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SMALL & MEDIUM  
ENTERPRISE DEVELOPMENT

## AFGHANISTAN MARBLE/GRANITE



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## **Afghanistan Marble and Granite**

Contrary to the statement made by Arnold Fields, the Special Inspector General for Afghanistan Reconstruction, to Congress, that Afghanistan has “no substantial natural resources.” Mining in Afghanistan has dated back for over 6,000 years and with proper management can continue for many generations to come. Afghanistan has abundant mineral resources, but they have not been successfully developed during the 20<sup>th</sup> century.

A recent study by USAID, OTF Group, a competitiveness consulting firm that specializes in helping to build prosperity in developing economies, and Commercial Competitiveness Commission of Afghanistan found that the dimension stone industry has great potential to become one of the **leading industries** in the Afghan economy. There is also compelling information that was done in 2007 by USGS <http://pubs.usgs.gov/of/2007/1214/> that confirms this.

Difficulties begin at the quarry where black powder is used in blasting, which damages the rock by causing it to micro fracture resulting in material being wasted. Some dimension stone deposits have been effectively ruined by fracturing resulting from overuse of explosives. Blasting produces small (8 to 10 metric tons) irregular pieces; over 50 percent of which is wasted in processing.

At the present time numerous changes have taken place in the Afghanistan Marble Industry, but they still have a major challenge ahead of them. With the help of USAID and Afghanistan Small & Medium Enterprise Development (ASMED), some new investments have been made in upgrading the extraction of marble.

Afghanistan currently has two quarries that we are aware of using high tech equipment. Equity Capital Mining Co, and the Mir Brothers. Our understanding is that both companies are producing blocks and exporting to Turkmenistan, Dubai and also selling to the local market. The future is to build modern processing plants for all the varieties of marble, onyx and granite. Currently the Afghan White is the most used marble in the industry, very similar to the Carrara Marble from Italy, but there are also over 40 different types in Afghanistan.

### **AMGPA**

The Afghanistan Marble and Granite Processor Association was formed in 2006 and have a little over 100 members. AMPGA is facing a critical junction at this time. The need to strengthen the association is critical in order for the Marble Industry in Afghanistan to grow. Consultant Bob Stapp and I feel the association needs to have a short and long term strategic plan in place that will help the members in specific areas of the industry.

Many of the problems in the industry start with Afghanistan’s mining laws. [http://www.bgs.ac.uk/afghanminerals/docs/Minerals\\_law.pdf](http://www.bgs.ac.uk/afghanminerals/docs/Minerals_law.pdf) The initial start up cost is extremely high and severely limits the number of quarry investors. The tax revenue could be recovered at the export level after the VAT. The Mineral Laws of Afghanistan has a provision in article 89, that gives the Ministry of Finance, for the purpose of private

investment, the right to defer, reduce, and deduct all or a portion of Mineral Royalties payable. This article also gives them rights to reduce taxes in other areas such as, value-added, assets and custom charges.

A two year tax break for companies that are willing to open new quarries with high tech equipment would serve a number of purposes. One would be to bring in new investors, build a market for high quality blocks for export and local use, encourage new and existing marble producers to expand and look for export markets, and the creation of many jobs on all levels. The tax revenue could be recovered at the export level after the VAT.

AMGPA needs to address many of the problems that the members are facing, quarry processing, transportation, import duties, lack of training, security and numerous other areas. The up coming convention and workshop in March would be a great opportunity for AMGPA to present their new strategic plan and goals for the future. With strong leadership the association can be a driving force for change in the way Afghanistan is presently doing business.

### **Recommendations:**

ASMED should work with AMPGA, Ministry of Finance, and the Ministry of Mines, to help reduce some of the taxes, that would go a long way in helping the private sector to get a foothold in the Afghanistan Marble Industry. This is just one of problems we hear from quarry owners and producers. The fees and taxes are two to four times the normal rates than in other countries.

### **Marble companies**

Many of the marble companies we have visited on our last two trips, have been small processing plants with limited production capabilities. At the processing plant, lack of adequate equipment and processing techniques applied to stone that was previously damaged leading to more inefficiency. It appears that many of the plant owners are forced to supplement their business by importing marble products from neighboring countries and selling on the local market.

### **Sahil Marble Company**

On our last visit to Sahil Marble Co. we reported that they had a working quarry, but were blasting at the time. They were also installing new processing equipment and hoped to find funding for a quarry wire saw operation at the mine.

**Update:**

After returning to Sahil Marble Co, we were encouraged by the continuing progress that they are making to have a modern processing facility in place in Jalalabad. They also must have acquired additional funding for their quarry operation at Khogyani district, about 50km away from their processing plant. We were there last February when they were in the process of building the foundation for the overhead crane. The crane is now installed and waiting for finishing touches. They are also in the process of installing a Gang Saw to produce large slabs and a slab cutter. This type of equipment is a major step forward to improving the over all quality of the finished products.

In addition to their major improvements at the processing plants, they have received their first shipment of quarry processing equipment that includes the following:

1. Diamond wire saw
2. Manual diamond wire saw
3. Two drill stands
4. Nomadic drills
5. Hydraulic jack units

This equipment will greatly improve their capability of producing quality marble blocks and reduce if not eliminate blasting.

**Summary:**

Sahil Marble Co could become a major marble processing/quarry operation in the eastern region. It is our understanding that part of the grants they have received included an agreement that they would also supply raw Marble/Granite block to other local processing plants in Jalalabad. Not only will this help Sahil develop, this could also be a stepping-stone for other processing plants. The need for high quality marble blocks is the basic foundation needed to manufacture products for local use and export to other countries.



February



November



New Quarry Equipment



New Slab Processor

### **National, Arian and Shamshad Marble Processing Plants:**

Unfortunately since our last visit we have not seen very much progress in their operations. Because of the cost of operating it appears that they only work when they have an order in hand. There is no extra capital to stockpile processed tiles or to work up any blocks. We do feel that there is a potential for them to succeed in the industry if they consider joining companies and operating under one entity.



### **Recommendations:**

We recommended these three companies consider operating as one corporation bringing together their knowledge, expertise, equipment, sale contacts and property. We also recommended that they pursue a 10- year or longer mining contract with the Ministry of Mines. By combining their assets and having a long- term mining contract they would be in a much better position to attract investors and grants .ASMED could play a very important role in this process.

## Mir Brothers

Meeting again with the Mir brothers has convinced me that they are two very capable men and will be able to make a success in the marble industry. On our last visit to Herat, we were unable to visit the quarry, but did have a very informative meeting with Wais Mir. At the time they had a D8 Caterpillar dozer and a Komatsu front end loader, and were in the process of building the roads to the quarry expecting to finish in a few weeks. Building this road also involved doing some work for the local villages. Part of the problem of working a quarry in a remote area is to establish a very solid working relationship with the local elders and villagers, and using some of the locals as your labor force. The balance of the quarry equipment was at the Iran border and expected to also be in country shortly.

Since our return to Kabul we had a very casual, but productive dinner with the Mir Brothers at their home. The road to the quarry has been completed; the quarry face has been open, and production started. We have been told that they have an estimated 10,000 tons of material from the quarry, and are waiting for export papers to be able to sell on the international market. A major problem of attracting foreign investment is the layers of paper work required to open a quarry operation in Afghanistan. The information we received from Wais Mir was that to get the papers necessary to export blocks required three months of his time. There were ways he might have moved the process faster, but he chose not to use that method.

Now that they have the proper paper work done they are in the process of working out a contract with a buyer from Turkmenistan.

The extraction of the marble was done with three newly purchased diamond wire saws, and support equipment. This is the type of operation that is needed in Afghanistan if they plan on becoming a part of the exporting community. There are more plans in the future to expand the total operation.



Vertical Drilling



Road Building



Diamond Wire cutting



Quarry Face

### **Equity Capital Mining Co.**

Equity Capital Mining Co. is owned and operated by brothers Nasim and Adam Doost, possessing over 35 years of mining experience and is located in the Herat region of Afghanistan and from our sources was the first of only two companies in Afghanistan using high tech mining equipment. Despite all the challenges that Equity faced they were able to over come many of them, and are now exporting quality marble blocks thru Iran to the port and Turkmenistan. From there they can ship by rail way to many parts of the world. They still have problems, many of them government related, but find themselves in a unique situation of having more demand then production capabilities at this time.

Equity Capital Mining Co. has made a serious commitment to the Afghanistan marble industry, not only a financial commitment, but also a huge amount of time and energy and a willingness to create jobs and opportunity for the Herat area. The investment in equipment alone shows their commitment and ability to understand the needs to be able to produce quality export material.



Quarry Face



Quarry Steps



Marble Blocks



New Quarry

From the information supplied by Nasim Doost they have working at the quarry 15 diamond wire cutting machines, 5 loaders, 2 excavators, 2 bulldozers, 4 generators, compressors, drilling equipment and more equipment in Dubai on the way to Herat.

They employ 120 to 150 people who are working 20 hours a day and are producing about 300 to 400 tons a day. Within 6 months the goal is to increase that by double or more and when more quarries are opened and the processing plant is operational Nasim expects employment to reach in the 2 to 4 thousand. That shows the impact one properly run quarry can have on the local community and also the benefits of expanding the marble sector for the good of Afghanistan.

A direct result from a diamond wire operation is the high quality of material coming out of the quarry for export and for local use in the Herat region. I have been told that Equity hires local processing plants to manufacture tiles for export to Turkmenistan and also supplies raw material for local use. Some of the plants would not exist if not for the fact of getting high quality material from this quarry, and many jobs would not have been created.



Tiles to be exported



Local Craftsman from Herat



Local Craft from Herat

### **Problems:**

The road from Herat that travels to two producing quarries (Equity and Mir Brothers) is a one lane gravel road 167km long that takes 4- ½ hrs by car and 10 hrs by truck to reach. This road leads to numerous villages, and from what we are told, is also the road to the new hydroelectric dam. Power poles have been erected and power lines are being installed. The benefits of an improved road are enormous to the community, and to the development of the marble industry in Afghanistan. When there is power in the future the ability to construct some processing plants at the quarry sites would reduce shipping costs tremendously and create jobs in the hundreds.

### **Recommendations:**

Equity Capital Mining has the equipment and ability to widen (two lanes) and repair this road to handle truck traffic going to and from the mines. Some sort of financial support to promote road building would be of great value to the Marble Industry and the Herat region.

For more information on Equity go to: <http://equitycm.com/index.html>

## **Herat Region**

Herat is city in North West Afghanistan on the Hari Rud east of Kabul. Located at a strategic position on an ancient trade route, it was ruled by numerous conquerors, primarily the Persians. Herat become part of Afghanistan in 1881 and has a population of about 176,000. The fertile river valley is renowned for its fruits, especially grapes. Herat has textile weaving and carpet industries, marble producers, and is a market for wool,

carpets, dried fruits, and nuts. Paved roads lead to the Turkmenistan border and access to the sea by way of Iran to Band-e-Abbas.

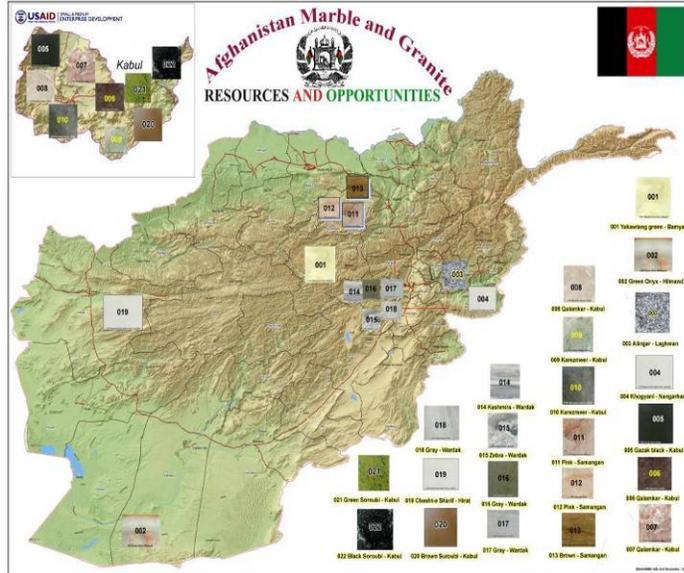
The surrounding mountains provide resources in the form of marble and granite, and presently support two high tech mining operations. The two mining companies are producing a white marble, very similar to the Italian Carrara marble. I have been informed that there is a minimum of 5 to 8 various types of large marble/granite deposits in the Herat region.

At this time Herat seems to be the most compatible area in Afghanistan for the development of a strong marble industry. The region has large resources, two companies producing marble blocks, electric power on a regular basis, water, processing plants, and transportation routes to the sea and north to a railway. I have been informed that a rail system is coming to Herat, and a shorter road route to Kabul is under construction, plus a hydroelectric dam is being built.

With all the advantages that Herat offers at this time, this region could be the Marble Capital of Afghanistan. With the high marketability of the signature White Marble and relatively short distance to the border this would make an ideal location for a cluster of manufacturers and training centers for quarry operations and marble processing. Once this area is established this format could be used in other regions as conditions improve in the coming years. With all the advantages Herat has to offer it would make sense to have a concentrated effort on developing the region and expanding from there.

### **DISPLAY CASE**

Based on our last report we have followed through with the display case and seem to be getting a favorable response with the results. The case is well made, portable and the samples are labeled by name and region. A map of Afghanistan has been created with pictures of the samples and locations. Not all of the samples are available at this time, but it does represent to investors the wide varieties of Marble/Granite that is in Afghanistan. When traveling to other countries, trade shows, and training missions every opportunity should be taken to display the sample case and explain the huge resources available in Afghanistan. When more samples become available it may be necessary to increase the size of the display case. My recommendation is to have more display cases and maps made locally so ASMED/USAID can use them and also present them to Afghanistan Government Ministries and other donors.



## **TRAINING**

For success to be achieved in the Afghanistan Marble Industry training of key personnel should be the number one priority. Time and money must be invested on taking every opportunity to train personnel in both **quarry operations** and final processing. Places like Jordan, Italy and the US have the expertise for specialized training in all areas of the industry. We have secured a number of offers to work with us in training of key personal in host countries. Afghanistan also needs to have a continual training program in country to expand the proper quarrying techniques.

The Afghanistan quarry operations have been hindered by a lack of equipment investment and training. Quarrying operations are conducted by blasting with dynamite, a process which yields irregularly shaped pieces of stone which are difficult to process and much of which are wasted. Furthermore, blasting causes micro-fractures throughout the stone, resulting in a lot of breakage during cutting and polishing. Blasting not only creates these micro-fractures in the quarried stone, but can also do so in the entire quarry, destroying a great deal of the value of the stone.

Since the problems start at the quarries and continue to plague the industry to the final stage of production this would be the first place to address and then go forward. We had meetings with two quarry operators, Equity Capital Mining Co. and Mir Brothers, who are now practicing proper diamond wire quarry methods. Both companies have offered to send their staff to other countries for additional training and then offer site training at their quarries for other quarry owners, and assist in equipment selection. AMGPA could work with the two companies, and also offer on site training to the membership.

### **Recommendations:**

Continue to work towards sending a small delegation to Jordan, Italy or the US for a fact-finding mission on training, equipment, and latest advancement in the industry. Support and promote, thru AMGPA, local quarry operators to do on site training at Equity Capital Mining and Mir Brothers in Herat. We have received a verbal commitment by both companies that they would be willing to train quarry personnel, on site, at their mines in Herat, or maybe at their quarry site.

## QUARRY OPERATIONS WORKSHOP

### **Recommendations:**

AMPGA in conjunction with ASMED could host a one or two day workshop following the AMGPA convention on March 01 2009 for the benefit of current quarry owners and potential quarry operators. The goal of this workshop would be to support and develop the marble industry in Afghanistan and to focus mainly on the quarry operations. The key to success in this industry is developing a strong base at the quarries, and continuing forward from there. Naturally if ASMED and AMGPA adopt this concept we will have to expand on the workshop in more detail.

### **Title:**

**The Afghanistan Marble and Granite Producers Association  
Presents:**

**Quarry Operation - An AMGPA Workshop**

### **Workshop Objective:**

*How to build and operate an efficient, productive and profitable marble and granite quarry operation in Afghanistan - a practical, applied workshop for current and future marble and granite quarry operators.*

### **When:**

March 2009

### **Where:**

Venue to be determined

### **Who should attend:**

Quarry operators, current and future?  
Marble and granite processors  
Equipment suppliers  
Entrepreneurs  
Investors

### **What you will learn:**

- Mining laws, license application procedures, taxes, royalties, customs duties

- Quarry feasibility studies, location of known deposits, accessibility
- Opening a quarry site, step-by-step
- Security considerations
- Engineering considerations
- Equipment requirements – types, cost, parts availability, delivery
- Quality standards, domestic and export
- Transportation considerations
- Availability of finance programs

### **Agenda**

- 08:45 Refreshments and Informal Networking
- 09:00 Welcome and Introductions
- 09:10 Mining laws, regulations, policies and procedures  
Quarry operations  
Security  
Engineering
- 12:00 Lunch
- 13:00 Equipment  
Quality  
Transportation  
Finance
- 15:30 Participant roundtable on identifying and dealing with obstacles
- 16:15 Workshop Summary and Participant Evaluation
- 16:30 Adjourn

If this is successful ASMED and AMPGA could do follow up workshops on marketing, quality control etc

### **Marble Department**

I would recommend ASMED having a technical coordinator assigned primarily for the Marble/Granite sector to continue working on strategic activities that have been identified by STTA consultants and to support the forthcoming strategic plan of the AMGPA. There is a definite need to have an individual who is knowledgeable in this sector to coordinate with other staff members within ASMED, in the donor community, in AISA, and the Afghanistan government on projects related to the Marble/Granite field to provide them with information, support and strategic guidance.

The technical assistant coordinator would stay in close contact with STTA consultants both during their engagements in Afghanistan as well as when they are not in-country to insure momentum is maintained and to keep them informed on the continuing progress on the marble industry.

**Tasks:**

1. Consult on a continuous basis with the STTA consultants
2. Work with AMGPA for the preparation of the March 1<sup>st</sup> Marble conference and the March 2<sup>nd</sup> Quarry Operators training.
3. Work with AMGPA on future events, trade missions, trade shows
4. Attend AMPGA Board meetings and evaluate their progress and needs
5. Evaluate marble concept papers with other ASMED components
6. Conduct site visits to quarries and processing plants
7. Focus on training missions to other countries, specifically Jordan and Italy
8. Assist in the coordination and execution of AMGPA strategic plan in consultation with the STTA's.
9. Identify existing and potential obstacles, if any, for investors in the following:
  - a. Ministry of Mines
  - b. Ministry of Finance
  - c. Infrastructures
  - d. Security
  - e. Afghanistan Geological Survey

**Security Issues**

We know that security is going to be one of the major questions asked by any foreign investor, and at this time there is not a good answer. This can and most likely will change and hopefully for the better. We could not travel to any of the quarries and only limited travel to processor plants with security along. That doesn't mean we can't continue with our overall strategic plan on building the quarry sector of the marble industry. Training, equipment selection, working with Ministry Of Mines, Finance, and Trade missions can still be accomplished during this period of time. When security has improved we should have all elements in place to continue moving forward.