December 2015, within 2013, the seller shall prepare at least 5.000 ton, at most 7.500 ton for the buyer's selection and purchasing (the seller shall prepare at least 1.000 in April and at least 4.000 ton, at most 6.500 ton in May to December 2013). Within 2014, the seller shall prepare at least 15.000 ton, at most 30.000 ton for the buyer's selection and purchasing. Within 2015, the seller shall prepare at least 30.000 ton, at most 50.000 ton for the buyer's selection and purchasing.

每月供应量：

从 2013 年 3 月 31 日起直至 2015 年 12 月 31 日，2013 年内卖方至少安排 5.000 吨，最多安排 7.500 吨大理石荒料供买方挑选与采购（其中 2013 年 4 月卖方至少安排 1.000 吨，2013 年 5 月到 12 月内卖方至少安排 4.000 吨，最多安排 6.500 吨）。2014 年内卖方至少安排 15.000 吨，最多安排 30.000 吨大理石荒料供买方挑选与采购。2015 年内卖方至少安排 30.000 吨，最多安排 55.000 吨大理石荒料供买方挑选与采购。

Payment Calculation:

Under friendly negotiation, the seller and buyer bargain on FOB ANTALYA USD250/ton within 2013 and 2014, for 2015, the seller and buyer bargain on FOB ANTALYA USD265/ton until 31 December 2015, the contract finished.

SALES AGREEMENT OF KOCAK FOR LATMOS LUNA, WITH BEIJING RUI CHENG TIAN BOA STONE CO., LTD

付款方式：

本着友好的协商原则，卖方和买方商定直到合同结束的日期（2015 年 12 月 31 日）2013 年和 2014 年内的成交价格是 FOB ANTALYA 250 美金每吨，2015 年内的成交价格是 FOB ANTALYA 265 美金每吨。

Buyer's rights and obligation:

According to this contract, the buyer should purchase the blocks according to the descriptions of goods until contract finished. Its buyer's intention to move the blocks out from the quarry as soon as possible, and do not take the quarry's place to limit quarry's production and prevent buyer's future purchase capacity.

The seller shall arrange the cargo to the ANTALYA PORT, and load the cargo into container. All the stuffing fee and port charge are borne by the seller. The buyer shall assume the freight of FOB.

When the contract takes effect, the validity is (from 31st march, 2013 to December 31st, 2015).

Before one month of the contract finished, both sides make a further discussion for the next contract.

买方的权利与义务：

根据合同规定，买方根据合同品种要求购买荒料，直至合同缔结为止。买方可早日安排将荒料运出矿山，为矿上提供更多生产空间而不影响买方下次购买力。

卖方将荒料运至 ANTALYA 港口，并将荒料装好至集装箱，装箱费和起运港所有的费用由卖方承担。买方承担 FOB 海运费。

当此合同签订后，有效期(从 2013 年 3 月 31 日到 2015 年 12 月 31 日)。双方在合同到期前一个月进一步协商未来合同。

Seller's rights and obligation:

During the cooperation period between the seller and the buyer, Firstly, the seller has to reserve all the blocks for Beijing Rui Cheng Tian Bao Stone Co., Ltd. (Not sell to other customers). But after marking completed rest blocks can be sold to any company in any country (including China).

The seller and the buyer agree the above terms and conditions to complete their obligations fully as stated in this agreement.

卖方的权利与义务：

在买卖双方合作期间，首先，卖方必须保留所有的荒料为 Beijing Rui Cheng Tian Bao Stone Co., Ltd.（卖方不得把矿区大理石荒料卖给其它任何客户）。卖方可以把点之后的剩余的荒料卖给在任何国家（包括中国）的任何客户。

买卖双方均同意合同规定的条款，并根据合同约定完全行使权利和义务。

BUYER: Beijing Rui Cheng Tian Bao Stone Co., Ltd.

SELLER: KOCAK MADENCİLİK SAN. VE TIC.LTD.STI

买方：Beijing Rui Cheng Tian Bao Stone Co., Ltd.

卖方：KOCAK MADENCİLİK SAN. VE TIC.LTD.STI

BUYER SIGNATURE:

签名：

SELLER SIGNATURE:

签名：

YOUR STONE SOLTIONS

KOCAK GROUP

THE LATMOS LUNA QUARRY

READY TO CHALLANGE STONE WORLD

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