

LIME KILN CHRONICLES

Newsletter of the *Friends of the Cowell Lime Works Historic District*
University of California, Santa Cruz

Fall Event: "Ghosts, Gold, and Greed"

Members are invited to a special Halloween tour of the Historic District on Saturday, October 30, 10:30 to noon. The tour will focus on the District's colorful past—stories of buried treasure, a duel, the intriguing Cowell family, and, of course, some ghost stories. The tour is suitable for adults and older children (8 and up). Children must be accompanied by an adult. Members of the Friends are free. We request a \$3 donation from nonmembers to help with restoration of the buildings. The tour starts at 10:30 at the Barn Theater parking lot (on left side at the campus main entrance).

Friends Receive Grant

In July, the National Trust for Historic Preservation awarded the UC Santa Cruz Foundation and the Friends of the Cowell Lime Works Historic District a \$4,000 grant to use as seed funds for Historic American Building Survey (HABS) documentation of the Hay Barn. The barn, which dates to about 1870, has a frame built entirely without nails. It has only mortise-and-tenon joints with wooden pegs. The campus is matching the National Trust grant, but we need additional donations to fully fund the project. Please contact us if you would like to help (limeworks@ucsc.edu). HABS documentation involves making detailed drawings and taking archival photographs to show how the barn was originally constructed. This is a key first step before drawing up plans for restoration. The Friends envision the complete reconstruction of the barn in a traditional barn raising, with assistance from the Timber Framers Guild (<http://www.tfguild.org>).



Photo: Frank Perry

Donation of Barn Wood

Our sincere thanks to Jean Dempsey for her recent donation of wood from a vintage barn in the Santa Cruz Mountains. This will enable the Friends to restore some of the historic buildings with old-growth redwood like that which was used originally. The Friends welcome additional donations of materials.

Annual Meeting

The annual members' meeting of the Friends of the Cowell Lime Works Historic District will be held at 10:00 a.m., October 30, at the Barn Theater, shortly before the tour. This will be a short business meeting for the purpose of electing board members and officers. All members are invited to attend.

Nominee to Board for a 3-year term: Cynthia Mathews.
Nominee for 1-year term: Don Lauritson. Nominees for officers: President, Frank Perry; Vice President, Cynthia Mathews.

Downtown Exhibit

A display of photos and artifacts was placed by the Friends in the Rittenhouse Building, corner of Pacific Avenue and Church Street, during the month of September. This was followed by a display on the history of the University in conjunction with Founders Day. Many thanks to Kevin Melrose, Louis Rittenhouse, and Sylvia Manson for letting us publicize the district in this high-profile store window. Thanks to John Perry for alerting us to this opportunity.



Photo: Garrett McCown

District Bares Its Bones

Domestic animal bones unearthed by archaeologists near the Cook House have been incorporated into a temporary display at the Santa Cruz Museum of Natural History. The display is part of a special museum-wide exhibition titled "Bones: An Inside Look At Nature." The display shows what archaeological evidence can tell us about the diet of the Cowell lime workers. The bottom line: they were eating less than desirable cuts of beef from tough old cows. The Museum is at 1305 East Cliff Drive in Santa Cruz and is open Tuesday through Saturday, 10-5. For more information, visit <http://www.santacruz museums.org>.

Joe Bids Farewell

Joe Michalak, who served two terms as vice president and helped with many projects including publicity, fundraising, and the 2009 lime conference, is leaving the board to pursue other interests. We wish him well and thank him for all his dedication and hard work.

Passing of John Chase

John Leighton Chase, author of *A Sidewalk Companion to Santa Cruz Architecture*, died suddenly in August at his home in southern California. John was a UCSC alumnus and charter member of the Friends. In his book, first published in 1975 and now in its third edition, John called attention to the historical significance of the Cowell Lime Works even before it was a historic district. We send our sympathies to his family and friends.

Lime Works on Video

A short video tour and history of the Historic District is now on our website. Watch it at <http://limeworks.ucsc.edu>

Jordans Visit Lime Works

Peter Jordan and his daughter, Marion, both descendants of Santa Cruz's pioneer lime-making family, recently toured the Cowell Lime Works. Peter is the great grandson, and Marion is the great, great granddaughter of Albion Paris Jordan who, along with Isaac Davis, established their lime business here in 1853. Peter is a retired wildlife biology professor at the University of Minnesota. Marion is a physician's assistant in Santa Cruz.

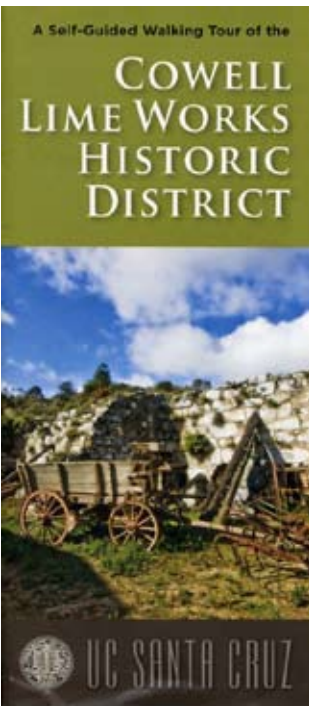


Photo: Frank Perry

The Jordans enjoyed touring the Cardiff House (built for A. P. Jordan and his wife, Mary, in 1864), and seeing the continuous lime kiln (pictured), built by Davis and Jordan in 1861. Marion attended UCSC in the 1980s and had long been curious about the old lime kilns and buildings. Both were pleased to learn more about the Jordan family's important role in the early, pre-Cowell history of the campus.

Activities During Fiscal Year 2009-2010 A Report to Members

- Organized and hosted a very successful conference titled "Lime and Lime Kilns in California History." Over 80 local and regional historians, archaeologists, and researchers participated.



- Wrote, designed, published, and distributed a self-guided walking-tour brochure in color.
- Continued restoration work on historic cabins with help from student interns and community volunteers.
- Completed stabilization of Cooperage with a grant from the S.H. Cowell Foundation.
- For academic credit, thirty-four student interns completed over 2,000 hours of archaeological excavations and restoration of Cabin B under the direction of a professional archaeologist and historical restoration specialist.

- Completed a 20-page Docent Guidebook to the Historic District.

- Published Fall/Winter and Spring/Summer issues of the Lime Kiln Chronicles (Friend's newsletter).

- Installed and dedicated a brass plaque next to the Cook House indicating placement of the District on the National Register of Historic Places.

- Provided tours for alumni, donors, and a class on the Natural History of the UCSC Campus.

- Completed draft management plan outline.

- Updated and improved the Friends website. Added a video tour of the district. Joined Facebook.

- Successfully applied for a grant from the National Trust for Historic Preservation.

- Constructed traveling suitcase of artifacts to accompany lectures and made four traveling displays of photos.

- Friends president and staff liaison completed fundraising workshop, "Making the Case."

- Published posters promoting district (for sale at Bay Tree Book Store).

- Completed rough draft of text and design for interpretive signs.

- Student interns documented and cataloged artifacts in Cooperage.

- Assisted graduate student studying the archaeology of the Cabin B site for her master's thesis.

- Students assisted in removal of brush from kiln area and nearby hillside.



- Participated in the National Trust for Historic Preservation's *This Place Matters* program.

Photo: Jim MacKenzie

Not yet a member of the Friends? Join online at <http://limeworks.ucsc.edu>.

Nailing Down Cabin B's History

By Frank Perry

Back in the early 1960s, when I was growing up, my parents constructed their own house. They did almost all the work themselves and, in order to save money, built it entirely out of used redwood lumber. Incredibly, the two-bedroom house (which still stands in Live Oak) cost just \$3,000.

I helped pull some of the old square nails from the redwood boards, and it is perhaps partly because of this that I developed a lifelong love of history and old buildings. I learned that according to our neighbor, Sam Balovich (who was in the business of salvaging lumber from dismantled buildings), that the presence of square nails indicated that a house was built before 1900. "How exciting," I thought, and started a nail collection.

Is this really true? Can nails be used to date a house? If so, what might nails tell us about the age of the Historic District's Cabin B?

A good basic source of information on this subject is an article that was written by Lee H. Nelson titled "Nail Chronology As an Aid to Dating Old Buildings." According to Nelson, there are three basic types of nails: hand-wrought nails, cut nails, and wire nails. Each spans a different interval of American history.

Hand-wrought nails were made by a blacksmith. The iron was heated and pounded on an anvil into the desired size and shape. This type of nail was used in America from the 1600s into the early 1800s.

Cut nails were made by feeding a long, flat, metal plate into a machine that sheared off thin strips at a slight angle. Another part of the machine fashioned the fat end of the strip into the nail head. These machine-cut nails are the kind popularly known today as "square nails."



10 d cut nails were originally used for the siding.



Photo: Frank Perry

6 d cut nails were originally used for the exterior battens.

Far from being a dull topic, nails offer the opportunity to drive in some important points about the past.

without breaking. Interestingly, Thomas Jefferson had a nail-manufacturing business and was quick to adopt the new technology.

According to Nelson, cut nails went through several design changes in the early decades, but from 1830 onward remained the same.

Wire nails (aka "round nails") were first introduced in the 1850s in New York. They were made by feeding steel wire into a machine that chopped it into short sections and made the point and head on each piece. The machinery for making wire nails was not perfected, however, until the 1860s and 1870s.

An article written in 1888 (quoted by Nelson) commented on the transition: "Nails of a very different kind, manufactured from steel wire, have been in use for a number of years in America and for a longer period in Europe, and in both places they have been very favorably received and are fast superseding the common cut-nails for many purposes."

Wire nails were quicker and cheaper to make than cut nails, and by the middle 1890s total production had surpassed that of the latter. Wire nails are the principal nail type made today.

Like many manufacturing histories, the story of nails is not straightforward and is muddled by overlapping chronologies. The transition from cut nails to wire nails was also gradual, with some carpenters using cut-nails for general purposes well into the twentieth century.

One reason for the slow transition was that cut nails had a greater surface area and were not as smooth as the early wire nails. This gave them greater holding strength. Wire nails were considered inferior. This problem was eventually overcome by making ring-shank wire nails or applying various coatings to make them less slippery. Even today, cut nails are used for specialized purposes such as installing hardwood floors. Cut-nails are also made for historical restoration projects.

Cabin B clearly documents the transition from cut nails to wire nails. The siding and exterior battens, for example, were originally fastened with cut nails. As boards loosened with age or were replaced, wire nails were used. Based on Nelson's nail chronology, the cabin would date from the late 1800s or early 1900s. Of course, this we already knew. According to oral history and newspaper evidence, the cabin dates back to at least the 1920s. A single photograph pushes it back slightly further, to around 1910. Archaeological evidence from artifacts unearthed beneath the cabin also indicates occupation of the site in the late 1800s or early 1900s.

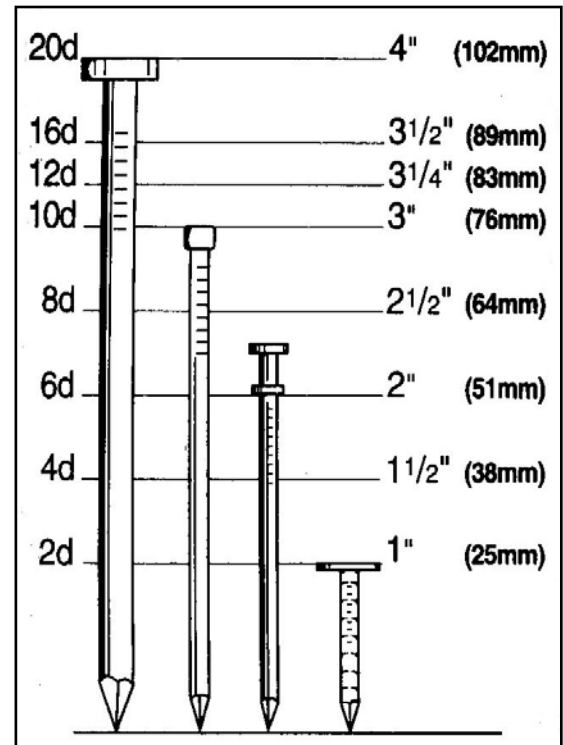
In summary, nails, while an interesting line of evidence for dating the cabin, do so only in a very general sense, supplementing dates from other sources. We still do not know exactly when the cabin was built, only that it was presumably sometime between the 1860s and 1910.

Acknowledgment

The author thanks Pat Paramoure for locating a copy of Nelson's article.

Further Reading

Nelson, Lee H. 1968. *Nail Chronology as an Aid to Dating Old Buildings*. Nashville: American Association for State and Local History, technical leaflet no. 48.



Cut nail and wire nail sizes are in pennies, abbreviated "d." Nails of the 2d to 5d size (1 to 1-3/4 inches) are for finish work. Nails of the 6d to 16d size (2 to 3-1/2 inches) are for general carpentry. This "penny" system of measurement dates back to seventeenth century England when 100 small nails sold for 4 pence, 100 larger nails for 16 pence, and so on. In Britain, "d" is an abbreviation for pence (from the Latin, *denarius*).

Writings on the Walls

Architectural historians often speak of "reading" an old building. By studying how a building was constructed and the materials used, one can decipher its story: when it was built, when rooms were added, how the structure was used, what tools were used to build it, and even something of the people who lived or worked there.

In the case of Cabin B, "reading" takes on an additional and quite literal meaning. Careful examination of the interior walls during restoration revealed small fragments of newspaper nailed to the wood. Some of these still had writing on them, and at least one had a date.

The cabin siding is composed of vertical redwood boards. The interior surface of the siding is exposed on the inside of the cabin. There is no framing and no separate inner wall surface (such as sheetrock) as in a modern house. The walls are just the thickness of the boards—about 1 inch. Attached to the boards on both the exterior and interior are battens (narrower strips of wood) which cover the cracks between boards.

It appears that much of the interior was at one time



Photo: Frank Perry

covered in newspaper. Presumably this was to lessen the amount of wind coming through cracks in the siding. The residents didn't worry about having a smooth surface. They nailed newspaper right over the quarter-inch-thick interior battens. Fragments of up to five layers (sheets) of paper have been found attached to a single nail.

Another type of paper, oil paper, was also used on part of the interior, especially the north and east walls. This covering consisted of a double layer of paper with a

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Update on Archaeological Excavations at the Cowell Lime Works

By Sally Morgan

Historical archaeologist, James Deetz, once suggested that the past is revealed most fully through the study of the small, seemingly insignificant items used in everyday life, the “small things forgotten.” Archaeological excavations at one of the Cowell Lime Works cabins, known as Cabin B, completed in December 2009, uncovered many such “small things.”

Cabin B is one of what once was a row of five small cabins located on the slope opposite the lime kilns. Archaeological investigations were undertaken to guide historically accurate rehabilitation of the cabin foundation and to address historical questions about the lives of the lime and ranch workers who lived there. When were the cabins occupied and by whom? What can we learn about the occupant’s daily lives?

Census data indicate that many of the lime workers were Portuguese immigrants, most if not all from the Azores. Portuguese workers were present at the site by 1870 and predominated in the workforce by 1910. According to Jo Ann Cacace, whose grandfather, Carlos Silva, worked here in the 1920s, these particular cabins were occupied at that time by Portuguese. A small religious medal found in the soil behind the cabin provides further evidence. One face of the medal shows a robed woman carrying a bouquet of flowers and a child. The reverse face bears the inscription, “Nossa Senhora dos Milagres [Our Lady of the Miracles] / Serreta Terceira.” Our Lady of the Miracles is honored at a festival each year at a shrine in Serreta, on the island of Terceira in the Azores. Medals similar to the one found at Cabin B are still common among the modern Portuguese community in California’s Central Valley.

An 1882 “shield” nickel found near Cabin B raises the possibility that the cabin dates back to at least the 1880s. However, coins can remain in circulation for decades after they are minted.

A simple abalone shell hair pin, small shell buttons such as might be on underwear or women’s garments, and a small toiletry bottle were found in the soil outside the cabin. What is their significance? Were they bought

by men to give as gifts? Did women ever live there?

Predominant in the assemblage is a substantial assortment of Levi’s and Carharts clothing fasteners, such as might be found on workmen’s jeans, overalls, or work aprons. Why so many? Were the men’s clothes wearing out because of exposure to the caustic lime?

Life in the cabins was rustic, at best. Water pipelines were uncovered in the cabin yards, so there must have been a water supply of some kind, but the cabins them-

selves were not supplied with interior plumbing. The archaeological investigations provided no data on how bathing or laundry might have been accomplished, or on the locations of out-houses. Lamp elements and lamp chimney fragments indicate that lighting was provided by oil lamps. Heat for Cabin B likely was supplied by an iron stove, parts of which were found in the cabin yard.



Photo: Jim MacKenzie

Oral historical records indicate that workers generally were fed communally at the cook house, across the street from the cabins. However, small quantities of butchered beef bone, mollusk shells, a few tin cans, fragments of bottles, and dish shards show that at least an occasional meal or snack was consumed at the cabin. A rotted tree stump behind Cabin B may represent a fruit tree planted by residents. The soil yielded numerous olive pits and peach pits.

One find tells a poignant story of a workman and his lost treasure. Excavations near the front door of Cabin B uncovered a cache of Prince Albert tobacco cans and a Vaseline jar, re-closable containers that date to the 1920s. All of the containers were empty, but buried in the soil nearby, where it might have rolled out of its hiding place, was a man’s gold ring with a clear stone. Imagine the chagrin of a man who secreted a prized possession in a hiding place beneath the cabin and returned to find it gone! This cache confirms information provided by Jo Ann Cacace that the men commonly had hiding places for their valuables at the cabins. A house key found in the soil beneath the floor of Cabin B evokes a similar sense of empathy with a cabin resident, who probably searched high and low for the key that had dropped through a crack between the floor boards.

The Cowell Lime Works archaeological team, including archaeologist Sally Morgan, volunteers from the Santa Cruz Archaeological Society, UC student interns

and volunteers, and Sonoma State graduate student Pat Paramoure, are in the process of cataloguing the Cabin B collection and beginning analysis, which will provide a deeper insight into the significance of the discoveries. The artifacts from Cabin B will be the focus of Pat's master's thesis. We look forward to sharing her conclusions in a future issue of the Chronicles.

Student Profile – Philippa “Pippa” Baker-Rabe

Pippa graduated from UCSC this past June with a degree in anthropology. Here, she shares her experiences working on projects in the Historic District.



Photo: Jim Mackenzie

How did you come to be involved in the Cowell Lime Works Historic District?

In the fall of 2009 I took a class called Ceramic Analysis at UCSC and received a flyer about the internship through Sally Morgan. I was looking for any opportunity to get units outside of the classroom after taking an archaeological field study in Benin, West Africa with Professor Cameron Monroe (UCSC) during the summer of 2009. The internship sounded like the perfect introduction to historical archaeology as well as a way to gain more digging experience while finishing up at UCSC.

What have you been doing for the project?

As one of the only interns with previous experience, however limited, Sally put me in charge of a weekly dig at Cabin B. I met with other students at the Cabin and, following Sally's direction, would dig out units, screen for artifacts, collect, clean, and sort artifacts, and map out the units dug. As a group we would attend weekly meetings and acquire hours through other jobs such as site stewardship and artifact cataloging.

In the winter, work at Cabin B was completed and we moved on to the Cardiff shed near the Cardiff House (Women's center). There, we systematically dug small units at the shed to get a better idea of the shed's use and architectural features. We learned how to look at artifacts together to picture how the shed could have been used and by whom. Each location taught me something different about the history of the campus, and I learned two different ways to approach historical buildings and their remains. I was also able to work closely with individuals from the community who have an interest in archaeology as well as Sonoma State graduate student Patricia Paramoure who was a great mentor on historical archaeology. Being able to work with such motivated people made the project an up-beat and productive experience!

What has been the most memorable experience during your work at the Historic District?

My most memorable experience has to be the tour that Sally Morgan gave on one of my first weekend digs at Cabin B. In under an hour my knowledge of local history had doubled and I had developed a real respect for my surroundings. Sally took us through the cooperage, the blacksmith shop, the cook house, Cardiff house etc. and taught us about what we know, who ran Cowell Ranch, what we would like to find out, and the quickly deteriorating conditions of the standing buildings. It felt daunting. Knowing that our small team of interns was going to try to tackle even a portion of that work was a scary thought, but it made me motivated to do my best and stay involved.

Do you think your experience with the Cowell Lime Works Historic District will influence your studies or your life after graduation?

This experience was invaluable to my career in archaeology. It happened at a critical point in my undergraduate career and led to me to learn more about historical archaeology in California and about Santa Cruz local history. As a student of UCSC, I found a greater connection to the campus, the people, and the University through bonding with its history. For three years I passed over remarkable historical features and paid little attention to historical buildings. Now that I understand what they are and where our campus comes from, I feel that much more connected to the University. I have been a part of preserving the unique history of UCSC and no matter where I go I will always have that. I was given an opportunity to learn how to teach, manage, and lead, all of which are invaluable. Personally, I have gained much perspective on my own goals and know that my time with the Cowell Lime Works Historic District has shaped that.

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thin oil-like material in between. It is likely that this paper was originally manufactured for use as a vapor barrier, not unlike that used today under hardwood flooring. Like the newspaper, it was apparently used to reduce drafts and perhaps also reduce moisture. The oil paper post-dates the newspaper, for some of the newspaper was found under the oil paper. Workers fastened the oil paper with galvanized roofing nails, and the newspaper with 2-penny wire box nails.

One newspaper fragment has a date of June 6, 1925. Another has a possible date of September, 1929. These can be regarded as minimum dates for the age of the cabin.

Careful study of the type style of the 1925 date reveals that it was neither from the *Santa Cruz Sentinel* nor the *Santa Cruz Evening News*—the two Santa Cruz papers of that era. Study of other fragments, however, turned up several references to San Francisco place names, including “Golden Gate,” “Kearney,” and an address on “Geary.” One larger piece of newspaper has an advertisement for the California Seed Company, 147 Market Street, San Francisco. It could well be that only

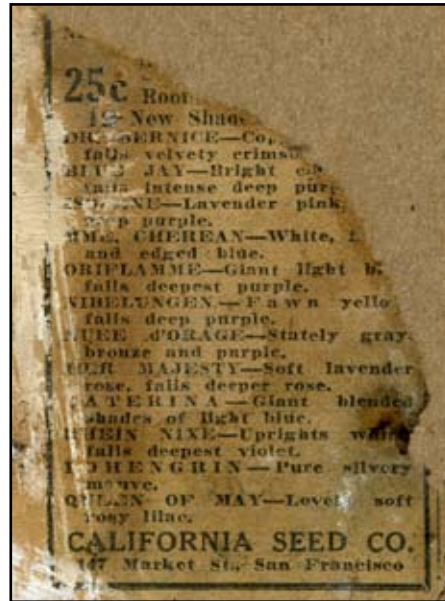


Photo: Frank Perry

San Francisco newspapers were used, though this has not been confirmed. With further detective work, one could determine the newspaper from which the 1925 fragment came. The presence of San Francisco newspapers should not be surprising since the Cowell Lime and Cement Company had its headquarters in San Francisco.

Nailing paper to the walls would have been a considerable fire hazard, especially in the days of oil lamps and wood stoves. We know the cabin had a stove because a stove pipe is visible in a circa 1910 photo. In addition, parts of an old stove pipe and stove were discovered buried in the ground near the cabin.

Tacking newspapers to the wall might seem crude—a cheap material that could

be used to slightly improve the primitive living conditions. Ironically, today there are a number of websites with modern-day instructions for using newspapers and magazines as wallpaper. There are even commercial wallpapers that have pages from old newspapers printed on them (available for \$50 per double roll).

Little did the lime workers know that 85 years later their “decor” would be right in style. —F.P.

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