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DECORATIVE AND DIMENSIONAL STONE – DEVELOPMENT POTENTIAL IN KOSOVO

KOSOVO CLUSTER AND BUSINESS SUPPORT PROJECT

November 15, 2005

This publication was produced for review by the United States Agency for International Development. It was prepared by the KCBS project team of Chemonics International Inc. based on a Final Report prepared by Short Term Technical Advisor, Paolo Giovannangeli, working under a Chemonics' subcontract with Paridiso Granit Mermer of Pristina, Kosovo.

DECORATIVE AND DIMENSIONAL STONE – DEVELOPMENT POTENTIAL IN KOSOVO

RECOMMENDATIONS TO THE KOSOVO MINING INDUSTRY TO EXPLOIT TO GREATER ADVANTAGE THE DIFFERENT TYPES AND VAST QUANTITIES OF DECORATIVE STONE RESOURCES PRESENTLY UNKNOWN TO THE REST OF THE WORLD

Kosovo Cluster and Business Support project "Decorative and Dimensional Stone – Development Potential in Kosovo"
Contract No. AFP-I-00-03-00030-00, TO #800

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PURPOSE OF ASSIGNMENT

The consultant, Mr. Paolo Giovannangeli, will provide technical assistance to Paradiso on how to develop the decorative and natural stone industry in two existing open quarries in Kosovo for more and improved employment opportunities. By observing current business operations and technology, and the types of natural stones available in these two open-quarries and no less than 4 other un-mined locations, the consultant will advise Paradiso on their potential application in the construction, building supply, and landscaping industries. The consultant will advise on basic procedures and requirements for industrial block cutting, slab extraction, marketing, packaging, and transportation for export markets at the two open-quarry locations. The consultant will also generally observe two current Kosovo operations for processing natural, semi-finished, and polished products and recommend how to potentially integrate these operations with existing and future quarry operations.

BACKGROUND

The world's natural stone industry production is projected to increase from 75 million tons in 2003 to 116 million tons in 2110, and 320 million tons in 2025. The world industry of traditional natural stone quarry producers, processors, and traders is therefore increasingly searching for new and unique locations to develop new products at competitive prices.

This industry is in a primitive form of raw material extraction and in a small scale of processing capabilities and sales throughout Kosovo. Paradiso attended the Istanbul Natural Stone Trade Fair from August 31 to September 5, 2005, which is the second largest fair in Europe, and which attracted over 65,000 visitors including over 5,000 industry international professionals, and the Verona, Italy, Marmomocc International Exhibition of Marble, Natural Stone, and Technology, from September 28 to October 2, 2005, which is the largest international natural stone industry fair in the world, and which attracted over 1400 exhibiting companies and over 250,000 visitors including over 5,000 industry international professionals, and had numerous discussions with investor and sales interests. These discussions strongly indicated that Kosovo's competition for these products was not the products themselves, but actually the competition was the lack of information available to the world about Kosovo's natural and decorative stone resources and potential for development.

Subsequently, Paradiso applied for and received a grant from USAID KCBS under the Strategic Activities Fund program to contract the consulting services of Mr. Paolo Giovannangeli, from Italy, who is an international expert in the decorative and dimension stone industry, to provide an overview of Kosovo's decorative stone resources with the objective of providing awareness and information to investors of Kosovo's decorative and dimension stone resource development potential.

EXECUTIVE SUMMARY

Kosovo has built a stable macroeconomic environment through trade liberalization agreements with the EU and the rest of the Balkans region, and has become a stable and predictable democracy. Kosovo's modern legal and institutional frameworks are already in place for a sustainable and competitive market economy compatible with EU Standards. The general business environment in Kosovo is in many respects becoming the most competitive in the region.

Mineral development capital investments are a high priority for Kosovo's economic development. Kosovo's trade policy especially promotes local production and exports. Kosovo enjoys non-reciprocal, customs-free access to the vast EU market, as stipulated by the EU Autonomous Trade Preference (ATP) Regime, and a Customs Code, which is fully compliant in all aspects of the EU and the World Customs Organization.

The new Kosovo Mines and Minerals Regulations of January, 2005 which are administered by the European Union Independent Commission for Mines and Minerals (ICMM) in Kosovo, are in compliance with the latest best international mineral mining, environmental protection, and business practices. As investment incentives, royalty payments on production of minerals are kept low**.** For example, the royalty on a ton of marble, granite, or slate extracted is 50 cents to December 31, 2006. Investors can receive and retain abroad proceeds from export sales.

Field observations on each site visited provide examples for investors where to start investing in Kosovo's vast decorative stone resources most easily and quickly for quarry development and production, as well as current market prices in Europe for exporting both raw blocks and polished slabs.

The types of marbles that occur in Kosovo will be of particular interest immediately to foreign marble companies and investors for their color, attractiveness, and the variety of combinations of colors and patterns available within very close proximity to one another in a very compact area of approximately 10,000 square kilometers. This feature alone provides marble companies and investors with very cost effective quarry development opportunities. In addition, Kosovo enjoys the competitive advantage of being close to all of Europe, with low transport, energy, and labor costs. Kosovo has a dynamic, young entrepreneurial and hard working labor force. The consultant will provide this information to his market linkages and investor contacts.

The traditional and future world demand for the types of decorative and dimension stone resources which Kosovo can supply should cause the Kosovo authorities to prohibit any further blasting and crushing of its valuable resources. The prices offered by the world market for blocks are much higher than the prices offered in Kosovo for crushed aggregate. For example, the Gadimiia e Poshtem marble breccia quarries located in Lipjan municipality have vast reserves of marble breccia traditionally provided from Italy throughout Europe for use in antique buildings. No similar material at present is available to the world market because similar mines in Italy are exhausted. The aggregate produced from these, and similar quarries in Kosovo, sells at an average of 12 euros per cubic meter, compared to the European market value ranges from 400 to 800 euros per cubic meter of cut blocks.

Some abandoned quarries which provided cut blocks, and existing ones with blasting and crushing operations, especially those with vast marble reserves, provide marble companies and investors immediate opportunities to develop easily and quickly dimension stone quarry production. For example, setting up block cutting in the abandoned Decani marble quarry within 3 months is estimated to be approximately 1-1.5 million Euros. Interests in Kosovo, which may want to embark on this opportunity, will require expertise from the industry in Europe or Turkey.

The technical management and equipment observed at the only imported block cutting operation in Kosovo is considered a small operation compared to those in Italy. The company's limited financial resources and technical expertise prevent it from proceeding to a stage of setting up a quarry to extract marble blocks in Kosovo and to expand their processing capabilities to cut and polish them.

The technical management of the operations observed in Kosovo for cutting, polishing and finishing is average to that throughout Europe. Except for a small quantity of granite slabs obtained from the local company referred to above, all slabs of marble and other dimension stones are imported. The international market demand for decorative stone tiles in standard sizes provides an excellent opportunity for local processors to manufacture these products from local decorative stone resources, rather than from imported slabs at much higher costs.

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FIELD ACTIVITIES TO ACHIEVE PURPOSE

October 25, 2005

Gllareva artesian open mining quarry of limestone schist and strata chert.

As defined by Part 1, Section 2 of the UNMIK Regulation Number 2005/3 On Mines and Minerals in Kosovo, this is a small scale extraction by private individuals by hand, using traditional tools and light tractor or other small vehicle transportation, and does not involve blasting, mechanical diggers, crushers, conveyor belts or other heavy machinery.
Approximately 30 families, with a combined labor pool of about 150 persons, are involved in this activity. Approximately 10,000 tons are extracted monthly during the non-winter months and sold at prices far below world industry competitive prices. Approximately 80% of the sales are domestic and the balance to the export market in the Balkans and Western Europe. The estimated reserves here are 17,874,000 m3.

ELSA, Peja factory for stone cutting and finishing.

Upon observation, this company would be considered a small sized natural stone processor within the Italian industry. The equipment of this company is of high quality from the Italian manufacturer "Gaspari Menotti", which has been purchased over the past 2 years at an estimated cost of approximately 1.5 million Euros and can perform 2 capabilities. The first is to cut blocks of imported granite (no supplies of any kinds of blocks currently exist in Kosovo) into slabs. The second is to cut and polish slabs of marble and granite.
The granite bandsaw cannot be used for cutting marble. To do this would require approximately 400,000 euros for a new bandsaw. To cut and polish marble slabs adaptation of the equipment now used for granite will required an approximate cost of 600,000 euros for one grinding and polishing line.
Elsa is very interested to exploit the marble resources close to its factory in the Peja, Istog, and Decani municipalities, but its limited financial resources prevent it from proceeding to this stage. Setting up a quarry to cut and extract the marble blocks in the abandoned Decani marble quarry is estimated to be approximately 1 million Euros. The technical management of the operations observed for cutting, polishing and finishing is average. For this company to set up a marble quarry will require expertise from the industry in Europe or Turkey.

Banje e Pejes,

Istog Municipality has an abandoned onyx marble quarry, which stopped operating over 25 years ago as part of the SOE "ONYX" from Peja. The reserves of this quarry and the adjoining Lubozhda reserves are approximately 60 million m3.

October 26, 2005

Rugova Gorge, Peja.

Just before the entrance to the first tunnel on both sides of this gorge are deposits of hundreds of millions of tons of breccia marble. Exploitation of these deposits requires large investments for engineering to quarry blocks because this gorge itself is more or less a canyon. The better option is to start exploitation of black marble with white strips in the former quarry of the ex SOE "Onyx", located 6 km. north of Peja, along the right side of the asphalt road from Peja to Qakorr-Monte Negro. This property is both socially owned and private.

Decani former breccia marble quarry

Licensed 152/K/, has approximately 420,000 m3 of reserves. This location is 7 km. from Decani, consisting of 2 km. asphalt road to the monastery, then 4 km. macadam road along the stream, ending with 1 km left of the macadam road on a compact stone road to the quarry. The existing infrastructure, quality, and quantity of deposits of breccia marble at this location present the strongest opportunity for this quarry to resume extraction within 3 months, with an initial cost of approximately one million euros. Indeed, the first estimated 500 m3, because of their positioning on site may be possible to extract without major block cutting operations.

Biraca Massif marble quarry

Currently operating to crush this resource for construction material. It is located 2 km before Theranda, 500 m. left of the main road between Theranda-Suhareka-Pristina. The reserves at this site appear very large.

October 27, 2005

At Astrazub, Malisheva Municipality

A private quarry owned and operated by Mr. Hamdi Kastrati and his sons for excavating and crushing white fine grain marble. The capacity of the crushing equipment is 200 tons per hour or 800 m3 per 10 hours. The equipment is not currently operating until repairs of approximately 50,000 euros are completed. Mr. Kastrati, has devised his own small grinding machinery for production of calcium carbonate powder with daily capacity of 100 bags of 50 Kg each. The demand for this product is very high both in Kosovo and for the export market, where it is used for over 20 industrial uses, including paper and paint production. This product is also in high demand as an additive to animal feed, especially for chickens. According to Mr. Kastrati, he has authentic test results of the Geological Institute from Belgrade, which drilled 9 core samples to a depth of 58 meters at this site, indicating vast reserves of white, dense and compact dolomite marble in this mountain.

Across the road from Mr. Kastrati's quarry,

Grey marble and serpentenite were extracted at a quarry along the main Pristina-Rahovec road, with volume of approximately 6 lorries daily, by the SOE "Mermerikos" of Xerxe. This quarry was abandoned over 20 years ago. The reserve deposits in area of 300, 070 m2 are 7,801,825 m3. The property, with only a few pieces of old equipment, is socially owned and is currently under the Kosovo privatization program.

Guri i Kuq.

An abandoned quarry of red marble about 7 km from Mr. Kastrati's quarry. The deposits are estimated to be 36 m deep. Mr. Kastrati had an offer from an Austrian company to extract blocks of 3 m. x 1.30 m, dimensions at this site. The samples analyzed by the Austrian company were highly ranked, but the company will proceed with this offer only when they consider Kosovo to be a secure investment location. This location shows that the administrative border of Rahovec and Malisheva Municipalities divides the main deposits of different stones in this area, known as the Rahovec Massif.

Above Zatriç and Drenoc villages in Rahovec Municipality

At the 1090 m. level of Rahovec massif are Shapot and Della peaks, where significant internet-satellite communications facilities are located about 7 km on a macadam road from the junction of the main Malisheva-Rahovec road. Beneath them lay rich deposits of millions of m3 of serpentinite. This property is socially owned.

Baja e Malisheves artesian limestone quarry

2 km. from the village itself, this quarry has non- crystallized and fractured reserves of 4,747,000 m3, with shist and strata chert material and operations similar to, but at a smaller scale than the Gllareva artesian quarry. Like Gllareva, this is a municipally owned property.

Magura magnesite mine of the SOE "Goleshi"

Currently being tendered for privatization by KTA, this is an established mining and processing operation, with reserves of 2.4 million tons of medium to high grade magnesite of a pure white color. Included throughout the magnesite are significant quantities of the decorative stone, opal.

Gadime e Poshtme, Lypian Municipality has several operating quarries that are crushing very decorative gray marble with yellow and rose veins for gravel. The reserves in this mountain are estimated to be approximately 2, 400,000 m3. This location presents an excellent option to derive much higher value from marble block production than from the current operations.

October 28, 2005

Kishnica andesite open pit mine near Gracanica

Approximately 15 km. from Pristina. is a former SOE Trepca lead and zinc mine. The andesite deposits here are one of the largest in Kosovo and the remaining reserves are 308,113,653 m3. The Kosovo aggregate production company Bejta Commerce will use this resource as road construction material and have recently install crushing equipments for this purpose. The quarry still is the property of SOE Trepca.

Strezoc magnesite quarry in Kamenica municipality

Quarry is owned by the SOE "XIM Strezoc Magnesite Mine". This SOE is currently under privatization. The magnesite reserve deposits are estimated to contain between 4.5 to 5.5 million tons of magnesite with quartz throughout this decorative white rock.

Krileva village

Deposits of andesite located in, located about 4km. from the magnesite deposits, have an estimated reserve of 336 million m3. They belong to the same SOE.

Between the villages of Dazhnica and Lisocka

Gneiss and calcite deposits 6 km north of Hogosht along the river Lumi i Hogoshtit, and immediately along the macadam road at the base of Mt. Kitka, are estimated to have reserves of 128,235,724 m3. The property is socially owned.

Shipashnice e Eperme (Gornja Shipashnica)

Gray granite deposits in the same area are located 5 km from the village on both sides of river Lumi i Desivoices and have estimated reserves of 11,865,930 m3 and 16, 466, 658 m3 respectively. The property is socially owned.

Municipality of Dardana/Kamenica,

In the village of Strezovc, Kremenada (4 km. of macadam and asphalt road Dardana-Strezovc) and village Krileva are 3 sites about 15 km. northeast from Dardana. In this triangle are huge deposits of gneiss, granite and quartz. In Strezovc, the quartz deposits in an area of 440,205 m2 are estimated to be 15,407,173 m3. The property is socially owned.

October 29, 2005

Vitia near the villages of Gjylekare, Verbovc and Stublla

The porphyry stone deposits southeast of are estimated to have reserves of 71,000,000 m3. The porphyry is green and light color. In Gjylekare and Stublla there are existing quarries under local exploitation for individual use and small sales, but the property is socially owned.

Karace, Vrushtrri

Grey marble with white veins and substantial quartz veins at Municipality was observed at an old abandoned quarry, which was exploited for aggregate production (ICMM – No. 42-B-23) with reserves of 16.2 million m3.
Massive gray sandstone deposits with estimated reserves of 247, 799, 037 m3 are located in the mountain across from the above site.

Pasoma near Karace in Vushtrri

An abandoned marble quarry was exploited for aggregate production and has estimated reserves of 16,629,837 m3 in an area of 415, 746 m2. The marble is gray with white flecks and pink and yellow lines.

Beyond Smerkovica, Vushtrri municipality

Near the village at Slakovce there are quartzite deposits with estimated reserves of 600,000 m3. Near the villages of Skocna and Studime are porphyry reserves of 64,000,000 m3.
Porphyry with estimated reserves of 121,701, 632 m3 in an area of 1,738, 595 m2 is located near the villages of Zasela and Kcic i Vogel.
Trachyte and light colored pyroclastic rocks (tuff) were observed at an abandoned quarry just outside the village of Smerkovnica. The reserves in this deposit are estimated to be approximately 12 million m3.

November 2, 2005

Paradiso Mermer i Graniti factory in Pristina for polishing and finishing slabs.

This small factory is well managed and established to polish and finish the granite and marble slabs, which it imports only from Italy, especially Verona. For this firm to expand into quarrying and block cutting will require approximately the same expenditures as indicated for the Elsa operation in Peja.

TASK FINDINGS AND RECOMMENDATIONS

The following tasks were included in the original Scope of Work. The consultant will:

- Advise Paradiso on how to improve production, processing, marketing, and delivery procedures in Kosovo's natural and decorative stone industry that will improve their marketability and their profitability through the following tasks:
- Review existing laws and regulations, geological documentation and sample decorative stones currently available at Paradiso and the Independent Commission for Mines and Minerals (ICMM) in Pristina to become generally acquainted with the investment opportunities and constraints in Kosovo;
- Visit 2 existing open quarries to observe and advise on technological improvements for excavation, extraction, operation, and management of the quarry sites, including the option of block cutting;
- Advise on requirements for raw materials quality control, material handling, packaging, storage, and delivery from the two open quarries to comply with export competitive products and standards;
- Visit no less than 4 other unmined locations to provide an overview of their potential for development;
- Review no less than two existing processing operations for finishing raw materials, with advise on how they enhance the existing and future quarry operations;
- Review of an identified opal site and other types of semi-precious stones available in Kosovo;
- Advise on considerations to minimize environmental impact at excavation sites.

This was the consultant's first visit to Kosovo. Within the first day of field observations, the consultant was very pleasantly astonished that he could inspect Kosovos's different types and vast quantities of unexploited decorative stone resources within very short driving distances. The consultants long ground experience with dimensional stone in various regions of the world led to the tasks being revised to permit the consultant to visit twenty four, rather than 6 existing and potential quarry sites. This was necessary to provide a much stronger information base to attract marble companies and investors to Kosovo for development of the vast potential Kosovo offers to the world decorative and dimension stone industry.

Information has been provided for 24 sites in Kosovo as an example of the vast supply and variety of unexploited dimension and decorative stones available in Kosovo to marble companies and investors. This information is based on Field Activities to Achieve Purpose above. The European Union Independent Commission provides available resources volumes for Mines and Minerals (ICMM) in Kosovo (www.kosovo-mining.com). Product values in the current European market are defined by as:

Low: from 200 to 400 euros per cubic meter.

Medium: from 400 to 800 euros per cubic meter.

High: from 800 euros and over per cubic meter.

CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE ACTIVITY

Kosovos's different types and vast quantities of unexploited decorative stone resources are unknown to the world, and sadly, not even to the rest of Europe or the majority of people living in Kosovo. The types of decorative and dimension stones which occur in Kosovo, and especially the marbles, are of particular interest immediately to foreign marble companies and investors for their color, attractiveness, and the variety of combinations of colors and patterns available within very close proximity with easy access to one another in a very compact area of approximately 10,000 square kilometers. This feature alone provides marble companies and investors with very cost effective quarry development opportunities. In addition, Kosovo enjoys the competitive advantage of being close to all of Europe, with low transport, energy, and labor costs.

Some abandoned quarries which provided cut blocks and existing ones with blasting and crushing operations, especially those with vast marble reserves, provide marble companies and investors immediate opportunities to easily and quickly develop dimension stone quarry production. It is recommended that:

- The abandoned breccia marble quarry in Decani is given a high priority for investment interest, because it can begin operations within 3 months of approval to easily remove approximately 400 cubic meters of rough face, and then commence with dimensional block cutting with an approximate investment of 1-1.5 million euros;
- Other abandoned quarry operations should be prospected as soon as possible to determine the optimum location for establishing new quarries for block cutting, especially the abandoned onyx marble quarry at Baja e Pejes in Istog municipality.
- Blasting and crushing aggregate operations currently underway in marble and other higher value decorative and dimension stone reserves should not be permitted by the Kosovo authorities. Rather, these reserves should also be prospected as soon as possible to locate the optimum locations for development of quarries for block cutting.
- The Kosovo Trust Agency should immediately review its open tender for privatization of NewCo XIM Strezoc Magnesite Mine to include a separate area apart from the current exploitation, but within the same vast reserve of magnesite, for investment interests to develop a quarry for cutting magnesite blocks. In Europe's decorative and dimension stone industry they have a current value of between 400 and 800 euros per cubic meter.

FIELD OBSERVATIONS ON EACH SITE VISITED

Name of the Site: Banja Malesheva, Gray Chert in Strata

Date of site survey	27 October, 2005
Stone petrographical name:	Schist with high content of silica
Stone commercial name:	Strata material
Colours:	Grey
Grain:	Fine
Pattern and aesthetic aspect:	Interesting
Available resource estimated volume:	4,747,000 m3
Similarity with stones available in the international market:	Similar to slate
Description of the inspected stone:	In thin layers
Description of open quarry:	Large deposit, easy extraction.
Present operation:	Small teams using hand tools.
Method of exploitation:	By hand tools
Improvements required for site exploitation	Use of a small excavator and hydraulic splitting machine to process curb stones and small cubes for road constriction and city landscape
Number of workers:	Approximately 250
Machines available at the site:	No, only hand tools
Distance from the main road:	100-500 metres from the main road.
Availability of water:	Yes
Availability of electricity:	Yes.
International demand of similar stones:	High
European market value:	Low (200-400 euros / m3)

Name of the Site: Banja e Kosoves, Peje, Marble Onyx

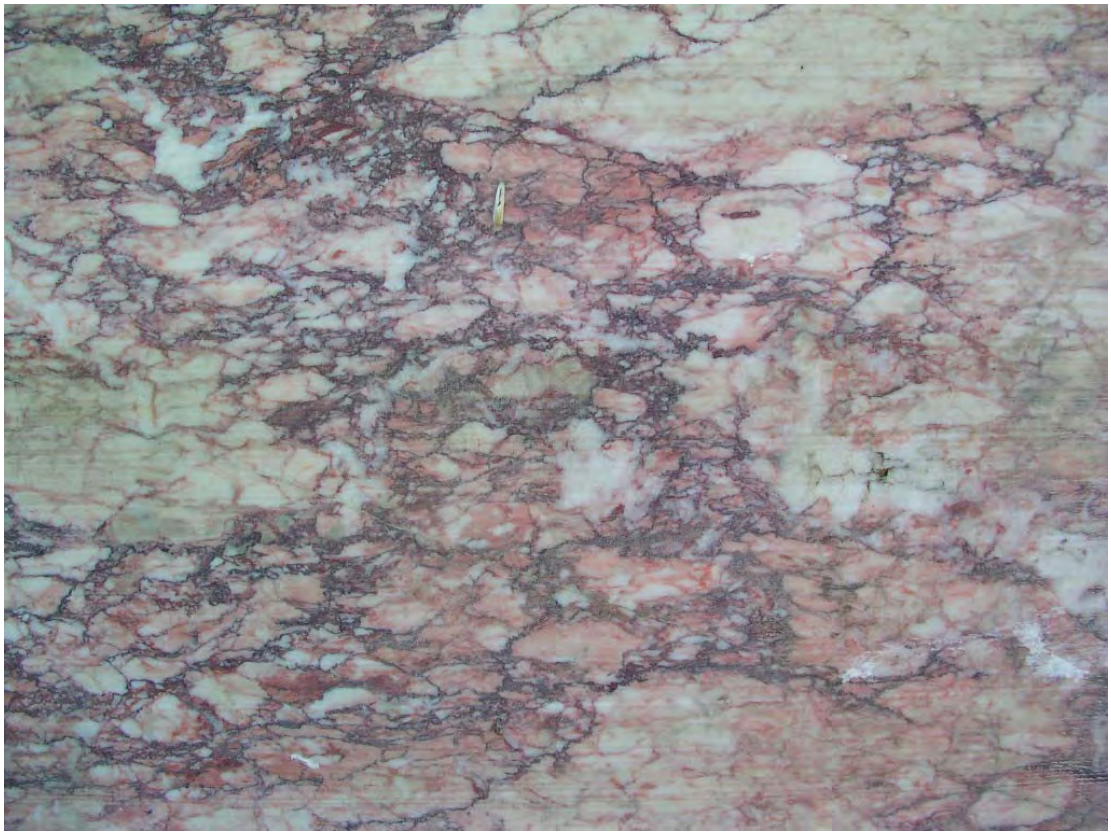
Date of survey on site:	25 October, 2005
Inspected stone petrographical name:	Onyx Marble
Inspected stone commercial name:	Onyx
Colours:	Yellow honey
Grain:	Fine
Pattern and aesthetic aspect:	Attractive
Available resource estimated volume:	60 million m3
Similarity with stones available in the international market:	Onyx from Turkey and Iran
Description of the inspected stone:	In layers of about one metre and over.
Description of open quarry:	Opened some years ago, by drilling method. It is possible to get big blocks.
Present operation:	No
Method of exploitation:	Drilling
Improvements required for site exploitation:	Cutting by diamond wire machine
Number of workers:	None
Machines available at the site:	No
Distance from the main road:	1 km
Availability of water:	Yes
Availability of electricity:	Yes
International demand of similar stones:	Very high, especially in large slabs.
European market value:	High (800 euros and over / m3)

Name of the Site: Dardana – Kamenica, Gneiss

Date of survey on site:	28 October, 2005
Inspected stone petrographical name:	Gneiss
Inspected stone commercial name:	Grey Gneiss
Colours:	Grey
Grain:	Large.
Pattern and aesthetic aspect:	Good.
Available resource estimated volume:	15,407173 m3
Similarity with stones available in the international market:	Similar to the gneiss exploited in Valdossola Italy, called Serizzo.
Description of the inspected stone:	
Description of open quarry:	
Present operation:	No
Method of exploitation:	
Improvements required for site exploitation:	Recommend starting a quarry with a drilling operation.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Next to the main road.
Availability of water:	Yes.
Availability of electricity:	No
International demand of similar stones:	Medium
European market value:	Low (200-400 euros / m3)

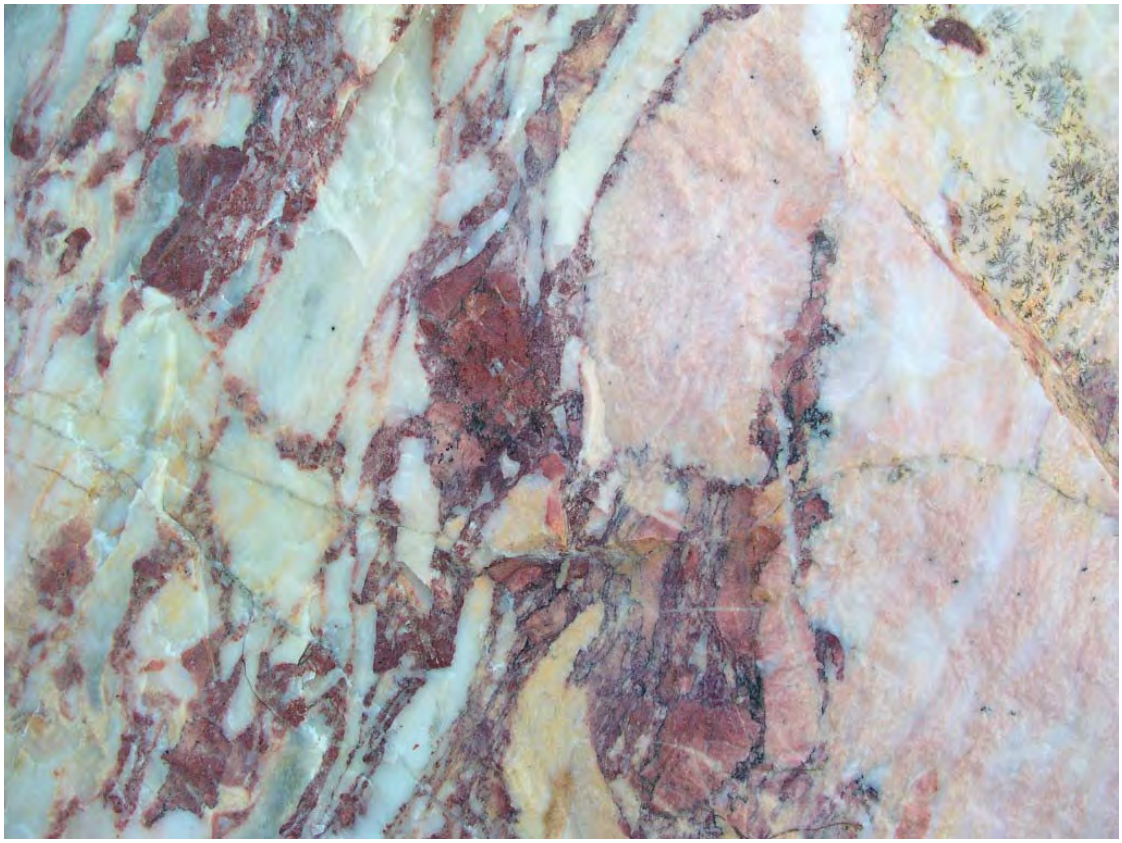
Name of the Site: Dazhnica and Lisocka, Gneiss

Date of survey on site:	28 October, 2005
Inspected stone petrographical name:	Gneiss
Inspected stone commercial name:	Gneiss.
Colours:	Grey
Grain:	Large
Pattern and aesthetic aspect:	Good.
Available resource estimated volume:	128,235,724 m3
Similarity with stones available in the international market:	Similar to the Serizzo and Beola exploited in Valdossola, Italy
Description of the inspected stone:	In good layers, easy to be exploited.
Description of open quarry:	Solid deposit.
Present operation:	No quarry operation
Method of exploitation:	
Improvements required for site exploitation:	By drilling operation.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Next to the main road.
Availability of water:	Yes.
Availability of electricity:	No.
International demand of similar stones:	Medium
European market value:	Low (200-400 euros / m3)



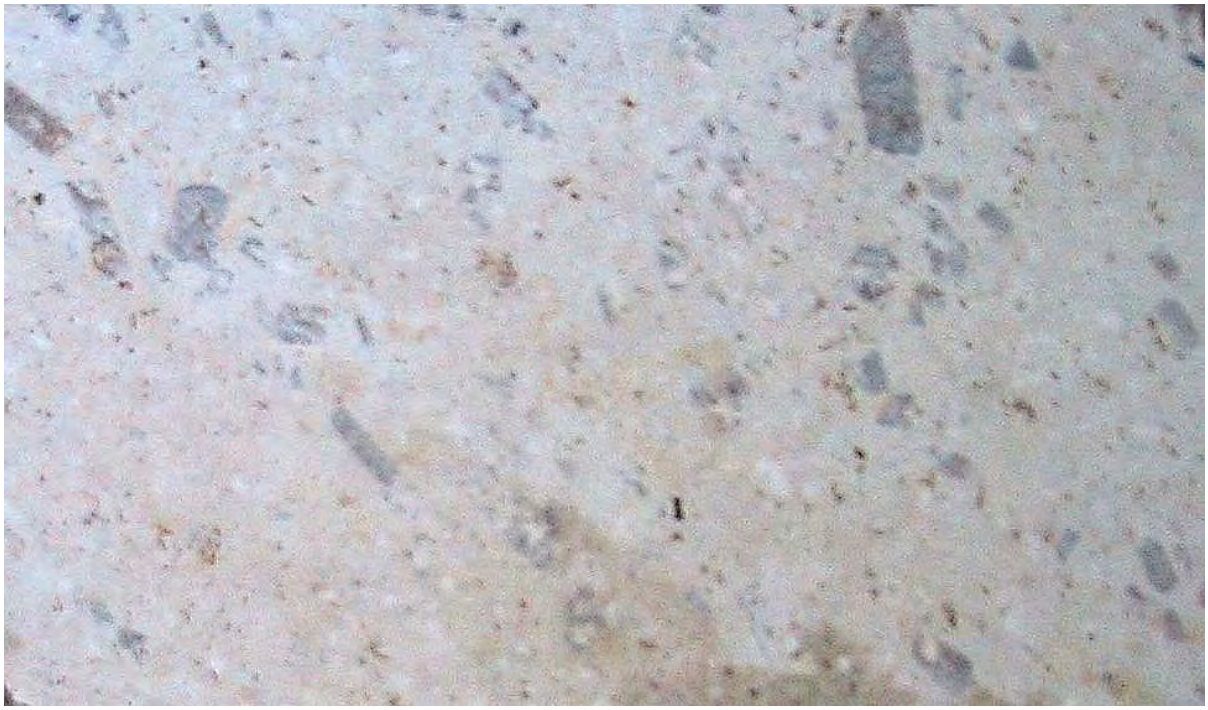
Name of the Site: Decani, Breccia Marble

Date of survey on site:	25 October, 2005
Inspected stone petrographical name:	Breccia Marble
Inspected stone commercial name:	Breccia Marble
Colours:	Pink white grey
Grain:	Fine
Pattern and aesthetic aspect:	Very attractive breccia
Available resource estimated volume:	420,000 m3
Similarity with stones available in the international market:	With some marble used in the past to decorate churches in Central Europe, Italy, Spain, etc. No longer available.
Description of the inspected stone:	In solid layers, massif
Description of open quarry:	This quarry has been open some years.
Present operation:	No
Method of exploitation:	By drilling and use of helicoidal wire machine
Improvements required for site exploitation:	Full range of quarry equipment required with diamond wire technology.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Only 5 km.
Availability of water:	Yes
Availability of electricity:	Yes
International demand of similar stones:	High, especially for decoration jobs.
European market value:	Medium (400-800 euros / 3m)



Name of the Site: Gadimia e Poshtem, Marble Breccia

Date of survey on site:	27 October, 2005
Inspected stone petrographical name:	Marble Breccia
Inspected stone commercial name:	Marble Breccia
Colours:	Pink, white and grey.
Grain:	Fine
Pattern and aesthetic aspect:	Very attractive
Available resource estimated volume:	2,400.000 m3
Similarity with stones available in the international market:	Similar to marble breccias used in antique buildings. No similar material at present in the market, because quarries are exhausted.
Description of the inspected stone:	Attractive stone.
Description of open quarry:	Large deposit.
Present operation:	Crushing for aggregate.
Method of exploitation:	Blasting for crushing.
Improvements required for site exploitation	Recommended to stop blasting and crushing, and to use diamond wire technology to extract dimensional blocks.
Number of workers:	
Machines available at the site:	No machines for dimensional stone.
Distance from the main road:	Next to the main road.
Availability of water:	Yes.
Availability of electricity:	Yes.
International demand of similar stones:	High demand.
European market value:	Medium (400-800- euros / m3)



Name of the Site: Gjylekare, Porphyry

Date of survey on site:	29 October, 2005
Inspected stone petrographical name:	Porphyry
Inspected stone commercial name:	Beige Porphyry
Colours:	Beige
Grain:	Fine with large feldspars.
Pattern and aesthetic aspect:	Interesting
Available resource estimated volume:	71,000,000 m3
Similarity with stones available in the international market:	No similar stone in the international market.
Description of the inspected stone:	Samples available.
Description of open quarry:	
Present operation:	No
Method of exploitation:	
Improvements required for site exploitation:	
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	
Availability of water:	
Availability of electricity:	
International demand of similar stones:	As indicated by samples, high demand.
European market value:	Medium (400-800 euros / m3)

Name of the Site: Gllareva, Limestone Schist, Gray Chert in Strata

Date of survey on site:	25 October, 2005
Stone petrographical name:	Limestone schist
Inspected stone commercial name:	No
Colours:	Brown to yellowish, grey
Grain:	Fine
Pattern and aesthetic aspect:	Uniform
Available resource estimated volume:	17,874,000 m3
Similarity with stones available in the international market:	No, it can be used in place of slate.
Description of the inspected stone:	Occurs in layers of different thickness.
Description of open quarry:	Digging holes all over the site with hand tools. Some of the layers, of grey colours, are of high content of silica (chert), are up to 10 cm thick, and have a regularity of thickness and hardness.
Present operation:	On site, operated by local people
Method of exploitation:	By hand tools.
Improvements required for site exploitation	A small excavator with two or three hydraulic splitting machines on line.for the processing curbstones and small cubes.
Number of workers:	About 250 from local families.
Machines available at the site:	No
Distance from the main road:	The site is next to the main road
Availability of water:	Water not needed for this operation.
Availability of electricity:	Electricity not needed for this operation
International demand of similar stones:	There is a large demand in Europe, especially for the grey type, split into curbstones and small cubes for paving.
European market value:	Low (200-400 euros / m3)

Name of the Site: Karace, Gray Marble

Date of survey on site:	29 October, 2005
Inspected stone petrographical name:	Marble
Inspected stone commercial name:	Grey Marble
Colours:	Grey
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	16.2 million m3
Similarity with stones available in the international market:	Similar to Griggio Carnico from Italy
Description of the inspected stone:	Large solid layers, with a lot of quartz veins
Description of open quarry:	Large solid deposit previously used for crushing aggregate.
Present operation:	No
Method of exploitation:	
Improvements required for site exploitation	By diamond wire technology.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Next to the village and the main road.
Availability of water:	Yes.
Availability of electricity:	Yes.
International demand of similar stones:	Low
European market value:	Low. (200-400 euros / m3)

Name of the Site: Karace, Gray Sandstone

Date of survey on site:	29 October, 2005
Inspected stone petrographical name:	Sandstone
Inspected stone commercial name:	Sandstone
Colours:	Creamy white.
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	247,799,039 m3
Similarity with stones available in the international market:	Other white sandstone from West Africa (Bukina Faso)
Description of the inspected stone:	Of good quality.
Description of open quarry:	No operation, virgin site.
Present operation:	No
Method of exploitation:	
Improvements required for site exploitation	Start with some drilling operations.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	About 4 km in a stiff road.
Availability of water:	At the bottom of the hill.
Availability of electricity:	No
International demand of similar stones:	Medium
European market value:	Medium (400-800 euros / m3)

Name of the Site: Kishnica, Andesite

Date of survey on site:	28 October, 2005
Inspected stone petrographical name:	Andesite
Inspected stone commercial name:	Andesite
Colours:	Grey
Grain:	Dine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	308,113653 m3
Similarity with stones available in the international market:	Similar to other grey andesite from Peru.
Description of the inspected stone:	Interesting for cubes and curb stones.
Description of open quarry:	Large deposit.
Present operation:	No
Method of exploitation:	
Improvements required for site exploitation	Excavator and hydraulic splitting machines.
Number of workers:	No workers at present.
Machines available at the site:	No
Distance from the main road:	Next to the main road.
Availability of water:	Yes.
Availability of electricity:	Yes.
International demand of similar stones:	Medium
European market value:	Low (200-400 euros / m3)

Name of the Site: Krileva, Andesite

Date of survey on site:	28 October, 2005
Inspected stone petrographical name:	Andesite
Inspected stone commercial name:	Andesite
Colours:	Grey
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	336 million m3
Similarity with stones available in the international market:	Similar to other grey andesite from Peru.
Description of the inspected stone:	In large layers.
Description of open quarry:	Big massif and solid formation.
Present operation:	No
Method of exploitation:	
Improvements required for site exploitation	Good for curb stones and small cubes for road construction and decorating city landscape.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Next to the main road.
Availability of water:	Yes.
Availability of electricity:	Yes.
International demand of similar stones:	Medium
European market value:	Low (200-400 euros / m3)

Name of the Site: Magura, Magnesite

Date of survey on site:	27 October, 2005
Inspected stone petrographical name:	Magnesite
Inspected stone commercial name:	Magnesite
Colours:	Creamy white.
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	High
Similarity with stones available in the international market:	Other magnesite mines worldwide.
Description of the inspected stone:	Good, with some opal.
Description of open quarry:	
Present operation:	There is no operation at present and is being tendered for privatisation by the Kosovo Trust Agency.
Method of exploitation:	
Improvements required for site exploitation	Demand in the dimensions stone industry only when cut in large blocks of about 1 m3 each, for sculptures and decoration purposes.
Number of workers:	
Machines available at the site:	No machine for dimensional stone exploitation
Distance from the main road:	Next to the main road.
Availability of water:	Yes
Availability of electricity:	Yes
International demand of similar stones:	Small
European market value:	High (800 euros and over / m3)

Name of the Site: Rahovec Massif, Red Marble

Date of survey on site:	27 October, 2005
Inspected stone petrographical name:	Sedimentary marble
Inspected stone commercial name:	Red Marble
Colours:	Red.
Grain:	Fine with shells
Pattern and aesthetic aspect:	Attractive for decoration.
Available resource estimated volume:	Not a very large deposit
Similarity with stones available in the international market:	There is similar marble named Rosso Collemandina in one small quarry near Carrara in Italy.
Description of the inspected stone:	In small layers, easy exploitation.
Description of open quarry:	This quarry was opened some years ago.
Present operation:	No present operation.
Method of exploitation:	Blocks have been exploited by drilling.
Improvements required for site exploitation	Diamond wire technology.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	About two km. from the main road.
Availability of water:	Yes, to be transported.
Availability of electricity:	No
International demand of similar stones:	High demand for decoration purposes.
European market value:	Medium (400-800 euros / m3)

Name of the Site: Rahovac Massif, Serpentinite

Date of survey on site:	27 October, 2005
Inspected tone petrographical name:	Serpentinite
Inspected stone commercial name:	Serpentine
Colours:	Dark grey
Grain:	Fine to large
Pattern and aesthetic aspect:	No interest in the dimensional stone market.
Available resource estimated volume:	Large
Similarity with stones available in the international market:	Similar to the Italian serpentine extracted in Valmalenco, Sondrio.
Description of the inspected stone:	
Description of the quarry if already open:	
Present operation:	No exploitation, virgin deposit
Method of exploitation:	
Improvements required for site exploitation	
Number of workers:	
Machines available at the site:	
Distance from the main road:	
Availability of water:	
Availability of electricity:	
International demand of similar stones:	Low.
European market value: low, medium, high	No value as dimensional stones

Name of the Site: Rahovec Astrozub, Gray Marble

Date of survey on site:	27 October 2005
Inspected stone petrographical name:	Marble
Inspected stone commercial name:	Grey marble, with white veins
Colours:	Grey and white
Grain:	Fine
Pattern and aesthetic aspect:	Interesting
Available resource estimated volume:	Large
Similarity with stones available in the international market:	Similar to the Italian Grigio Carnico
Description of the inspected stone:	In layers of approx 1 m high
Description of open quarry:	This quarry was operating in the past, so exploitation is easy due to the strata already opened.
Present operation:	No
Method of exploitation:	By drilling
Improvements required for site exploitation	Diamond wire technology
Number of workers:	No, this quarry has been closed.
Machines available at the site:	No
Distance from the main road:	On the main road
Availability of water:	Yes
Availability of electricity:	Yes
International demand of similar stones:	Low
European market value:	Low (200-400 euros / m3)

Name of the Site: Rahovec Astrozub, White Marble

Date of survey on site:	27 October, 2005
Inspected stone petrographical name:	White Dolomite
Inspected stone commercial name:	White Crystalline Marble
Colours:	White
Grain:	Fine
Pattern and aesthetic aspect:	Attractive white
Available resource estimated volume:	Large
Similarity with stones available in the international market:	Similar to Thassos from Greece and Sivec from Macedonia
Description of the inspected stone:	Large sediments. Deeper quarrying is required to find the solid marble.
Description of open quarry:	At present this quarry is used to produce calcium carbonate powder.
Present operation:	Only for calcium carbonate
Method of exploitation:	No operation for dimensional stones
Improvements required to increase site exploitation	Diamond wire technology when starting exploitation for dimensional stones.
Number of workers:	6
Machines available at the site:	No for dimensional stone exploitation.
Distance from the main road:	Next to the main road.
Availability of water:	Yes
Availability of electricity:	Yes
International demand of similar stones:	High
European market value:	High (800 euros and over / m3)

Name of the Site: Rugova Gorge, Gray and Black Marble

Date of survey on site:	26 October, 2005
Inspected stone petrographical name:	Marble
Inspected stone commercial name:	Marble
Colours:	Grey and black
Grain:	Fine
Pattern and aesthetic aspect:	Attractive
Available resource estimated volume:	Very high
Similarity with stones available in the international market:	Nero Marquina from Spain
Description of the inspected stone:	In massive formation
Description of open quarry:	In the past some blocks have been extracted. Difficult to quarry due to the main road and the steep canyon.
Present operation:	No
Method of exploitation:	Only some boulders have been exploited.
Improvements required for site exploitation	An engineering study for safety conditions is needed and large equipment and diamond wire machines for quarrying.
Number of workers:	
Machines available at the site:	No
Distance from the main road:	The site is on the main road.
Availability of water:	Yes.
Availability of electricity:	To be arranged
International demand of similar stones:	High
European market value:	Medium (400-800 euros / m3)

Name of the Site: Shipashnica e Eperme, Gray Granite

Date of survey on site:	28 October, 2005
Inspected stone petrographical name:	Granite
Inspected stone commercial name:	Grey Granite
Colours:	Grey
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	16,466,658 m3
Similarity with stones available in the international market:	Similar to grey granite from Sardinia, Italy and Spain.
Description of the inspected stone:	In good massif layers.
Description of open quarry:	Massif layers. Easy to exploit.
Present operation:	No
Method of exploitation:	
Improvements required for site exploitation	By drilling or diamond wire technology.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Next to the main road.
Availability of water:	Yes.
Availability of electricity:	No
International demand of similar stones:	Medium
European market value:	Low (200-400 euros / m3)

Name of the Site: Smerkovnica, Quartzite

Date of survey on site:	29 October, 2005
Inspected stone petrographical name:	Quartzite
Inspected stone commercial name:	Quartzite
Colours:	Red brownish
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	64,000,000 m3
Similarity with stones available in the international market:	Considerable similar material is available in the international market.
Description of the inspected stone:	Good
Description of open quarry:	
Present operation:	Only operated by hand tools.
Method of exploitation:	
Improvements required for site exploitation	An excavator to exploit the site.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	About 4 km.
Availability of water:	Yes, a stream is there.
Availability of electricity:	No
International demand of similar stones:	Medium
European market value:	Low (200-400 euros / m3)

Name of the Site: Smerkovnica, Trachyte - Tuff

Date of survey on site:	29 October, 2005
Inspected stone petrographical name:	Tuff
Inspected stone commercial name:	Tuff
Colours:	Clear beige.
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	Large deposit.
Similarity with stones available in the international market:	Similar to the volcanic tuff extracted in Viterbo province in Italy.
Description of the inspected stone:	Of good interest. At present is used for decoration purposes.
Description of open quarry:	Small quarries operated by hand tools.
Present operation:	Small operation
Method of exploitation:	By hand tools
Improvements required for site exploitation	It is suggested to use a small excavator and drilling equipment for starting quarrying operation.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Next to the village and the main road.
Availability of water:	Yes.
Availability of electricity:	No
International demand of similar stones:	Medium
European market value:	Low (200-400 euros / m3)

Name of the Site: Zasela and Kcic, Porphyry

Date of survey on site:	29 October, 2005
Inspected stone petrographical name:	Porphyry
Inspected stone commercial name:	Grey Porphyry
Colours:	Grey
Grain:	Fine to medium
Pattern and aesthetic aspect:	Good.
Available resource estimated volume:	121,701,632 m3
Similarity with stones available in the international market:	Similar to other grey porphyry exploited in Italy
Description of the inspected stone:	In solid layers and boulders
Description of open quarry:	At present by hand tools operations.
Present operation:	Small operation.
Method of exploitation:	By hand tools.
Improvements required for site exploitation	An excavator and drilling equipment.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	About 4 km from the main road.
Availability of water:	From next village at about 4 kms.
Availability of electricity:	No
International demand of similar tones:	Medium.
European market value:	Low (200-400 euros / m3)

Name of the Site: Strezoc, Magnesite

Date of survey on site:	28 October, 2005
Inspected stone petrographical name:	Magnesite
Inspected stone commercial name:	Magnesite
Colours:	Creamy white
Grain:	Fine
Pattern and aesthetic aspect:	Good
Available resource estimated volume:	Between 4.5 to 5.5 million tons
Similarity with stones available in the international market:	Other magnesite.
Description of the inspected stone:	Interesting
Description of open quarry:	It will be possible to exploit large blocks for dimensional stone purposes.
Present operation:	No. This quarry was opened to extract magnesite. It is being tendered for privatisation by the Kosovo Trust Agency.
Method of exploitation:	
Improvements required for site exploitation	Blocks could be extracted by drilling.
Number of workers:	No
Machines available at the site:	No
Distance from the main road:	Next to the main road.
Availability of water:	Yes.
Availability of electricity:	Yes.
International demand of similar stones:	Medium
European market value:	Medium (400-800 euros / m3)