

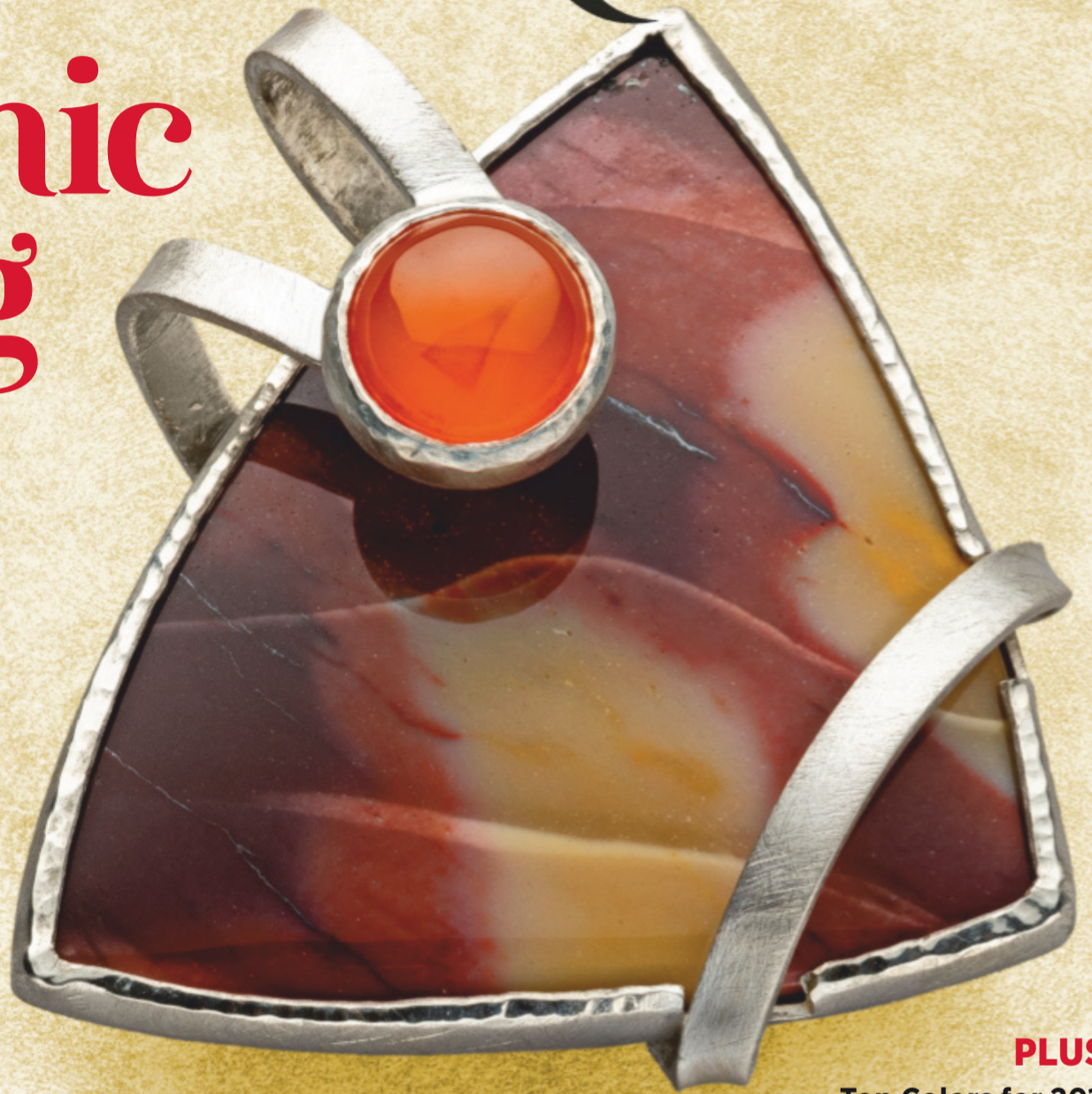


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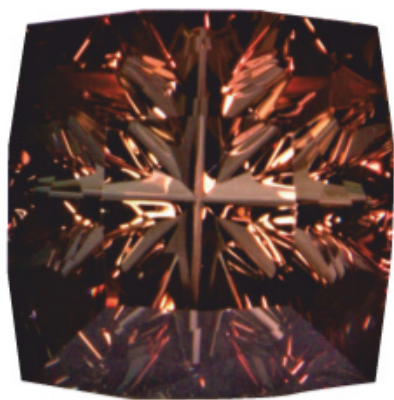
FIRE MOUNTAIN GEMS AND BEADS, P.44

JANUARY/FEBRUARY 2019

Follow the Sun

The journey of one piece of sunstone from rough to finished jewelry

By Jim Landon

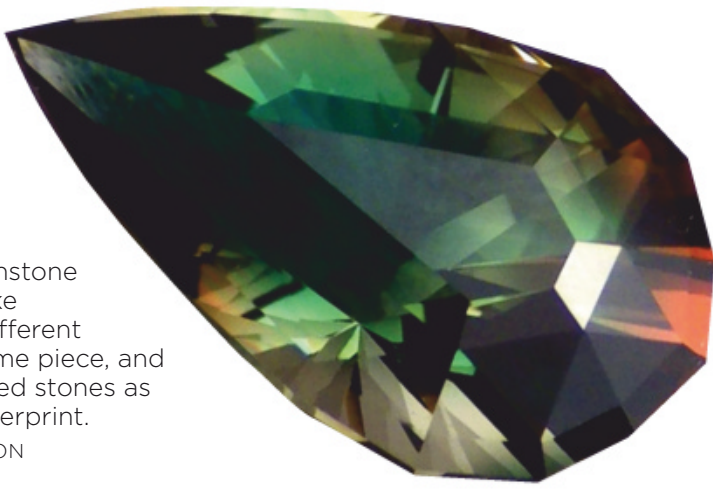


Robin Callahan's True North pendant features Dalan Hargrave's Nautical Star cut in Oregon sunstone.

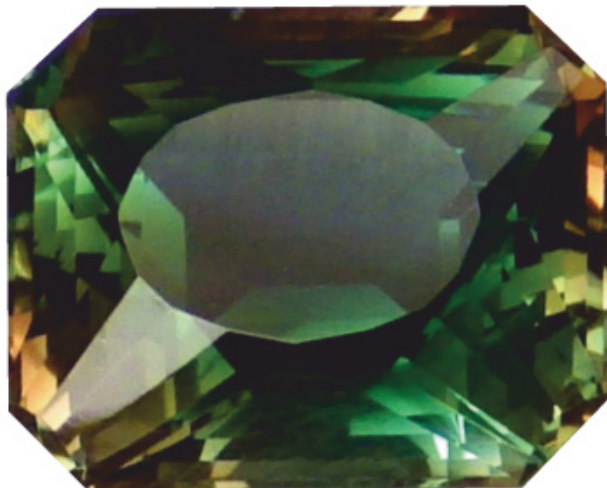


LONG AND JUSTIFIABLY FAMOUS FOR ITS DEPOSITS OF ENCHANTING sunstones and its dig-your-own sites open to field collectors, Oregon is also becoming known for the works produced with its gems. Here is a look at how sunstone mine owner Ales Krivanek, highly accomplished lapidary and goldsmith Dalan Hargrave, and recent entrant to the world of the goldsmith Robin Callahan together have produced a truly remarkable piece of sunstone jewelry.

Color-zoned sunstone is faceted to take advantage of different colors in the same piece, and can make finished stones as unique as a fingerprint.
PHOTO: JIM LANDON



Sunstones with this deep green coloration are among the most rare.
PHOTO: JIM LANDON



This custom cut sunstone exhibits the microscopic copper inclusions that produce a shimmering, sparkling effect called schiller.
PHOTO: JIM LANDON



This custom cut stone displays both red and peach coloration.
PHOTO: ALES KRIVANEK



Carved in sunstone from the Dust Devil mine in Oregon, this rose, cut by lapidary David Gray, displays a variety of colors.
PHOTO: JIM LANDON

What Makes Sunstone Special

Oregon sunstone offers artists exceptional versatility in color, clarity, and special effects. The gem is a labradorite feldspar containing varying amounts of copper. The amount of copper and the nature of its distribution are key to both the color and the effects.

The range goes from colorless through peach, orange, pink, red, teal, green, and any combination thereof. Clear to yellow crystals contain little copper, while those that are orange, green, and red have higher concentrations. In addition to these hues, Oregon sunstones frequently display veils of microscopic flecks of copper. These may produce the schiller effect, the bright flashes of light for which sunstone is known. Sometimes bits of native copper are large enough to be seen by the unaided eye as well.

The best stones are usually custom cut both to maximize the finished carat weight and take advantage of their colors and potential for optical effects. Like most colored stones, the cost of finished sunstones increases with size, clarity, color, and rarity. Intense greens and reds usually fetch the highest prices, as do pieces with unique color combinations.

The main occurrences of sunstones are along a fault zone in the Rabbit Basin north of Plush, Oregon, where volcanic eruptions of basalt lava carried the material to the surface from deep underground sources. A number of different mining operations have worked Plush and other Oregon localities for sunstones over the years.

Recently, the Pana mine on Little Eagle Butte, north of Plush, was purchased by Ales Krivanek. His company, Saint Claire, an offshoot of Ravenstein Gem, has recently launched a website for the business. You can find more about sunstone there, including a newly developed sunstone price guide, and details about fee digging for those would like to look for sunstone themselves (<https://ravenstein-germany.com/>).

Follow the Sun

Gem rough from the Pana mine (right) undergoes an initial sort of material by owner Ales Krivanek, followed by time in a vibratory tumbler to remove rough edges and most of the clinging basalt matrix. Grading and sorting into parcels such as this one comes next.

PHOTO: JIM LANDON



Super Nova, a sunstone carved by Dalan Hargrave that took second in the 2006 AGTA Cutting Edge Awards. The piece of rough was found by Jerry Wickstrom from Naches, Washington, and the finished stone is still in his possession.

PHOTO: DALAN HARGRAVE



Robin Callahan worked with sunstone before she made the True North pendant, as she did in making this pendant.

PHOTO: JIM LANDON



Dalan Hargrave's Nautical Star

One of the artists who works extensively with Oregon sunstones is Dalan Hargrave, a career goldsmith and lapidary for 40 years whose expertise in cutting and carving is well known. His sunstones have won several Cutting Edge Awards from the American Gem Trade Association (AGTA).

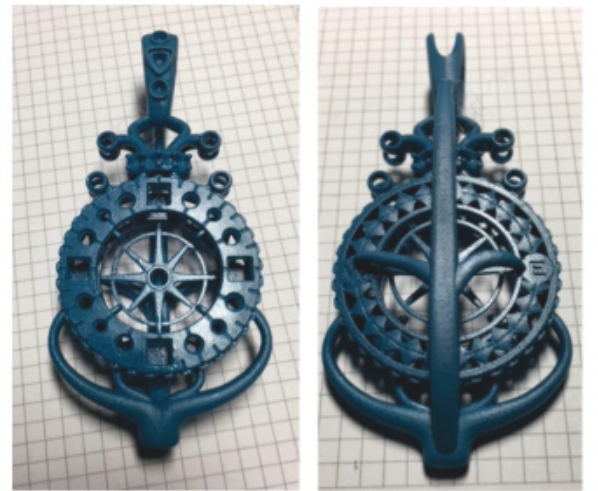
Currently, Dalan says he's focusing on the development of new gemstone cuts and mentoring the work of the next generation of lapidary artists. He also says he's pleased to participate in this triple look at what's involved in the creative process, from sorting through mined material for gem potential to putting the finishing touches on a major piece of jewelry.

When he cut the sunstone that would end up in Robin Callahan's True North pendant, Dalan began with a piece of rough from the Pana mine. He used a pattern he developed and calls the Nautical Star, which involves both faceting and carving. The process is detailed in the box on page 71.

Robin Callahan's True North Pendant

Robin Callahan, raised in Tucson, Arizona, and now a resident on Bainbridge Island in Washington State, is an up-and-coming jewelry designer and artist in the Northwest. Robin has worn a number of different career hats in her life, the most recent being her now four-year-old exploration of jewelry art and design.

First introduced to the field in a high school class, she rediscovered jewelry making when her kids signed her up for a class at the Bainbridge Artisans Resource Network Barn in



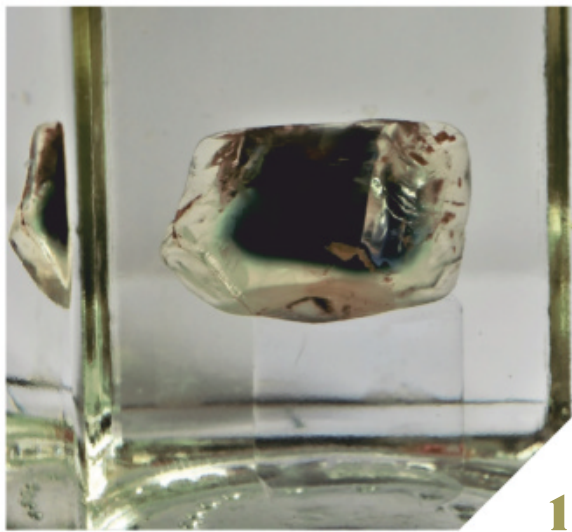
Front and back views of the wax model used to cast the finished pendant.

PHOTO: ROBIN CALLAHAN

2014. A quick study, Robin rapidly advanced through the course of offerings, developing her own style and mastering techniques along the way. She started with rings, then made her way to creating cuffs and pendants. On her journey of discovery, she encountered a number of professionals through whom she's cobbled together a support network that has helped her hone her design and fabrication skills.

During the time I spent with Robin in her studio, I was drawn to her creative skill as a jewelry designer and her keen eye for detail, color, and balance. Given her short time in the profession, I found this to be amazing! Each morning, she spends time sketching, working with colored pencils and transparency paper. She pulls faceted stones from her extensive inventory to develop a pattern

Cutting the Nautical Star



The finished Nautical Star, 8.88 carats of Oregon sunstone, faceted and carved by Dalan Hargrave, ready to be put into jewelry.

1 After selecting a piece of sunstone rough and settling on his Nautical Star design for it, Dalan Hargrave placed the rough in clear cooking oil to evaluate it for internal imperfections, fractures, and color dispersion. This step allows him to determine how he will trim the rough before faceting and carving.

2 Using a diamond trim saw, he then removed unwanted pieces of the rough.

3 Once he's removed all the excess material, Dalan is ready to dop and preform the rough. He uses an Ultra Tec V-5 mast and machine for all of his faceting work.

4 The culet is aligned with the V groove cutting head. For V grooving, Dalan uses an Ultra Tec Fantasy machine.

5 Cutting the V grooves to create the Nautical Star pattern is a multi-step process.

6 Dalan polishes the V grooves using bristle brushes and progressively finer diamond paste.

7 With the V grooves finished, the stone is ready for transfer, exposing the crown and table areas for cutting.

Follow the Sun



"Once she'd sketched this highly elaborate design out to her satisfaction, she sent digital photos of the sketches and stones, with measurements, to a CAD technician at Stuller in Lafayette, Louisiana. The two then collaborated to perfect the design for execution."



The artist's sketch and the finished True North pendant.
PHOTO: ROBIN CALLAHAN

that will work for each commission piece she takes on. She also takes copious notes that highlight different parts of each project.

In keeping with the suggestion of navigation in Dalan Hargrave's Nautical Star sunstone, Robin chose a compass design for the pendant that would feature the gem. She calls the piece True North. Once she'd sketched this highly elaborate design out to her satisfaction, she sent digi-

tal photos of the sketches and stones, with measurements, to a CAD technician at Stuller in Lafayette, Louisiana. The two then collaborated to perfect the design for execution.

Once they'd completed the design, Stuller used a 3D printer to produce a wax model for casting, which was done in 14K gold. When Robin received the finished casting, she set the Nautical Star as well as all of the other Oregon sunstones and dia-

monds that are in the piece.

Not being a person to sit around on her laurels, Robin keeps moving on to master new skills. Last summer she headed to Texas to spend time with none other than Dalan Hargrave, learning from one of the icons of the faceting and carving world.

JIM LANDON is a long-time high school science teacher, rockhound, and jewelry artist who lives in the foothills of the Cascade Mountains in Washington State.