SPORTS

Local equestrian team opens season

By GARY HENLEY
The Astorian

Brittany Israel

Local riders from Astoria, Seaside and Warrenton make up this year's local Oregon High School Equestrian team, in Yamhill for their first competition of the new season.

The first Oregon High School Equestrian Teams competition of the year is in the books, with riders and their horses competing earlier this month at the Yamhill County fairgrounds.

It also served as the first meet of the season for the Northwest district, which includes Clatsop County's equestrian team, coached by Brittany Israel.

Members of Israel's team include riders from Astoria, Seaside and Warrenton high schools.

Riders and horses from Astoria include Alivia Rickenbach (two horses, "Athena" and "Sage"), Signe Rickenbach ("Timber") and Eve Espelien ("Lewy"); from Seaside, Alicia Cano ("Moon"), Matthew Cano ("Sailor"), Lindsey McCarthy ("Cosmo"), McKenna Roberts ("Jackson"), Oshi Ward ("Flash" and "Goldie") and groomer Theia McCarthy. Warrenton has one competitor with two horses, Kaylie Poe ("Emma" and "MoPoe"). Espelien is out with a broken arm, suffered in basketball.

In the recent competition, held Feb. 10 to Feb. 13, riders from St. Helens High School won the overall team results with 832 points, while the Astoria, Seaside and Warrenton competitors combined for 287.

Highlights for the locals included a strong performance by Roberts and Jackson in Showmanship, as the pair took second out of 20 riders. Alicia Cano, with Moon, placed 10th, while McCarthy and Cosmo came in 13th.

In the Working Pairs competition, Cano and Moon teamed with Alivia Rickenbach and Sage to place ninth out of 15 pairs, as the riders from Seaside and Astoria rode to "The Champion" by Carrie Underwood.

In the 18-rider Keyhole competition, Signe Rickenbach and Timber took 11th, followed by Kaylie Poe and MoPoe, 13th.

In Barrels, Ward and Flash took third out of 26 riders. Ward and Flash also came up winners in the Pole Bending competition, with a 21.964, first out of 23 riders. Alivia Rickenbach and Athena placed eighth.

Rickenbach and Athena also took eighth out of 24 riders in the Figure 8; and sisters Alivia and Signe Rickenbach, riding Athena and Timber, took fourth out of 18 teams in the Two-man Birangle.

The Roberts and Jackson pair was ninth out of 21 riders in Western; and Ward and Flash took second in Sunday Steer Daubing.

Three pairs took part in "Grand Entry" riding, including Alivia Rickenbach and Athena carrying the American flag; Poe and Emma with an Oregon High School Equestrian Teams flag; and Cano and Moon, representing Seaside.

Oregon sunstones shimmer with mysteries

By JULE GILFILLAN
Oregon Public Broadcasting

To many, the science of geology can seem incomprehensibly technical and achingly slow. But when Emily Cahoon started her doctoral work in the field, the volcanologist, geochemist and igneous petrologist would uncover a treasure trove of mysteries that are as intriguing as they are dazzling — literally.

Cahoon's studies centered on the Picture Gorge Basalt, a north-central Oregon portion of the much larger Columbia River Basalt Group. These vast basalt flows that erupted some 16 to 17 million years ago flowed over a major portion of the Pacific Northwest and gave rise to some of the region's most epic landscapes as well as our state gem, the sunstone.

Columbia River basalts are divided into sub-units based on their location, age and geochemistry. The Picture Gorge Basalt, which Cahoon jokingly refers to as "the runt" of the Columbia River flood basalt family because of its smaller eruptive volume, was first identified near John Day. Through gathering rock samples and conducting geochemical analysis, Cahoon hoped to fill in some of the data gaps in what distinguishes that particular sub-unit.

"We're trying to understand where they were erupting out of because the magma that fed these eruptions was basically the same body of magma that feeds Yellowstone, you know, is under Yellowstone National Park today," she said.

Looking for a novel approach to the topic, Cahoon wondered if the presence of relatively large sunstone crystals in Columbia River lava flows might hold clues about where the magma that fed these basalt flows originated.

"That's big because where the actual magma chamber was located during these eruptions is still very much a topic of debate in the scientific community," she said.

In 2016, Cahoon's advisor handed her a map from a gemological publication with an "X" on it, designating the location of a sunstone mine called the Ponderosa Mine. The mine is located in remote northern Harney County and outside the boundaries of any of the Columbia River flood basalt areas. If the chemistry of the lavas there matched the ones Cahoon was analyzing, her advisor told her, it might mean some redrawing of the Picture Gorge map area.

Gemstone opens door to geologic discovery

Oregon's state gemstone is the sunstone. What makes the stones unique is that they contain copper, a metal that is not normally found in these feldspar crystals. The copper inside the sunstone crystals can lead to a dazzling variety of colors from clear to pink to red and even green and teal. When the copper flecks in some crystals show a shimmery gold color, they're referred to as "schiller."

Sunstone mining in Oregon has been centered around the tiny town of Plush, which has a population around 60, in south-central Oregon's Lake County. Geologists had long assumed that the gemstones occur there as a result of the nearby Steens Mountain sub-unit of the Columbia River basalts. But because the "X" on Cahoon's map marked a location outside the known boundaries of the Steens Mountain sub-unit, she wondered whether that long-standing assumption was correct.

"Where the Ponderosa Mine is located has kind of been a gap on geologic maps," she said, meaning it was not inside any of the recognized Columbia River basalt flow areas. "So, the first thing I did was geochemical analysis (of the local rocks) and determined that they're actually part of the Picture Gorge Basalt."

The new findings suggested the Picture Gorge Basalt was not only larger, but also erupted earlier and for longer than previously thought.

"We used to have this kind of conspicuous gap where no (Columbia River basalt) lava had been identified, and now we're sitting on them," Cahoon said last August on a visit to the Ponderosa Mine.

It got her thinking.

"So here at the Ponderosa Mine, this is the northernmost location of where sunstones have been found," she said. "The rest of the mines are about 80 miles south, close to Steens Mountain, down in the Plush area."

Cahoon headed for the sunstone mining area near Plush to conduct the same geochemical analysis on the rocks there. What she found upended the earlier assumption that sunstones are contained in lava flows associated with the Steens Mountain sub-unit.

"Sure enough, those rocks that host sunstones down in Plush are also Picture Gorge basalt and not Steens," she said.

Shiny objects

As fascinating as these revelations were geologically, Cahoon's attention was drawn to the shiny sunstones literally lying on the ground under her feet.

"I saw these sunstones and was like 'This is so cool!' And for a geologist, gemstones are one of those things that every kid—" she stammers, still excited by the memory. "That's kind of how you get interested in geology."

But for Cahoon, sunstones' coolness factor had a deeper significance.

"Usually if it's cool, somebody's looked at it, right?" she said.

Cahoon was in for yet another surprise.

"I remember, you know, going back and digging through some literature, going on Google Scholar and trying to figure out what's been done," she said. "And most of what I could find was on sunstone as a gemstone."

Jule Gilfillan/Oregon Public Broadcasting

Oregon State University geologist Emily Cahoon holds an Oregon sunstone at the Double Eagle Mine near Plush.