New Mexico Archaeology

The Newsletter of the Friends of Archaeology

Museum of New Mexico Foundation www.nmarchaeology.org May 2024

Donations, new work are headed our way

John Taylor-Montoya
OAS Executive Director

As I sit at my desk and write this note, I could not be more thrilled. When I first came on board as executive director, I knew that we were going to do great things together. In fact, the OAS staff may tell you that I often repeated that phrase when people asked me what I had in mind for the future of OAS. I truly believed it then and I still do now. What I could not have predicted was how fast we would start realizing that potential. In just a short time, we can now say that we have received a major gift from the trust of a generous donor. Like many of us, the donor's love for the heritage and archaeology of New Mexico grew from her experience with an outreach program led by one of our notable past leaders, Bertha Dutton. A special thanks to Lauren Paige for her leadership and stewardship that made the gift possible.

On another front, OAS has received written confirmation we will be conducting a major data recovery project for the Pueblo of Acoma. This will be a large-scale, multidisciplinary project that will utilize all of the areas of expertise at OAS Analytic Laboratories. I anticipate that there will be opportunities for volunteers to participate as well.

See **Director**, on Page 8.

Photos by Melissa Martinez

Life Give You Lemons?

Make lemon extract, and call it science!

Shelby Jones
OAS Laboratory Supervisor

In early May, OAS's Analytic Laboratory staff and volunteers welcomed Dr. Omar Holguin, an assistant professor in NMSU's Department of Plant and Environmental Science to OAS to coach us through the process of turning on OAS's brand new supercritical fluid extraction system. The team (including myself, Marvin Rowe, Omar Holguin, volunteers Gary and Lee, and excited OAS staff popping in throughout the day) were wonderfully successful. Not only was the team able to turn on the system and practice the process of extraction, they were also able to extract organic compounds from the peels of several lemons! This may have been the most fun part of the entire day, as the room smelled of lemon essential oils!

As explained in further detail in the February 2024 edition of the FOA newsletter, supercritical fluids (SCF) demonstrate properties of both gases and liquids and have many applications in all sorts of industries. While extracting essential oils from lemon peels has no value to the scientific enterprises of the OAS, it was an easy-to-access material that could be used for testing the system's function.

Lemons, capers, and coffee beans were

See **Lemons**, on Page 6.

FOA members tour Fort Stanton

Story and Photographs
by Marja Springer

It was a fine New Mexico day when eleven Friends of Archaeology members (and some of their friends and family) headed to Ruidoso on April 12 to prep for our April 13th Fort Stanton event, which included a special talk and a tour of the premises.

Sheri Spaar and I, in planning the trip, thought an overnight stay in Ruidoso, along with a small wine-and-cheese reception and getting-to-know-you meal,would set the stage for the next morning, when we assembled for a tour of Fort Stanton.

On Saturday morning, Oliver Horn, PhD and new regional manager of the Fort Stanton Historic Site and the Lincoln Historic Site, gave a lively presentation on the multi-layered history of this beautiful fort. Oliver currently oversees the restoration and stabilization of the buildings on the property. This year, $3.5 million was allocated this year to start this very important project.

After his presentation, Oliver led a tour of the fort while recounting the history of Fort Stanton and discussing the challenging stabilization and landscaping projects set to begin in the near future.

According to Oliver, the grounds are comprised of 240 acres of land, some of which were used by Native American tribes as camping or ceremonial grounds. The fort was established by US military forces as a territorial-era fort with many of the buildings dating from 1855. The fort also experienced the Lincoln County War, and numerous Apache, Mescalero, and Plains' Indian conflicts. Oliver also talked about the presence of Ndé, a Native tribe, who have helped shaped New Mexico history since the sixteenth century. African-American Buffalo Soldiers are also associated with Fort Stanton. Members of the 125th Colored Infantry were quartered here from 1866 to 1867. The soldiers played a major role in helping to rebuild buildings at Fort Stanton damaged during the latter part of the Civil War.

In 1896, the fort was decommissioned. The US Marine Hospital Service acquired the fort, and it became the first federal sanatorium to treat tuberculosis patients. Tuberculosis was the third-leading cause of death in the United States at the time. One area, south of the fort's main parade ground, housed patients often exposed to the sun and dry air, which was considered beneficial. Starting with Fort Stanton, other treatment centers for tuberculosis quickly spread throughout the state.

Most of the original buildings were built of stone, later painted white, which gave Fort Stanton the durability that adobe lacked. Although members of the tour were not able to go into many buildings due to the unsafe state of the rooms, we managed to see some interesting interiors of the officer's quarters, where lath-and-plaster and adobe repairs mixed.

The parade ground is much the same as it was in the days of the Civil War. Another interesting part of the fort is separate from the original grounds and served as an internment camp for errant German merchantmen sailors taken captive by US forces during World War II. ❖

Office of Archaeological Studies

The Office of Archaeological Studies was the first museum program of its kind in the nation. OAS staff conducts international field and laboratory research, offers educational opportunities for school groups and civic organizations, and works to preserve, protect, and interpret prehistoric and historic sites throughout New Mexico.

Friends of Archaeology

The Friends of Archaeology is an interest group within the Museum of New Mexico Foundation that supports the OAS. To join the FOA, you need only become a member of the Museum of New Mexico Foundation and sign up. Visit www.nmarchaeology.org for information. We're also on Facebook, at www.Facebook.com/FriendsOfArchaeologyNM.

Mission Statement

The mission of the Friends of Archaeology is to support the Office of Archaeological Studies in the achievement of its archaeological services mandate from the State of New Mexico through participation in and funding of research and education projects.

FOA Board

OAS Archaeologists Find That "Healthy Glow"

By John Taylor-Montoya

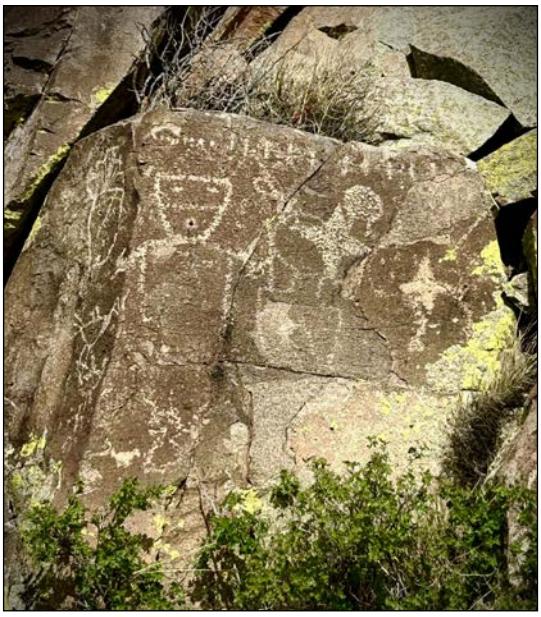
In October 2016, the property owner of 308 and 314 West 10th Street in Kansas City, Missouri received an alarming notification:

"It is possible radium-226 may have been previously used at your property when it was the listed address for the Radium Dye Company. Radium-226 is a radioactive isotope that…may pose a risk to public health and safety."

And so began the letter from the U.S. Nuclear Regulatory Commission that went on to request "access to your property to perform radiological surveys and to collect samples to determine whether there is any residual contamination resulting from this potential historical radium use on your property." (nrc.gov/docs/ML1627/ML16277A255)

According to the Oak Ridge Associated Universities Museum of Radiation and Radioactivity, the Radium Dye Company of Kansas City, Missouri listed its address as 328 West 10th Street in the *1914 Kansas City Directory*. By 1936, it had moved to 2107 Grande Avenue. More than a century after being listed in the area of the West 10th Street property, the original site of the company was still potentially contaminated

See **Glow**, on Page 7.



Photos by Johnnie Martinez

Exploring Rock Art in Comanche Gap

More than 50 people enjoyed specially led tours of "The Creston" in Comanche Gap during a cool, breezy weekend early in the month of May. The tours featured an up-close and personal look at some of the most impressive rock art in the Galisteo Basin.

One of two volcanic dykes that crisscross the basin, "The Creston" has long been regarded as a natural boundary between the world of the Pueblos to the north and the Plains Peoples to the south.

Tour-goers got a chance to admire centuries-old, hand-pecked images of cloud-beings, warriors, birds, and other creatures while scrabbling over a host of dark boulders, many as large as garden sheds or small, economy-sized cars. More than a few photographs were taken, and everyone seemed to enjoy their time spent on a sunny day in the wide open spaces of the Galisteo Basin. ❖

GIFTING

Friends of Archaeology needs your donation

The Friends of Archaeology group is a part of the Museum of New Mexico Foundation, providing programming to support the Office of Archaeological Studies throughout the year.

The group relies on annual private donations to help fund the expenses associated with the planning and execution of the beloved quarterly newsletter as well as field trips, hikes, Brown Bag lectures, and more. Remaining funds are donated annually to the OAS to help cover educational programming, research, and continued learning expenses.

We hope you will consider making a charitable contribution today to help support this group. One-hundred percent of your gift is tax deductible and goes directly to Friends of Archaeology.

To make a donation, visit museumfoundation.org/give and select "In Honor Of" from the drop-down menu, then add "Friends of Archaeology;" mail a check to the Museum of New Mexico Foundation, Attn: FOA, 1411 Paseo de Peralta, Santa Fe, NM 87501; or call Lauren Paige, Director of Leadership Giving for the OAS, at (505) 982-2282 to make a gift over the phone. ❖

Looking for Us?

If you're planning a trip to OAS, we're at 7 Old Cochiti Road, off Caja del Rio Road. We're the first building on the left, just before the animal shelter.

A view of Pueblo Colorado from Paul Logsdon's *Ancient Land, Ancestral Places* (1993).

Pueblo Colorado Tour

While broad vistas are a major part of the Galisteo Basin experience, the setting of Pueblo Colorado is remarkably intimate. Nestled against high cliffs, the picturesque valley is a favorite of modern movie makers and the location of a cozy ancient village.

The village is an estimated 900-room pueblo around perhaps eight plazas. Pottery suggests the primary occupation was relatively short, beginning after AD 1400.

But the village is only part of the story. The valley around the pueblo contains evidence of immigrant farmers, who set up homes and fields as early as the mid-twelfth century, perhaps some of the earliest evidence of refugees from the Chaco drought of AD 1130. Small family farms persisted, creating black-on-white pottery in regional styles into the thirteenth century.

Unlike other Galisteo Basin sites, rock art here is scarce. Some images, however, are rather unique. These include a rendition of a European and a beautifully but subtly incised figure that may have been made by nineteenth century residents. Pottery will be a major focus of the tour.

FOA will offer two tours: one **Saturday, June 29**, and the other **Sunday, June 30**. At 8 a.m., participants will meet at a special point on the Singleton Ranch property. From there, we will carpool to the trailhead, where we will break into two groups of 12. We will visit several early sites before arriving at rock art locations and Pueblo Colorado itself. The 4 mile hike will travel across rugged terrain.

Each hiker should bring at least 2 liters of water, snacks, hats, and sunblock. Hiking boots are strongly recommended, along with long pants and long-sleeved shirts. There is a risk of snakes and many varieties of cactus. Heat and bugs may be a factor. If heavy rainfall occurs prior to this event, tours may be rescheduled. The tour will be $125 for FOA members and $135 for non-members. Register online at www.eventbrite.com. ❖

This hike will be hot & strenuous!

This 4 mile hike is strenuous and will cover rugged terrain. Late June is a very hot time of year, and it is very important that hikers dress accordingly. Wear sunblock, hats, long-sleeved shirts, and long pants. Hiking boots are a must! Each hiker should bring along at least 2 liters of water and snacks!

Edgar Lee Hewett

Edgar Hewett Brown Bag set for July 10

Heather McClure, librarian and archivist at the Fray Angélico Chávez History Library, will offer a free talk about the recent digitization of Edgar L. Hewett's manuscript and photograph collections on **Wednesday, July 10, at noon**, at the Center for New Mexico Archaeology.

Thanks to a major grant from the National Historical Publications and Records Commission, Hewett's collections have recently been made available to the public.

Hewett was at the forefront of modern archaeology in the early twentieth century Southwest. He trained a new generation of archaeologists, invited women into the field, and worked tirelessly for the United States Antiquities Act. He also led the Museum of New Mexico and the School of American Archaeology. Hewett used his political skills and stubbornness to promote and establish New Mexico as a hub for the "groundwork of American archeology."

By making Hewett's papers widely available, researchers will now be able to study the history of Southwestern archaeology and the methods and systems Hewett built as he elevated American archaeology on the world stage. ❖

Lemons

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selected for these first experiments because all three have a strong scent. As it was OAS's first time running the newly built SCF system, testing was essential to ensure the process was functional. And functional it was! This was especially important as the system, which had been extensively used in the past, sat idle for a decade before arriving at OAS in pieces. Omar Holguin's operational experience allowed the team to listen and observe any abnormalities. After fixing a few small leaks in the system, slivers of lemon peel were loaded into the sample chambers and exposed to supercritical carbon dioxide (40°C and 3000 psi) for 10 and 20 minutes. Both samples resulted in a surprisingly high quantity of extracted essential oils and made the room smell amazing!

The non-polar nature of the supercritical carbon-dioxide acted as a solvent to remove the oils from the peel. To remove the polar and acidic components of the lemon peel, the basic function of the system was augmented to include a second high pressure pump that pressurized methanol alcohol. Together, the 90 percent/10 percent mixture of supercritical CO_2 and liquid methanol easily extracted the compounds within the peel, resulting in an extract that reminded us all of lemoncello. In this case, the mixture allowed for both non-polar compounds, like oils, and polar compounds, like citric acid, to be extracted simultaneously.

Continued experiments are under way and, over the next few months, experiments testing the SCFs' ability to assist in sample preparation for the OAS Radiocarbon Sampling Laboratory will begin.

The goal is to use the SCFs to clean samples prior to sampling for a radiocarbon date, this will ensure that all contaminating carbons are eliminated. These contaminating carbons can greatly affect the reported age of a botanical sample, often giving a false age that is too young. SCF extraction offers a unique approach to sample pre-treatment that is free of harsh chemicals, like sodium hydroxide, and has the potential to be non-destructive and more effective than the techniques now used in OAS's Radiocarbon Sampling Laboratory.

Top: Omar Holguin carves lemon peels that will be used to test the SCF system. Above: Gary slowly releases CO_2 into the new system.

As fundamental experiments progress, detailed notes will be paired with high quality radiocarbon isotopic dates into several academic publications. The majority of this research will be supported by FOA and MNMF donors.

To support the OAS, and the amazing scientific studies they are conducting in the laboratories, please reach out to Lauren Paige at the Museum of New Mexico Foundation. ❖

Glow

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with radiation.

Radium products were, at one time, quite common and widely advertised. Recently, archaeologists from the Office of Archaeological Studies uncovered a Radium Dye Company bottle during a monitoring project in downtown Santa Fe. The bottle is interesting for many reasons. It carries the characteristic markings of a machine-made bottle including seams on the sides and at the base and finish of the bottle. The embossed company name and location on the sides clearly marked the bottle and helped identify the contents. Originally, it would have come with a glass stopper. If you are curious whether the bottle was still radioactive, we fortunately have a Geiger counter at OAS and the bottle gave an almost imperceptibly low count. So we can say that no archaeologists were harmed in the making of this article.

The history of radium products is surprising and alarming. Radioactive material was commonly used in industrial applications at that time. The "Radium Girls" of New Jersey is an infamous and tragic story of women who worked in a factory using radium to paint glow-in-the-dark faces on watches. However, radium was not just limited to industrial uses. It was used in fabric dyes, beauty products, and toothpaste. The dye in the bottle that was found in downtown Santa Fe was likely used for clothing. The other artifacts that were found with it date to the very early twentieth century (1910s to 1920s) which would correspond with the ca. 1914 to 1930s dates for the Radium Dye Company. The small assemblage also contained a hobble skirt Coca-Cola bottle, wine bottles, a medicine vial, and a fragment of an Ed Pinaud (of Paris) perfume bottle. These artifacts provide a small glimpse of life and consumer culture in Santa Fe at that time.❖

Radium products were, at one time, widely used and marketed. Items often used on a daily basis included toothpaste, left, and facial cream, above.

MUSEUM OF NEW MEXICO FOUNDATION
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Director

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Outreach, education, and our research laboratories are all areas where the Friends of Archaeology have had, and continue to have, a direct positive impact. OAS is fortunate to have a Friends group with extremely knowledgeable and talented members who enrich the programs at OAS. I have been fortunate enough to meet some of the remarkable folks that make up our Friends group. I love when I get to spend time with our Friends members because their enthusiasm is infectious, and the conversations are always fascinating. My only regret is that I haven't had the pleasure of meeting more of you in person, but I'm working on that as well.

By the time you read this note, you will have seen me on tours and at Brown Bag lectures. We are planning an Open House event for FOA at the CNMA. I hope to see you there! We also have a fall lecture planned. This event will feature a leading scholar in the debate about the age and geoarchaeology of the Ice Age footprints at White Sands. We are working with the Natural History Museum to host that talk in Albuquerque. We will be reaching out with more details and will include more information in the next newsletter.

Finally, this issue of the newsletter features a short research article that highlights findings from a recent OAS archaeology project. I would love to see these short research articles become a regular staple. I know that we have Friends members who have research projects and I encourage them to submit their findings as well.

The Friends of Archaeology make important contributions to promote archaeology and heritage preservation in New Mexico. I look forward to meeting more of the folks that make it all happen, and I am eager to read about the great work FOA is doing in future newsletters. ❖

Make your mark on NM Archaeology!

Please consider supporting the Office of Archaeological Studies by making a gift to education or research by check, credit, stock, IRA rollover, or planned gift. Your tax-deductible donation through the Museum of New Mexico Foundation will have a lasting impact. One hundred percent of your donation will be directed to the OAS. No administrative fees are charged. Give online: museumfoundation.org/give/. For questions, or to donate, contact Lauren Paige, at (505) 982-2282, or via e-mail at lauren@museumfoundation.org.