Collecting the King of Kashmir Aquamarine

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High in the mountain ranges of the Shigar Valley region of Pakistan, hundreds of mine tunnels pierce steep, nearly vertical rock cliffs. Each year for the past century, local villagers have navigated this treacherous ascent with the hope of finding something spectacular. The journey is difficult, the warm season is short, and the conditions are harsh. Most years, they return with little to show for their drudgery, but one recent expedition opened up a pocket like no one has ever seen before.

INTRODUCTION

This is the story, as I have experienced it, of the discovery and recovery of the specimen now called the King of Kashmir—certainly the world's greatest aquamarine specimen and one of the finest known mineral specimens of any kind.

I was already collecting minerals as a teenager, and along the way I came to know Herb Obodda, one of the most prominent mineral dealers of the day. Our friendship grew naturally, and he took me under his wing. Herb was one of my early mentors and introduced me to the world of Afghani and Pakistani minerals. He traveled to that region for minerals in the early 1970s (around the time I was born), and by the time I became a dealer in 1991, he already had dozens upon dozens of trips under his belt. One thing Herb taught me back then was that really fine aquamarine crystals are rare. They were not yet as widely available as they became in more recent times, and were not well represented in collections. Even single crystals of middling quality by today's standards were highly prized back then because of their scarcity. Rarer still were examples with any sort of noteworthy matrix.

By 1996 I had already been a full-time mineral dealer for five years, and a collector for almost 15. On my first trip to Pakistan I was on the hunt for a different gem mineral: tourmaline. This was around 1997 and I was to be the guest of a wealthy businessman named Sarwar. I had met Sarwar at the Tucson Show, where he was showing a few fine tourmalines from a recently discovered pocket at the Paprok mine in Afghanistan. Even today the specimens from that pocket are considered some of the finest tourmalines ever discovered. In Tucson, Sarwar sold me two amazing tourmaline specimens (Fig. 1) and promised more if I came to Peshawar to see the remainder of the lot. So after the show I flew there to meet him and spent about a week hunting for mineral specimens of all kinds. But, alas, I missed out on the best pieces from the lot.

Determined to make the best of the situation, I worked the local market to see what it would yield. During my visit it became clear that few aquamarines were available, or rather I should say few in fine quality, and almost all were single crystals free of matrix. It did not occur to me that day, nor for several years thereafter, that the majority of fine mineral specimens that I had seen in collections, books, and museums were products of extremely serendipitous circumstances. In fact, I feel that a huge number of the greatest minerals in the world (especially those recovered before 1990) have survived thanks to sheer luck alone. So many things have to be right for the recipe to work—the geology, access to the location, environmental conditions at the site, the crystal arrangement in the

Figure 1. **Spectacular, panoramic view of the big bend in the Shigar River as it turns north toward the Biangsapi Gon mine. Marco Amabili photo.**

Figure 2. **Location map showing the Biangsapi Gon mine, Nyet Bruk, Pakistan.**

pocket, the knowledge of the miner, the skill brought to bear in the extraction, and the handling of specimens once extracted all play their roles. But I only became really aware of all of these factors after seeing thousands of minerals from sources all around the world.

In 1999 I started traveling to Brazil and began my love affair with the Pederneira mine (Fig. 2). There I had a bird's-eye view of the mining process, and acquired new insight into all of the factors named above. It was there that I got to see how geologic forces shaped the pockets, and I saw firsthand, as well, how awful the results of mining accidents can be. I saw everything from pockets that were discovered by blowing into them with dynamite, to those that were collected using only a shovel, scraping the crystals out and putting them into bags. I learned that the mining process is often crude and dangerous, and that few miners around the world really understand how to properly recover mineral specimens. Inspired by Bryan Lees' company, The Collector's Edge, and the famous mining operation that company carried out to recover Sweet Home mine rhodochrosites, I set out to learn how to apply intelligent mining techniques for the purpose of properly extracting and preserving mineral specimens. And what better place to practice these techniques than a productive tourmaline mine in Brazil?

THE FREILICH AQUAMARINE

Over the next decade, Pederneira was an experimental playground where we developed many new techniques to recover crystals intact. We also learned about trimming, cleaning, and repairing specimens which have been broken by nature or by the mining process, in order to restore them to their original condition.

By 2000, the Pederneira operation and my mineral dealership were both in full swing as I made my annual pilgrimage to the

Figure 3. **Tourmaline with quartz, 14 cm, from the Paprok mine, Kamdesh District, Nuristan, Afghanistan. Stuart Wilensky photo.**

famed Tucson Gem, Mineral and Fossil Showcase in Arizona. The events of the Showcase span several weeks and dozens of venues, culminating in the Tucson Gem and Mineral Show held at the Tucson Convention Center. One of its highlights is always the array of exhibits of fine minerals put on by collectors from around the world. In the year 2000 there was a display case filled with treasures graciously shared by collector *du jour* Joseph A. Freilich.

From the moment I approached the Freilich display case I was awestruck: the whole experience is ingrained in my memory as if it happened yesterday. The display was a custom wood showcase with a viewing area starting only at waist height, and designed by Joe. It sat in the middle of the hall, two cases back to back, guarded by an Arizona police officer and tended to by Joe himself throughout the day (Fig. 5). As I stood there drooling at the wonders inside, I saw an aquamarine crystal that blew me away (Fig. 4). I almost could not believe it was natural, although it clearly was. This was immediately my favorite piece in the display and I made a point of telling Joe that. I said, "If there is ever a chance someday, I would love to hold that piece in my hand and examine it, if you would let me." At that very moment Joe reached into his pocket and took out a key while asking bystanders to step back. The officer created cover as Joe unlocked the door, swung it open, grabbed the aqua, and placed it firmly in my hand. I still remember holding it and turning it, totally mesmerized by its geometric perfection, its the nearly flawless transparency, and its pure aqua-blue color. In my

Figure 4. **Joseph Freilich (*right*) and his acquisitions consultant, David P. Wilbur standing with Freilich's magnificent showcase at the 2000 Tucson Gem and Mineral Show. Jeff Scovil photo.**

Figure 5. **The Freilich aquamarine, 13 cm, from Dassu, Shigar Valley, Pakistan. Now in a private collection; James Elliott photo.**

Figure 6. **Aquamarine with feldspar, 13 cm, from the Skardu District, Shigar Valley, Gilgit-Baltistan, Pakistan. Fine Minerals International specimen; James Elliott photo.**

opinion, it established a new bar for all aquamarines. It had size, standing at 5 inches tall and almost 2 inches in diameter; it had color, transparency, and form—it had everything except a matrix. In fact, a few hours later I heard one of my cohorts exclaim, "Can you imagine if it was on a matrix?!"

Over the next few months we would often talk about an imaginary aquamarine like that one but on matrix, calling it simply "Freilich Matrix." Amongst our crew we used that terminology as code for other extraordinary minerals as well. When we could not speak privately about a specimen or its situation but wanted to convey its importance, we would say something like, "Hey I can't talk now, I am dealing with Freilich Matrix."

I spent much of the next decade on a hunt for outstanding matrix aquamarines. My business partner at the time, Marcus Budil, made dozens of trips to Pakistan buying minerals, but none of them led to anything close to a "Freilich Matrix." But by 2008, and purely by luck, we had found at least two major aquamarines that approached and even eclipsed the original Freilich (off-matrix) aqua (Figs. 6 and 7) By the time 2010 rolled around, several things had happened. Marcus Budil and I had ended our partnership; I had teamed up with Marco Amabili to source minerals from Afghanistan and Pakistan; and Marco introduced me to a Pakistani dealer named Ali at the 2010 Tucson Gem and Mineral Show.

WINDOWS INTO PAKISTAN

Marco and I first met in June of 2008 at the Sainte-Marie-aux-Mines Show in the amazing Alsace region of France. Marco is a bit of a genius: he is one of the world's most acclaimed engineers and the recipient of several distinguished awards in that field, and he is an avid mineral collector. We hit it off right away and I realized very quickly that he understands minerals on a profound level. We spoke the same "language," as it were, and we quickly became friends. One thing I also quickly learned about Marco Amabili is that he LOVES aquamarine. His first love is garnet, specifically grossular garnets from Asbestos, Quebec, but clearly his second favorite mineral is aquamarine, especially specimens from the Shigar region of Pakistan.

During the 2010 Tucson Show, we were walking around and hunting for minerals when he said, "Let me introduce you to Ali.'" This dealer was set up on the second floor of the back building of the InnSuites hotel, and he was very interested in meeting us. He had heard about my business, Fine Minerals International, and wanted to team up with us to create a consistent sourcing path for fine minerals from Pakistan, specifically the northern area of Gilgit, where he was from. Ali had previously been working with Herb Obodda, but by this time Herb had decreased his business activities significantly. This shift, and my friendship with Herb, made us the perfect allies for future business. That very day, the three of us made an accord on sourcing minerals from Pakistan. We have

Figure 7. **Aquamarine with schorl, 18 cm, from the Skardu District, Shigar Valley, Gilgit-Baltistan, Pakistan. The Pinnacle Collection; James Elliott photo.**

Figure 8. **Marco Amabili and the author at the Tucson Gem and Mineral Show in 2010. James Elliott photo.**

Figure 9. **Aquamarine and muscovite, 20 cm, from the Skardu District, Shigar Valley, Gilgit-Baltistan, Pakistan. Mark Pospisil collection; James Elliott photo.**

been cooperating for a decade now, and this cooperation is what led to the recovery of the King of Kashmir.

Ali is one of the nicest men I have ever known. He is intelligent, and always has a smile on his face. Luckily for us, too, his good command of the English language has allowed for an unfettered sharing of ideas and concepts related to mineral conservation. At that first meeting we purchased three excellent aquamarine specimens (Fig. 9), and from then on we were off to the races. Over the next decade Marco and Ali communicated nearly every day, discussing current discoveries and mining activities across the region.

In the early years of our collaboration we just accepted what the market brought to us. In northern Pakistan the mineral deposits at higher elevations (which are often the most rewarding) are only workable for about six months a year, and so there are limits to what each mining season can yield. Among the many minerals we acquired, we saw many pieces that *could have been great*, but something was always off—either the crystal was of incredible quality but was heavily damaged, or it was intact but it had huge contacts where other minerals once were, or, worst of all, it had clearly been on a matrix but had been scalped off by a miner's chisel. Frustrated by this tide of "almosts," we began to lobby Ali to change the way he thought about sourcing, and we began to teach him the methods employed in other parts of the world. The annual Tucson shows became tutorials in which we showed him the processes used by other mining operations and discussed how we could implement these in the northern areas of Pakistan. We even afforded him expert instruction from veteran members of the MCP Lab in how to use a diamond chainsaw. Ali came quickly to understand the magnitude of the potential if we could convince the miners to employ the techniques we were sharing with him. We sent the tools and diamond chainsaws with him back to Pakistan, providing the support he needed to teach the miners the methods used at other mining projects like Sweet Home, Pederneira and Elba. The saws were on site and ready for the 2014 mining season, and at about the same time I was concluding the purchase of the Pederneira mine, where we had used the diamond chainsaw for years, extracting fabulous tourmaline specimens.

But alas, the miners themselves were an unforeseen obstacle. At first they just could not grasp why they needed to preserve the matrix or even how to go about doing so. In the century-long history of gem mining in the region, preserving the "mother-rock," as the miners called it, had never been a priority; the concept was entirely foreign to them. So those saws sat there in Pakistan, available but unused year after year, pocket after pocket, until some of their parts dried out and began to rust. When the time finally came that the saws could be used they were no longer functional and had to be replaced.

At that time, Ali introduced another major player who would prove indispensable in recovering great specimens. His name is Haji-Ali. Ali himself was born and raised in Gilgit, Pakistan, and his wife is from the famous mining area of Haramosh. Haji-Ali is from the Dassu area, and one or the other of these two men, or both, either knows or is related to everyone in the region. I was unwittingly introduced to Haji-Ali at the Changsha China Mineral Show in 2015. Marco Amabili called me to let me know that Ali would be at the show and that, although nothing was happening, I should take time to meet an important man from Dassu who we would be working with in the future. I went to the hotel room where Ali was staying and met Haji-Ali and his partner. It was a short meeting filled with warm introductions and the promise of things to come. I purchased some small garnet specimens from them as a gesture and we took photos to commemorate the occasion. I had little idea that this meeting was the beginning of what would be the greatest collaboration in the history of mining in the region.

But after another three years we still had not used the diamond

Figure 10. **Aquamarine with spessartine, quartz and microcline, 55 cm wide, from the "Aqua-Garnet" Pocket, Dassu mine, Shigar Valley, Gilgit-Baltistan, Pakistan. Mim Museum collection, Beirut; James Elliott photo.**

chainsaws, which still sat in the nearby village. Although our own perspectives were changing, the miners were proud and still would not reach for the saws or the tools which could help them. They did not take advantage of the tools, on-site training, and know-how that we repeatedly offered. We reminded them literally thousands of times to preserve the "mother-rock," and repeatedly we begged them to wait, when they found a pocket, until we could get there and show them how to extract the specimens, but all of this fell on deaf ears, year after year, season after season.

But slowly, one family and one tribe at a time, the two Alis together were able to break down the barriers in the minds of the miners. The process took years, but with every passing season the miners got more and more in tune with our message. Gradually we came to see more and more matrix specimens, and more specimens with minimal repairs and damage.

THE AQUAMARINE-GARNET POCKET

In 2018, we finally had our first breakthrough. The miners at one particular mine hit an unprecedented pocket (we named it the Aqua-Garnet Pocket) which alone could be the subject of an entire article. The pocket boasted a spectacular association of the two species. By using drilling methods and breaking bars the miners were able to extract large plates of matrix, some with the crystals intact. A few of the matrix plates were so large that they tested the limits of the cabling system that the miners used to lower specimens from the edges of the high cliffs. In Figure 12 you can see the diamond saw in use for the first time in the history of the region. It had finally clicked in the miners' minds that this tool, although it was only used to make the specimens smaller and more manageable for transport, could change forever the process of extracting minerals. Many pieces which had been taken by the old methods from the Aqua-Garnet Pocket had suffered greatly, but some of these, even so, are some of the finest aquamarine combinations the world has ever seen. One of them, the true prize of the discovery, is an extremely large specimen with a flowerlike cluster of aquamarine crystals in the center of a matrix of quartz, albite, feldspar, and muscovite rosettes, all decorated with beautiful red garnets (Fig. 10). It is like something from another world.

In the spring of 2019, the miners, having become largely comfortable with the idea of using diamond saws, began preparations for the coming season and discussed strategies and plans for the hard work ahead. The region in question is forbiddingly remote; within it are five mountain peaks over 8,000 meters tall, including K2, the second highest peak in the world. Shot through the mountain

Figure 11. **Aquamarine and garnet, 18 cm, from the "Aqua-Garnet" Pocket, Dassu mine, Shigar Valley, Gilgit-Baltistan, Pakistan. Fine Minerals International specimen; James Elliott photo.**

Figure 12. **"The Waterfall" aquamarine with spessartine, 12 cm, from the "Aqua-Garnet" Pocket, Dassu mine, Shigar Valley, Gilgit-Baltistan, Pakistan. Private collection; James Elliott photo.**

Figure 13. **First use of a diamond chainsaw in the Dassu region. Fine Minerals International photo.**

masses at intervals are pegmatitic intrusions (Fig. 16) which are visible from ground level all the way to the peaks. Each cliff edge and mine portal is "claimed" by a particular group of miners or by a family or tribe, and every year the men gather their supplies and make the ascent to the dangerous perches where mining is to resume. We work with and support at least 30 such mining groups every year, and for every group that makes a discovery, large or small, there are dozens of others that work all season and come down empty-handed. The men who do this work need to be strong-willed as well as physically strong, and they need to be ever-hopeful, with each new year, of discovering treasure.

GEOLOGY

The geology of the area is rather straightforward and is explained here briefly by Dr. Federico Pezzotta.

The King of Kashmir Pocket was found in the Nyet Bruk region in the Braldu Valley, Skardu District, Gilgit-Baltistan, Northern Pakistan. Located north of the famous locality known as Shigar, this area is characterized by a large number of gem-bearing miarolitic pegmatites related to the intrusion of the Main Karakorum Batholith (Agheem *et al*., 2004). The pegmatites are intruded into metasedimentary and meta-igneous rocks, and are characterized by

Figure 14. **Scenery along the Shigar River near Lamsa, south of Shigar. Fine Minerals International photo.**

a number of different compositional and structural features which can be used as indicators of their gem-bearing potential (Agheem *et al*., 2011). Such pegmatites are geologically young, with cooling ages under 10 million years (Laurs *et al*., 1998).

At Nyet Bruk, the gem-bearing miarolitic pegmatites are mostly sub-horizontal, crosscutting a large meta-igneous body of granitic composition. There are impressive outcrops of pegmatite along the Braldu Valley—a trough which was shaped by the erosive action of ancient glaciers. The pegmatites range in thickness between 1 and 4 meters and can be traced across outcrops for distances of several hundred meters.

The pegmatites have roughly symmetric zoning, with narrow, medium-grained border zones and large, coarse-grained cores which are locally rich in miarolitic cavities. The pegmatites' main components are K-feldspar and albitic plagioclase, with minor to very minor amounts of biotite and muscovite. Their tourmaline, generally not abundant, is invariably black. The most typical and abundant accessory mineral is blue beryl (aquamarine), mostly concentrated close to and inside of the miarolitic cavities.

THE BIG POCKET

The 2019 mining season began without much fanfare, and none of us knew what was in store. But the Roman philosopher Seneca (4 BC to 65 AD) once said "Luck is what happens when preparation meets opportunity," and yes, I do believe that luck, chance, or whatever you'd like to call it, clearly favors the prepared mind, and that is what we were, a group of people collectively prepared, ready and waiting to embrace opportunity.

At the lowest levels of the mountains, collecting is possible nearly year-round, but with increasing altitude the weather becomes exponentially more challenging and the mining season becomes shorter and shorter. Not just anyone can ascend to the heights of these cliffs and live there in tiny nooks in the mountainsides: those that do so are removed from family, all creature comforts, and general social interaction sometimes for months on end. A sort of stoic fearlessness is a job requirement.

It was late in May when Marco Amabili called me to say that something was "cooking." He was first to get the news that a significant pocket had been discovered deep in the mountain, almost 30 meters in, at the Biangsapi Gon mine. The first signs of the pocket had been encountered at the end of April after a charge of explosives cracked open the pocket rim but miraculously did not breach the pocket itself. The miners, realizing that they were about to penetrate a pocket zone, carved out a window large enough to see what was inside. Looking in, they saw something unbelievable. There were a few dozen aquamarine crystals on the floor of the pocket, loosely set in the clay and mud, and above them was a behemoth: a huge cluster of nearly 30 pristine aquamarine crystals aesthetically arranged and intermixed with beautiful quartz crystals, all on matrix of white albite and microcline.

The men, knowing that they had found something extraordinary, stopped to consider what they should do next. The decision they reached after nearly a month of deliberation was also extraordinary: instead of attempting to extract the specimen by themselves, as had been the standard practice of miners in the Gilgit region for nearly a century, they resolved that (if it pleased Allah) they would seek outside guidance. It is sheer serendipity that their asking us for help in this case saved the most incredible aquamarine specimen ever found in Pakistan from being hacked apart.

The miners harvested all of the detached single aquamarine crystals from the floor of the pocket and gathered up the loose pieces of matrix. Then they took a few photos of the incredible group of aquamarine and quartz crystals that hung from the pocket ceiling. With these materials in hand they went down to the village and sought out Ali to show him the crystals and the photos of the sleeping giant that clung quietly to the ceiling of a pocket deep in the mountain above. Very soon thereafter, both of the Alis agreed to apply their know-how, and the now-familiar diamond chainsaws from the season before, to get the job done.

Figure 15. **Aquamarine with spessartine, 21 cm, from the "Aqua-Garnet" Pocket, Dassu mine, Shigar Valley, Pakistan. Fine Minerals International specimen; James Elliott photo.**

Figure 16. **The Biangsapi Bridge crossing the Braldu River in front of the mine. Fine Minerals International photo.**

THE NEGOTIATIONS BEGIN

It was June 5, 2019 when Marco Amabili first received the photos and videos of the loose crystals and the photo of the King of Kashmir specimen still in place in the pocket. He called me immediately and said we needed to talk. Our discussion was frantic, filled with excitement and urgency. Although the piece was still intact, it was by no means safe; a dozen different things could go wrong that would snatch this opportunity from our grasp. The miners wanted to sell the piece in the pocket as it lay. There was no choice but to act quickly. We sent a senior member of our extraction team to take charge of instructing and guiding the miners in the step-by-step process of extraction.

By the night of June 17, our technician had already made it to the base camp. It took four hours by Jeep from Skardu, along the Shigar Valley track and Braldu River Valley, to get on site in Nyet Bruk. There the miners and the technician climbed, all by the light of their headlamps, for an incredibly steep 300 meters up the cliff face, then deep into the mountain to behold the massive aquamarine crystal cluster hanging from the pocket ceiling. Unable to fit into the tight opening, the technician had to remove his helmet to peek in, and when he did he was flabbergasted, blown away, even dizzied by what he saw. He took a short video, and then they all climbed quickly back down to the village. Marco Amabili and I received the video on June 18, and excitedly we began discussing the strategy.

We had many questions; we wanted more videos, and we wanted to know the dimensions of the largest crystals but the miners would not reveal these, and our agent in his excitement had neglected to get any measurements during his first ascent. So it was without all the information we needed that we continued through seemingly impossible negotiations, so complicated that there was a moment when we thought the opportunity was going to slip away. We continued negotiating for nearly another week, while our technician paced in Ali's house like a caged lion. Having already lost nearly half the time budgeted for his trip, he suggested that he should possibly just abort and head home.

Amabili was on the phone with Ali for almost 24 hours straight on June 20 and 21. Our whole team was working to reach an agreement with the miners to buy the crystals that had been removed already along with what still lay in place high in the mountain above. On the night of the 22nd, we finally struck a deal. And then, finally, the real work could begin.

Bear in mind that I had no idea whether we would be able to extract the piece I had just bought, much less transport it down the mountain. I was not really sure of the size of the crystals, I did not have a firm grasp on the color, the luster or the transparency, and there was no guarantee that any of the major crystals which had been extracted weeks before actually belonged to this piece. All we had were a few photos, a five-second video of the piece *in situ*, and some videos of the loose crystals that had been recovered and brought to the village weeks before. But, using our best detective skills (and making some assumptions), we guessed that this might be the chance of a lifetime, and so we jumped in with both feet.

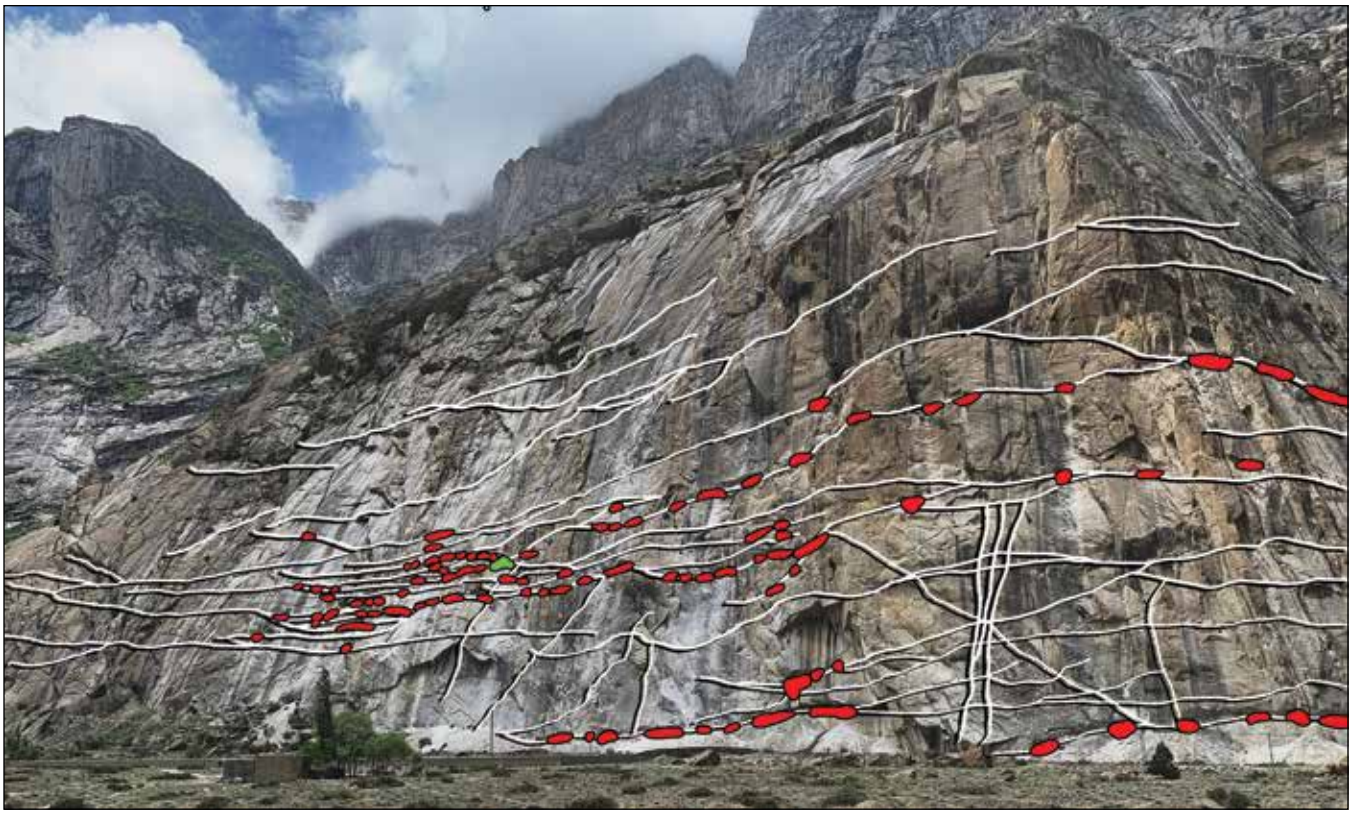

Figure 17. **Cliff face near the Biangsapi Bridge. The white lines delineate sub-horizontal pegmatite veins crosscutting the range. Red spots = exploration tunnels into the pegmatites. Fine Minerals International photo.**

By this time our agent was climbing the walls. His first ascent had been on June 17, and since then he had been essentially frozen in place, awaiting our decision. He did not reach the cliff face again until June 23 at about 5 p.m. Once there, he settled himself in the small tunnel entrance where everyone slept on cots, and got some rest. Work began the next morning.

Following is his account of the extraction process that took nearly two weeks to complete.

COLLECTING THE KING OF KASHMIR

The following is our agent's account of the extraction process, which took nearly two weeks to complete. Keep in mind that all of the main action he describes is happening nearly 300 meters up on a sheer cliff face and 30 meters straight into the mountain. Up there with the mining crew in the tiny cave, it is never easy to eat, wash or even perform "bathroom" functions, and as you move around on the cliff edge one wrong step can be fatal—there is no surviving a fall. Fortunately for us, our agent summoned enough strength of will and mental focus to work productively in such conditions. There is no question that without his instruction and guidance the miners would have destroyed the great specimen at some time during the extraction process.

Monday, June 24

I woke up early in the morning and immediately started work by instructing Sajad to plunge the diamond saw into the tunnel near the opening in order to widen the working area in the direction of the pocket. It was clear from my initial inspection that the pocket was

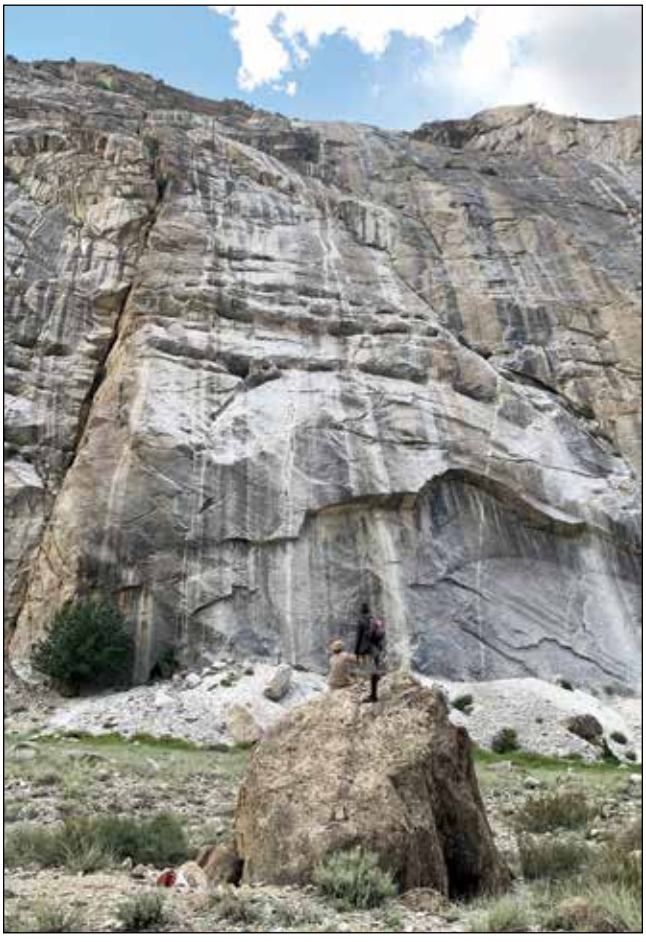

Figure 18. **Miners peering up to the cliffs high in the mountain. Fine Minerals International photo.**

in an extremely difficult orientation for extraction. It was going to take a week or two to carve out enough space to access the piece and achieve a successful recovery. The miners started working with feathers and wedges, drilling holes and then splitting off chunks of rock, but it was a slow and frustrating process. The wedges were only 2 cm in diameter—far too small to work the rock effectively. With only a poor electric drill from China and such small wedges, this process was going to take the miners months, not weeks. I told them to call Ali and ask him to find wedges of 3 or 4 centimeters.

Tuesday, June 25

On the second day I woke up early again and had the miners drill a spread of holes, then start splitting the rock with their tiny wedges. But there was no way it was going to work with these tools. So we decided to descend the mountain to hunt down larger drill bits and wedge sets. We got down to the Shigar Valley in the afternoon, and stopped to watch some rounds of a polo match—the first time I had ever seen the game played in person (it's an incredible sport). As we were leaving town we passed a quarry with the typical long bore holes, and I figured that they must have used wedges to split the boulders. We stopped and asked about getting some tools from them, which they did have, but they refused to sell them to us even when we offered to pay them a generous price. In the end, with the help of Haji-Ali, we were allowed to buy just five wedges, but I knew the miners could make them work. We now had the tools for the job!

Wednesday, June 26

We left Skardu in the morning, after gathering some other supplies needed in the mine, and drove up to the beautiful Shigar Valley: what a beautiful day! A quick stop at the Dassu camp for lunch, and then we arrived at the Nyet-Bruk wall. We made the climb by 4 p.m., in time to make a good push with the new wedges that finally worked! The miners were conscientiously following instructions for a safe extraction.

Thursday, June 27

The miners drilled two sets of holes and, using the larger wedges, carved out an arched space to access the crystals. In the evening they began again, driving straight toward the crystal pocket.

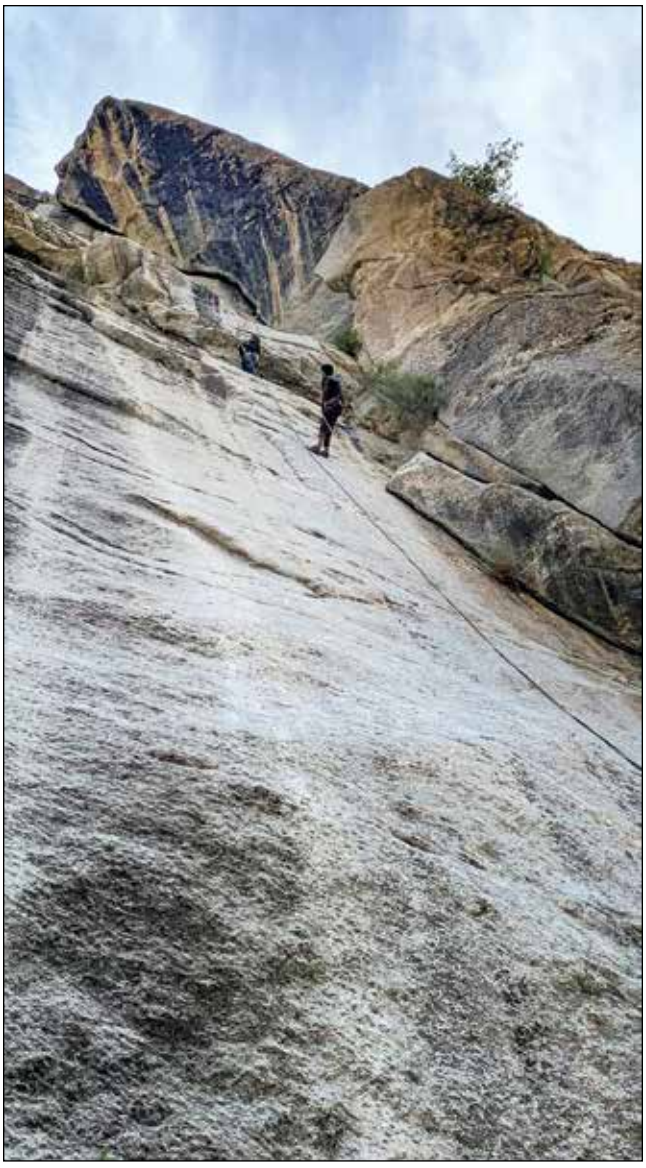

Figure 19. **Miners making the ascent, possible only with ropes and a harness. Fine Minerals International photo.**

Figure 20. **The first photo looking into the pocket. Fine Minerals International photo.**

Figure 21. **The "King of Kashmir" specimen *in situ*, suspended from the ceiling of the pocket. Fine Minerals International photo.**

Figure 22. **A view looking up at some of the crystals in the pocket. Fine Minerals International photo.**

Friday, June 28

This morning the miners worked to lower the floor for better access, and one of them, while using the electric drill, got a slap in the jaw that burst his lip, almost broke his teeth, and made his whole cheek swell up. But by late afternoon they had started sawing out the first important portion of the specimen, the large outermost section with missing crystals. Of course we hoped to find those crystals amidst the rubble on the pocket floor. After four hours of hard and tiring work in an awkward position, the specimen finally came loose exactly as we wanted. I estimate it weighed somewhere between 50 and 70 kg.

Saturday, June 29

Today the miners worked very hard making difficult cuts. One cut on the right side widened the opening to allow access from below; then two cuts were made in the floor to create needed space for the final removal. Despite the effectiveness of the saw and the wedges, the small confines made progress very slow.

Sunday, June 30

The youngest and eldest of the three brothers who own the mine arrived back at the site after spending the night at home in the village. They watched the miners work with the wedges inside the

Figure 23. **Miners relaxing in the "Headquarters" tunnel. Fine Minerals International photo.**

Figure 24. **Studying the pocket to plan for widening and creating access. Fine Minerals International photo.**

pocket. While widening the working area the crew encountered another pocket on the left wall that could be opened up. It contained various detached black tourmalines. A window was cut open and we could see that the pocket continued generously for almost two meters. There was not much space, but we could see large and beautiful smoky quartz crystals and white feldspar—unfortunately, however, no aquamarines. After we extracted some loose floating quartz pieces, the owners instructed that we close up the new pocket for now, because this offshoot was not included in the agreement they had made with Daniel.

Monday, July 1

All night it poured down rain and soaked some of the things we had left outside the portal. It continued like this until 8 in the morning when the sun came out and we left. We had to blast the drill holes that were done yesterday evening. Then, just as it had the other day, the drill bit jammed and the drill lurched violently, striking one of the miners so hard in the jaw that he almost passed out from the pain. This time it not only broke his lip but it also cracked one of his front teeth. He cursed for five minutes straight and then regained his composure and carried on the work. In the afternoon the miners drilled another spread of holes to better enlarge the area, and then gave a nice wash to the dusty pocket to keep the target well defined. Yesterday the diamond saw broke down when the metal pin that acts as a register to the chain snapped, so we immediately called Ali, who sent his son straight to Peshawar to retrieve a spare saw. By 2 p.m. he was back and we had it up at the mine, ready to begin a new series of cuts in the morning.

Tuesday, July 2

The miners started by cleaning the crystallized roof of the pocket. After stabilizing the piece with cyanoacrylate glue as a safety precaution, we traced its outline in order to design the cuts. Now more than ever, mistakes had to be avoided! The miners protected

Figure 25. **Drilling to cut away the surrounding rock and make a path to the pocket. Feathers and wedges are then hammered into the holes to gently crack the rock. Fine Minerals International photo.**

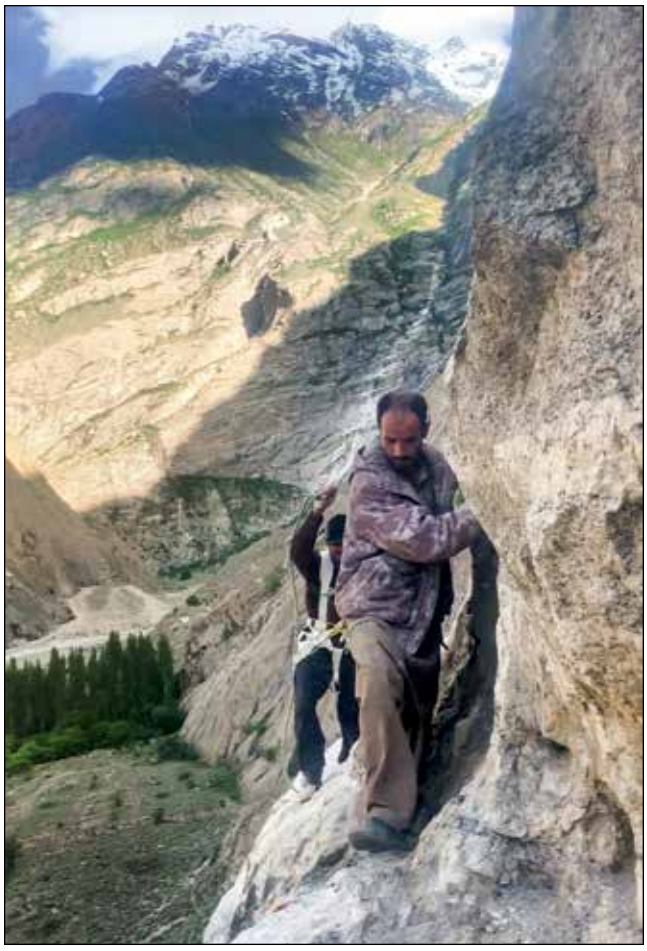

Figure 26. **A typical "walkway" alongside the mountain face leading to the mine portal. Fine Minerals International photo.**

Figure 27. **Feathers and wedges being used to break hard rock. Fine Minerals International photo.**

all of the at-risk crystals by bandaging them with more nylon tape and foam; then they started to cut with the new saw, using the old chain, which was still good. Yawr, a young, ambitious miner with good instincts, did a fine job of cutting.

Seven cuts were to be made, and they seemed to take an eternity—over eight exhausting, uninterrupted hours of sawing, with only an hour break for lunch. When the men finally finished at 5 p.m. I could see that they were suffering and needed a break. Some miners had been out in the main tunnel, and when we finally joined them after our long and grueling work with the saw, we found them completely relaxed and eating watermelon!

Sajad, the oldest miner, decided to go down to the valley with the chief, Haji-Wali, for some reason. Haji-Wali usually comes up to the mine every day just to have a look, then spends the whole

Figure 28. **Crystals *in situ*; the color is somewhat dulled by dirty coatings and traces of iron oxides that will later be removed in the preparation lab. Fine Minerals International photo.**

day on a cot inside the cave before heading back down. With only two miners remaining, Yawr and Sajad's nephew, I learned that only they would be working that night, so I had the opportunity to really guide them step by step and explain what they needed to do in order to save this treasure from what was otherwise certain destruction. They pushed themselves and drilled 15 holes we had marked off.

To clarify for the reader, there are several cliff ledges, and at only one of these is the portal of the tunnel which leads to the pocket, more than 30 meters straight into the mountain. So daily routines include climbing and traversing from cliff ledge to cliff ledge, mainly between the ledge containing the pocket and the ledge where the men sleep and eat, which they aptly call "headquarters."

Wednesday, July 3

Ali woke us up this morning around 7 a.m. He was waiting at the base of the wall with the diamond saw that we had given him to repair by having a replacement part made on a lathe down in Skardu. He sent the saw up to the mine with the cable wire, they tried it out, and it was perfect. Today was also a beautiful day, clear and sunny. Ali left us with a supply of water and fruit, and then the

Figure 29. **Taking measurements to design an outline for the saw cuts. Fine Minerals International photo.**

Figure 30. **The slow and tedious work of expanding the tunnel. Fine Minerals International photo.**

Figure 31. **Crystals "bandaged" to protect them during use of the diamond chainsaw. Fine Minerals International photo.**

miners started blasting the drill holes prepared the previous night. By lunchtime another 20 to 25 drill holes had been completed. After further work to make more room both below and alongside of the specimen, it was already evening. After a long phone call with Marco Amabili we decided to postpone drilling the last holes until morning.

Since we had paused work for the evening, the miners took the opportunity to poke their noses into the newly found smoky quartz pocket that branched off from ours, carefully protected and plugged by the owners with a rag in the window hole. Now that there was enough space to enter fairly easily and lie down, we could see that, in addition to the beautiful quartz and large orthoclase crystals, there was also a single beautiful aquamarine crystal that embraced a smoky quartz, just behind the enclosing rock that had been blocking the view before. The miners considered taking the crystal out immediately, but decided that it was better to wait and keep the side pocket sealed off until the main job had been completed.

The cable-trolley system at the mine, a lifeline to the men working on the cliff, is worth mentioning here. Small supplies, a charged cell phone, or even first aid materials could quickly be vaulted straight up the cliff face to the ledge by using this system. Every time someone wanted to make a phone call or get fresh fruit or water, those below would tie a basket to the cable and it would be hoisted up to where the exhausted miners eagerly awaited it. Without this cable system it would have been nearly impossible to take on the saws, compressor, generator, and all the hundreds of kilograms of supplies necessary to make an operation like this a success.

Thursday, July 4

Today was the big day! The miners had to make the cut from inside the pocket—the most challenging task of all. While talking to Amabili we all decided to take out the main specimen in two pieces instead of trying to remove the whole thing as one piece, risking some sort of catastrophe. The piece was simply too big,

Figure 32. **Hoisting the generator up to the mine using the "cable system." Fine Minerals International photo.**

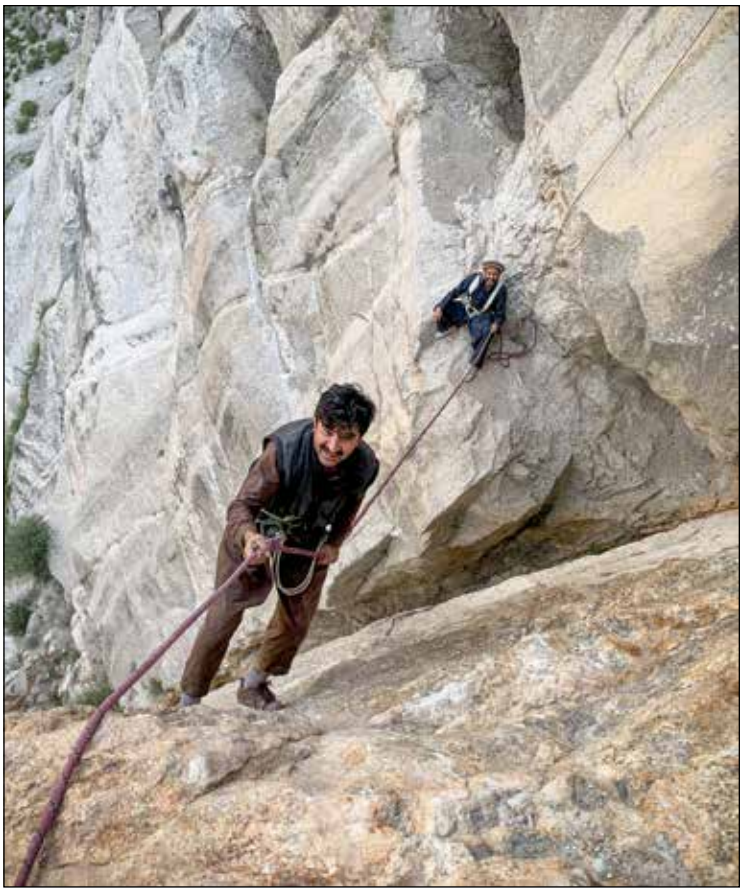

Figure 33. **The typical daily traverse between the cliff ledges. Fine Minerals International photo.**

too heavy and too unbalanced. So they removed the tail end of the specimen (with two aquamarines on it) from the pocket, allowing room to make the main cut more easily. I instructed them to start by drilling a round of holes to create even more working space.

By 8 a.m. only one miner was still working: Shahid was operating the drill while Yawr, who had developed a headache, rested temporarily on a cot. As Shahid was drilling the last holes the other miners wandered off, so by lunchtime Yawr and Shahid were pretty angry, demanding that I call Amabili to have other miners sent up to help, as the two of them could not do the job alone. This finally shook the others up a bit, and after lunch they all came down to pitch in. They didn't want Yawr or Shahid to even so much as beat a hammer; they wanted to do everything themselves, because they saw how angry the other two were.

Then they started the cut from inside the pocket: it was a real feat. They couldn't go straight in with the saw, so they had to hold it sideways while lying upside down with all the water and mud pouring down in their faces. They needed to make the cut precisely, with the tip of the blade cutting between two aquamarine crystals that were less than 2 cm apart. If the position or the angle of the saw was a single centimeter off, it would be a disaster. In the end, after three hours of unthinkable work, supported by the whole team, they managed to finish the critical cut in an absolutely perfect way. But by then they were so exhausted as to be almost debilitated.

Friday, July 5—The Final Cut

At dawn, Haji-Wali (the oldest owner, the one who lives just below, at the base of the wall) was already up with us. By 6 a.m. we were already at work in the tunnel, drilling holes that I had marked out the day before. I widened the area with the wedges so that the saw could be inserted well into what would be the last two cuts, the lateral one on the right side and the most important cut of all—the one above, which would detach the piece completely. Calculating these cuts was difficult, taking into consideration the thickness of the blade and the angle of inclination such that the cuts would meet in the middle behind the specimen and not leave it hanging by a stem. An even worse danger was that the specimen might come crashing down in two or three parts instead of as one solid piece. This is why we spent a lot of time taking measurements before starting these final cuts.

After successfully making the cut on the right side, the miners built a bed of foam panels of various densities and thicknesses, piled almost a meter thick and positioned directly below the specimen. This was to ensure the protection of the crystals at the crucial moment when the piece would be cut free and drop from the ceiling.

Yawr began the final cut, but when he had finished the specimen failed to drop! We looked all around it but found no cracks or splits. We then checked the calculations and verified that they were correct. Tapping it lightly with a hammer, we listened to the sound of the rock and sensed that it was probably just a hair away from breaking loose. And so, following my suggestion, the miners inserted three small 2-cm wedges into the upper cut. Then, with alternating (very delicate) taps, the big rock finally popped loose and fell, landing its nearly 200-kg weight onto the soft foam bed,

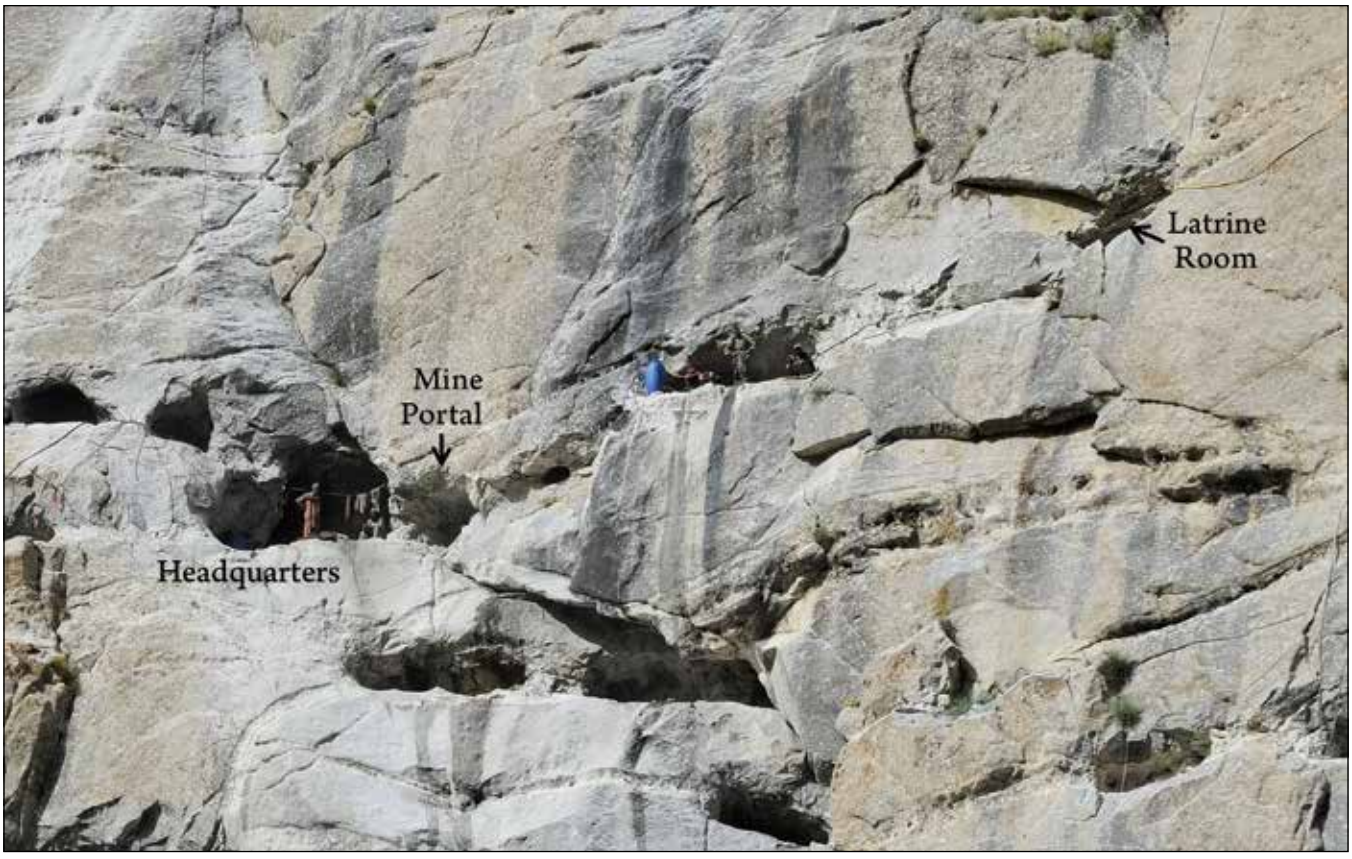

Figure 34. **Locations of the "Headquarters" tunnel, the mine portal, and the cliff ledge leading to the latrine area. Note the cable strung as a hand-hold leading to the latrine. Fine Minerals International photo.**

to the roar of joyful exclamations from everyone—including the mine owners, who were watching carefully in great anticipation.

The work had succeeded in the best possible way! Everyone helped to turn the big matrix over so that the crystals were pointing upwards, and everyone was still shouting with joy, seeing the magnificent specimen now free from its perch and completely intact without a single crystal damaged.

The miners then needed no further instruction: they said they knew how to take it out, and so they did. They laid it on a thick, sturdy blanket, grabbed the corner flaps, and dragged the piece up the tunnel and outside onto the ledge just in front of the generator. There were exclamations of joy and excitement, and despite our pleas not to take photographs, everyone did so anyway, LOL!

At this point we stopped to regroup because there was still one last fantastic piece still to be extracted. Yawr and the middle brother among the owners followed me down into the tunnel, and, on the wings of the huge success we had just had, they began cutting out the last piece. After less than two hours of effort to make two small saw cuts, this last effort ended perfectly too, freeing a large quartz and white orthoclase crystal cluster with two beautiful aquamarine crystals of excellent quality standing out brightly.

At this point, we took all of the recovered specimens, including the first one taken out days before, and arranged them nicely on the ledge for some photos to complete my report. Once these had been taken, we moved all of the pieces into a corner inside the shelter room, well protected and covered by soft large towels.

By about 4:30 p.m. everything had been settled up at the mine and I could go down the mountain to the village to shower, rest,

Figure 35. **Making a saw cut in a very awkward and difficult position while being showered with dust and mud. Fine Minerals International photo.**

Figure 36. **Making one of the final cuts to releasing the King specimen from the pocket ceiling. Fine Minerals International photo.**

Figure 37. **Layers of foam inserted into the pocket for the aquamarine cluster to fall on when it is cut loose from the ceiling. Blue marker shows where the cuts will go. Fine Minerals International photo.**

Figure 38. **Dragging the King of Kashmir specimen up the tunnel after cutting it loose. Fine Minerals International photo.**

and have a lovely dinner. I wrote to Daniel and Marco Amabili and let them know that the piece was free and safe.

Saturday, July 6

On Saturday we all took a much-needed rest. We decided to stay in the village and prepare the items that we would need to bring the specimens down the cliff face from the ledge. On the one hand it was comforting to know that the pieces had been safely extracted and were resting in the cave, but on the other hand there were still dangers ahead. The specimens had to be transported down 300 meters of sheer cliff face.

Sunday, July 7

We started early and immediately climbed the wall, together with all of the owners. When we reached the ledge, three miners were already waiting there for us. By 7 a.m. we were carefully packing the largest piece, using the foam panels that had been bought in from Skardu. Then we wrapped the bundle in a large padded blanket and built a dense web-like network around it with the climbing ropes in order to completely secure and encase it.

In the meantime, we planted another anchor at the top to further reinforce the attachment of the cable line. If the cable or anchor snapped we would all be destroyed, and the piece would tumble

Figure 39. **The extraction crew posing proudly with the King of Kashmir specimen and its associated pieces. Fine Minerals International photo.**

Figure 40. **The King of Kashmir specimen being wrapped in foam and blankets for its descent down the cliff face. Fine Minerals International photo.**

to the earth below and shatter into bits. We secured all the ropes around the main specimen and to the men who would help guide it safely down the wall to the ground.

Attaching the specimen bundle to the cable was a challenging task in itself. It took great care for four men in harnesses to move up and sideways to attach a hook from the ropes to the steel cable. For the occasion we obtained much-needed help from two miners from another team who had come up to work their own tunnel in the pegmatite a few hundred meters away. From the top, those two miners guided the ropes to help protect the specimen. Finally, once the bundle was hooked to the cable, it slowly descended without any problems. After a nerve-racking but successful journey downwards, the piece reached the ground safely, and everyone cheered! Then we all went down the wall and reunited with Ali and Haji-Ali.

I went back to Skardu in the jeep belonging to Shahid, Haji-Wali's son, together with his family. Meanwhile the specimens were loaded into Haji-Ali's car, and the drive to his home began. We all arrived in the city early in the afternoon and found ourselves at Haji-Ali's house, where the specimens were unloaded and where we recorded the last videos for our documentation. With that work done, we all celebrated and enjoyed the blessed fruits of our long, hard, almost unbelievable mission, and we thanked the gods (especially Allah) for allowing us this good fortune.

Monday, July 8

In the morning I took a flight back to Islamabad, where Ali's sons and his younger brother welcomed me into their home. We had another celebratory dinner together in a restaurant on the hill with a beautiful view overlooking the city. Later that night one son accompanied me to the airport, where I caught my flight back to Italy. I was exhausted, elated, and partially in shock—the mission was over and the prize was incredible. It was rewarding to know that my instruction and guidance had led to the preservation of one of the greatest mineral specimens of all time, which would not have survived without my tutelage. What felt most rewarding was having been able to share my knowledge with the local people so that possibly they could apply it to other discoveries in the future. I hoped that this experience of theirs would result in a shift in the dynamic of specimen preservation. And despite the challenges, I felt a kind of crazy longing to go back to the mine on the ledge and do it all over again, while also looking forward to getting home to my wife and family. My thoughts settled on home, and I fell into a deep sleep on my flight.

SAFE AT HOME

Once the specimen arrived at Haji-Ali's house, our phones began to explode with images so incredible that they were hard to believe. Most people, when they first see a photo of the specimen next to any indicator of scale, immediately assume it is some sort

Figure 41 (above). **Anchoring the cable near the mine portal.**
Figure 42 (right). **Guiding the specimen slowly down the cliff.**
Figure 43 (below). **Lowering the King of Kashmir specimen on the steel cable. Fine Minerals International photos.**

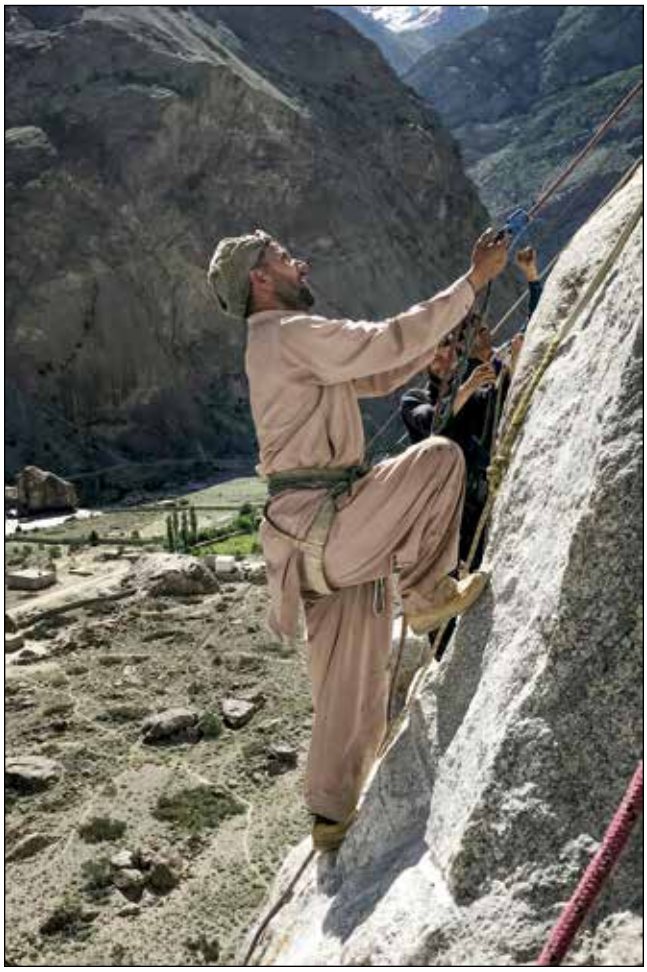

Figure 44. **Bazali, father of one of the mining partners, watching over the King of Kashmir specimen (this is the photo that went viral). Fine Minerals International photo.**

Figure 45. **Trimming the main part of the specimen at the MCP preparation lab in Milan, Italy. Fine Minerals International photo.**

Figure 46. **Detailed cleaning of the specimen by a technician in the MCP lab. Fine Minerals International photo.**

of Photoshop hoax. Even though we had all known the specimen's great size for weeks already, it still seemed impossible. What followed next, though, is my personal favorite part of the entire story.

Now that the piece was safe in Haji-Ali's house, they unwrapped all of the crystals that had been collected nearly two months before and started checking for fits to the giant. What arrived next in a Whatsapp video made me go into fits of excitement! On the left-hand side of the piece there were several large sockets for missing aquamarine crystals, coated with a micro recrystallization on their surfaces, so it was clear that the crystals had become dislodged by natural tectonic forces, most likely millions of years ago. Ali and Haji-Ali found fits for the very best crystals of the entire pocket: they locked right back onto the piece. Through video I watched in pure joy and wonderment as Ali placed the crystals back where they once stood; it was a surreal moment. It was amazing enough just to have recovered the main piece intact; now we found that the largest and best of the loose crystals each fit back and completed the left-hand side, balancing the specimen perfectly. I must have watched the video over a hundred times in the course of the next few days. The excitement and the words of Ali narrating the video are burned into my memory. I can still hear him saying, "and this one [is] also perfectly fitting."

This whole experience proved that a proper extraction of an aquamarine pocket could be carried out with flawless perfection. The fact that the pocket was also the greatest discovery of aquamarine in history was pure luck. It was truly as if all the cosmos aligned to allow for something incredible to happen—how the nearly impossible circumstances all fell into line as they did. This is not the only mine in the range; there are literally hundreds of mines in the region, maybe thousands of individual tunnels, and every year small groups of men ascend the dangerous cliffs in hopes of finding

something great. Sadly, very few are rewarded with even poor-quality pockets, and the majority go home empty-handed at the end of the season. But as fate would have it, this group of miners had made a discovery so extraordinary that it is unlikely ever to be repeated.

THE MCP PREP LAB

After the excitement had cooled a bit, the pieces were carefully packed in giant metal containers and shipped to the Fine Minerals International headquarters in New Jersey. Two weeks later the shipment finally arrived. I will never forget the first moment when I opened the container, removed the packing, and saw the magnificence inside. I was literally speechless, and those that know me know that this is highly unusual. The reactions of the few people who have seen this piece in person are varied; some stay quiet as they begin to process what they are seeing, while others go into uncontrollable outbursts of shock, laughter and random profane exclamations.

The specimen was sent to the MCP Company ("Mineralogical Collection Professionals," headed by Federico Pezzotta—a PhD in isotopic geochemistry, and the Curator of Mineralogy at the Natural History Museum of Milan). MCP is a mineral specimen-cleaning and preparation lab, one of only a handful of such labs in the world. With over 40 years of combined experience, the staff members have the skills and techniques necessary to clean and reassemble specimens properly, to achieve their full aesthetic potentials. Thus began the months-long process of cleaning, trimming and reassembling components to bring this great piece back to the pristine state it had reached many millions of years ago.

Pezzotta commented as follows:

> Before the specimen now known as the "King of Kashmir" arrived at the MCP lab, it had already gained a reputation among the select few entrusted with the task of handling and preparing it. News had come in the form of frenzied calls with exclamations of excitement and fervor relaying the incredible story: a massive and impeccably formed aquamarine cluster made up of dozens of gem-quality crystals had been found. It had been suspended from the ceiling of its pocket,

Figure 47. **Marco Amabili and the King of Kashmir specimen. Fine Minerals International photo.**

Figure 48. **Aquamarines on feldspar, 16 cm, the last treasure extracted from the Kashmir King pocket. Private collection; James Elliott photo.**

Figure 49. **Aquamarine with quartz, 12.5 cm, from the Kashmir King pocket. Fine Minerals International Specimen; James Elliott photo.**

concealed deep behind the steep rock face of a mountain in Pakistan. It was expected to be the most important aquamarine ever found—potentially the most significant find of our age. Undoubtedly it was slated to become a mineral masterpiece. Proper preparation of the incredibly large and fine cluster would require the highest level of expertise and finesse. MCP was both excited and honored for the opportunity to work on what was surely destined to be a historic specimen.

Although this was not MCP's first time working with Pakistani aquamarines, a unique challenge was presented to them by the King of Kashmir. Precious specimens were brought in daily, but preparing this one would require an unprecedented level of skill. Before its arrival an area was sectioned off to create a concealed room within the lab, for complete privacy. In order to ensure secrecy, only three individuals were authorized to work on the piece. When it finally arrived, even though in pieces, its impact was instantaneous. Of course, cleaning and repairs were needed, but there had been no exaggeration; the few photographs that had gone viral (see the What's New in Minerals column in the previous issue) were nowhere near giving the sense of the real thing.

Evaluations began immediately. Because the giant matrix was sprouting big crystals from every angle, maneuvering around them would prove difficult, but the crystal repairs themselves, at least, posed no unusual challenges. The loose crystals collected from the pocket floor were easily reunited with the open sockets where they had been attached. Many people were curious to know the details about the condition of the piece upon its arrival and about what specific steps would be necessary to restore it to its full, original glory. Dr. Pezzotta states:

> The condition in which the large matrix specimen of aquamarine arrived at the lab was indeed very good. The matrix was showing, all around and below, [and there were] signs of the cuts left by the use of the diamond chainsaw, but it was perfectly solid, with no cracks or damages. It was fresh, and naturally relatively clean. Arriving along with the main piece of the specimen were several boxes containing loose aquamarine crystals that were already known to fit on their bases on the matrix. A number of additional loose aquamarine, quartz, feldspar, and minor black schorl crystals and crystal fragments were included as well, representing everything that was found inside the cavity. In order to be sure that nothing was missing, MCP also received from the mine several bags containing a mixture of dust, sand and small fragments gathered from the bottom of the pocket.

While the necessary steps became clear, executing them would take finesse and ingenuity:

> The first challenge was to determine how to handle such a large, heavy and delicate specimen while maintaining full security. To accomplish this, the piece was placed on a robust wooden trolley where it could easily be raised and lowered in order to adjust the work position.

After accessibility and mobility had been addressed, the preparation processes could be begun:

> After proper inspection and study, the piece was plunged into a gentle chemical bath for several days to completely remove all traces of staining until it was fresh and clean. The same treatment was applied to all the associated loose crystals and crystal fragments. After everything was properly cleaned and dried, all the loose crystals and crystal fragments, even the fine-grained material contained in bags, were spread out in flats and the work of fitting together all of the possible missing parts began. This is, in general, the most exciting kind of work in a lab, and in the case of a piece of this magnitude, it is even more exciting!

The sockets in the matrix were easy to match up with the correctly fitting aquamarine crystals. Like a puzzle coming together, the crystals began to satisfyingly "click" into place.

> The piece was in excellent condition; it had only a handful of missing crystals that had been dislodged naturally, and other than that it was perfect. It had been expertly extracted and all the possible parts of the pocket were collected and preserved. Indeed, as we expected, all of the missing parts, including even the smallest ones, were found among the materials recovered from the pocket, and the reassembled piece could be completed in every detail. As each crystal was restored to its original position the specimen became ever more unbelievable.
>
> The next step was to temporarily assemble all of the loose parts in order to appreciate in full the overall aspect of the piece, and to decide on the best final trimming. It was decided that only minimal touches to the shape would be necessary all around the piece, and a removal of about 10 cm of rock off the bottom would achieve the perfect balance between crystals and matrix. After that operation the weight of the whole specimen had been reduced to just under to 200 kg (440 pounds).
>
> Since the trimming process had exposed some new surfaces of the matrix, a new chemical cleaning was applied. Then a very delicate and careful sand-blasting was applied to parts of the quartz and feldspar crystals which were locally encrusted with very fine-grained, pale green mica aggregates. A similar crust was present covering most of the surfaces of the detached loose crystals of aquamarine. The complete removal of such material from both sides of the broken surfaces allowed a perfect lock-fit of the crystals.
>
> Indeed, after a minor and local saturation with a superfluid

Figure 50. **Daniel Trinchillo and the King of Kashmir specimen after trimming and preparation, the ultimate "Freilich-matrix." James Elliott photo.**

resin (stabilized by the application of ultraviolet light) to fill some small cracks present in a few quartz crystals, all the loose crystals of aquamarine, and a couple of minor schorl crystals, were glued back onto their original positions, using a high-quality, water-clear, epoxy resin. Afterwards a final washing with neutral soap and demineralized water cleaned off every trace of dirt, and the piece was completed.

The fully reassembled specimen is an icy blue metropolis set against a snowy white terrain—obviously the finest aquamarine specimen of all time. All those involved in the conservation of this piece played important roles in the drama of saving a specimen which is sure to go down in history.

TUCSON AND BEYOND

Shortly after preparation of the specimen was completed, it made the next leg in its journey to the great state of Arizona in January of 2020, arriving at the Fine Minerals International gallery on Granada Avenue early in the month. Of course, now completed, and having been trimmed on the back and bottom, cleaned to remove the coatings and grime accumulated over millions of years, and repaired with crystals reunited to their origins, the piece was and is, in a word, STUPENDOUS! What was shocking before is mind-boggling even now—nothing can prepare you for your first in-person encounter with this monster.

After unpacking the specimen we quickly moved it into the studio where our staff photographer, James Elliott, took a series of photos. Not surprisingly, the specimen is photogenic. From there it went to the main gallery room where we took more photos to memorialize the occasion. Sometime back in mid-October, when the first photo went viral on Instagram, I was contacted by a would-be buyer, and negotiations began. It was clear that the buyer was serious; he flew twice to see the piece along its path to Tucson. A deal was struck in the beginning of the year, and the specimen was sold to its new owner. So, after we had enjoyed the piece in the gallery for just a few days it was time to move it to the next stop in its journey, and it rests for now in its new home, out of sight and waiting to make its debut. The new owners are preparing a future exposition with the King of Kashmir as the sole focus. To those of you who will go to see it in person, the only thing I can say is that you should prepare to be blown away! Mother Nature's artistry knows no bounds.

ACKNOWLEDGMENT

My thanks to Dr. Federico Pezzotta for providing notes on the geology of the area and on the MCP preparation process.

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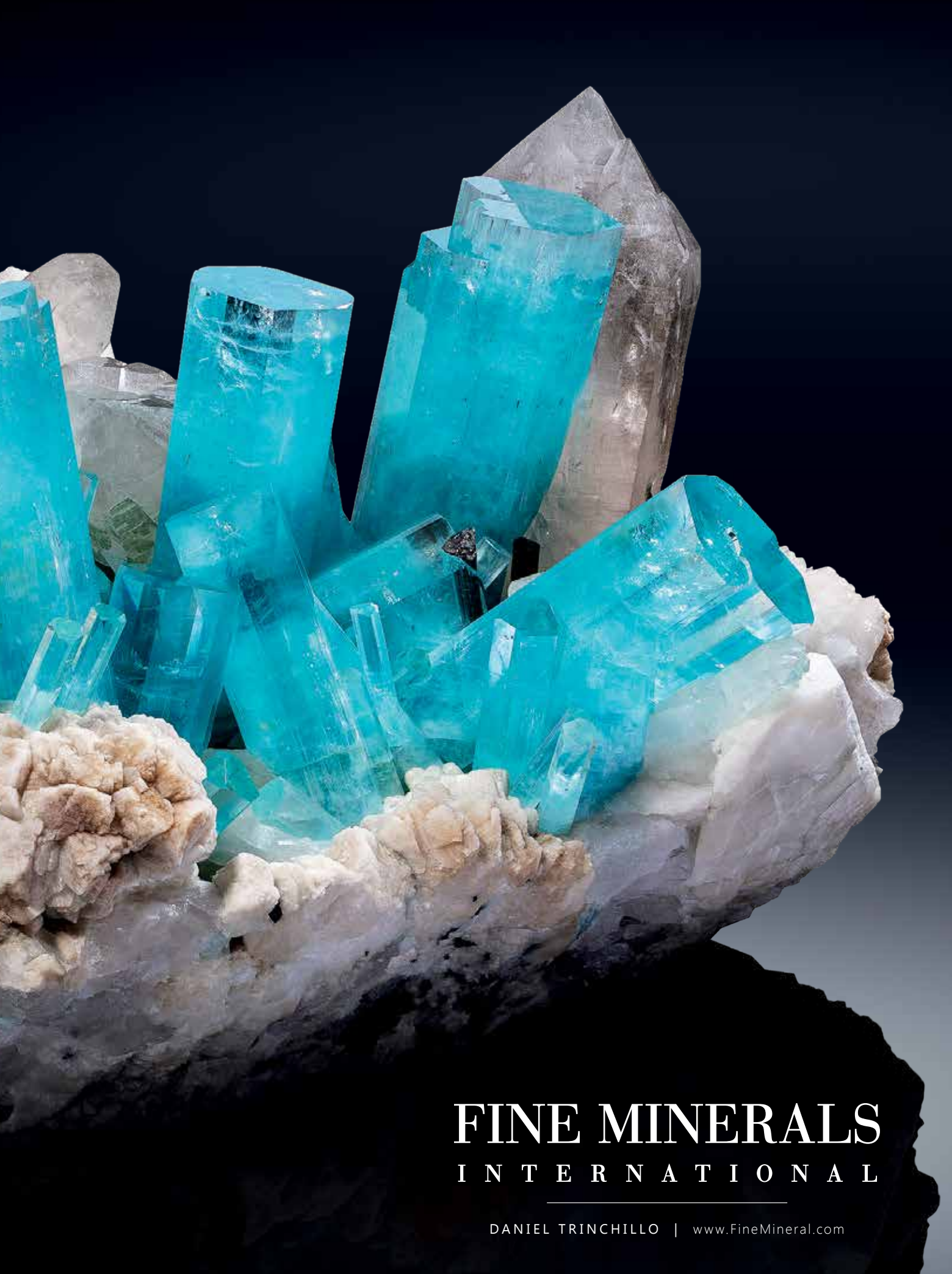

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