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Raven Hill Discovery Center, incorporated in 1991,
is a 501(c)(3) tax-exempt corporation.

Open year-round on weekends – noon to 4pm Saturdays and 2pm to 4pm Sundays.
Between Memorial Day and Labor Day, hours expand to include weekdays from
10am to 4pm. The Center is also open other times, including holidays, by appointment.

MISSION: to provide a place that enhances hands-on and lifelong
learning for all ages by connecting science, history and the arts.

WHERE **SCIENCE****HISTORY****AND****ART** CONNECT

To: Raven Hill friends

From: Cheri

Date: September 28, 2024

Re: Raven Hill's Ancient Factory Site

Pottery is one of the oldest human crafts, dating back to ancient civilizations. It involves shaping clay into vessels or objects and then hardening them by firing at high temperatures in a kiln. Early potters used hand-building techniques, such as coiling and pinching, before the invention of the potter's wheel, which allowed for smoother, more symmetrical forms. Pottery was essential for making everyday items like storage jars, cooking pots, and ceremonial objects. Decorative glazes and intricate designs were often added, reflecting the culture and artistry of ancient societies. The entire process has a special connection to Raven Hill through co-founder Tim Leach and his father Richard Leach, artist and Albion College professor, who passed on his love of art to his son. Though both of them are gone now, their spirits live on at Raven Hill.

Raven Hill Discovery Center's Factory Site is a part of the Center's Ancient World outdoor exhibit. It provides a glimpse into ancient technologies and industrial practices. This site demonstrates how early civilizations engaged in processes like pottery-making, metal-forging, glass-working, and other forms of craftsmanship essential to daily life and technological advancement.

Factory site at Raven Hill in 2010



The Greek kiln above was first shaped in sand and then covered with a mixture of cement, clay, sawdust and sand, all of which ancient civilizations had and used. From left to right in the background are a top-loading Nigerian kiln, a Roman-style kiln and a beading furnace.

Traditional pottery process from beginning to end at Raven Hill—

Preparing the clay



- 1. Dig & prepare clay

To begin, local clay is dug on site at Raven Hill. The clay is dried, then pounded with hammerstones to purify and powder it before shaping vessels.

- 2. Form pots

Your hand becomes a “wheel” turning, opening and forming a clay vessel from a ball of clay.

Pinch pots



Drying the pots



- 3. Dry pots

Small “pinch pots” are set around a small campfire to speed the drying time. Every so often, the pots are turned so they can dry evenly.

- 4. Design & create earth-formed kiln

Pile earth to desired shape. Cover with cement, sand, clay & sawdust mixture. Add fire chamber, chimney and door for loading.

Building the kiln



Loading the chamber



- 5. Hollow out kiln & load pottery

Dry pottery is loaded into the earth formed kiln and readied for firing. Both pottery and kiln fire to hardness at the same time. .

- 6. Add kiln god

Ancient cultures used kiln gods to ensure a successful firing process with a good outcome. A Sphinx kiln god was added to the Roman kiln to continue this ancient tradition.

For luck



• 7. FIRE

Students build and fire an earth-formed kiln, packed with small pottery objects they have fashioned from local clay. They leave at the end of the week-long class with a feeling of success, new knowledge and their precious handiwork.

Once the fire is lit in the firebox below the kiln's chamber, the chimney at the top of the kiln creates a natural draft, pulling the heat and gases through the chamber and firing the pottery. The draft creates an air flow from the firebox through the kiln's interior. The hot air and gases are drawn upward. At the beginning of the firing, a piece of paper is often held at the top of the chimney. When the paper catches fire, it means that the temperature has risen to around 451°F—a connection for us “elders”. We remember Ray Bradbury's book **Fahrenheit 451** about book burning. The firing continues for about 12 hours until it reaches a peak temperature of about 2000°F, turning the clay into enduring, functional and beautiful pieces of art.

2006 Nigerian-style kiln



Potter Chuck Koucky and teacher Anne Petrie check out the color of the flames and conditions inside the 2006 top-loading Nigerian kiln.

2007 Roman-style kiln



In 2007 students chose to build a Roman-style kiln during the Ancient Techniques & Technologies of Clay class.

2010 Greek-style kiln



A student demonstrates how to check the 2010 Greek-style kiln's starting temperature.

It has been said that “civilizations have risen and fallen on the strength of their technologies, and in the ruins, we see the wisdom and ingenuity of those who came before us.” At Raven Hill's Factory Site, visitors get a peek at how ancient people used natural resources to create tools, containers, and other necessary items. The exhibit features the remains of kilns and furnaces built by Central Michigan University graduate students and teachers in past years. Even though there is not much left of the kilns, visitors can appreciate the ingenuity and resourcefulness of early industries. The Factory Site connects visitors with ancient practices and highlights the timeless relationship between human creativity and technology. Anyone interested can even request similar classes and workshops for themselves, friends and family. By exploring these re-creations at the Factory Site or taking a clay class, visitors get an immersive understanding of the labor-intensive techniques used long ago to produce everyday goods. The site also complements other historical and scientific exhibits at Raven Hill, making the Ancient World in particular and the Discovery Center in general a unique educational hub for all generations.

Fall hours are in effect. Raven Hill is open weekend hours—noon to 4pm on Saturdays; 2pm to 4pm on Sundays at the **Pop-up Museum** and all other times by appointment. Call 231.536.3369 for reservations or more information.

Cheri