



Astronomical adventure

A night at Granite Gap

Astronomy, geology, history, and much more are converging in a big way in southwestern New Mexico. And amateur astronomers will benefit the most. **by Michael E. Bakich**

Granite Gap. To some, the name conjures up images of the Old West: ghost towns, gunfights, and prospectors hunting for gold. To others, it speaks of the region's geology: vistas dotted with granite and limestone ridges, and miners extracting copper and silver.

But to developer Gene Turner, Granite Gap represents a way to expand his love of astronomy to a wider audience. Turner sees huge potential in the area, and investors are already coming onboard.

His plans include a large plot of real estate under a pristine sky subdivided and offered to amateur astronomers at low cost; a preserve featuring numerous species of birds and other wildlife, nature trails, and fishing; and two world-class science facilities — a planetarium and a mineral museum. Judging by Turner's

previous successes, in a few years all this and more will exist at a formerly lonely spot in southwestern New Mexico called Granite Gap.

Unlike rentals, astronomy vacation spots, or online observing, this development will offer amateur astronomers their own land under a pristine sky. Science attractions at the same site will entertain the whole family. And access is easy — you won't have to travel endless miles on dirt roads to reach it.

The ideal location

Granite Gap sits 8 miles (13 kilometers) south of Interstate 10 on New Mexico Highway 80. Easy access from I-10 was an important consideration for Turner as he planned this region's future. This setting lies at an altitude of 4,700 feet (1,433

meters), only 4 miles (6.4 km) north of his other development, Rancho Hidalgo.

Average winter temperatures range from lows around freezing to highs around 65° F (18° C). The altitude moderates the Desert Southwest's summer temperatures, which vary there from around 60° F (16° C) at night to as much as 95° F (35° C) during the day. Best of all, Granite Gap enjoys about 350 days of sunshine per year.

Turner already has launched two successful astronomy communities in the area. The first, Arizona Sky Village (ASV), near Portal, Arizona, contains 250 fully developed acres. The majority of the houses there feature personal observatories. As the available land at ASV dwindled, Turner began acquiring land across the state line in New Mexico.

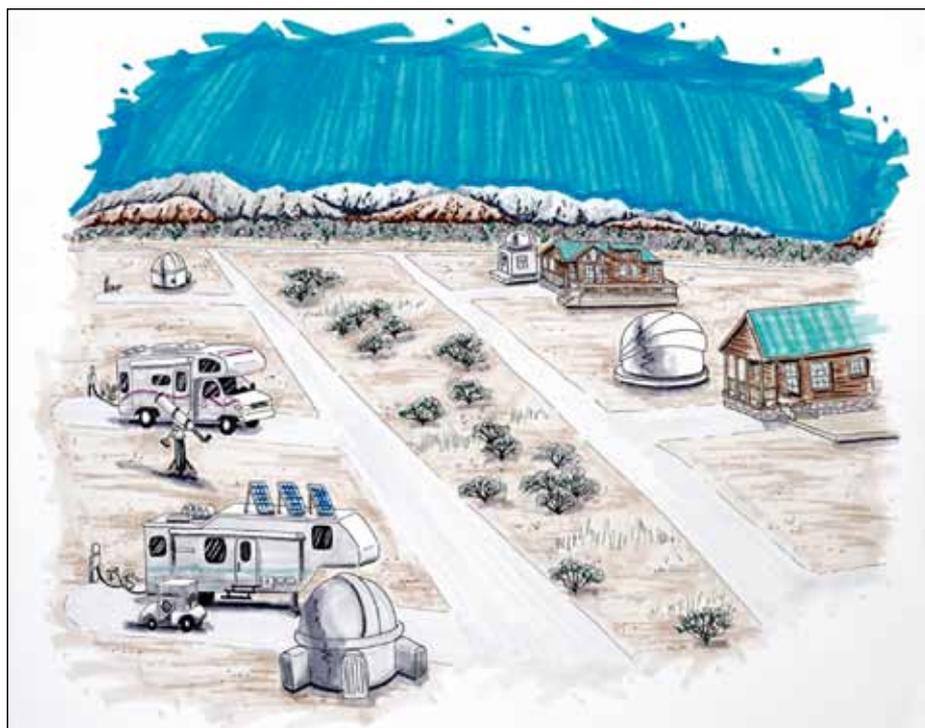
His second community is the result. Rancho Hidalgo Astronomy and Equestrian Village (RH) lies near Animas, New Mexico. It contains 7,000 acres, including an adjacent lease. Of this total, Turner set aside 300 acres for growing alfalfa and 100 acres for chili peppers along with 5,000 acres for raising cattle and equestrian needs. The remaining 1,600 acres will accommodate residential dwellings.

RH is also the location of *Astronomy* magazine's observatory. Turner constructed that facility in 2009. Several editors already have traveled there to observe from the site.

Water is the key

The climate in this region qualifies as "desert," which translates to an average rainfall of less than 10 inches (250 millimeters) per year. Last year, only 3 inches (76mm) of rain fell.

As it turns out, growing crops and raising cattle are still possible because



One of Granite Gap's future developments will be an RV park. Owner Gene Turner dubbed this area the "Yearlong Star Party." Amateur astronomers can construct permanent observatories, purchase time in well-apportioned cabins, or just park their campers for short-term observing sessions. A fully stocked 40-acre lake sits just south of the park. *Holley Y. Bakich*

Michael E. Bakich, an *Astronomy* senior editor, is always searching for darker skies.



The California Nebula (NGC 1499) in the constellation Perseus is a celestial wonder the photographer captured with an 80-minute exposure through a 3-inch telescope at Arizona Sky Village, which lies just across the New Mex-

ico state line in Arizona. The author saw this object from Granite Gap with no optical aid other than a nebula filter. Amateur astronomers will appreciate the atmospheric steadiness above the site. Jack Newton

Turner's New Mexico development sits on a huge aquifer (an underground layer of water-bearing material).

Snow melt from the Peloncillo Mountains to the south replenishes the aquifer. During 2009, RH was able to pump 3,000 gallons of water per minute for nearly 9 months with no measurable depletion of the aquifer.

The third act begins

In April, RH received approval from the Hidalgo County Commission for its final plat (a scale drawing showing how the developer will divide the land). This was the final step before building could occur. Several lot owners then expressed interest in beginning construction, and Turner started building the first house in May.

As the development of RH progresses, Turner is beginning to focus on Granite Gap. He purchased 700 acres earlier this year and also negotiated a lease for an adjoining 3,000 acres with the Bureau of Land Management. Then the wheels started turning. Astronomy still ranked first and foremost in Turner's mind, so what possibilities existed?

Specifically, he considered the question, "How can I share this superb venue with amateur astronomers from around the world?" One way was to do it through the Internet, so he set up a large, descriptive website at www.granitegap.com. But

Turner always had a hands-on approach to observing, and his astronomy friends are of a similar mindset.

A 365-day star party

So, of the land he acquired at Granite Gap, Turner set aside 300 acres. His company is now developing the area into a recreational vehicle (RV) park he has dubbed the "Yearlong Star Party."

Amateur astronomers have two options regarding the land at the park. A one-time fee of \$2,500 will lease a one-third acre plot for 99 years. Once the land is yours, you can build a small observatory there, erect a telescope pier, or park an RV at the site.

The second option starts at \$12,500. Amateur astronomers who pay this amount once will have access to a well-apportioned 400-square-foot (37.2 square meters) cabin for 6 months each year. The 6-month span need not be continuous. You can occupy a cabin at your discretion throughout the year. Both cabins and plots at the RV park will feature electricity, water, septic facilities, and high-speed Internet.

The RV park offers a terrific opportunity for observers and imagers who struggle to find a high-quality observing site. I know several people who already are chomping at the bit to buy their own land at Granite Gap, including me. I

wondered if Turner's corporation will offer financing. A quick call confirmed that, indeed, he plans to make financing available for individual purchases.

To ensure amateur astronomy will flourish, light-pollution rules will be in effect year-round. Any external cabin light must be a shielded fixture. And cars and RVs cannot enter after dark. If they arrive during "imaging time," they can park at a designated area next to the RV park until morning.

How good is the sky at the Gap?

During my last visit to Rancho Hidalgo in January 2010, one of my priorities was to observe under Granite Gap's sky. I rated both the seeing and the transparency as superb. Seeing is a measure of the atmosphere's steadiness above any location. The best astroimagers produce high-quality shots because they enjoy great seeing from their observing sites.

Observers judge transparency in two ways: by measuring a site's limiting visual magnitude and by counting deep-sky objects they can see without optical aid. The first night at Granite Gap, I estimated the limiting magnitude at 7.4, about as dark as I've ever experienced.

I then made a quick tally of the deep-sky objects I could see without optical aid. A dozen of Messier's open clusters appeared immediately. Among the



This high-desert site at the south end of the Granite Gap development marks the future location of Shoemaker Discovery Park. From here, visitors will explore a mineral- and meteorite-laden crater and participate in model rocket launches. Granite Gap sits 4,700 feet (1,433 meters) above sea level and enjoys sunshine an average of 350 days each year. Gene Turner

faintest were magnitude 6.2 M93 in Puppis and magnitude 6.4 M38 in Auriga.

Using only a nebula filter, I also spotted the California Nebula (NGC 1499) in Perseus and the Rosette Nebula (NGC 2237–9) in Monoceros. The list goes on. In summation, I rated this site as one of the finest I've ever visited. In terms of sky darkness, seeing, and transparency, it is world-class.

The Preserve at Granite Gap

As fantastic as astronomy is at ASV, RH, and soon Granite Gap, Turner's plans include much more. He has set aside a wildlife refuge complete with a 40-acre lake, which his company is now creating.

Granite Gap will initially feature 10 miles (16 km) of hiking trails. Wildlife, although sometimes difficult to spot in the desert, abounds here. In January, two ornithologists completed a survey of birds in the Granite Gap area. In 3 weeks, they spotted more than 100 species.

In addition to foot trails, visitors also will be able to take longer excursions on horseback. Atop proud and beautiful animals, riders will learn about the geology of the Southwest, cowboy history, mining, and more. Some trips will even lead to former Native American habitats.

Shoemaker Discovery Park

A park at the south end of the Granite Gap development will house a workshop next to an open field. This will be the venue where students and hobbyists construct and launch model rockets.

Nearby, visitors will be able to dig for regional minerals and meteorites in a large pit simulating an impact crater. In

doing so, they will learn how minerals develop and how craters form on Earth and on other solar system bodies.

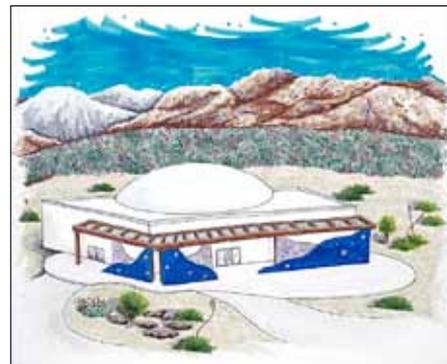
Shoemaker Discovery Park honors planetary scientist Eugene Shoemaker (1928–1997), a pioneer in the field of astrogeology. Shoemaker, his wife Carolyn, and *Astronomy* columnist David H. Levy discovered Comet Shoemaker-Levy 9, which struck Jupiter in 1994.

Focus on education

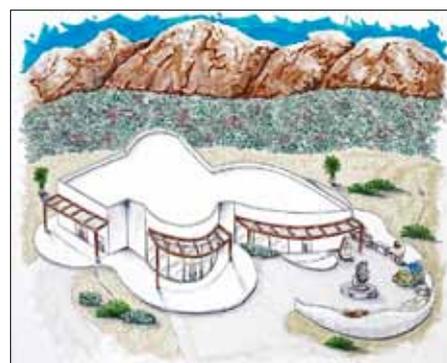
Early in the planning phase for Granite Gap, Turner recognized the need for a focal point from which his goal of science education could originate. Two buildings now in the design phase — a planetarium/science center and a mineral museum — will fulfill this objective.

Most people think of a planetarium as a place for people to experience astronomy. While that's true, every planetarium also houses a multimedia theater fully capable of presenting programs on a wide variety of subjects. So the planetarium will feature, for example, shows about solar power, Southwestern desert animals, meteorology, and more, in addition to ones dealing with the origin of the universe, what's up in the spring sky, and why Pluto should still be a planet.

The mineral museum is the other tine in Turner's two-pronged educational thrust. In addition to housing one of the country's finest mineral collections, it will feature state-of-the-art interactive exhibits, a fully equipped demonstration laboratory, and personalized tours. Galleries will highlight the history of mining, minerals of New Mexico and Arizona, and a meteorite gallery.



The planetarium at Granite Gap will feature daytime programs for the public and school groups on a variety of scientific and regional subjects. In addition, it will house exhibits on astronomy and space science as well as a research library. Holley Y. Bakich



The mineral museum at Granite Gap will have galleries focusing on the main collection, local mineralogy, and the history of mining. Traveling exhibits will be housed in a 3,000-square-foot (279 square meters) gallery. Outside, a mineral garden will display giant specimens. Holley Y. Bakich

In addition, visitors heading to and from the Tucson Gem and Mineral Show that occurs each February will find special exhibits in the mineral museum, special programs in the planetarium, and special deals in the huge gift shop.

These two facilities will welcome thousands of visitors annually. Many will be travelers drawn by an unexpected group of attractions midway between Tucson and El Paso. Others will be teachers and students on all-day field trips from the region's schools.

But I think the happiest guests will be amateur astronomers who have fled their cold and cloudy home towns for Granite Gap. There, under the darkest, steadiest skies, they will enjoy an observing opportunity that few get in a lifetime. ☼



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