

A RIVER RUNS THROUGH IT: HISTORICAL ARCHAEOLOGY IN SCORPION VALLEY, SANTA CRUZ ISLAND

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ABSTRACT

Heavy rains on 5 December 1997 flooded Scorpion Ranch, floating the historic (1918) bunkhouse off its foundations. Testing in advance of a project to return the bunkhouse to its original position discovered an earlier structure directly beneath, and the same size as, the later building. This building, amateurishly constructed of small adobe bricks, existed by 1876 and served as a residence. Excavation of the "underhouse" provides evidence for 1) a more carefully constructed addition (circa 1885), 2) dependence upon local products for food, and 3) a well finished cobblestone courtyard and walkways attached to the building. The building collapsed in a flood, probably in 1918, with almost immediate construction of the bunkhouse on the same site. Floods have deposited about two feet of soil at this locality between 1918 and 1998.

Keywords: Adobe construction, flooding, historic lifestyles, Scorpion Ranch.

INTRODUCTION

During the evening of December 5, 1997, at least twelve inches of torrential rain, later deemed a 100-year flood, swept down Scorpion Canyon, Santa Cruz Island, drowning the valley from wall to wall. Among other casualties, the water floated the Scorpion Ranch bunkhouse from its foundation, depositing it undamaged about thirty feet away from its original site. Only small trees, sturdy farm equipment, and a fence prevented further travel of the bunkhouse and a possible sea voyage. The National Park Service (NPS) returned the structure to its original location, in the process constructed a new, improved (and higher) foundation. Archaeological testing undertaken during that process recovered evidence of the underlying, earlier structure which is the subject of this report.

HISTORY AND DOCUMENTATION

Santa Cruz Island became a Mexican land grant in 1832 and later the property of William Barron, who initiated ranching development in 1857 (Gherini 1997:53). Justinian Caire owned the island by 1880 and more fully developed the island infrastructure. During the nineteenth century, Scorpion Valley and Smugglers Cove, about three miles

away, became satellite ranches of the main ranch in the central valley as agriculture and ranching developed on the island.

In a partition of the island following Caire's demise, the eastern end of the island became property of the Gherini family, descendants of Justinian Caire, in 1926. Following establishment of Channel Islands National Park in 1980, the NPS began administering the Gherini property as the result of the legislative taking effective in February 1997.

Scorpion Ranch is the larger and more developed of the two traditional ranches on the 6,300 acre property. The ranch buildings are situated on the flat valley floor about two hundred yards inland from the rocky beach of Scorpion Cove. Nestled in among pepper trees, palms, figs, and Monterey cypress are the ranch buildings mentioned in this report, as well as smaller outbuildings, sheds, and corrals. Grazed by sheep since the latter portion of the nineteenth century, the surrounding land supports stands of grasses as well as remnants of native vegetation on rugged slopes that climax in the rugged Montañon ridge, 1,800 feet in height. El Montañon constitutes the present boundary between the NPS holdings and the remainder of the island. Scorpion Creek, the largest drainage on the east end of the island, floods frequently during winter rains.

A series of three maps, dating 1876, 1885, and 1892, clearly show a "residencia" in the approximate location of the Scorpion Ranch bunkhouse. Although none of these maps contains a scale, they all seem to depict the same building, approximately square. The 1892 map does depict the Scorpion two story "adobe" [this term is a misnomer; the building is predominately stone masonry construction] whose existing dimensions provide a possible scale for the map. If the map shows the two story as fifty feet in length, the residencia just to the south is thirty feet square, possibly slightly larger.

Documentation of this early building is sparse. There are no known surviving photographs of the structure. The date of construction of this building is unknown, perhaps as early as the 1860s, when the initial European development of the Santa Cruz Island Ranch occurred. At this time James Shaw, William Barron's superintendent, constructed frame buildings at several locations around Santa Cruz Island (Gherini 1997:60). This structure presumably could be one of these. It is also possible that the structure dates from the

early 1880s when Justinian Caire spurred a vigorous development of the ranching facilities on the island. In any event, the supposition just before the 1997 flood was that the early residence shown on the map was a somewhat makeshift, rather ephemeral structure that had sufficiently deteriorated by 1918 to require its replacement by the existing bunkhouse.

Gherini (1997:97) records an addition to the “old house” at Scorpion in 1885. This most likely referred to the building in question because the historical maps for Scorpion Ranch show only this one residence in the complex at that time.

Surviving records, especially the ranch superintendent’s monthly reports, establish the date of construction of the current bunkhouse in the summer of 1918. Materials were secured during May of that year; a crew of five carpenters came to the island that summer to construct the structure; and there is a passing reference to ranch hands painting the new building by December. These records document the purchase of commercial products, like cement and lime, for use in this structure and other ranch projects, suggesting that transportation, principally on *Santa Cruz*, the Company’s two masted schooner, provided a relatively dependable and adequate link with mainland suppliers.

FIELD INVESTIGATIONS

Testing

In early March 1998, testing began at the original site of the bunkhouse. At this time a contractor was raising the building preparatory to moving it back and constructing a sturdier foundation beneath the repositioned structure. The first test, a three foot square test pit, was initiated in a location thought to be the northeast corner of the structure.

A few minutes of digging revealed coursed stone construction and thick vertical plaster in situ. Further excavation next to this plaster encountered a solid concrete floor. Having determined that the remains of an earlier structure existed in the area where excavations for new foundations were planned, preparations for excavation, documentation, and study of this “underhouse” proceeded, while further construction activity in the vicinity ceased.

Excavation

Initial excavation expanded the original test to the north, looking for the corner of the structure. This was located almost immediately, and a shallow trench traced the north wall to the northwestern corner. The west wall was traced south, while a test in the vicinity of the southwest corner met only jumbled rocks. Excavation along the west wall determined that the wall became more disrupted the further south excavation proceeded.

Excavation south along the east wall from the original test proceeded only for about ten feet; at this point, excavation had to stop lest further work undermine the cribbing

supporting the bunkhouse which still partially overlay the east wall of the underhouse.

Work then concentrated on the northern portion of the site. A trench was excavated from the central doorway in the north wall to a wall ten feet south. Working from the east and west ends of this unit, excavation proceeded toward this central trench, in the process encountering a thin adobe wall and doorway. The south wall of these rooms was a pre-existing wall against which the concrete slab floor, and all walls in the north unit, abutted. Accordingly, the south side of this wall and the interior of the adjoining west wall were trenched in an effort to locate floors and internal walls. A test unit was then placed near the southeast corner and extended south to the south wall of the structure. The exterior of this wall was followed west, and features around the southwest corner of the site were exposed. Finally, the north wall trench was expanded to expose a continuous cobblestone pavement on the north side of the building.

Most of the southeast portion of the Underhouse lies beneath the bunkhouse. This area, as well as the majority of the fill in the southern portion of the building has been left intact for work in the future (Figure 1).

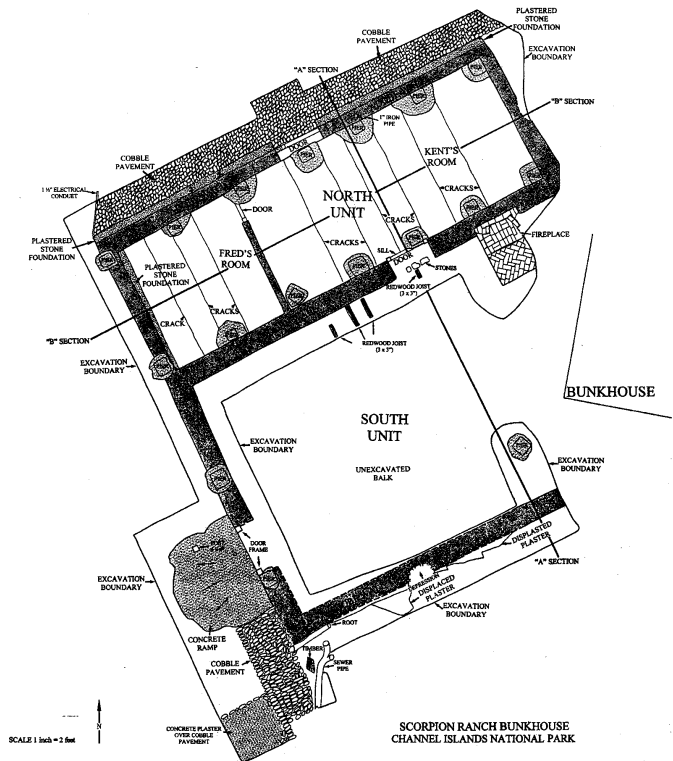


Figure 1. Plan of the Underhouse, Scorpion Ranch, Santa Cruz Island.

FINDINGS

Architectural Features

This digging revealed a distinct south unit, built at one time, to which was attached a later north unit. The north unit shows extremely high quality workmanship in the

finish detail of the plaster and in the well-made concrete floor. All the exposed walls and slabs of the north unit abut the north wall of the south unit. All walls throughout the site stand no more than one foot high above stone masonry foundations. Most walls are about one and one half feet thick. All walls retain at least a fragmentary plaster coat on both interior and exterior surfaces, except for a portion of the east wall in the north unit that shows no sign of exterior plaster.

South Unit

This set of walls measures twenty feet by thirty feet. The only corners exposed, the northwest and southwest, are bonded. There is no indication of a floor remaining in this unit, despite trenches along the north and west walls which reach to the base of the foundation. There are no indications of interior cross walls in the surviving wall plaster of the west and north walls. This unit may have consisted only of one large room.

Three fragmentary timbers, found in the north wall trench, may be the remains of floor joists. If so, there are no surviving supports for these timbers and they may have rested directly on the ground.

Doorways provide access in the north wall and in the west wall near the southwest corner. Both of the rough opening of these doorways are thirty-six inches wide. The north doorway contains a worn wood lintel thirty inches long. Excavation under this lintel showed bits of wall plaster and square cut nails, as well as a partial exposure of what may be cobblestone pavement, now incorporated into the slab of the later north unit. Impressions in this concrete slab and in a bunkhouse foundation pier indicate 1 x 4 framing for this doorway.

The southwest doorway retains no indication of its wooden framing. A sloping, "turtleback" slab lies just outside this doorway with irregular edges measuring approximately six feet wide and seven feet long. Three feet from the northern side of the doorway, a 4 x 4 square hole marks the presence of a support beam for some sort of a porch or shade. At the southern end of this slab, a three-foot-wide cobblestone pathway overlaps the edge of this slab and leads two feet past the building to a detached concrete slab, not fully exposed, which lies to the southwest. Larger, carefully selected basalt cobbles border the western edge of this pathway. The cobblestone pathway extends further to the south, although the later placement of a plastic sewer line from the bunkhouse confuses the picture. The concrete in this slab appears to overlap the cobblestone pathway. A silt-coated layer of gravel four inches thick, indicating flood deposition, covers the outlying slab and cobblestone path, which is somewhat lower than the rest of the site.

The south wall of the unit is extremely fragmentary, the result of outward wall collapse. Disruption is most extreme in the southwest corner where heavy root growth has distorted the southwest corner of the structure.

Built into the north wall of the south unit is a red brick fireplace, featuring a wide hearth of brick laid in an

attractive diagonal pattern. Lime mortar bonds the common red brick of this feature. The surface below this hearth is surprisingly soft, suggesting that the hearth may have been supported on floor timbers. Excavation found bricks from this fireplace and its chimney over a wide area west and south of the fireplace. Some fireplace bricks in the fill below the level of the hearth suggest that no floor was present at the time the fireplace and chimney fell. Some mortared bricks found on top of the wall stub of the north wall of the unit, indicate that the wall had already toppled when the chimney fell.

North Unit

The north and west sides of this unit show a superbly finished off-white plaster finish which halts abruptly and purposefully at the northeast corner. The exterior north wall features a sloping foundation ledge about one foot high and six inches wide. Also present is a well-finished exterior doorway, midway in the north wall. Plaster molds indicate that the door framing was four inch stock. The ends of the walls were reinforced with red brick, while the rest of the north wall were dark adobe brick.

Outside the doorway lies a cobblestone pavement, composed primarily of rounded basalt beach cobbles. This pavement extends from a point eight feet south of the northwest corner all along the north wall, at least as far as the northeast corner of the building. This pavement is at least three feet wide directly in front of the exterior doorway; it may extend to the two story structure, forming a paved courtyard. A test next to the bakery door of this building did reveal a cobble pavement, directly on top of prehistoric shell midden.

Plaster fragments were often in direct contact with the standing surface of the north wall and were nearly touching the cobblestone surface. Lifting and exposure of plaster fragments lying close to the cobblestones revealed a layer of silt coated gravel. This indicates flooding just prior to the collapse of the north wall.

Fred's Room. This is the west room of the north unit, named for Fred Rodriguez, the habitual occupant of the corresponding room of the overlying bunkhouse. Its interior measures about nine feet (N-S) by eight feet (E-W). The west wall shows a thin ledge, formed by the wider foundation below the wall. About four inches wide in the northwest corner, it narrows to almost nothing in the southwest corner. Brown adobe bricks, 10 ½ x 4 ½ x 2 ½ inches, laid in two stretcher courses, form the west wall. The foundation rocks in the northwest corner are bonded, while the interior plaster in the southwest corner clearly abuts the south wall. A single row of adobe bricks, laid in a stretcher course, forms a wall only a little more than six inches wide. Workers poured the concrete slab floor after the walls were in place.

In the northeast corner of the room is a narrow doorway, about thirty inches wide. The sill is missing. The north end of the east wall retains a reinforcing brick at its base. No framing details are preserved.

Kent's Room. The east wall of this room, named for Kent Bullard, is rammed earth, continuous with the north wall. Like the slab in Fred's room, the walls were in place when the slab was poured. A narrow ledge, like that of the west wall of Fred's room, runs from the west edge of the northern (exterior) doorway to the northwest corner. The southeast corner cannot be examined because of the presence of a foundation pier for the later bunkhouse.

Workers poured the concrete floors in successive small batches, judging from irregular seams running north south about three feet apart. They finished the concrete smoothly and then dimpled the slab with a tool, probably nails stuck in a piece of wood. We do not know if this dimpling was utilitarian or decorative, although it does not seem that the dimpling makes the surface any less slippery. Similar indentations are found on the concrete slab floor of the Smuggler two story, as well as the Scorpion two story, now covered with tile (Gherini, pers. comm. 1999).

Bunkhouse Features

Excavation of the north unit also uncovered several concrete foundation piers associated with the bunkhouse. The builders of the bunkhouse clearly knew of the prior existence of the underhouse. Along the east wall of the underhouse, they had excavated the pits for the bunkhouse foundation piers precisely in the east corners of the north unit, using the existing interior plaster as forms for the foundation piers they poured. A total of twenty eight piers, in four rows of seven each, were placed to support the bunkhouse. These piers are quite variable in size. The northeast pier is nearly two feet across at its base, while the pier located just off the southwest corner of Fred's room is little more than a couple of shovelfuls of concrete placed on the ground surface. The pier in the southwest corner of Kent's room rotated and slumped to the west, perhaps as the building floated off its foundations. We detected no indications that the floor supports of the bunkhouse connected to these foundation piers.

Metal conduit and a plastic coated electrical wire laid in a trench which breached a portion of the north unit north wall are associated with an electrical conduit fastened to the north side of the bunkhouse. A copper pipe hammered into the ground just outside the east wall of Kent's room, and another ferrous pipe in the north wall of Kent's room may be an electrical ground for bunkhouse equipment.

Fill

Fill excavated in this unit is a dark, dense, greasy clay which uniformly underlies the tan cobble, gravel, and sand of the 1997 flood. This clay contains brown adobe bricks and plaster fragments. A field sedimentation test shows almost no sand, but some silt, in the fill.

Walls

In several locations in the south unit, the excavation encountered wood at the juncture of the foundation and the

upper wall. The pieces of wood appear to be shingles, some as long as twenty eight inches, and about three and one half inches wide, and less than one-half inch thick. These are arranged in various ways; often in a sort of criss-cross pattern. At one place in the south wall, two layers of long- and short-layered shingles occurred. The longer shingles, whether with or without crossing shorter pieces, are found parallel to the long axis of the wall, showing that they were placed as the wall was built and were not driven into the wall later.

Except for the two north unit walls built of brown adobe bricks, a dark, greasy clay filled the walls between the interior and exterior plaster. This material appeared identical to the excavation fill described earlier. The lack of mortar seams and the uniform dark clay beds initially suggested that a rammed earth technique might have been used for construction of these walls. However, very thin, sandy laminations occur in this wall fill and probing with a trowel disclosed some tendency for the clay to cleave horizontally. Not entirely certain about the construction technique employed for these walls, David Easton and Hugo Houben, both experienced architects and builders familiar with rammed earth and adobe, were invited to visit the site. They concluded that the dark fill contained adobe bricks of a similar size to the brown adobes, set in an identical dark mortar. The situation had been confused by the removal and redeposition of this material "hydraulically." Easton and Houben commented that the builders did not seem to be trained masons, because the wall mortar contained voids and other evidence of untrained work.

The extant lower courses of the walls reveal that they were typically over a foot thick. Surviving portions of walls are covered by a white plaster coating about one half inch thick on interior surfaces, and up to two inches thick on exterior surfaces. The off-white plaster surface shows some variation in color. Interior plaster fragments show green and blue hues, as do scraps of surviving woodwork, indicating that at least a portion of the interior was painted.

Plaster fragments often show protruding square nail ends with the heads buried in the plaster. At one location along the west wall, the remaining wall contains several of these nails projecting into the wall interior. Nearly all these nails are 10 penny (three inches in length). Excavation retrieved many of these nails loose in the room fill; they easily constitute the most common artifacts from the Underhouse.

An identical anchoring technique is readily observed on the east interior wall of the bakery where nails are embedded in adobe bricks. Workers built this building in 1890 (Doran 1980:150) or a few years earlier (Gherini 1997:99).

Artifacts

The excavation recovered a surprisingly small number of artifacts. Conspicuously absent are glass containers of any sort with the exception of one fragment of a clear glass dish which may be intrusive. Also absent are tin cans. Usually beer, wine, condiment, and medicinal bottles, as well as cans, are common in sites of this period. Island inhabitants discarded a large quantity of butchered bone, most likely

sheep, into the fill of the Underhouse. Also found are black abalone shells. This faunal material is slated for analysis in the near future.

Other notable items include a percussion cap for a muzzle loading firearm, a white underwear button, some cloth fragments, and a small porcelain picture frame (?). The lower flood gravel layer outside the building in the extreme southwest did yield a few small glass bottle fragments.

CONCLUSIONS

This project located and partially excavated the structure labeled as a residence on the 1876, 1885, and 1892 maps of Scorpion Ranch. The north unit, clearly an addition to the earlier south unit, is consistent with the historically recorded 1885 addition at Scorpion Ranch to the "old house." The only discrepancy is the depiction of an approximately square residence in the 1876 map; the south unit, before the addition of the north unit was clearly a rectangle measuring twenty by thirty feet. Nothing recovered in these excavations indicates a construction date for the south unit.

Although the bone and shell have not yet been analyzed, people living at Scorpion Ranch depended upon local products for food, especially sheep and abalone. The absence of commercially packaged products in cans and bottles is startling, but is consistent with descriptions of island life at this time (Gherini 1997:83-86).

The south unit shows some unusual features, particularly the curious application of shingles at the base of the wall. This idiosyncratic feature serves no worthwhile purpose and probably weakens the wall built above the shingles. David Easton (pers. comm. 1998) hypothesizes that the inexperienced builders applied the shingles to the base of the wall as a barrier to upward water movement, realizing that shingles on the roof keep water off a wall.

The Underhouse is an impressive building, showing high quality construction and planning in its later phase. The north unit exhibits a strong, well-finished concrete slab floor and extremely fine exterior plaster. The fireplace in the south unit, with its pleasing diagonal brickwork, goes significantly beyond utilitarian.

The ranchers built the bunkhouse soon after abandoning and knocking down the Underhouse. This is indicated by the placement of the foundation piers for the bunkhouse precisely in the east corners of the north unit. Most of the wood for door frames, floors, and roofs is missing, although two deeply embedded door sills remain. Small fragments of wood remain and when recovered are in good condition. The impression of door framing set in the bunkhouse foundation pier shows that the wood here had not yet been completely salvaged when construction for the bunkhouse commenced. Intentional abandonment is suggested by the scarcity of artifacts and the collapse pattern of the north and south walls. The building did not gradually deteriorate and melt away.

The extreme disruption of the south wall, the presence of flood gravels near this wall and directly over the

cobblestone pavement at the north wall, and the removal and redeposition of adobe clay within the walls point to flooding as the cause of destruction. Flood waters reached the building and collapsed the south wall. The contents of the building were then salvaged, along with usable lumber, including the flooring of the south unit, door jambs and lintels, and roofing. The remaining walls were then leveled, with the north wall plaster falling into flood gravels. Soon thereafter, in fact while some timber was present in the north wall doorway of the south unit, workers poured the foundation piers for the bunkhouse. At this time the cobblestone pavement was abandoned. Flood deposits have since raised the ground level two feet in this immediate locality. Since mainland carpenters erected the bunkhouse in the summer of 1918, the flood which destroyed the building likely occurred during the winter of 1917-1918, or possibly a year or two earlier. This hypothesis is supported by Santa Barbara newspapers which record an initial drought in the winter of 1917-1918, followed by record setting rains after the middle of February. This pattern is certainly conducive to destructive flooding.

At least four major structures have been destroyed by floods in this century at Scorpion Ranch: the Underhouse, two barns, and a blacksmith shop. The extensive and massive retaining walls lining the banks of Scorpion Creek and the numerous check dams (approximately 136) in the Scorpion watershed attest to a valiant attempt to control this flooding.

One consequence of the flooding of Scorpion Valley is a steadily rising land surface. The cobblestone pavement used around 1900 is eighteen inches below the 1997 surface. The December flood deposited another eight inches overnight. If sea levels rise in the coming years, as numerous authorities widely predict, this process can only intensify.

The valley floor in the vicinity of Scorpion Ranch is a highly sensitive archaeological locality. The existing historical documentation does not fully record the variety of features which may exist beneath the surface here. The data recovered from this excavation show that the existing, albeit wandering, bunkhouse is in fact the expedient structure, a relatively quick construction put up to replace a solid and substantial building, unfortunately and inappropriately erected in the active stream channel of Scorpion Creek, according to a professional hydrologist (Jackson 1997).

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