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GEM TRADING BEHIND THE CURTAIN

THE LAND OF TURQUOISE

"The customers, mostly well-to-do vacationers with little knowledge of Turquoise, were using a standard principle – a stereotype – to guide their buying: expensive = good"

Robert B. Cialdini

Janna Semenova, 2021, Turquoise Necklace on Rhino sculpture, Multicolour.com

Turquoise is a gemstone that has captivated people's attention and desires for much of humanity. One might imagine it as a plentiful mineral from the vast assortments offered online and at gem and jewelry shows, yet this is hardly the case, and natural untreated gem-quality Turquoise is quite rare.

It is the end product of a chain of chemical and physical processes that could only evolve under specific conditions spanning thousands or millions of years. The finest grades are elusive and have been prized, collected, and worn since prehistory.

The robin's egg color of gemstones colored by copper like Turquoise have always been popular. Who could ignore such fabulous colors? After all, Turquoise is both a mineral name and a descriptive adjective for a color somewhere between green and blue but closer to blue. Whether dark or light or framed within its host rock, Turquoise is not a gemstone that is easily defined.

It is one of the rarest and most fascinating gemstones in existence, and every piece is unique and distinctive. The wide variety of its colors and patterns are certainly part of its allure.

The pastel shades of Turquoise endeared it to many great cultures of antiquity, and its use in jewelry and objects of adornment can be traced back to the first dynasties of ancient Egypt.

Historically, the most well-known pieces are those recovered from the burial treasures of Tutankhamun's tomb. The mask of Tutankhamun is well known and a prominent symbol of ancient Egypt. Although it stands out for its incorporation of Turquoise, the gemstone also adorned rings and sweeping necklaces. It was also set in gold or fashioned into beads or used as inlay and often accompanied with carnelian and lapis lazuli. The Ancient Egyptians admired Turquoise so much that it became one of the first gemstones to be imitated.

An Egyptian Turquoise Faience Figure of a Baboon, associated with Thoth, the god of all intellectual pursuits in the Egyptian pantheon.

18th–20th Dynasty, Cairo, BC 1390–1075
Photo: © Sotheby's

Turquoise was greatly prized in Mesoamerica, although not so highly as jade. The distinction made by the Aztecs between jade and Turquoise is not clear, and some have thought that the Aztec word "chalchihuitl" may have been applied to any stone of blue or green color which was worked for ornamental purposes.

The art of fashioning Turquoise impressed the conquistadors so much that, unlike most gold jewels that were melted down, the Turquoise artifacts were sent back to Europe, where they generated tremendous interest for their color, exotic forms, and refined craftsmanship.

And while Turquoise adorned the palaces, masks, and jewels of the rulers of ancient Egypt, Mesoamerica, Persia, Mesopotamia, and China, it did not become important as an ornamental stone in the West until the 14th century.

Persian Turquoise was probably introduced to Western Europe via the Silk Road, probably via Constantinople (now Istanbul), and thus received its modern-day namesake, "Turquoise," from the French phrase, Pierre torques, or "Turkish stone." However, the moniker inaccurately credits Turkey as the true origin of the stones, which were actually from Khorasan, a Persian province.

HEAVEN & EARTH

Most Turquoise is extracted from open pits located in arid and barren areas. The work is hard and dangerous, pushing the costs to prohibitive levels. The Turquoise-bearing rock occurs as veins that infill seams or as nodules or nuggets. A great deal of picking and sorting is required to separate the fractions of desirable material from hundreds of tons of surrounding rock that contains no usable gems.

When Turquoise is recovered, it is generally embedded or intergrown with its host rock. This matrix material may include pyrite, quartz, monzonite, iron oxides, and other minerals. The dots, lines, and patches of color that comprise this matrix add character and differentiate every piece. Attractive patterns can enhance both the value and aesthetics, but preferences are a matter of taste. Spiderweb, water web, and picture rock refer to some of the more distinctive matrices, but there are more.

Pieces that look like a spider's web or a fisherman's netting are always in demand. Water web matrix refers to vaguely defined patterns created by varying shades of host rock surrounding lighter-colored spheres within the same formation. Picture rock is a matrix that evokes other imagery like a tree, a landscape, or other forms.

Since at least the First Dynasty (3000 BC), Egyptians mined Turquoise on the Sinai Peninsula, which was called the "Mining Country" and "Ladders of Turquoise" by the ancient Egyptians. At the time, there were six mines, all on the South West coast, covering an area of some 250 sq miles. From a historical perspective, the two most significant mines were Serabit el-Khadim and Wadi Maghareh, believed to be among the oldest known mines.

Turquoise mosaic mask on cedro wood with scattered turquoise cabochons, possibly representing Xiuhtecuhtli. The name "Xiuhtecuhtli" also means Turquoise Lord, and this Lord is shown in the codices adorned with Turquoise. One of the emblems of Xiuhtecuhtli is the butterfly, and it has been suggested that there is a stylized image of a "butterfly" on the mask – the wings picked out in more intense blue Turquoise on the two cheeks.

Miztec-Aztec, Mexico, AD 1400–1521
Photo : © The Trustees of the British Museum

Large-scale Turquoise mining is no longer profitable in the area, but the deposits are still sporadically quarried by the local Bedouins. The color of Sinai material is typically greener than that of Iranian material yet thought to be stable and reasonably durable. Often referred to as "Egyptian Turquoise," Sinai material is typically the most translucent. Under magnification, its surface structure may reveal a peppering of blue discs not seen in material from other localities. Recently, beautiful blue stones with an attractive spiderweb pattern have emerged on the market and are being marketed as Egyptian.

Today, Turquoise is still mined in Iran, China, and the American Southwest. It generally occurs at higher elevations, from 3500 to 8000 feet, and in copper-rich environments. As a result, copper and gold mines are often prime sources of large Turquoise deposits.

China has been a minor source of Turquoise for 3,000 years or more. Gem-quality material is found in the fractured, silicified limestones of Yunxian and Zhushan in Hubei province. The Yun Gai Si area in Hubei is the most prolific in terms of production. For thousands of years, the mines supplied and continue to provide Turquoise to the surrounding Mongolian and Tibetan cultures along with the rest of the world. Some pieces are carved like jadeite, but most are processed and exported as finished items such as beads. In Tibet, gem-quality deposits purportedly exist in the mountains of Derge and Nagari-Khorsum, where cabochons of Turquoise, along with coral, are still used extensively in the silver settings.

PERSIAN BLUE

In Persia (modern Iran), Turquoise is known as Feroza and has been the de facto national stone for millennia. It was used to decorate objects from turbans to bridles, to mosques, and other important buildings. The styles and uses were exported to the neighboring Mughal Empire (India), where the Turquoise was also set in gold together with rubies and diamonds. Of the historical structures, the Taj Mahal is the most well-known and Turquoise is inlaid throughout it.

Traditionally, Persian Turquoise has been described as Robin's egg or celestial blue with an earthen matrix. The storied histories from the Iranian plateau and its central location for trade between the Eastern and Western civilizations have made Persian Turquoise famous. As a result, it has gained a reputation as the finest and the best, but qualities vary widely, as is true of all localities.

In Persia, they always valued Turquoise for its uniformity, cutting their cabochons so that host rock or impurities would not be visible. Conversely, American Turquoise is prized for its matrix rather than the purity of its color.

The Turquoise Neyshabur Mine is the oldest active mine in the world. The mine has been working for 7,000 years, and activity continues.

IRNA/Maryam Almomen
Photo: Neyshabur, Northeastern Iran. April 3, 2021

The most famous mines are located in the Khorasan Province in the Bar-I-Maden district, about fifteen miles northwest of Neyshapur and north of Madan, at 4800 to 5900 feet. During the 1800s, a collection of small villages became known as Madan, and it is said that the area's economy almost exclusively evolved around the Turquoise trade.

While the Shah was in power, he would have retained all the best pieces that weren't pocketed first. Since the revolution, the world has had little information about its Turquoise, but mining continues. The Egyptian material from the Sinai Peninsula and the Persian Turquoise are the oldest known, but which came first is unclear.

From the Middle East and throughout Europe and Asia, Persian Turquoise is still recognized for its "Persian Blue" color and still sets a standard in the modern world.

TIFFANY BLUE

Turquoise cameo and diamond demi-parure, mid 19th century. A necklace composed of Turquoise cameos carved with triumphal and Bacchanalian scenes, each within a border of cushion-shaped diamonds in cut-down collet settings.

Photo: Fine Jewels Auction., ©Sothebys

Rumor has it that Charles Lewis Tiffany chose the iconic robin's-egg blue hue known around the world today as Tiffany Blue® because of the popularity of Turquoise in 19th-century jewelry. Turquoise reigned during the Romantic period of the Victorian era. The Victorians, who loved the meanings and symbolism, believed in the ancient gem-lore and adored the gem for its vivid color.

There are numerous Turquoise deposits in the United States, but most are considered to be weekender mines where prospectors might moonlight as miners on holidays and vacations. The most important deposits aren't even Turquoise mines but by-products of open-pit copper mining, where Turquoise only occurs sporadically in veins at specific depths. The mine owners are generally more interested in the more profitable copper ore they already have a market for.

In the America's, the earliest known Turquoise is associated with the South American Cupisnique culture from 1500 to 500 BC along Peru's northern Pacific coast. In the United States, the oldest evidence of Turquoise comes from the Snaketown ruins in southeastern Arizona dated before 300 A.D. Elsewhere at Chaco Canyon in northwestern New Mexico, excavations have uncovered over 100,000 pieces of Turquoise dating from around 900 to 1150 A.D. As there are no known deposits of Turquoise near Chaco Canyon, we can assume that the local Native Americans were nomadic and that Turquoise was an essential trade item for them.

The Cerrillos Mt. Chalchihuitl deposit near Cerrillos, New Mexico, is the largest known prehistoric Turquoise mine in North America. Turquoise and artifacts such as stone axes, mauls, picks, and lapidary stones confirm mining at this location since 1000 A.D. This deposit continued to produce into the 20th century and was the country's largest producer before 1920. Unfortunately, the Cerrillos mine is no longer in production and shut down under lock and key.

The Southwestern United States and northern Mexico are the most significant sources of Turquoise today. However, the most productive deposits occur in Nevada, Arizona, and Colorado and the region remains a magnet for rockhounds and prospectors.

New Mexico was the foremost producer of Turquoise before 1920, but the deposits in Arizona and Nevada became more significant later. Nowadays, little Turquoise comes from New Mexico, although it is the center of Native American Turquoise jewelry manufacturing.

It looks like all the good ones were graded out and ended up in the wheelbarrow. The thin seams of Turquoise in the mother rock show how hard it is to find large stones. The pile on the left isn't as attractive but still maybe ok for treatment.

Arizona is home to the three most famous and prolific Turquoise production areas, the open-pit copper mines of Kingman, Bisbee, and Morenci. Here the Turquoise is a secondary product. Several other mines also exist in the state. Two are famous for their striking colors and are considered the best in the industry; the Sleeping Beauty Mine (actually the Inspiration Copper Mine) in Globe and the Kingman mine in Kingman. Sleeping Beauty stopped being produced in 2012 when the copper mining stopped. Other important mines include the Blue Bird mine, Castle Dome, Ithaca Peak, Bisbee, and Morenci mines. They are mostly inactive due to the high cost of operations and federal regulations. All Bisbee Turquoise was "lunch pail" mined. It came out of the copper ore mine in miners' lunch pails.

The Morenci mine still produces, but mainly on the Mexican side of the border. Although the stones are Mexican in origin, dealers still call it Morenci to benefit from the branding.

The largest single sources for Turquoise ore come from the open-pit copper- or gold-mining industries. These large metal mining conglomerates have the equipment to move millions of tons of rock while excavating their pits. There may be Turquoise deposits throughout the hole, and they come across them in their search for copper and gold. Some of these pits can be a mile wide and up to a quarter-mile in depth. With such a large-scale operation, the Turquoise yield can also be substantial.

Unfortunately, the Turquoise is often viewed as inconsequential in value relative to the metal ores to large-scale miners. It can even be considered detrimental since miners may neglect their actual jobs to pick up Turquoise. There are plenty of stories of entire shifts from equipment operators to supervisors and laborers working together as teams to save large quantities of Turquoise from the crushers (and profiting handsomely from their subsequent sales).

More conventionally, the mining company may sell the open pit's Turquoise rights to an independent "Turquoise company" that collects and separates the Turquoise. When a deposit is unearthed, the Turquoise company either mines the Turquoise-bearing soil or sifts through the tailings where it was moved and discarded.

An open-pit mine can produce several tons of Turquoise in a single year.

Nevada is the country's other major producer, with more than 120 mines that have yielded substantial quantities of Turquoise. Because of the local geology, much of the material produced is hard and dense enough, so treatment or enhancement isn't required. While nearly every county in the state has yielded some Turquoise, the chief producers are in Lander and Esmeralda counties.

Nevada has produced a diversity of colors in various shades of blue, blue-green, and green and mixes. Nevada material is also noted for its often attractive brown or black limonite veining, producing a "spider web matrix." Despite increasing costs, small-scale mining operations continue at several Turquoise properties in Nevada, including the Godber, Orvil Jack, and Carico Lake mines in Lander County and the Pilot Mountain Mine in Mineral County, as well as several properties in the Royston and Candelaria areas of Esmerelda County.

Due to their often very remote locations, protecting a mine from thieves living nearby is complex, and "midnight mining" is rampant. A sign that says "no trespassing" is an invitation for claim jumpers. When miners leave the mine after finding a vein, they may fill in the newly discovered seam or disguise the cut. Some claim jumpers partner up and communicate with scouts down the road or across the valley to ensure the mine owners don't show up unannounced. The legitimate miners may break from mining but won't stray too far from their guns.

From the manufacturing and marketing of Turquoise jewelry, Native American culture has become celebrated worldwide, and their work is well known for its artistry. However, Turquoise has always been a part of the Indigenous culture. The gemstone has become synonymous with the cultures of the Navajo, Hopi, Zuni, and other pueblos located along the Rio Grande Valley.

Yet, the distinctive silver and Turquoise jewelry produced by the Southwestern Native American tribes today is a relatively modern development and is thought to date from around 1880 due to contacts with Mexican silversmiths.

Lower-grade material may be carved into animal figures called fetishes, such as those crafted by the Zuni. Turtle, bear, fish, and bird fetishes are famous. While intense sky blues remain superior in value, mottled green and yellowish materials are also popular with artisans.

Among the tribes, Turquoise was always used for religious and ornamental purposes. The Pueblos and Navajo peoples cherished it for spiritual and ceremonial uses, personal adornment, and as a repository of wealth. It was and continues to be used in many forms of silver jewelry, in sculptural works, and as beads and freeform pendants.

Among New Mexico's Pueblo peoples, the Zuni have a meaningful relationship with Turquoise, where the stone is incorporated into nearly all aspects of life, from the sacred to the economic. Turquoise has been a part of Zuni's religious practices for hundreds of years. In some cases, they considered a string of Turquoise to be worth several horses.

The Zuni's long relationship with Turquoise is unlikely to change soon. People are not turning away from Turquoise. Younger artists who use other stones still use Turquoise.

Gallup, situated along New Mexico's western border at the doorsteps of the sprawling Navajo reservation, has long been considered the commercial source of 80% of the nation's Indian jewelry. The most prized pieces include Pueblo pins, Zuni butterflies and antelope pins, Navajo bracelets with Turquoise inlays, and ornate squash blossom necklaces.

A new generation of Native silversmiths is infusing new dynamics into these traditional jewelry forms building on familiar motifs but transforming them into contemporary interpretations that still retain and reflect their roots. As a result, modern Native silversmithing is alive and producing the heirlooms of the future.

New Mexico is thought of as the source of Turquoise for many people, but nowadays, it's more of a manufacturing hub for jewelry. New Mexico is known as the "Land of Enchantment." for many good reasons. In terms of its climate, people, magnificent landscapes, and cultural diversity, it is unlike the rest of the USA and should not be missed.

LEAVING NO STONE UNTURNED

The purest Turquoise approaches a hardness of 6 on Moh's scale and is slightly harder than glass. Although triclinic in mineralogical terms, it is a cryptocrystalline mineral that usually forms as veins or fracture fillings that may be nodular, botryoidal, or irregular. Its physical properties, such as density and hardness vary because of inconsistencies in chemistry and composition. Its color ranges from white to various shades of blue and blue-green to green.

A common belief shared by many civilizations was that Turquoise possessed certain prophylactic qualities and was thought to change color with the wearer's health.

As a phosphate mineral, Turquoise is inherently fragile and sensitive to solvents. The color changes caused by the absorption of substances such as cosmetics, sweat, or grease can be avoided by infilling the porosity, and this is one reason why some 80% of the world's Turquoise is treated.

Turquoise is treated to enhance both its color and durability and to increase hardness and decrease porosity. As is often the case with other gemstones, full disclosure is not the norm. However, gemologists can detect these treatments using various testing methods. For example, a heated probe applied to an inconspicuous spot will reveal oil, wax, or plastic treatment from the acrid burning smell.

Historically, light waxing and oiling were the first treatments used in ancient times, providing a wetting effect, enhancing color and luster. This treatment is more or less acceptable by tradition. However, oiled and waxed stones are still prone to "sweating" under even gentle heat or exposure to direct sunlight.

To utilize as much rough stone as possible and to meet rising demand and limited output, most is treated or enhanced to a certain degree. These treatments include waxing and oiling and more widespread procedures, such as polymer impregnation, sometimes accompanied by color enhancement.

Material treated with plastic or epoxy resin is termed "stabilized" Turquoise. This process consists of pressure impregnating otherwise unsaleable chalky American material with epoxy or plastics to produce a wetting effect and improve durability. If color is added, the stones are referred to in the trade as "color shot." When no color is added, they are known as "clear shot." These treatments are far more permanent and stable than waxing and oiling but are unacceptable to purists who desire and can afford completely natural stones. However, there are few alternatives for some raw material because it's too soft to shape and polish in its natural state. The supply of hard, high-quality Turquoise is limited, and it is rare and expensive. With that material excluded, most experienced dealers prefer to stabilize the remaining more porous materials because this is what their customers request. Stabilization prevents the color changes caused by the absorption of cosmetics, sweat, or grease that typically arise with everyday wear and helps ensure a wide selection of beautiful yet affordable cut stones.

Perhaps the most extreme of treatments is "reconstitution," wherein fragments of fine Turquoise too small to be used individually are powdered and bonded with resin to form a solid mass. Unfortunately, the material sold as "reconstituted Turquoise" is often artificial, with little or no natural stone, made entirely from resins and dyes. In the trade, reconstituted Turquoise is often called "block Turquoise" or simply "block."

The latest proprietary Turquoise treatment is commonly known in the trade as "enhanced Turquoise, or "Zachery treated." The treatment has been used to enhance millions of carats of Turquoise over the last decade. Standard gemological techniques cannot detect it. The primary treatment involves the dissolution of quartz in an ethanol mix to be impregnated into the Turquoise, resulting in the Turquoise being silicified.

Tests show that this process effectively improves a stone's ability to take a good polish and may or may not improve a stone's color. It also decreases the material's porosity, limiting its tendency to absorb discoloring agents such as skin oils. Examination of numerous samples known to be treated by this process revealed that Zachery-treated Turquoise has gemological properties similar to those of untreated natural Turquoise. The treatment does not involve impregnation with a polymer. Most Zachery-treated Turquoise can be identified only through chemical analysis and most efficiently by EDXRF spectroscopy. It contains significantly more potassium than its untreated counterparts, which will appear in the spectra.

The key advantages of this treatment are that the treated stones take a better polish and are more resistant to "oxidation" or discoloration over time, apparently due to a significant decrease in their porosity.

Scientifically, testing a Turquoise's condition is not difficult, but it can be cost-prohibitive. This is because every stone must be individually tested and analyzed to determine its condition, and the costs may exceed the value of the material.

All other factors being equal, untreated natural Turquoise will always command a considerably higher price than stabilized, and reconstituted material is worth only the cost of its cutting.

According to modern-day Native Americans, only natural Turquoise has the power to protect: "you can tell who's wearing real Turquoise on the golf course during a lightning storm because the only guys who keep playing are the ones with the real Turquoise while the ones with the fakes run inside."

WHAT IS BACKING TURQUOISE, AND WHY DO THEY DO IT?

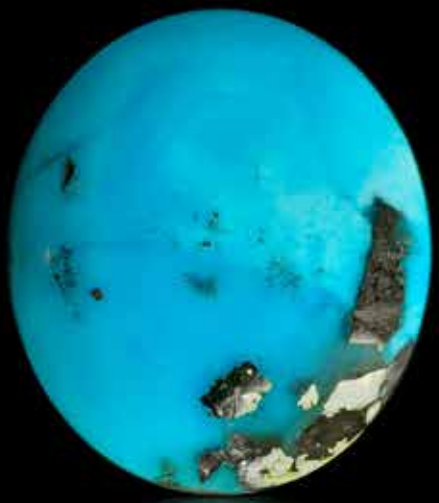
When Turquoise cabs used in the Native American jewelry trade are shaped, they are almost always sawed into thin slices and backed with epoxy. An epoxy backing will add strength and increase both height and thickness. It also provides a flat bottom for convenient use in a bezel setting. Backing Turquoise is generally an American concept that emerged in the 1950s.

Backed stones should be identified as such, but once set in jewelry, they seldom are. It would be wise to assume that anything you see set is backed unless stated otherwise. The practice is so common that it usually goes unremarked.

The backing of Turquoise is uncommon outside the Southwestern United States jewelry trade. It does not diminish the value of high-quality Turquoise and is the only alternative for thin cuts.

THE TURQUOISE OF HEAVEN

Many cultures believe Turquoise was brought to Earth by heavenly beings and that it grants the wearer good luck, health, and wealth.



PERSIAN

MOST CANONICAL

The “Persian Blue” color still sets the standards. Traditionally Persian Turquoise has been described as Robin’s egg or celestial blue with an earthen matrix. Although the Persians always prized the cleanest stones without blemishes or spots, the matrix with a preponderance of pyrite crystals is also beautiful. While the Shah was in power, he took the best of whatever wasn’t pocketed. Since the revolution, the world has had little information about the Turquoise, but mining continues.

ROYSTON

MOST ECLECTIC

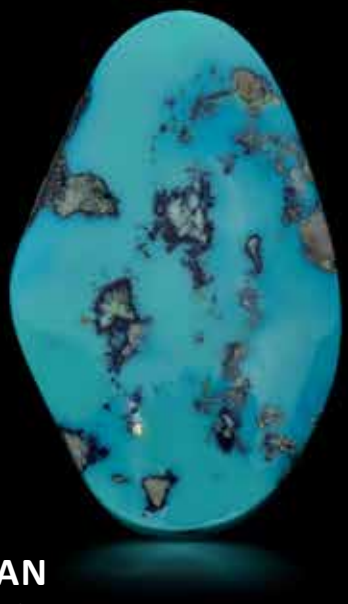
The Royston Hills produce a broad spectrum of color variations, but greenish hues with spiderweb matrix predominate. This Turquoise is known for its beautiful deep green to rich light blue colors. Royston stones are often two-tone, displaying both dark and light green and sometimes blue with a heavy matrix ranging from dark brown to gold in color.

Royston is the oldest patented mine in Nevada (1902). Located on Highway 95, halfway between Reno and Las Vegas, you can visit this mine and look for Turquoise yourself. $100 gets you a bucket you can fill.

SLEEPING BEAUTY

MOST BEAUTIFUL

Located in Globe, Arizona, the Sleeping Beauty mine produced some of the finest Turquoise the world has ever seen. Yet, the Turquoise was only secondary, and the main work was copper mining. The color and quality of the best grades rivaled even the most pleasing robin’s egg shades of the top Persian stones. Sleeping beauty is named after the mountain range where it is located, which from a distance is said to resemble a sleeping woman with her arms crossed. The boom times came in the 1970s and 1980s, but the Turquoise was always secondary to the copper. As the price of copper increased, the owners decided to concentrate on that. The exceptional Turquoise hasn’t been mined since 2012.

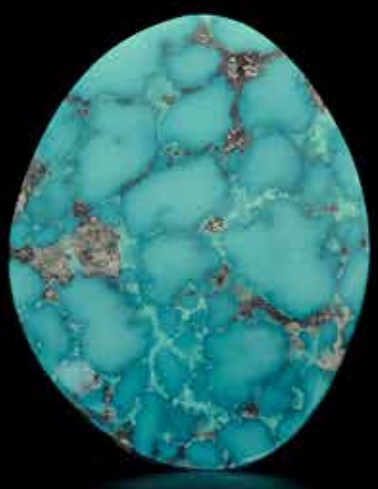


MONGOLIAN

MOST MISREPRESENTED

In the past, Mongolian Turquoise has undoubtedly been sold as Tibetan, Chinese or American in origin. Tibetan and Chinese stones already benefit from name recognition so some sellers of just piggyback on that. In the case of American Turquoise, the Mongolian stones are cheaper and as they can pass as American, they’re sold as such for the same prices. Mongolian material has been falsely marketed as Morenci, Kingman, or spiderweb from various localities in Nevada.

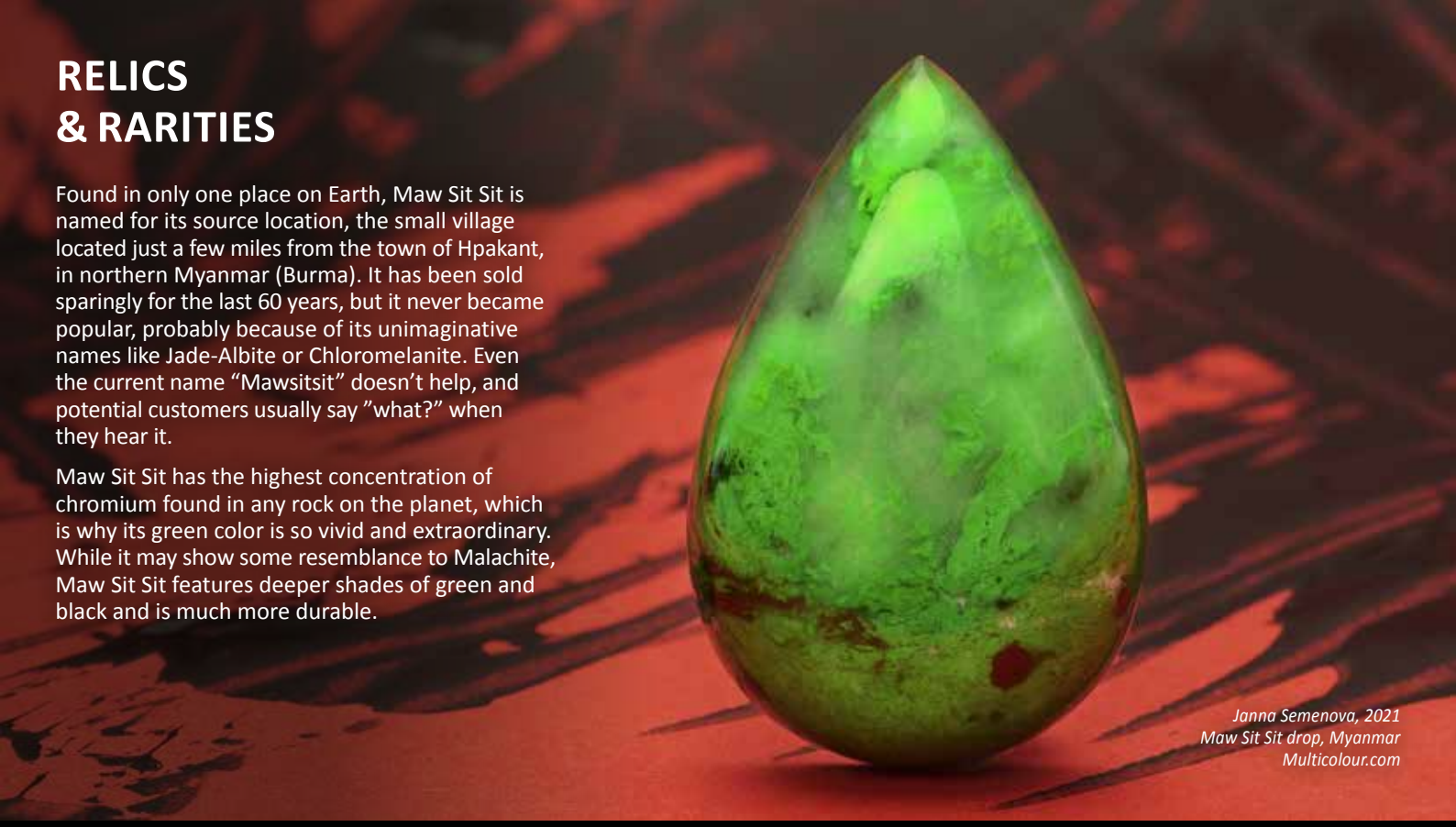
The Oyu Tolgoi copper and gold mine was discovered in 2001 and is developing as an open pit and underground mining project. As mining evolves,more of the outstanding Turquoise is expected to become available. The site is located approximately 550 km south of the Mongolian capital, Ulan-Batar, in the South Gobi Desert. The project is a joint venture between Turquoise Hill (a subsidiary of Rio Tinto) and the Mongolian government.



RELICS & RARITIES

Found in only one place on Earth, Maw Sit Sit is named for its source location, the small village located just a few miles from the town of Hpakant, in northern Myanmar (Burma). It has been sold sparingly for the last 60 years, but it never became popular, probably because of its unimaginative names like Jade-Albite or Chloromelanite. Even the current name “Mawsitsit” doesn’t help, and potential customers usually say ”what?” when they hear it.

Maw Sit Sit has the highest concentration of chromium found in any rock on the planet, which is why its green color is so vivid and extraordinary. While it may show some resemblance to Malachite, Maw Sit Sit features deeper shades of green and black and is much more durable.



Janna Semenova, 2021
Maw Sit Sit drop, Myanmar
Multicolour.com

PROSPECTOR’S CORNER

The striking blue colors of Bisbee Turquoise with its chocolate matrix make it a favorite among collectors. Today, little material is available, and due to its rarity and exceptional beauty, it has become increasingly valuable.

The Bisbee Mine was discovered before 1880. It was one of the world’s most profitable mines. Before operations ceased in 1975, the deposit had produced over 8 billion pounds of copper, 3,000,000 ounces of gold, 77,000,000 ounces of silver, and tons of zinc and lead. A variety of minerals, including malachite, azurite, and Turquoise, were also identified.

Yet mining at Bisbee never included the search for gemstones, and the Turquoise and other gems were discarded in slag piles and prohibited from removal. Instead, the miners recognized the beauty and the value of the nuggets and would sneak small amounts of them out in their lunch boxes or by whatever other means they could muster.

Janna Semenova, 2021
Rough Bisbee Turquoise. 28 x 22.2 x 13.2mm
Multicolour.com

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