

January 2007 Mineral of the Month: Callaghanite

This month's mineral, rare, vivid-blue callaghanite, was discovered only as recently as 1953. Our specimens were collected at the type locality and the classic locality for callaghanite—a Nevada magnesite mine that is the only mine of its kind in the United States.

PHYSICAL PROPERTIES

Chemistry: $\text{Cu}_2\text{Mg}_2(\text{CO}_3)(\text{OH})_6 \cdot 2\text{H}_2\text{O}$ Basic Hydrated Copper Magnesium Carbonate (Basic Copper Magnesium Hydroxycarbonate, Copper Magnesium Hydroxycarbonate Hydrate)
Class: Carbonates
Subclass: Hydrated Carbonates
Group: Callaghanite
Crystal System: Monoclinic
Crystal Habits: Usually as pseudo-octahedral or dipyrnidal prisms, rarely exceeding one millimeter in size, that form in incrustations and vein fillings; also compact and massive.
Color: Azure-blue, sometimes gray-blue and violet-blue.
Luster: Vitreous
Transparency: Transparent to translucent
Streak: White
Cleavage: Perfect in two directions, poor in a third.
Fracture: Uneven, very brittle
Hardness: 3.0-3.5
Specific Gravity: 2.71
Luminescence: None
Refractive Index: 1.65-1.68
Distinctive Features and Tests: Vivid blue color, crystal habit, and mineralogical association with magnesite [magnesium carbonate, MgCO_3] and brucite [magnesium hydroxide, $\text{Mg}(\text{OH})_2$].
Dana Classification Number: 16b.5.1.1

NAME

This month's mineral, which is properly pronounced cal-ah-HAN-ite, is named in honor of American mineralogist Dr. Eugene "Pat" Callaghan (1904-1990). European literature sometimes refers to callaghanite as "callaghanit" and "callaghanita."

COMPOSITION

One avid collector expressed the profound thought that, of the more than 4000 different minerals described so far, only about six hundred of them occur in crystals large or distinct enough to be appreciated, while most of the others typically occurred only as little blebs, grains, or stains on a rock, often requiring the collector to glue a paper arrow onto the specimen to point out the occurrence. Most of us are naturally drawn to the larger, more colorful, better crystallized minerals, seeing them for what they are: inanimate, randomly formed, natural works of art.

When we first started our Mineral of the Month Club back in 1996, we instinctively pursued the showier minerals, as they are easier to appreciate and more interesting to more people. At some point during those first few years, we realized that it would not be possible to feature a drop-dead gorgeous mineral every month, and that the rarer, dare we say uglier, minerals are also worthy of having the spotlight shone on them. We tested this theory by featuring small, nondescript crystals of olivenite on matrix in January 1999, and small brown crystals on jarosite on brown matrix in November 2000, hoping the write-up would

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stir up appreciation for these attractiveness-challenged minerals. In the years since, we have normally featured one or two minerals every year from this less-attractive but still fascinating majority.

This month's callaghanite belongs to this group, for even though it is a beautiful shade of blue, it only forms as minute crystals whose faces require magnification to be viewed. Despite this, callaghanite is appreciated not only for its beauty but also for its rarity: found at only a handful of localities around the world, it epitomizes the designation "rare mineral" and has great value in the eyes of those who appreciate it as such.

Of course, every collector who possesses a 10-power jeweler's loupe can appreciate the crystal forms of small crystals, and we want to strongly encourage you to obtain such a loupe. We offer an excellent quality loupe with a larger-than-normal field of vision for just \$19.95. If you order one, once you receive it, you will probably wish you had gotten it years ago!

Now let's look closely at our featured mineral for this month. Callaghanite's chemical formula $\text{Cu}_2\text{Mg}_2(\text{CO}_3)(\text{OH})_6 \cdot 2\text{H}_2\text{O}$ identifies its elemental components as copper (Cu), magnesium (Mg), carbon (C), oxygen (O), and hydrogen (H). The molecular weight of callaghanite consists of 34.00 percent copper, 13.00 percent magnesium, 3.22 percent carbon, 47.08 percent oxygen, and 2.70 percent hydrogen.

Within the callaghanite molecule, the compound cation (a *cation* is a positively charged ion; an *anion* is a negatively charged ion) consists of two copper ions $[2\text{Cu}^{2+}]$ and two magnesium ions $[2\text{Mg}^{2+}]$ with a collective charge of +8. The compound anion consists of two radicals (groups of atoms that acts as an entity in chemical reactions)—one carbonate radical $[(\text{CO}_3)^{2-}]$ and six hydroxyl radicals $[6(\text{OH})^1]$. Thus, the collective -8 anionic charge balances the collective +8 cationic charge.

The " $\cdot 2\text{H}_2\text{O}$ " in callaghanite's chemical formula indicates that it is a hydrous (or hydrated) mineral with two attached water molecules (H_2O) known as "water of hydration." Water of hydration consists of complete, electrically neutral water molecules which do not affect the electrical balance within the parent molecule. Water molecules can "attach" themselves to other molecules because of their unusual atomic configuration, in which two hydrogen ions group together on one side of a large oxygen ion. These grouped hydrogen ions retain a small positive charge, while the opposite side of the molecule, which is dominated by the large oxygen ion, retains a small negative charge. This resulting polarity enables water molecules to act as tiny dipole magnets and to attach themselves to certain other molecules to form hydrous minerals in an attraction called "hydrogen bonding."

Callaghanite is a member of the carbonates, a class of minerals in which one or more metallic elements combine with the carbonate radical $[(\text{CO}_3)^{2-}]$. Of the nearly 100 carbonate minerals, only two are abundant: calcite [calcium carbonate, CaCO_3] and dolomite [calcium magnesium carbonate, $\text{CaMg}(\text{CO}_3)_2$]. The fundamental structural unit of all carbonate minerals is the carbonate radical $(\text{CO}_3)^{2-}$, which consists of a central carbon ion $[\text{C}^{4+}]$ covalently bound to three equidistant oxygen ions $[\text{O}^{2-}]$. Simple carbonate minerals consist of triangular carbonate ions held together by metal ions. But because callaghanite's chemical composition, with its double metal cation, compound anion, and attached water molecules, is considerably more complex, so, too, is its structure.

To visualize the callaghanite lattice structure, picture the basic carbonate triangle with its three oxygen ions. Two of these oxygen ions share electrons with two magnesium ions; the third oxygen ion is attached to two water molecules by hydrogen bonding. These carbonate-magnesium structures form octahedrons. Meanwhile, each copper ion bonds ionically with two hydroxyl ions to form a pyramidal structure. Rows of alternating magnesium-carbonate-based octahedrons and copper-carbonate-based pyramids are linked

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together mainly by covalent bonds to form the callaghanite lattice. Channels between these linked structures accommodate the water of hydration.

Callaghanite crystallizes in the monoclinic system, which is characterized by three axes of unequal lengths, two of which are perpendicular to each other. The monoclinic callaghanite lattice is held together by a combination of directional covalent, omnidirectional ionic, and weak hydrogen bonding. Cumulative bonding strength varies considerably along certain planes to account for callaghanite's complex cleavage, which is perfect in two directions and poor in a third. Callaghanite's atomic packing—the distance between atoms within the molecule—is quite loose and accounts for several other physical properties. Loose atomic packing explains callaghanite's specific gravity of only 2.71, surprisingly low for a mineral containing 34 percent copper, a relatively dense metal. And because the strength of atomic bonding is a function of distance (the shortest bonds are the strongest and vice versa), the loose atomic packing also explains callaghanite's brittleness and relative softness of Mohs 3.0-3.5.

Although most carbonates are usually colorless or lightly colored when pure, callaghanite is an exception. Callaghanite is an idiochromatic (self-colored) mineral, meaning that its color is due to its essential chemical composition and to the inherent nature of its crystal structure, rather than to the trace presence of secondary chromophores (coloring agents). Callaghanite's characteristic and diagnostic deep, vivid blue color is due to copper, an essential element in its composition. Copper can be a powerful pigmenting agent for the colors blue and green. In callaghanite, and in other familiar blue-green copper minerals such as azurite and malachite [both basic copper carbonates with the respective formulas $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$ and $\text{Cu}_2(\text{CO}_3)(\text{OH})_2$], copper is present in the cupric oxidation state [Cu^{2+}]. Cupric copper creates absorption characteristics within the crystal lattice that absorb all wavelengths of the visible spectrum except for narrow bands of blue or green. The reflectance and transmission of a very narrow, blue spectral band produces the vivid blue of callaghanite.

Callaghanite is a metamorphic mineral that forms in high-temperature contact zones of magnesium-rich skarns (see "About Our Specimens"). It is generally associated with magnesite [magnesium carbonate, MgCO_3], brucite [magnesium hydroxide, $\text{Mg}(\text{OH})_2$], and dolomite [calcium magnesium carbonate, $\text{CaMg}(\text{CO}_3)_2$].

In the Dana mineral-classification system, the number 16b.5.1.1 first identifies callaghanite as a carbonate with hydroxyl or halogen cations (16b). The subclassification (5) next defines it as a carbonate with hydroxyl or halogen cations with miscellaneous formulae. Finally, callaghanite is a member of the callaghanite group (1), of which it is the first (1) of three members. The other members of this group which, like callaghanite, are all rare, include urancalcarite [basic hydrous calcium uranyl carbonate, $\text{Ca}(\text{UO}_2)_3(\text{CO}_3)(\text{OH})_6 \cdot 3\text{H}_2\text{O}$], and montroyalite [basic hydrous strontium aluminum fluorocarbonate, $\text{Sr}_4\text{Al}_8(\text{CO}_3)_3(\text{OH},\text{F})_{26} \cdot 10\text{-}11\text{H}_2\text{O}$].

COLLECTING LOCALITIES

Callaghanite is a rare mineral with a very limited distribution and thus few collecting localities. Our specimens come from callaghanite's type and classic locality—the Premier Chemicals magnesite-brucite mine in the Gabbs Mining District near Gabbs in Nye County, Nevada. The only other locality in the United States where callaghanite has been found is the now-closed Eagle-Picher lead mine near Creta in Jackson County, Oklahoma.

Micromount specimens of callaghanite have been collected only at two other localities: Lobminggraben near Loeben in Styria, Austria; and the Mt. Ramazzo Mine at Borzoli in Genova Province, Liguria, Italy.

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JEWELRY & DECORATIVE USES

Because of its rarity, brittleness, and small crystal size, callaghanite has no jewelry uses. Mineral collectors value callaghanite for its vivid blue color, interesting crystal habit, and great rarity.

HISTORY & LORE

Callaghanite was discovered in 1953 at what was then the Basic Refractories, Inc. (later Premier Chemicals LLC) magnesite-brucite mine in the Gabbs Mining District near Gabbs in Nye County, Nevada, a site which is now the mineral's type locality. Mineralogists Carl W. Beck and John H. Burris determined its composition as a basic hydrous copper aluminum carbonate. After publishing their findings in the July-August 1954 issue of *American Mineralogist*, callaghanite was recognized as a new mineral species. The original callaghanite specimens actually studied by Beck and Burris are now preserved at the National Museum of Natural History (Smithsonian Institution) in Washington, D.C. Beck and Burris named the new mineral in honor of the mineralogist Dr. Eugene "Pat" Callaghan (1904-1990). Callaghan, who worked with the United States Geological Survey and later directed the New Mexico Bureau of Mines and Minerals, was the first to describe the genesis and occurrence of magnesite deposits, with which callaghanite is often associated. Mineralogist George Brunton determined the atomic structure of callaghanite in 1958.

Although it has been known for little more than 50 years, metaphysical practitioners believe that callaghanite enhances the ability to express emotions and formulate judgments, and helps to reduce thoughts of self-righteousness and intolerance.

TECHNOLOGICAL USES

Callaghanite is far too rare to serve as an ore of copper or magnesium. No technological uses for the mineral have yet been developed.

ABOUT OUR SPECIMENS

As mentioned, our specimens were collected at the Premier Chemicals magnesite-brucite mine in the Gabbs Mining District near Gabbs in Nye County, in west-central Nevada. Gabbs, elevation 4,630 feet, is a remote community in the northwest corner of sprawling Nye County. It is located on Nevada Route 361 in the Gabbs Valley near the foothills of the Paradise Range. The nearest sizeable towns are Fallon, 80 road miles to the northwest, and Hawthorne, 57 miles to the southwest. The Premier Chemicals magnesite-brucite mine, locally known as the Gabbs Mine, is the only magnesite mine in the United States.



Figure 1 Premier Chemicals mine. All photos courtesy of Premier Chemicals.

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The Gabbs magnesite-brucite deposit is a product of Nevada's unusual and highly complex geology. Much of Nevada is located in the Basin and Range physiographic province, one of the major geological features of the American West. Nevada has hosted many major episodes of sedimentary deposition, intrusive and extrusive igneous activity, mountain-building, and periods of erosion, all of which have contributed to the state's considerable mineral wealth and numerous collecting localities and mineral species.

The Basin and Range province, which includes the Gabbs area, is characterized by north-south trending mountain ranges separated by alluvial basins and valleys. The ranges are on average about 4,500 feet higher than the adjoining valleys and are bounded by faults, many of which are active due to geological stresses generated by the ongoing collision of the North American and Pacific tectonic plates.

The mineralization of what is now the Gabbs magnesite-brucite deposit took place perhaps 90 million years ago in mid-Cretaceous time when granodioritic magma (a high-silica, granitic magma) intruded formations of dolomite rock—sedimentary rock rich in dolomite [calcium magnesium carbonate, $\text{CaMg}(\text{CO}_3)_2$ —to create a skarn. The term “skarn” has two general meanings. One refers to a variety of metamorphic rock types consisting largely of calcium-silicate and magnesium-silicate minerals. The other refers to deposits of skarn-type metamorphic rocks that contain concentrations of valuable minerals.

Usually found near igneous intrusions and major fault systems, skarns form from regional or contact metamorphism or hydrothermal alteration of pre-existing rock. The skarn formation at Gabbs involved high-temperature contact metamorphism resulting from the intrusion of silica-rich magma into Triassic-age dolomite beds. In the initial contact-metamorphism stage, hot magma recrystallized (altered) the adjacent sedimentary rock. A metasomatic event then occurred as associated mineral-rich hydrothermal solutions introduced into the altered sedimentary rock new chemical components, such as silica (SiO_2) and metals that crystallized as sulfides. In a final cooling phase, circulating groundwater caused further alteration.

The Gabbs skarn deposit beautifully illustrates the chemical changes that can take place when contact metamorphism is accompanied by metasomatism. At Gabbs, the basic chemistry involved quartz, as Si^{4+} ions and O^{2-} ions in magma, reacting under high temperature and considerable pressure with readily available magnesium [Mg^{2+}], carbonate [$(\text{CO}_3)^{2-}$], and hydroxyl ions [$(\text{OH})^{-1}$]. A granodioritic intrusion that altered and enriched existing dolomite rock at the contact zones produced an array of metamorphic minerals, mainly magnesite [magnesium carbonate, MgCO_3], brucite [magnesium hydroxide, $\text{Mg}(\text{OH})_2$], and hydromagnesite [basic hydrous magnesium carbonate, $\text{Mg}_5(\text{CO}_3)_4(\text{OH})_2 \cdot 4\text{H}_2\text{O}$], along with serpentinite rock, a dense microcrystalline rock consisting largely of antigorite [basic magnesium silicate, $\text{Mg}_3\text{Si}_2\text{O}_5(\text{OH})_4$]. During the metasomatic phase, the introduction of small amounts of copper into the metamorphosing dolomite created a number of rare and unusual minerals including callaghanite [$\text{Cu}_2\text{Mg}_2(\text{CO}_3)(\text{OH})_6 \cdot 2\text{H}_2\text{O}$] and mcguinnessite [basic magnesium copper carbonate, $(\text{MgCu})_2(\text{CO}_3)(\text{OH})_2$].

In the 1920s, prospectors searching for tungsten-rich skarn deposits reported surface occurrences of brucite in the desolate Gabbs Valley, a discovery that attracted the attention of geology graduate student Eugene “Pat” Callaghan. Callaghan was then investigating the genesis of magnesite occurrences. He explored many areas of central Nevada, including the Gabbs Valley, where in 1930 he discovered large deposits of magnesite near the original brucite discovery. Basic Magnesium, Inc., acquired the mineral rights and began development of an open-pit magnesite-brucite mine in 1935. The company town that developed simultaneously along with the mine was originally named Brucite.

When the outbreak of World War II created an emergency need for magnesium metal for use in flares, incendiary devices, and special aircraft components, Basic Magnesium quickly expanded the Gabbs mine

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and mill, shipping the concentrates 300 miles to the south to its electrolytic-reduction plant at Henderson, Nevada. By late 1942, several hundred miners and mill workers and their families lived in North Gabbs and South Gabbs, the two new, adjacent communities that had replaced the original town of Brucite. In June 1943, in the midst of the wartime mining boom, the two towns were consolidated into the single community of Gabbs. But when magnesium demand plummeted after the war's end, Gabbs nearly became a ghost town. It roared back to life five years later during the Korean War when Basic Magnesium, soon to become Basic Refractories, Inc., constructed a large, new mill and increased production. After the Korean War, the mine and mill continued to operate at capacity. And in 1955, when its population exceeded 1,000, the town of Gabbs was incorporated as the only city in Nye County.

Mine and mill production continued at a slower pace through the 1960s, 1970s, and 1980s. In 1996, Premier Chemicals LLC acquired the mine and mill and began increasing production. But the city of Gabbs no longer shared in the prosperity. Because of a trend among mine employees to commute from the distant cities of Fallon and Hawthorne, along with greater mine mechanization and mill automation that required fewer employees, Gabbs' population declined steadily. By 2000, when the population had dropped to just 300, the tax base was no longer sufficient to maintain community services. On May 8, 2001, the Nevada legislature formally disincorporated the city of Gabbs, leaving Nye County, once again, with no cities at all.

Today, Premier Chemicals is continuing to increase production of magnesite and by-product brucite. The ore body, which consists of large beds of gray-white, massive magnesite that contains "pods" of brucite, is mined by open-pit methods. The magnesite ore, along with lesser amounts of brucite, is crushed, finely ground, purified, and calcined (oxidized) in gas-fired, multiple-hearth and rotary kilns into commercial magnesia [magnesium oxide, MgO]. In 2005, the mill shipped more than 100,000 tons of commercial magnesia which is used as magnesium-supplement additives for livestock feed, a neutralizing chemical for municipal-sewage treatment, and a desulfurization agent for reducing pollutants in flue gases at coal-fired power plants. Because the Gabbs magnesite-brucite resource covers more than 1.5 square miles, mining is projected to continue for decades.

At Gabbs, callaghanite is usually found at the edges of the brucite pods and in close association with brucite. Most specimens are composite in nature, with incrustations and veinlets of callaghanite on and in brucite. Callaghanite is one of 37 minerals with type localities in Nevada, and more are expected to be found. In 1979, mineralogists believed they had found two new minerals at the Gabbs deposit. They named these prospective minerals, which were similar in composition to callaghanite, "curpartinite" and "cuprohydromagnesite." But after further study, both were discredited as new species. Many mineralogists remain confident, however, that new minerals will yet be found at Gabbs. It's highly unlikely that any other Gabbs mineral will be found in the quantities that we require for our Club.



Figure 2 The Premier Chemicals mine produces magnesium oxide for animal feed, along with other magnesium compounds for use in waste water treatment, sewer odor and corrosion control, and hazardous spill control.

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CONTRACT COLLECTING

Our callaghanite specimens were collected at the Gabbs Mine by a commercial specimen collector under an agreement with Premier Chemicals, the mine owner. Arrangements like these are providing increasing numbers of specimens for the collector market. Commercial specimen collecting at operating mines is nothing new. The Foote Mineral Company of New York City pioneered the practice in the 1870s by sending experienced collectors to working mines around the world. The Foote Mineral Company, then the world's leading source of minerals, published an annual catalogue and sold specimens both individually and in lots to private collectors, assayers, schools, museums, mining colleges, and research laboratories.

But commercial collecting declined after 1900. Many specimens now came from working miners who pursued the old tradition of "high-grading"—removing minerals from mines without the authorization of management. High-graders kept in close contact with buyers, who were usually dealers. Mining companies certainly did not condone high-grading, as it diverted the miners' attentions and efforts from production activities and thus reduced profits. But while high-graders did have a good eye for minerals and provided many specimens, their collecting skills left much to be desired, resulting in many fine specimens being broken or otherwise damaged.

The modern era of commercial specimen collecting began in the 1950s in southern Arizona's open-pit copper mines, where the focus was on fine specimens of turquoise, azurite, and malachite. By then, mining companies, which had already banned specimen collecting among their employees, began closing their properties to the public for liability reasons. This gave rise to a new group of commercial specimen collectors who worked as private contractors, paying companies a fee for the usually exclusive rights to collect specimens. Commercial collectors, who were bonded, insured, and skilled in collecting methods, coordinated their activities with the companies to work in ways, and at times and locations, that did not interfere with mine production.

This same basic arrangement continues today. There are now about a dozen commercial mineral-specimen collecting operations in the United States. Most major mines in which collectible specimens are likely to be found, including almost all the Nevada gold and Arizona copper mines, have agreements with commercial collectors. The commercial-collector system is also expanding in foreign nations and promises to keep collector markets well-supplied in the future. Without contract collecting, many of the minerals we have featured would never have seen the light of day!

Truly, though its crystals are small, its vivid color and rarity makes callaghanite a most worthy addition to our collections!

References: *Dana's New Mineralogy*, Eighth Edition; *Encyclopedia of Minerals*, Second Edition, Roberts, et al, Van Nostrand Reinhold Co.; *2004 Fleischer's Glossary of Mineral Species*, Joseph Mandarino and Malcolm Back, The Mineralogical Record Company; *Mineralogy*, John Sinkankas, Van Nostrand Reinhold Co.; *Manual of Mineralogy*, Cornelius Hurlbut and Cornelia Klein, Twenty-first Edition, John Wiley & Sons; "Geology of Nevada," Jonathan G. Price, Christopher D. Henry, Stephen B. Castor, Larry Garside, and James E. Faulds, *Rocks & Minerals*, November-December 1999; "Callaghanite: A New Mineral," Carl W. Beck and John H. Burris, *American Mineralogist*, July-August 1954; "Refinement of the Callaghanite Structure," George Brunton, *American Mineralogist*, May-June 1973; "The Crystal Structure of Callaghanite," George Brunton, Hugo Steinfink, and Carl W. Beck, *Acta Crystallographica*, March 1958; *Minerals of Nevada*, Stephen B. Castor and Gregory C. Ferdock, Nevada Bureau of Mines and Geology Special Publication 31, University of Nevada Press, 2004; *The Mineral Industry of Nevada*, anon., United States Geological Survey, 2004; "Type Localities in Nevada," Jean F. DeMouthe, *The Mineralogical Record*, January-February 1985. Special thanks to Adam Knight.

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CLUB MEMBER STATISTICS--2007

Here are the current Club statistics, as of January 6, 2007. The numbers in parentheses represent last year's count, for purposes of comparison. Many many thanks to each and every one of you!

Total Members: *567* (522) Deluxe Members: *241* (265) Junior Members: *200* (178)
Platinum Members: *126* (79)

Male: *344* (340) Female: *190* (148) Membership in Name of School: *2* (2)
Families (Membership in the name of a couple or family): *31* (29)

Number of members by state: California: *110* (119); Illinois: *31* (27); Washington *25* (19); Florida: *24* (18); Colorado: *23* (14); Pennsylvania: *23* (20); New York: *20* (23); Texas: *19* (22); Massachusetts: *18* (12); Arizona: *16* (18); Indiana *14* (5), Minnesota: *14* (8); New Jersey: *14* (10); Virginia: *14* (7) Georgia: *13* (9); New Mexico: *12* (10); North Carolina: *12* (9); Oregon: *11* (10); Maryland: *10* (11)

9 Members in these states: Connecticut (8), Michigan (10)

8 Members in these states: Ohio (11), Tennessee (10)

7 Members in this state: Hawaii (7)

5 Members in these states: Missouri (4), Nevada (10), Utah (5), Wisconsin (6)

4 Members in these states: Alabama (7), Alaska (3), Idaho (4), Louisiana (4), Montana (5)

3 Members in these states: Iowa (3), Kentucky (1), Maine (1), Oklahoma (2)

2 Members in these states: Delaware (2), Nebraska (3), New Hampshire (2), Rhode Island (2), South Carolina (3), Vermont (4), West Virginia (1)

1 member in these states: Arkansas (1), District of Columbia (0), Kansas (1), Wyoming (1)

International Members: Australia *1* (1), Brazil *1* (1), Canada *20* (13), England *1* (2), Hong Kong *1* (4), Italy *1* (0), Kuwait *1* (0), Netherlands *1* (1), Saudi Arabia: *1* (1), Singapore *2* (2), Spain *1* (1), Turkey *1* (1); Venezuela *1* (1)

Total members as of January, by year: January 1997: About *40* January 1998: *173*
January 1999: *186* January 2000: *211* January 2001: *221* January 2002: *267*
January 2003: *287* January 2004: *418* January 2005: *458* January 2006: *522*
January 2007: *567* (*We began the Club in March 1996*)